Changing The Narrative of Disengagement: Exploring Academic Identity Formation For Non-Ethno-European Students

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ABSTRACT

CHANGING THE NARRATIVE OF DISENGAGEMENT: EXPLORING ACADEMIC IDENTITY FORMATION FOR NON-ETHNO-EUROPEAN STUDENTS

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Northern Illinois University, 2022
Stephen M. Tonks & Laura Ruth Johnson, Co-Directors

The COVID-19 pandemic and the changing demographics of the American identity have drawn attention to the necessity of reforming the Ethno-European education system to meet the needs of a diverse student population. If the educational landscape is to be transformed to meet the needs of a growing non-Ethno-European student population, more research is needed to explore factors that increase non-Ethno-European students’ academic engagement. This research attempted to identify individual and systemic factors contributing to non-Ethno-European students’ academic engagement during secondary education. This exploration began by outlining the role a cohesive identity continuum has on education engagement for non-Ethno-European students. Antecedent moderators of academic engagement for non-Ethno-European students were explored utilizing the seminal work of attachment theory by John Bowlby (1969) and Mary Ainsworth (1991), the Psychosocial Development of Identity Formation theory by Erik Erikson (1950), and Social Identity theory by Tajfel (1972). This exploratory research used a Convergent-Parallel Mixed Method design to evaluate potential antecedent moderators during
the 2020-2021 academic year. The Convergent-Parallel Mixed Method used three research instruments to explore whether Ethnic Identity, Grit, and other school engagement factors (SEI) contribute to student attendance. The research also used a semi-structured interview to explore teacher and student perceptions and expectations about factors influencing student engagement. For this research, student engagement is defined as the number of days students attend school. As such, the terms student engagement and the number of days students attended school is used synonymously throughout the dissertation.

The QUAN portion of the research utilized varies from three research instruments: Ethnic Identity Scale, Grit Scale, and Student Engagement Scale (SEI), as well as the number of days students attended school during the 2020-2021 school year. The QUAN portion of the research revealed statistically significant differences between grade-level groups, 10th graders and 12th graders, as well as among Gender, males, and females, for the Grit scale, though the variables were not statistically significant predictors of student attendance. In the QUAL portion of the research, a semi-structured interview was conducted to explore student and teacher perceptions of factors that increase or decrease school engagement. This research portion points to students’ psychosocial moratorium as an antecedent factor influencing student and teacher classroom interactions. Lastly, a teacher’s Psychological Grind appears to be an essential phenomenon with theoretical implications among teachers of non-Ethno-European students. A teacher’s Psychological Grind may facilitate the intersectionality between a student’s psychosocial moratorium and academic engagement. A teacher’s Psychological Grind is defined as the ability of an educator to remain emotionally and psychologically engaged and consistent, despite a student’s emotional and cognitive instability. The finding points to the need for further research
on how students’ attachment patterns contribute to their psychosocial moratorium influencing biases and perceptions about the education system and its teachers well before entering the classroom. Teachers have a brief window of opportunity to contribute to a healthy attachment with students. Teachers must attune, grasp, interpret, and respond to the student’s internal and external needs to create a healthy attachment to students. Focusing on a teacher’s and student’s attachment patterns, the student’s psychosocial moratorium, and a teacher’s Psychological Grind has the potential to guide future research in exploring attachment patterns as antecedent moderating factors of school engagement among non-Ethno-European students.
NORTHERN ILLINOIS UNIVERSITY
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CHANGING THE NARRATIVE OF DISENGAGEMENT: EXPLORING ACADEMIC
IDENTITY FORMATION FOR NON-ETHNO-EUROPEAN STUDENTS

BY

LUIS E. LOPEZ
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A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL
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FOR THE DEGREE
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Doctoral Co-Directors:
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DEDICATION

This dissertation is dedicated to my grandfather, Jose Santos Lopez. It was my grandfather who shaped me as a man and inspired a love for education and nature. As a child, my grandfather would sit with me so that I could learn to read and write. This is also dedicated to my amazing, strong will, smart and driven daughter, Evon Renea Lopez. You have shaped so many parts of who I am as a father. You hold a piece of my heart and mind. When I am around you the universe is at peace. It is because of you that I can see hope in the world. I love you and I look forward to sharing and witnessing your greatness. This accomplishment is also dedicated to my son, Elijah Malik Lopez, who is my solid rock, a strong fortress of protection, amazing and intelligent. When I am around you, I am reminded of the simplicity of life. You have showed me that when strength fails, gentleness can conquer all. Your existence and patience make me a better man and father. Thank you for being in my life. Most importantly, this accomplishment is dedicated to my amazing, kind, and loving wife, Kate Michelle Lopez. Your strength is silent, and your wisdom is displayed through your care for people, nature, and animals. When I am around you, I don’t see limits only potentialities. You are a brilliant thinker with a kind and peaceful soul. I am fortunate to share this life and journey with you. Through this accomplishment, you have sacrifice so much on my behalf. On many nights and early mornings, you took time to read my papers, corrected my errors, and when I was stuck, you provided solutions. This moment is a continuation of our journey, and I could not have asked for a better partner, woman, friend, and confidant. I love you and I look forward to getting old together. Thank you, my love.
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CHAPTER I: INTRODUCTION

Introduction

The COVID-19 pandemic’s impact on society is widespread and highlights the reality of the disparities non-Ethno-Europeans face in this country. From riots to racially instigated crimes of passion to outright discrimination, the United States of 2019-2022 has shown that equality remains a distant reality. COVID-19 hit hardest for non-Ethno-European families and their children’s educational opportunities across the United States. It is estimated that the pandemic drastically disrupted instruction for nearly 3 million of the most educationally marginalized students in the country, with English learners (ELs), students with disabilities, students experiencing homelessness and poverty, and students in foster care being especially affected (Korman et al., 2020). The COVID-19 academic impact on marginalized and non-Ethno-European students is most evident in the dramatic decrease in school attendance rates. The National Center for Education Statistics (2013 & 2021) reports that prior to the COVID-19 pandemic, the average daily attendance rate was 95% for elementary schools, 92% for secondary schools, and 94% for elementary and secondary schools combined. Research conducted by Korman et al. (2020) and Hurtz (2020) found that absence rates increased by approximately 10% during the fall of 2020, with higher rates in districts providing fully remote instruction. Hurtz (2020) reports that many non-Ethno-European school districts were subjected to remote learning compared to Ethno-European districts. A national study found that in school districts that are 30% or more non-Ethno-European, only 3% of educators offered full-time in-person instruction,
while 47% were entirely remote. School districts which have 80% or more Ethno-European students were more likely to have full-time in-person learning, with only 8% of these districts being fully remote (Hurtz, 2020).

The state of Illinois was no exception to the COVID-19 pandemic declining school attendance and enrollment rates. According to the Illinois State Board of Education’s (ISBE) Illinois Report Card data (2021), public schools in Illinois saw a decrease in student enrollment by 70,000 students from the previous year (2019), a 3.6% drop from pre-pandemic levels. The ISBE attributed a 2.5% student enrollment reduction to the pandemic alone. The research setting, Math & Science Academy, also saw a steep decrease in student school attendance. In the 2019-2020 school year, 26.4% of enrolled students were chronically absent, defined as missing 10% or 18 or more days of school for the academic year. This number increased to 82% during the 2020-2021 school year (ISBE, 2021). Despite the economic, social, and racial realities the COVID-19 pandemic unveiled, 21st-century education and a large part of the educational research remain disconnected from the realities that education is not an ethnic/race-neutral and color-blind experience (Wells, 2014).

The 2019-2022 pandemic has shown that today’s societies' values and beliefs may not differ drastically from the 1980s. The U.S. Census Bureau data reports that the United States population diversity in 1980 is vastly different from 2020. In 1980, 79.6% of the United States population was Ethno-Europeans. Blacks represented 11.5% and Latinos/Hispanics 6.5% of the U.S. population (Frey, 2020). As racial and ethnic diversity in the U.S increases, the clash between student diversity and an Ethno-European education ideology creates concern among some Ethno-European individuals that America’s identity is fast becoming non-Ethno-European-
centric (Nyer, 2004). As such, many state boards of education committees fiercely oppose contemporary dialogue around critical race theory and ethnic identity education (Dixson & Rousseau, 2005). State Board education committees are not alone in the endeavor to limit ethnic and racial curriculums or classroom discussion around ethnic and racial disparities and non-Ethno-European contributions to society. Aronson & Laughter (2016) highlight several legislative attempts to ban classroom discussions on the negative effect of U.S. racial history on non-Ethno-Europeans and conscious and unconscious bias, privilege, discrimination, and oppression non-Ethno-European experience. The legislative agenda is supported by nearly 29 states (Idaho, Oklahoma, Tennessee, Texas, Iowa, New Hampshire, South Carolina, Arizona, North Dakota, Florida, Ohio, Michigan, and others). Missouri House Bill 952 is another example of the concern a large part of the Ethno-Europeans citizenry contends with. Of particular concern to the Missouri legislative branch is any specified educational curriculum related to the 1619 Project. The successful passing of such bills would result in State funding limitations from education institutions that adhere to the 1619 Project attempts to incorporate Justice Curriculums, such as programming by social and academic equity agencies, Black Life’s Matter School training, Teaching for Change, Zinn Education Projects, and other similar curriculums (Aronson & Laughter, 2016). Despite the positive effect ethnic and racial curriculums have on non-Ethno-European students, the Ethno-European ethnic identity cohesiveness and its core beliefs may adversely affect non-Ethno-European student engagement (Sleeter, 2011).

Disproportionate educator diversity is one way the Ethno-European education system and its cohesive identity continuum are sustained. Historically, the proportion of Ethno-European teachers to Ethno-European students was similar. Ethno-European teachers have traditionally
made up around 79% of the public-school education workforce, while 9% of teachers have been Hispanic/Latino, and 7% are African American/Black (National Center for Education Statistics [NCES], 2019). As of 2020, only 60.4% of the U.S population is Ethno-European. Blacks represented 12.5%, while Latino/Hispanics represented 18.3% of the population (Frey, 2020). The National Center for Education Statistics (US ED, 2019) reports that in 2018, only 46% of the 50.7 million students enrolled in public elementary and secondary schools in the United States are Ethno-European, 27% are Hispanic, 15% are Black, and 12% are American Indian/Alaskan or Pacific Islander. For the first time in American history, Ethno-European students under the age of 15 represent less than 49.9% of the country’s student population (United States Census Bureau, 2019). As the proportion of non-Ethno-European students to the Ethno-European workforce increases, the Ethno-European education system and its workforce are often unprepared to cope with the increasing diversity of non-Ethno-European students.

In 2015, the American Federation of Teachers reported that 10% of teachers, predominately Ethno-European, exited the education system after one year, and 17% of teachers left within five years (Gray & Taie, 2015). During the COVID-19 pandemic, 2020 and beyond, teachers exiting the education system have become severe. The U.S. Bureau of Labor Statistics (BLS) reports that approximately 10.6 million educators were working in public education as of January 2020; as of 2022, there is a net loss of around 600,000 teachers. According to projections from the U.S. Bureau of Labor Statistics (BLS), on average, starting 2016 through 2026, more than 270,000 teachers have left or are forecasted to leave the educational setting annually. Turnover rates in non-Ethno-European school districts are much higher, whereby 70% of teachers leave the education system within the first year (Gray & Taie, 2015). The impact of
COVID-19 as a contributing factor to teacher burnout remains to be researched and wholly understood. However, a survey completed in October 2020 reported teachers working an average of 10 hours a day, up from seven hours when the same survey was administered six months earlier, May 2020 (Hurtz, 2020). Ethno-European teachers’ departure from the public education system has various factors not addressed in this research. However, as the non-Ethno-European student population increases, greater attention is needed to understand factors that influence non-Ethno-European school engagement in relation to an Ethno-European education system and its workforce.

The disparity between an Ethno-European education system, its workforce, and an increasing non-Ethno-European student population has led to widespread racial disparities in academic achievement and disciplinary practices (Reibel, 2021). In 2017, 2.1 million youth – ages 16 to 24 - had not completed their high school diploma and were not enrolled in school (US ED., 2019). When analyzed by ethnicity, the highest dropout rates are American Indian/Alaska Native youth at 10.1%, Hispanic youth at 8.2%, and Black youth at 6.5% (US ED, 2019). English Language Learners also have high dropout rates (Dianda, 2008). In part, the racial disparities in academic engagement and disciplinary practices are related to Zero Tolerance policies. Zero-tolerance policies were written into school handbooks in the 1990s. Created as a deterrent for bringing weapons into schools, these policies stemmed from law enforcement’s adoption of the “broken windows” theory and the Gun-Free Schools Act (Skiba & Knesting, 2002). Since its inception in the 1990s, research has clearly identified that zero-tolerance policies directly contribute to harmful effects on non-Ethno-European students since they experience higher rates of exclusionary disciplinary action leading to academic
disengagement (American Psychological Association [APA], 2008). The U.S. Department of Education’s Civil Rights Office conducted a longitudinal data analysis and found that non-Ethno-European students face a disproportional number of disciplinary actions in schools across the country compared to affluent suburban neighborhood schools (APA, 2008).

Disproportionate disciplinary practices play a significant role in the Ethno-European education system and its workforce's attempt to acculturate non-Ethno-European students (De los Ríos et al., 2015; Tyack, 1966). The goal of an Ethno-European education model is to create an Ethno-European homogenous individual willing to forsake personal and cultural identity (De los Ríos et al., 2015; Tyack, 1966). To be educated in America requires non-Ethno-Europeans to co-exist between their ethnic and racial identity while adhering to the history, values, and beliefs of an Ethno-European American nation. Through this co-existence, non-Ethno-European students experience education in America as not an ethnic/race-neutral and a color-blind experience (Wells, 2014). The education system and its workforce struggle to maintain an Ethno-European perspective against a culturally diverse student population. Non-Ethno-European students must contend with an Ethno-European education system that seeks to contest the bedrock of their culture, family, and a cohesive identity continuum (Tyack, 1966; Weisner, 2002).

An education system that attempts to strip non-Ethno-European students’ culture, family, and a cohesive identity continuum may struggle to improve school engagement for non-Ethno-European students. Today, the education system is at a crossroads. The COVID-19 pandemic and the changing demographics of the American identity have drawn attention to the urgency of reforming the Ethno-European education system to meet the needs of a diverse student
population. Additional research is needed to explore factors that increase non-Ethno-European students’ academic engagement and transform the educational landscape.

Significance of Research

Researchers have long examined factors related to student engagement and educational outcomes. Defining student engagement is challenging as it has many aspects and meanings. However, one factor of non-Ethno-European student disengagement is apparent. Little research is being proposed to evaluate the effects of an Ethno-European education system on non-Ethno-European Student’s cohesive identity continuum. In large part, the absence of research is related to a lack of recognition that a function of the Education system in America is acculturation into Ethno-European ideals and values (De los Ríos et al., 2015; Tyack, 1966). The education system is based on a systematic feedback loop that discourages non-Ethno-European models and educational curriculums (Bale, 2006). The feedback loop regulates change within the Ethno-European education model while maintaining the status quo of its inception. Part of the systematic feedback loop is the Ethno-European workforce and curriculum. Ethno-European educators make up 79% of the public education workforce, while over 50% of the students attending public schools are non-Ethno-European (NCES, 2019). Additionally, most curriculums focus on Ethno-European content models and teaching philosophy. A lack of diverse educators, limited training and exposure to working with non-Ethno-European communities, and an Ethno-European-centric curriculum creates and maintains a feedback loop within the educational system that limits non-Ethno-European student’s cohesive identity continuum. The result is a broadening of the economic and social disparities between non-Ethno-European and Ethno-
European students (Morello-Frosch & Lopez 2006). While multiple factors contribute to student disengagement, more research is needed to understand factors that positively influence student engagement among non-Ethno-European students.

Purpose Statement and Research Questions

For many years, high dropout rates among non-Ethno-European groups have been attributed to poverty-related issues. However, Ronnie (2012) studied the effects of social and economic disparity among students and noted that social-economic disparity accounts for only five percent of student performance. Since socio-economic disparities cannot fully account for school disengagement among non-Ethno-European youth, an opportunity to research and identify factors that positively influence non-Ethno-European student engagement and educational outcomes is available.

The purpose of this research is to identify both individual and systemic factors of non-Ethno-European students’ academic engagement. The quantitative approach attempts to determine whether individual factors such as ethnic identity, Grit, or student engagement factors (SEI) are related to school attendance among non-Ethno-European students. In the qualitative approach, an exploration of individual and systematic factors related to non-Ethno-European student school attendance was researched. The research attempts to answer the following questions:

Research Question 1: Do Student Ethnic Identity, Student Grit, or Student Engagement factors (SEI) relate to the number of days students attended school during the 2020-2021 academic year?
Research Question 2: Are there differences in Student Ethnic Identity, Student Grit, or Student Engagement factors (SEI) by Grade Level or Gender?

Research Question 3: What do teachers and non-Ethno-European students consider to be important factors to school engagement?

Preview of Methodology

This research made use of a Convergent-Parallel Mixed Method design where the Quantitative (QUAN) and Qualitative (QUAL) data are integrated to form a single-phase design (Teddlie & Tashakkori, 2009). The QUAN and QUAL data sets are integrated through four parallel methodologies. First, both forms of data, the QUAN and QUAL, were collected. The QUAN data was collected using survey instruments, while the QUAL data were collected through a semi-structured interview. Second, the QUAN and QUAL data were analyzed independently. The QUAN data is analyzed using statistical measures, while the QUAL is coded using an Inductive Coding approach (Kiger & Varpio, 2020). The QUAL codes are quantified based on frequency patterns known as a data-transformation variant (Teddlie & Tashakkori, 2009). Both sets of findings (QUAN + QUAL) are explained independently and then integrated, allowing further analysis, direct comparison, or interrelations. In the final stage, the QUAN and QUAL findings are interpreted for implications, limitations, and conclusions (Bian, 2018).

Research Setting Preview

This research was conducted with a charter school system in Chicago, Illinois. Math & Science Academy is situated on the southern part of Humboldt Park between Chicago Ave and
Pulaski Avenue. Math & Science Academy serves approximately 405 students, grades 9-12 (Chicago Public Schools [CPS], 2019). According to the Chicago Public School 2019 School Progress Report data, the population of students is predominately non-Ethno-European, 78% African American and 18.8% Hispanic students. Ninety-five percent of the student population needs economic opportunities. Twenty-five percent of students are considered diverse learners, and 5.2% are English learners.

Research Terminology

The concepts and terminology used in this study related to ethnic and racial groups are intended to minimize the marginalization of persons categorized as “people of color.” Since Ethnicity is a multi-faceted quality that refers to the group to which people belong or are perceived to belong to through shared characteristics, geographical locations, ancestral origins, cultural traditions, and languages, this research draws a specific distinction between non-Ethno-Europeans and Ethno-Europeans as a means of exploring factors that influence the educational engagement of students in the United States. In line with drawing distinctions between non-Ethno-European and Ethno-Europeans students, this research makes use of the term Ethno-European Education system. This term refers to federal, state, and local education boards responsible for educational curriculum ideologies and funding structures. Additionally, the term “cohesive identity continuum” is introduced in this research but is not often related to the field of Psychology or Education. This research uses the term to explore and describe how non-Ethno-European characteristics, geographical locations, ancestral origins, cultural traditions, and languages are shared across educational trajectories and what, if any, effects the lack of such
shared experiences has on school engagement for non-Ethno-European students. Erik Erikson’s (1956) Psychosocial Moratorium term is used to explain the internal and external needs individuals require to form and commit to new identities. Lastly, this research introduces the term Psychological Grind, defined as the ability of an educator or persons to remain emotionally and psychologically engaged and consistent despite external stress factors.

Summary

This research uses a Convergent-Parallel Mixed Method design to explore the impact of students' cohesive identity continuum formation during secondary education and teachers’ aptitude to work with non-Ethno-European students by supporting students' ethnic/racial identity formation. This research will help build upon attachment theory and identity formation as factors of academic engagement for non-Ethno-European students. Using a QUAN and QUAL methodology, the research explores student ethnic identity, Grit, and student engagement factors, as well as teachers' and non-Ethno-European students' perceptions of factors that increase or decrease school engagement.
CHAPTER II: LITERATURE REVIEW

Literature Review Introduction

Not completing high school has long been known to have a significant financial and social impact on people of a non-Ethno-European background (Dianda, 2008). A disproportionate number of African Americans, Latinos, and Native Americans will not complete their high school education (US ED, 2019). Of particular interest to the educational disparity of non-Ethno-European students is the lack of understanding of the role a cohesive identity continuum plays in the Ethno-European education system. The 120 largest school districts in the United States have a total enrollment of approximately 6.9 million students. Nationwide, the largest central city school districts include 28% of all African American students, 24% of all Latino students, 19% of all Asian American students, and 25% of all English Language Learners (Council, 2012). Only 5% of Ethno-European students in the United States attend schools in these larger city districts. The University of Minnesota’s National Center on Secondary Education and Transition estimates that a student drops out every nine seconds within these school districts (Lehr et al., 2004). One-fifth of students will not complete their high school education (Rennie, 2012). African Americans, Latinos, and Native Americans are likelier to drop out than their Ethno-European peers (Balfanz et al., 2010). Boredom and academic irrelevance are among the top reasons students cite for school disengagement (Bridgeland et al., 2006). Student boredom and academic irrelevance suggest several plausible antecedent moderators of school disengagement among non-Ethno-European students (Tang et al., 2019).
One plausible antecedent moderator of school disengagement among non-Ethno-European students is the education system’s perception of an ethnic/race-neutral and color-blind education (Wells, 2014, Tyack, 1966). The second is the Ethno-European attempt to acculturate non-Ethno-European students’ ideals and values. These moderators do not lend themselves to providing a cohesive identity continuum for non-Ethno-European students. Although non-Ethno-Europeans are changing the American landscape and demographics within the education system, few studies have focused on the effects an Ethno-European education system has on non-Ethno-European student’s cohesive identity continuum. Identifying factors that positively influence student engagement and educational outcomes among non-Ethno-European students is vital.

Generally, the body of research on student engagement has focused on three dimensions of student engagement; affective, cognitive, and behavioral (Archambault et al., 2009). Behavioral engagement includes a student’s compliance with rules, classroom involvement, and extracurricular activities. Affective engagement consists of the experience, feelings, attitudes, and student’s perceptions of school function, specifically the student’s sense of belonging, interest, and willingness to learn. The last dimension, cognitive engagement, refers to a student’s learning process (Archambault et al., 2009). Student engagement intervention strategies such as improving school climate, increasing student motivation, and increasing parent involvement have also been the focus of research. While these focus areas provide benefits in supporting student engagement across all social, cultural, and economic settings, this literature review will specifically focus on factors that influence non-Ethno-European students’ cohesive identity continuum from childhood through secondary education.
The literature review explores factors that influence a cohesive identity continuum. A cohesive identity continuum is formed through early life experiences with caregivers, giving rise to attachment patterns, scripts, and plans that are ultimately challenged or reinforced in the social environment, including the educational setting. Although identity cohesion is discussed in Social Identity Theory (Tajfel, 1972), this literature review discusses the concept of a cohesive identity continuum to highlight an individual’s identity formation across their ecological systems (Bronfenbrenner, 1977). This literature review analyses the cohesive identity continuum development through the seminal works of attachment theory by John Bowlby (1969) and Mary Ainsworth (1991), Erik Erikson’s (1950) Psychosocial Development of identity formation theory, and Tajfel’s Social Identity theory (1972). Additionally, factors related to how an Ethno-European education system contributes to or undermines a cohesive identity continuum for a growing non-Ethno-European student population are discussed.

Attachment Theory and a Cohesive Identity Continuum during Childhood

Research advises that an individual’s attachment pattern emerges during the early relationship dynamics with caregivers and serves as a relatively stable pattern for subsequent relationships (Bowlby & Ainsworth, 1991). As Murray Bowen explains, the attachment pattern shapes the child’s cohesive identity continuum by forming values and beliefs passed from the caregiver to the child (Metcalf, 2011). The cohesive identity continuum process occurs on several interconnected levels ranging from the caregiver’s conscious teaching and the child’s learning of information to the automatic and unconscious programming of emotional reactions and behaviors of both the caregiver and child. The combination of a caregiver shaping the
development of the child, the child innately responding to the caregiver’s moods, attitudes, actions, beliefs, and the caregivers and child’s interdependence contributes to the child developing an attachment pattern and cohesive identity continuum comparable to their caregivers (Metcalf, 2011).

The Hoover-Dempsey Model suggests that caregivers’ attachment patterns directly influence children's learning outcomes. Difficulties with the caregiver's ability to provide a secure attachment can lead children to experience a disorganized and insecure attachment pattern and disrupt a child’s ability to form a cohesive identity continuum (Hoover-Dempsey et al., 2005). Caregivers exposed to a disorganized attachment pattern during their childhood who have not formed a cohesive identity due to isolation, poverty, mental health challenges, domestic abuse, and substance addictions may struggle to demonstrate an adaptive and secure attachment pattern toward their children (Van Ijzendoorn, 1995). The caregiver's emotional and psychological stress may be displaced on the child through insensitivity, harshness, or being overly demanding. Such caregivers unwittingly contribute to their children living and being educated in low-income neighborhoods with limited economic opportunities, restricted ethnic heterogeneity, limited residential mobility, and academic disengagement (Whitaker, 2019). The academic disengagement and the insensitivity of the caregiver negatively affect the child’s psychological, emotional, and behavioral conduct and decreases a child’s ability to cope with stress (Newland, Chen & Coyl-Sheperd, 2013). Early signs of a child being overwhelmed by stress can be displayed through symptoms of anxiety and depression (Duchesne et al., 2009). Research has shown that depressed or anxious children struggle to make the most of learning opportunities. They may struggle to form healthy attachments to adult figures and adaptive peer
relationships and are more likely to have disciplinary infractions in school (Schofield & Beek, 2004). Caregivers who exhibit a healthy attachment pattern and have formed a cohesive identity continuum support healthy attachment and cohesive identity continuum in their children (Crittenden & Claussen, 2000).

A caregiver’s healthy attachment patterns and cohesive identity continuum have been associated with their child’s emotional regulation and ability to form a healthy attachment pattern in adulthood (Larose et al., 2001; Fonagey & Campbell, 2015). Caregivers who provide the child with a secure base assist the child's ability to thrive and flourish. The secure base is shaped by consistent, warm, reliable care through the emotional sensitivity of a caregiver attuned to the child’s needs (Schofield & Beek, 2018). Caregivers who apply a more sensitive and attuned response to the child's needs allow a pathway for the child to explore the environment and engage in tasks without being distracted by attachment-related disturbances (Van Ijzendoorn, 1995). Secure attachment and a cohesive identity continuum significantly contribute to higher scores on three out of five performance-related measures conducted in a study by Moss and St-Laurent in 2001. The results suggest that children who perceive their caregivers as available in times of distress, who feel that they can easily communicate their needs and have a cohesive identity continuum, improve their ability to regulate their emotional states and perform with greater efficacy in educational settings (Duchesne et al., 2009). Crittenden & Claussen (2000), who has expanded on Bowlby’s original attachment theory, suggest that an individual’s attachment pattern has the potential for change. The potential for change is most relevant in the educational setting.
The application of Attachment theory in the school setting is not new. During the 1970s, Marjorie Boxall experimented with introducing nurture groups for students struggling in an academic setting (Bentham & Boxall, 2012). Since then, other nurture group studies have been published and evaluated (Cook et al., 2008). However, there is a growing interest in how attachment theory in the school setting may be applied beyond the nurture group studies. The application of attachment theory in school fulfills one primary function. It highlights the importance of a student’s working attachment model and how this model contributes to a student’s cohesive identity continuum (Geddes, 2006; Geddes, 2017; Marshall, 2014; Golding et al., 2013). The caregiver’s and child’s attachment can undermine a cohesive identity continuum leading to poor school outcomes (Van Ijzendoorn, 1995). The quality of early childhood attachment is an antecedent moderator that informs how the child forms a cohesive identity continuum, relates to others, including educators and peers, and how they may explore life’s opportunities. The attachment pattern contributes to a cohesive identity continuum during childhood and is further reinforced or undermined as the child enters the education system in America.

Identity Formation Theory and a Cohesive Identity Continuum during Adolescence

The seminal work of Erikson’s Theory of Identity Formation as well as Cross (1978), Kim (1981), Atkinson, Morten & Sue (1983), Helms (1990), and others suggest that a cohesive identity continuum is a subjective sense of wholeness primarily explored during adolescence (Phinney, 1990). Whether the adolescent began the process of forming a cohesive identity continuum is principally based on the child experiencing a secure or disorganized attachment
with their caregivers (Erikson, 1950). The caregiver’s interactions with the child are psychodynamic, socially influenced, and meaning-centered (Weisner, 2002). Erikson (1950) noted that interactions between the child and caregivers as early as birth to twelve months contribute to a sense of security for the child. Caregivers who exhibit a disorganized attachment pattern struggle to meet the child’s survival needs, engendering feelings of anxiety, fear, and mistrust. Caregivers who meet the child’s basic needs for survival assist in developing a sense of trust (Erikson, 1950). The child who recognizes their caregivers as trusting are more likely to experience the world as a safe and predictable place. A secure attachment leads the child to schematize the caregiver's shared knowledge of their everyday world to adapt and make complex decisions to survive in their local community (Weisner, 2002). The caregiver's shared knowledge assists the child in developing and ascribing to scripts and plans that guide behavior and motivation. These scripts and plans are not a random mass of unrelated family and social customs. Rather, the scripts and plans are an ever-present systematic and coherent structure of the child’s and caregivers’ cohesive identity continuum (Super & Harkness, 1999). The scripts and plans act as a roadmap for forming a cohesive identity continuum that is tested in the social environment during adolescence (Weisner, 2002).

The cohesive identity continuum experiences shaped during childhood encounter the first significant test as adolescents interact with their local environment (Bronfenbrenner, 1977). As adolescents’ need for exploration intersects with their local environment, including the educational setting, their natural abilities and interests are reinforced or disrupted, affecting the cohesive identity continuum (Bernal & Knight, 1993). This interaction includes comparing peers and other social entities with the adolescent’s family plans and scripts. The adolescent’s scripts
and plans either survive or rupture during adolescence, resulting in the sense of cohesive identity continuum or identity confusion or crisis (Erikson, 1950). Adolescents whose family scripts and plans are reinforced result in a strong sense of their cohesive identity continuum that shield them against an identity confusion or crisis created by the perspectives of others. If the adolescent is apathetic and is pressured to conform to the scripts and plans from a different cohesive identity continuum, they may develop a weak sense of self and experience identity crisis or confusion (Erikson, 1950). According to Marcia’s Identity Development theory, adolescents who experience an identity crisis or confusion utilize four exploratory phases to navigate this event (Kroger & Marcia, 2011). Adolescents experiencing a crisis and whose cohesive identity continuum lacks commitment are said to be in an identity diffusion stage, indicating a lack of focus. Adolescents whose family scripts and plans have not been tested but have made a premature identity commitment based on opinions and attitudes of others are in identity foreclosure. Adolescents who are in the process of exploring and testing their identity options but have not made a commitment are in a psychosocial moratorium, and those who have explored in-depth and arrived at a secure sense of self are said to have achieved a cohesive identity continuum (Bernal & Knight, 1993).

Adolescents enter secondary education with various attachment patterns and a cohesive identity continuum (Kroger & Marcia, 2011, Erikson, 1950). The adolescent cohesive identity continuum and attachment pattern are antecedent moderators influenced by the child and caregiver dynamics as well as the environment and educational setting. When the cohesive identity continuum of their caregivers measures up to their peers or authority figures, a sense of pride and accomplishment in their self-worth, schoolwork, sports, social activities, and family
life occurs. If adolescents do not feel their caregiver's cohesive identity continuum measures up to their peers or authority figures, inferiority and inadequacy develop (Erikson, 1950). As such, they will likely seek refuge through peer social acceptance to facilitate a more secure and robust cohesive identity continuum.

Social Identity Theory and a Cohesive Identity Continuum during Secondary Education

A cohesive identity continuum allows insight into how adolescent behaviors, decision-making, beliefs, and values of themselves, and the world is understood. Adolescents in role confusion or crisis may be overly eager to try on many different selves to reduce their psychological angst (Grant, 2013). They may explore various roles and ideas, set goals, and attempt to seek affirmation from social influences. Tajfel and Turner’s Social Identity theory (2004) suggest that an individual’s cohesive identity continuum is influenced by the social categories they associate with. These social categories are related to an individual’s perceived group membership (Berk, 2008). To gain group membership, an individual must adhere to group values, ideals, and interests (Tajfel, 1972). Group membership adds to an individual’s understanding of their cohesive identity continuum. However, the presence of an outgroup can significantly affect the cohesive identity continuum by influencing the adolescent's behavior and self-esteem (Tajfel, 1972). Individuals naturally desire to increase their cohesive identity continuum through positive self-esteem and healthy self-images. Belonging to an ingroup can have a positive or a negative response to an individual’s self-perception depending on the outgroup’s social threat comparisons (Tajfel & Turner, 2004).
Social threats, such as prejudice within the outgroup's social climate, can negatively affect an individual’s self-esteem and identity compared to members of groups who do not have these experiences (Verkuyten et al., 2019). Lev Vygotsky first described the effects of social threat on a cohesive identity continuum. Individuals, according to Vygotsky, must reconstruct the individual’s family scripts and plans with social demands. For Vygotsky, all childhood experiences appear twice. First, in the individual’s intra-psychological world and again at the social level, which he called inter-psychological. The ability of the adolescent to internalize social norms contributes to or discourages a cohesive identity continuum. This cohesive identity continuum and the caregiver and child attachment are ultimately represented in the social world (Vygotsky, 1978). If an individual’s identity continuum is cohesive, a healthy response to differentiate from the family unit, culture, and social norms is possible.

During secondary education, adolescents seek to differentiate from certain biases, behaviors, evaluations, and negative perceptions they may experience from an outgroup (Phinney, 1992; Phinney et al., 1997; Umana-Taylor et al., 2018). Since the cohesive identity continuum, which contains antecedent factors (i.e., attachment pattern, plan/scripts, and social identity threat), has not been resolved, the adolescent experiences a second major test as they interact with an Ethno-European educational system (Bronfenbrenner, 1977). This test of the adolescent’s cohesive identity continuum is confronted in the Ethno-European Education’s aim to acculturate non-Ethno-European students during a pivotal part of their cohesive identity continuum development. The education system, in this setting, acts as the outgroup. Non-Ethno-European students do not fit into the Ethno-European education system and struggle to differentiate themselves from the educational ingroup philosophy of acculturation. The Ethno-
European acculturation philosophy runs aground with the non-Ethno-European student’s need to form a cohesive identity continuum.

The Ethno-European Education System Acculturation Aim

The cohesive identity continuum represents a normative development task essential for youth’s positive adjustment in the U.S. (Umana-Taylor et al., 2015). Adolescents form a cohesive identity continuum through early life experiences with caregivers, giving rise to attachment patterns, scripts, and plans that are ultimately challenged or reinforced in the social environment. The adolescent cohesive identity continuum interacts with the social world through stories that convey meaning, significance, value, and motivation (Kegan, 1994; Magolda, 2001). These stories function as adolescents' explanations about how they interpret themselves and their environment, including the education system. The education system plays a significant role in the adolescent cohesive identity continuum. Since a key goal of the Ethno-European education system is to acculturate students into an Ethno-European cohesive identity continuum, an incongruence of aims occurs between the student and the education system. The incongruence of aims threatens non-Ethno-European and Ethno-European students' maintenance of a cohesive identity continuum.

From curricula to education policies, the Ethno-European ideals of the educational system exist to support an Ethno-European cohesive identity continuum (Wells, 2014). According to the architect of the education system, Thomas Jefferson, to be educated by an Ethno-European model of education was to create a perfectly homogenous individual, knowing and supporting an Ethno-European history. A student of the Ethno-European education system
should be trained in their country's history, protect its liberty, and recount the stories of its illustrious heroes (Tyack, 1966). Benjamin Rush, a founding father of an Ethno-European nation in America, believed the American citizen did not belong to himself but was a public property of the nation. Rush and Jefferson's mandate to Ethno-European Americans was to forsake and even forget family, culture, and personal identity when the welfare of their country required it (Tyack, 1966). Jefferson and the founders of the Ethno-European nation in America believed that being educated required students to become a safe depository of the Ethno-European ideals and values (Padover, 1939, Barber, 1998). Ethno-Europeans are worthy to receive and guard the sacred deposit of the rights and liberties of their fellow citizens (Hillway, 1964). According to Jefferson, Ethno-European Americans have a moral and ethical duty to prevent the introduction of foreign voices into the Ethno-European nation. Ethno-European Americans must promote virtue and patriotism and diffuse a uniformity and purity of language (Tyack, 1966). Jefferson underscored the importance of homogeneous citizenship to the permanency of the Ethno-European Nation in America (Tyack, 1966). These Ethno-European American Citizens are the progenies entrusted with the legacy of shaping and bringing about the Ethno-European image onto a new world. Jefferson understood that an Ethno-European cohesive identity continuum was critical if the Ethno-European Nation was to survive (Padover, 1939). As such, a system of education must be implemented that implants the principles of virtue, liberty, and liberal ideas of government and inspires justice with an inviolable attachment to an Ethno-European nation (Tyack, 1966). Jefferson believed that if the student were not educated in the values and morals of their Ethno-European nation, a slow degeneration of the Ethno-European’s liberty and identity would occur. Despite Thomas Jefferson’s charge to the role of education in the Ethno-European Nation in
America, much of the education system today functions under the assumption that academic pedagogy is ethnic/race-neutral and a color-blind experience.

The reality is that education pedagogy is neither ethnic/race neutral nor color-blind. Rather public education in America, whether formal or informal, works to maintain economic, political, societal, and cultural order (Apple 1982, 1990; Bernstein 1975). To be educated in America means to be acculturated in Ethno-European ideals and values (Wells, 2014, Tyack, 1966). Despite the diversity of America’s cultural background, the values and beliefs of the Ethno-European majority have historically been deemed most worthy of integration within public schools (De los Ríos et al., 2015). Identity formation beyond the Ethno-European education model threatens the very fabric of Jefferson’s ideals of an Ethno-European cohesive identity continuum. Forming a cohesive identity continuum is essential for all social and racial groups. However, forming a cohesive identity continuum is foundational to non-Ethno-European students who enter secondary education seeking to explore their unique cohesive identity continuum, which is often not consistent with an Ethno-European education model.

While traditional thinking places responsibility for a cohesive identity continuum on the individual and the family unit, some recent attempts have incorporated ethnic/racial identity formation education in schools to improve student engagement. In part, the attempt to incorporate ethnic/racial pedagogy in the school setting is bolstered by research that documents a positive relationship between a cohesive identity continuum and academic achievement among non-Ethno-European students. Academic achievement outcomes are more substantial when racial identity pedagogies are incorporated throughout the curriculum instead of as a separate subject of study (Sleeter, 2011). One method contributing to a cohesive identity continuum for
non-Ethno-European students is the development of ethnically inclusive curriculums. A second method of aiding identity formation in schools is through after-school clubs, extracurricular classes, or summer programming that intentionally supports non-Ethno-European students’ cohesive identity continuum (Verhoeven et al., 2018). These programs include lectures, engaging activities, and reflective processes that assist students in identity exploration. Some programs expose students to new ideas and concepts, while others concentrate on reflecting on present self-understandings (Verhoeven et al., 2018). Even with these efforts, there remain disparities in the educational outcomes and engagement for non-Ethno-European students.

The extent to which non-Ethno-European students can develop a cohesive identity continuum depends on the level of net stress and vulnerability non-Ethno-European students experience during their engagement with the education system (Spencer et al., 1997). Positive feelings about one’s cohesive identity continuum have proven to have a consistently beneficial relationship to psychosocial adjustment and academic outcomes among African American and Latino youth (Rivas-Drake et al., 2014). Positive feelings about one’s racial identity led to students of non-Ethno-European developing a cohesive identity continuum. Margaret Beale Spencer (1997) suggests that where an individual’s social engagement intersects (i.e., familial, cultural, societal, and educational), their level of net vulnerability and net stress engagement creates reactive or proactive coping mechanisms. These coping mechanisms are repeated, eventually stable, and combined with self-appraisal (or self-efficacy), support or undermine a cohesive identity continuum. While caregivers and societal demands increase or decrease an individual’s net vulnerability and stress levels, the school environment is a significant contributing factor that influences non-Ethno-European’s cohesive identity continuum.
A student’s cohesive identity continuum is influenced by the caregiver’s attachment pattern, the scripts and plan, societal demand, and threats, including the education acculturation threat. These antecedent moderators are significant in determining students' self-regulation, motivation, and cohesive identity continuum development during their academic trajectory (Stets & Burke, 2000). The caregiver’s attachment pattern, family scripts, social threats, and educational settings are integral to an individual’s beliefs, practices, and engagement with an Ethno-European education model (Boykin & Toms, 1985; Fairbanks & Broughton, 2003). The extent to which educational pedagogy reinforces or undermines students of non-Ethno-European’s academic capacity and self-appraisal is related to how well a student’s cohesive identity continuum is supported during their engagement with the education system (Umana-Taylor et al., 2015).

Takaki (1993) explains that much of the education system in America contributes to an incongruence of aims by the Ethno-European model of education. Ronald Takaki’s book, “A different Mirror” (1993), critically examines multicultural America and the perception of an ethnic/race-neutral and color-blind pedagogy that permeates the American public education system. The perception of a race-neutral and color-blind education is vital to maintaining an Ethno-European cohesive identity continuum and its curriculum (Sleeter, 2011). For the Ethno-European student, their cohesive identity continuum is reinforced by the Public Education System; however, students of non-Ethno-European are not afforded the same opportunity. The
effects on non-Ethno-European students’ ability to explore and experience their unique cohesive identity continuum affect how they view and experience the school environment (Howard, 2003).

Several studies have highlighted the positive impact a cohesive identity continuum education system has on people of non-Ethno-European backgrounds. The Tucson Arizona Mexican American Studies Department Program curriculum (M.A.S.) is one study. The M.A.S. program critiqued the traditional forms of curricula where non-Ethno-European experiences and voices were noticeably absent. The M.A.S. curriculum was received with a great deal of controversy. The Arizona School Board of Education asserted that the curriculum promoted the overthrow of the United States government, contributed to resentment toward an Ethno-European majority and advocated ethnic solidarity among Mexican Americans. The impact of the curriculum on academic performance has received mixed results. The Arizona Department of Education’s quantitative analyses of academic performance outcomes among non-Ethno-European students found that the M.A.S curriculum had no evidence of improving academic engagement (Franciosi, 2009). Cabrera et al. (2014) re-examined the Mexican American Studied (M.A.S.) initiative in a landmark research study of 8,400 students and found participation in the M.A.S. initiative was associated with an increased graduation rate of 9.5% across all cohorts. Among the subsample, M.A.S. participation was associated with a 6.6% increase in test scores related to reading, writing, and math (Cabrera et al., 2014).

In 2014, scholars across the nation’s top universities examined existing literature and found a positive relationship between a cohesive identity continuum for non-Ethno-European students and their psychological, academic, and health outcomes (Rivas-Drake et al., 2014).
Stanford Center for Education Policy Analysis determined that students who participated in a culturally relevant pedagogy that reinforced their cohesive identity continuum showed statistically significant improvements in ninth-grade G.P.A, attendance, and credits earned (Dee & Penner, 2017). Other studies have shown that cohesive identity continuum exploration matters in the books students choose to read and in-class learning engagement (McCarthey & Moje, 2002; Choi, 2005; Linnenbrink & Pintrich, 2003). Moreover, the Identity Project, spearheaded by Harvard University professor Adriana J. Umana-Taylor et al. (2015, 2018), emphasized the importance of a cohesive identity continuum. Taylor described the cohesive identity continuum as understanding a student’s unique Ethnic/racial identity formation within an outgroup membership and how it contributes to self-concept. Umana-Taylor (2018) confirmed that curriculums that support non-Ethno-European’s cohesive identity continuum provide youth with strategies, tools, and opportunities to evaluate the relevance of their ethnic/racial identity. As part of exploring non-Ethno-European students’ cohesive identity continuum, the U.S. colonialism is a crucial aspect of examining the significance of an Ethno-European education system’s rejection of ethnic/racial identity formation and a cohesive identity continuum for non-Ethno-European students. By examining the history of colonialism's construction of race and institutional racism, students can explore why 21st-century education is not an ethnic/race-neutral and color-blind education system (Wells, 2014, Tyack, 1966).

Grit and Non-Ethno-European Cohesive Identity Continuum

The idea that education in America is an ethnic/race-neutral and a color-blind experience proliferates most academic interventions for non-Ethno-European students. The relationship
between a student’s cohesive identity continuum and school engagement is not at the forefront of most research and academic intervention. Non-Ethno-European students are expected to persevere regardless of social unrest, economic disparity, lack of resources, educational double aims, or the Ethnic/racial instability they encounter in the Ethno-European education model. Since a cohesive identity continuum for non-Ethno-European students is not an area of focus, the education system has sought interventions that improve school engagement of non-Ethno-European students by attempting to increase motivation, perseverance, and consistency (Ericcson et al., 1993). To increase student engagement, schools have focused on developing curriculums and interventions that support students’ Grit (Duckworth, 2016).

A student’s Grit is described by the seminal work of Angela L. Duckworth et al. (2007) as an individual’s perseverance of effort and consistency of interest. Individuals with low Grit levels either disengage their efforts in the face of obstacles or vacillate between pursuit and discontinuity of goals (Duckworth, 2016). Proponents of Grit as a predictor of performance have suggested that an individual’s Grit level can help explain why individuals with similar abilities in a particular domain outperform their counterparts. Individuals with high levels of Grit are thought to utilize their capabilities better since they are less distracted by short-term goals and less discouraged by the failures and setbacks commonly encountered in many performance domains (Howe, 1999). Schools seek to increase students’ Grit by creating a collaborative school culture, and students who perceive the school culture as a mastery-oriented environment display an increased level of Grit (Park et al., 2018). Because Grit is considered a learned skill and not correlated with cognitive ability or a cohesive identity continuum, many schools introduce Grit as a school engagement intervention (Perkins-Gough, 2013). Improving student Grit is believed
to improve academic performance and school engagement among non-Ethno-European students (Shechtman et al., 2013). As such, many school districts across the U.S. seek ways to integrate Grit into their pedagogy and curricula (Cohen, 2015). Although Duckworth’s research (2007) noted the importance of Grit for success, other research findings suggest that interventions designed to enhance Grit levels may not benefit all individuals equally.

A recent evaluation of the impact of Grit found mixed results. Grit intervention benefits were inconsistent across all student demographics (Paunesku et al., 2015). Similar studies have confirmed that Grit interventions vary and are influenced by many antecedent moderators not evaluated during the initial study (Vanhove et al., 2015). An individual’s high levels of Grit may be most useful when a task is difficult but well defined. In such instances, an individual must demonstrate high levels of sustained effort and deliberative practice to succeed (MacNamara et al., 2014). For non-Ethno-European students, school disciplinary practices counteract the ability to demonstrate high levels of sustained effort. Non-Ethno-European students in urban high schools often experience unequal disciplinary practices compared to Ethno-European students (Gordon, 2018). According to a 2014 U.S. Department of Education’s Civil Rights Office report, widespread racial disparities exist regarding how school children are punished (APA, 2008). The longitudinal study looked at data from the past 15 years and found that non-Ethno-European students face a disproportional number of disciplinary actions in schools across the country, including those in both affluent suburban neighborhoods and low-income urban areas. Disproportionate disciplinary practices contribute to non-Ethno-European students’ school disengagement and class failures, reduce their levels of Grit as well as disrupt the development of a cohesive identity continuum. Teacher biases and behavior-based grading systems also play a
significant role in disciplinary practices non-Ethno-European students experience (Reibel, 2021). Students with multiple behavioral infractions generally have lower grades that may not accurately represent their academic capability. Moreover, students who show high levels of Grit experience social isolation and peer pressure since they may experience rejection from both the in and out social groups (Karabenick, 2003).

Another key barrier to school engagement by non-Ethno-European students is the perception that school is irrelevant and not conducive to meeting their needs. As such, non-Ethno-European students are less likely to exhibit high levels of Grit in the school setting (Bridgeland et al., 2006, Crede et al., 2017). Non-Ethno-European students contend with multiple barriers which impede their ability to persist despite setbacks. Social unrest, economic disparity, lack of resources, educational double aims, and Ethnic/racial instability within the education system contribute to non-Ethno-European students experiencing increased emotional and psychological fatigue (Lucas et al., 2015). Without an insulating factor, such as a cohesive identity continuum, positive educational outcomes among non-Ethno-European students remain bleak.

Despite resiliency interventions, such as Grit training, data regarding student academic engagement remains grim among non-Ethno-European students. Although Grit and educational outcomes remain an interesting factor in school engagement among non-Ethno-European students, antecedent moderators such as a cohesive identity continuum formation may offer researchers and educators a greater understanding of improving school engagement (Shechtman et al., 2013). A cohesive identity continuum during secondary education presents a critical development task that is especially salient during adolescence and has been associated with
many indices of positive adjustments (Umana-Taylor et al., 2015). This research explores students’ cohesive identity continuum through the lens of the Ethnic Identity Scale, Grit Scale, Student’s Engagement (SEI) factors, as well as teacher and student perceptions of factors that increase or decrease school engagement.

Conclusion

This literature review explored the contribution of John Bowlby (1969) and Mary Ainsworth’s (1991) Attachment Theory, Erik Erikson’s (1950) Psychosocial Development identity formation theory, Margarete Bael-Spencer Phenomenological Variant of Ecological Systems Theory (1997), and Tajfel’s Social Identity theory (1972) to a student’s cohesive identity continuum and school engagement among non-Ethno-European students.

School engagement and academic performance are central markers of real-world achievement and opportunities across all social and economic communities in the United States. However, social, economic, and educational disparity among non-Ethno-Europeans remains. In part, the disparity is influenced by the limited studies that have attempted to investigate the role an Ethno-European education system plays on the cohesive identity continuum of Non-Ethno-European students' school engagement (Moss & St-Laurent, 2001). Students entering secondary education have already begun to form a cohesive identity continuum. The cohesive identity continuum is shaped by their caregiver’s attachment pattern, family scripts, social threats, and educational settings. Depending on a student’s positive or negative cohesive identity continuum, adaptive or maladaptive attachment patterns are formed. These attachment patterns lead to coping mechanisms that influence the student-school relationship and may contribute to
academic disengagement. The pedagogical literature indicates that a harmonious relationship between students and the school setting based on mutual respect, kindness, cooperation, and understanding of the cohesive identity continuum is essential for a positive school climate and educational success among non-Ethno-European students (Čiuladienė & Kairiene, 2017; Pagliaro, 2011). Students whose cohesive identity continuum is affirmed in the educational setting demonstrate improved outcomes in math and science and have increased college aspirations (Howard, 2003; Bouchey & Harter, 2005). School setting and student relationships dominated by incongruent aims are negatively associated with student behavioral and learning disengagement and positively correlated with peer victimization (Archambault et al., 2016). School engagement among non-Ethno-European students cannot be sustained when a negative conflicting relationship undermines a student’s cohesive identity continuum. The Ethno-European education system may view the perception that it is an ethnic/race-neutral and color-blind education as a constructive ideal; however, this ideal can be destructive when it undermines the student’s cohesive identity continuum (Archambault et al., 2016). Students need to experience positive examples of a cohesive identity continuum. Without exploring how a cohesive identity continuum and the school setting intersect, positive academic outcomes will remain out of reach for most non-Ethno-European students (Ozgan, 2006). The cohesive identity continuum and the Ethno-European education system's influence on non-Ethno-European students need further exploration (Ohbuchi et al., 1999).

While multiple factors contribute to student disengagement, more research is needed to understand the impact a cohesive identity continuum and the school setting have on non-Ethno-European students. The current body of knowledge shows that a cohesive identity continuum is
associated with positive academic engagement and achievement. In line with the growing evidence that a cohesive identity continuum pedagogy improves student outcomes, this research explores non-Ethno-European students’ ethnic identity, Grit, Student Engagement factors (SEI), and teacher and student perceptions of moderators that increase or decrease school engagement. The approach is influenced by Paulo Freire's (2000, 2008) work on the importance of critical academic discourse and self-reflection. Ethno-European and non-Ethno-European students should learn about the cohesive identity continuum and the historical context of themselves and others (McInerney, 2009). In so doing, each person can see themselves as agents of social change (Freire & Macedo, 1987).
Chapter III provides information related to the QUAN and QUAL methodologies. This section includes the following: Methods Overview, Research Setting, Recruiting Procedures, Participants, Data Collection Procedures, Data Analysis, and Researcher Background and Role.

Methods Overview

This study is exploratory research that utilizes a Convergent-Parallel Mixed Methods design where the Quantitative (QUAN) and Qualitative (QUAL) data are integrated to form a single-phase design (Teddlie & Tashakkori, 2009). Utilizing this design, QUAN and QUAL data were collected, analyzed independently, then integrated to arrive at a single interpretation to explain a phenomenon (Creswell, 2013).

The QUAN and QUAL data sets are integrated through four parallel methodologies. First, both forms of data, the QUAN and QUAL, were collected. The QUAN data was collected using survey instruments, while the QUAL data were collected through a semi-structured interview. Second, the QUAN and QUAL data were analyzed independently. The QUAN data is analyzed using statistical measures, while the QUAL is coded using an Inductive Coding approach (Kiger & Varpio, 2020). The QUAL codes are quantified based on frequency patterns known as a data-transformation variant (Teddlie & Tashakkori, 2009). Both sets of findings (QUAN + QUAL) are explained independently and then integrated, allowing further analysis, direct comparison, or interrelations. In the fourth and final stage, the QUAN and QUAL findings are interpreted for implications, limitations, and conclusions (Bian, 2018).
Figure 1. Convergent-Parallel Mixed Method Design Overview

Research Setting

Chicago is located in Cook County, Illinois, nestled on the coast of Lake Michigan, spanning over 234 square miles. Chicago is one of the largest cities in the United States, with 2.7 million occupants (Frey, 2020). Chicago is a picturesque city with a mix of contemporary and monolithic architecture skyline, museums, and parks. Despite its scenic static appeal, Chicago is a fast-changing city. Among Chicago’s changes are its population demographics and education systems.

Chicago’s population is declining. The city’s demographics are rapidly changing as African Americans and Latinos/Hispanics are squeezed out of the Southern and Northwest neighborhoods due to gentrification by affluent investors. The population has been declining at a rate of -0.28% annually, with an overall population decrease of -0.68% between 2010 and 2021 (World Population Review, 2022). According to the American Community Survey data, the racial composition of Chicago is distributed, with Whites at 49.99% living predominantly in the Northern part of the city, Blacks or African Americans at 29.62% living predominately in the
Southern part of the city, Hispanics/Latinx, and other race at 10.58%, Asian at 6.63%, two or more races at: 2.85%, Native American at 0.31%, and Native Hawaiian or Pacific Islander at 0.03% living predominately in the Northwest part of the city (World Population Review, 2022). The median income in Chicago is $90,713, with an average house value of $258,000 (World Population Review, 2022). The average poverty rate is 18.39%, linked mainly to the Southern and Northwest parts of the city. The geographical distribution of race in Chicago is primarily a result of Chicago’s historically racist housing allocation policy, which forced its black population into the cheaper Chicago South Side housing. These cheaper housing options have historically been associated with disadvantaged school systems. Traditionally, eighty-four percent of a school’s local revenue comes from property taxes. However, in 2014, Student-Based Budgeting (SBB) was introduced to combat disproportionate funding (CPS, 2020). These measures failed to account for equity related to the different needs of each school and its student population. Though positive steps have been taken to improve school funding equity, school-based funding policies often mean most Southern and Northwest communities deal with increased violence, unfair taxation, and chronic underfunding for local schools.

Underfunded schools in the Southern or Northwest part of the city have historically struggled with educational outcomes such as student engagement. During the 2021-22 academic year, the Chicago Education system served approximately 330K students. Of these students, 21% are Bilingual, 14.8% require Special Education classes, and 69.8% require free lunch benefits. The Office of the Assistant Secretary for Planning and Evaluation (ASPE) determines that students requiring free or reduced lunch come from Economically Disadvantaged families whose income is within 185% of the federal poverty line. During the 2019-2022 Covid-19 Pandemic,
The Illinois State Board of Education Department [ISBE] of Data Strategies and Analytics (n.d.) reported during the 2020-21 academic year that 30% of students were chronically absent. Nearly 56% of CPS’ Black students, just under 51% of students with IEPs, and almost 40% of the district’s Hispanic students were reported chronically truant. Further, metrics designed to determine college and career readiness saw steep declines. The percentage of ninth-graders on track to graduate fell to 82.2% statewide in 2020-2022 from pre-pandemic levels, which marked a 5.1% drop due to an increase in failing grades. Eighth graders passing Algebra 1, the course ISBE called the “gateway to higher-level math and science courses,” fell to 28.8% during the 2020-2021 school year (ISBE, n.d.). One of the areas with the highest social, economic, and educational needs is the Humboldt Park Neighborhood.

One of Chicago’s most historic and picturesque areas is the Humboldt Park Neighborhood. Located in the Northwest part of the city, Humboldt Park occupies approximately 3.60 square miles. The Humboldt Park neighborhood borders include Western Avenue to the east, Pulaski Road to the west, North Avenue to the North, and the Union Pacific tracks to the south. Humboldt Park is part of Chicago’s Boulevard Park System, which flanks the Loop with large parks linked with boulevards. The park is lined with Graystone houses. The park itself has three significant historical public buildings, including the Boat House, the Field House, and the Stables. In the 1970s, Humboldt Park became a local area for gang activity, crime, and violence. The neighborhood was overcrowded and economically depressed, with housing values below the citywide average. In the 1980s, Puerto Ricans were the largest ethnic group in Humboldt Park. However, higher property taxes, interpersonal divestment, and housing foreclosures have contributed to the area’s gentrification. According to the Woodstock Institute, 550 foreclosures
occurred in Humboldt Park in 2010. Census data from 2020 shows a population of 58.4% Hispanic/Latinos, 32% blacks, and 7.7% White (Chicago Metropolitan Agency for Planning [CMAP], 2021). The population is mainly low-income, ranking among Chicago’s top 20 priority areas for social-economic, mental health, and educational support services in Chicago (Lurie Children’s hospital, 2019). To meet the community’s social, economic, and educational needs, the City of Chicago and Chicago Public School authorized the Noble Network of Charter Schools to open a campus within the Humboldt Park boundary called Math & Science Academy.

Math & Science is situated on the southern part of Humboldt Park, intersecting Chicago Ave and Pulaski Avenue. Erected in 2007-2008, the school building contributes to the area’s urban fabric by replacing a series of orphaned lots. The building has a sustainable and modern green roof and a garden planted along the vine-covered south facade that flanks the parking lot. The school serves approximately 405 students, grades 9-12 (Chicago Public Schools [CPS], 2019). According to the Chicago Public School 2019 School Progress Report data, the population of students is predominately non-Ethno-European, 78% African American and 18.8% Hispanic students. Ninety-five percent of the student population needs economic opportunities. In 2019, students had an average attendance rate of 90.3%, a 69.6% graduation rate, and a 3.8% drop-out rate. Twenty-five percent of students are considered diverse learners, and 5.2% are English language learners. Math & Science Academy is considered a Level 1 or high-performing school. The level 1 rating is issued to schools where students attain high scores on the PSAT/SAT assessments, have excellent student attendance and graduation rates, earn early college or career credentials, and have low dropout rates. Although this school received a Level 1 rating based on the CPS School Quality Rating Policy (SQRP), student attainment is below
expectations in college readiness based on the 2019 PSAT or SAT scores. Student attainment is also measured through the school’s 5Essentials survey results. The 5Essentials system is based on more than 20 years of research by the University of Chicago Consortium on School Research. Five factors are critical for school success: Effective Leaders, Ambitious Instruction, a Supportive Environment, Involved Families, and Collaborative Teachers. The 5Essentials survey indicates that the teacher collaboration rate is 84.4%, while CPS schools’ rate is 78.5%. On the other hand, students rate their teacher’s collaboration at 53.7% compared to CPS schools at 81.4% (University of Chicago, 2019).

During the 2020-2021 academic year, teachers and students at the Math & Science Academy were invited to participate in several surveys and a semi-structured interview to explore their perception of factors contributing to student engagement.

Recruiting Procedures

In the initial recruiting phase, teachers and parents/guardians of students in grades 9-11 attending Math & Science Academy were contacted via the school email system. The email contained a recruiting script outlining the research purpose and scope (Reference Appendix A). Parents who did not wish their child to participate in the research were excluded in subsequent research notifications. Two weeks were allowed between the initial recruiting script email and the second email communication to allow parent feedback. A secondary email was sent to the Math & Science Academy student body via the school email after completing the two weeks. The email contained the IRB-permission parent consent and student assent form. The consent and assent forms included information related to the purpose of the study, confidentiality, cost,
benefits, and risks (Reference Appendix B & C). Students who agreed to participate in the research were asked to remind parents of their intent to participate. Students were emailed a Qualtrics hyperlink with instructions for completing three QUAN instrument surveys in the third and final communication. Students were informed that entering their student ID when completing the survey meant they agreed to participate in the research, discussed the study with parent/guardian, and understood student IDs would randomly be chosen to participate in a 45-minute interview. The Qualtrics Hyperlink was active for seven weeks. During this time, school staff sent two emails reminding students to complete the survey. A total of $n (=) 56$ students replied. In the QUAL portion of the research, convenience sampling was used. $N (=) 12$ students and $n (=) 5$ teachers who attend the Math & Science Academy participated in a semi-structured interview.

Students were contacted via the school email and asked to provide a contact telephone number. Twelve students provided a telephone number and were contacted to schedule a meeting date and time. Students were informed and agreed to have the interview audio-recorded and transcribed for research purposes. A calendar invite was sent to the student’s school email, and a zoom hyperlink was provided. The interview took approximately 30 to 45 minutes, depending on the student.

In the final recruiting stage, teachers at the Math & Science Academy were emailed using a teacher/faculty recruiting script. Five teachers agreed to participate in the research. Consent forms were emailed to each participant (Reference Appendix D). Teachers were informed and agreed to have the interview audio-recorded and transcribed for research purposes. A calendar
invite was sent to the teacher’s school email, and a zoom hyperlink was provided. The interview took approximately 45 minutes to 1 hour, depending on the teacher.

Participant Overview

The study participants attending or working at Math & Science Academy campus, located on the northwest side of Chicago, Humboldt Park neighborhood, were invited to participate in the research. A total of $n = 73$ Quan and Qual persons participated.

Data Collection and Analysis Overview

The research data were collected for the 2020-2021 school year, while educational activities were offered exclusively in a virtual environment. The student demographic information was obtained from the QUAN survey and during the QUAL interviews, which included students and teachers. Demographic information included grade level, gender, race/ethnic identity, and age group.

Researcher Background & Role

As a multidisciplinary researcher, I am interested in the effects social-ecological spheres have on an individual’s acquisition and use of knowledge to derive meaning about the self and the world. Through a social-ecological lens, I have examined academic literature and authored unpublished works, including, *A Review of the Epistemology of Unions Contribution to the United States Public Education System, A Review of Father’s Attachment Theory, Moral &

Additionally, I have contributed to several quantitative research projects, including “Rethinking phonological awareness: An investigation of lexical stress insensitivity as an early precursor of risk for reading disability,” “Lexical and phonological learning patterns of Human Cognitive Development,” “Cross-modal effects in tactile, visual, and auditory word learning,” and “Expertise Seeks Rewards: Error-Related Negativity and Defensive Motivation in Spelling Decisions.” Moreover, I authored a professional development curriculum for educational faculty and administrators, which is approved by Chicago Public School’s Social and Emotional Department and the Illinois State Board of Education (The Self-management, Self-awareness, Perseverance, and Social Skills Curriculum. M.A.P.S)

As a multidisciplinary researcher exploring the social-ecological spheres, I ground my research focus with an emphasis on quantitative data collection protocols and interpretation. Hence, I participated in quantitative research projects such as “Moral Identity and Educational Attainment,” an exploratory correlation study proposed for an academic project. The research proposal uses prosocial and moral identity instruments, demographic surveys, and school records to describe phenomena related to prosocial/moral identity and secondary academic achievement.

Lastly, Adler and Adler (1987) identified three “membership roles” of researchers: (a) peripheral member researchers, who do not participate in the core activities of group members; (b) active member researchers, who become involved with the central activities of the group without fully committing themselves to the members’ values and goals; and (c) complete member researchers, who are already members of the group or who become fully affiliated
during the research (Dwyer & Buckle, 2009). In this research study, my role as an insider is informed by my experience as a student of the Chicago Public School system. My family immigrated from Central America to Chicago when I was eight years old. I entered fourth grade at the local elementary school without speaking or writing English. The school had no programming for English Language Learners, and teachers were ill-equipped to help. Additionally, I had to assimilate to an education system that was ethnically/racially non-Ethno-European-blind. I struggled but completed high school and started working in a factory the day after my graduation. My family expected that I work to earn money; higher education was not a priority. After working for ten years, and with the support of some mentors, I realized the benefits of education, and I chose to return to school. While considerable improvements have been made to support non-Ethno-European students in their academic progress, barriers remain to the non-Ethno-European population’s academic engagement. These barriers are antecedent moderators not considered in an Ethno-European education system. For example, the role attachment theory plays in students developing a cohesive identity formation and teacher’s aptitude to work with non-ethno-European students is an area for future research projects.

Quantitative Method Section

Quantitative Participants

Student participants in the QUAN portion, $n = 56$, accounted for 13.8% of the school’s total 9-12 grade population. Demographic information was collected on each student participant. Demographic information includes student grade level, gender, race/ethnic identity, and age
group. Demographic information was obtained via self-report as part of the survey data collection. Of the 56 participating students, 19 (34%) were 9th graders, 11 (20%) were 10th graders, 18 (32%) were 11th graders, and 8 (14%) were 12th graders. Twenty-six (46%) student participants identified as male, 29 (52%) as female, and 1 (2%) as non-binary. Fifty student participants (89%) identified as Black/African American, 5 (9%) as Latin X/Hispanic, and 1 (2%) as Native Hawaiian or Pacific Islander. The ages of the student participants included 22 (39%) in the 13–15-year-old group, 27 (48%) in the 16–17-year-old group, and 7 (12%) in the 18–19-year-old group (reference Table 1).

Table 1
Quantitative Student Demographic Information

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number of Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9th</td>
<td>19</td>
<td>34</td>
</tr>
<tr>
<td>10th</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>11th</td>
<td>18</td>
<td>32</td>
</tr>
<tr>
<td>12th</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Gender</td>
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</tr>
<tr>
<td>Male</td>
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<tr>
<td>Female</td>
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</tr>
<tr>
<td>Black/African American</td>
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<tr>
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<tr>
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</tr>
<tr>
<td>Native Hawaiian/Pacific Islander</td>
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<td>2</td>
</tr>
<tr>
<td>Other</td>
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</tr>
<tr>
<td>Age Range</td>
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<tr>
<td>13-15 years old</td>
<td>22</td>
<td>39</td>
</tr>
<tr>
<td>16-17 years old</td>
<td>27</td>
<td>48</td>
</tr>
<tr>
<td>18-19 years old</td>
<td>7</td>
<td>12</td>
</tr>
</tbody>
</table>
Quantitative Data Collection Procedures

In the QUAN portion of the research, students attending Math & Science Academy were emailed a Qualtrics Hyperlink with the research instruments questions from the Grit Scale, School Engagement Scale (SEI), and Ethnic Identity Scale. Students’ academic attendance was obtained from the school’s tracking system at the end of the 2020-2021 academic year. The Qualtrics Hyperlink was active for seven weeks or until the 2020-2021 school year ended (June 2020). The following provides information about the instruments used in the QUAN portion of the study and its rationale.

Quantitative Data Instruments

Grit Scale

The Grit Scale (Duckworth et al., 2007) was developed to evaluate how individual factors of perseverance and passion correlate to success. The validity scale was conducted over six studies beginning in 2004 and ending in 2005. According to the original research conducted by Duckworth (2007), Grit accounted for an average of 4% of the variance in success outcomes, including educational attainment. The scale validity was conducted using a total sample of 5,074 participants ranging from Ivy League undergraduates, United States Military Academy, West Point cadets, and National Spelling Bee participants. Duckworth et al. (2007) reported Cronbach’s alphas of .79-.80. The original validation study of the Grit Scale tested a sample
population of \( n = 5074 \), producing a range mean of 3.41 – 3.78, a mean of 3.59, and a standard deviation of 0.63 for the instrument’s total score (Duckworth et al., 2007) (reference Table 2).

Table 2

Range, Means, and Standard Deviations from Instrument Validation Studies

<table>
<thead>
<tr>
<th>Measure</th>
<th>Variables</th>
<th>( n )</th>
<th>Range</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>Total Score</td>
<td>5,074</td>
<td>3.41 – 3.78</td>
<td>3.59 (.63)</td>
</tr>
<tr>
<td>Student Engagement</td>
<td>Total Score</td>
<td>312</td>
<td>n/a</td>
<td>3.21 (.614)</td>
</tr>
<tr>
<td>Ethnic Identity</td>
<td>Exploration</td>
<td>846</td>
<td>15.9 – 20.8</td>
<td>18.43 (5.65)</td>
</tr>
<tr>
<td></td>
<td>Affirmation</td>
<td>846</td>
<td>22.7 – 23.6</td>
<td>23.10 (2.18)</td>
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<tr>
<td></td>
<td>Resolution</td>
<td>846</td>
<td>9.6 – 11.7</td>
<td>10.78 (3.30)</td>
</tr>
</tbody>
</table>

Ref: Duckworth et al., 2007; Waldrop, 2008; Umana-Taylor et al., 2004.

The Grit Scale includes 12 questions and utilizes a 5-point Likert scale. The complete instrument can be found in Appendix E. Responses to all questions are summed and divided by 12 to obtain a total Grit score. The maximum score on this scale is 5 (high grit), and the lowest score is 1 (low grit). For questions 1, 4, 6, 9, 10, and 12, points were assigned as 5 = Very much like me, 4 = Mostly like me, 3 = Somewhat like me, 2 = Not much like me, and 1 = Not like me at all. Mean scores from these questions were summed and divided by 6 to obtain the Perseverance of Effort subscale mean score. For questions 2, 3, 5, 7, 8, and 11, points were assigned as 1 = Very much like me, 2 = Mostly like me, 3 = Somewhat like me, 4 = Not much like me, and 5 = Not like me at all. Scores from these questions were summed and divided by 6 to get the Consistency of Interest subscale mean score (reference Appendix E).
Student Engagement Instrument (SEI)

The Student Engagement Instrument (SEI) was developed and used as part of this research to measure the cognitive and psychological aspects of engagement, as reported by students (Appleton et al., 2006). The validity scale was conducted using a sample of 1,931 grade 9 students from an urban, ethnically diverse, majority low-income school district. Appleton et al. (2006) report internal consistencies (Cronbach’s alphas) of .88 for teacher-student relationships, .80 for control and relevance of schoolwork, .82 for peer support for learning, .78 for future aspirations and goals, .76 for family support for learning, and .72 for extrinsic motivation. Using a 35-item version of the instrument across five subscales, Reschly et al. (2008) found internal consistencies of .77–.92. A validation study of the Student Engagement Instrument (SEI), tested on a sample population of $n (\approx) 312$, produced a mean of 3.21 and a standard deviation of .614 for the instrument’s total score (Waldrop, 2008) (reference Table 2).

The Student Engagement Instrument (SEI) includes 35 questions that measure overall engagement. The complete instrument can be found in Appendix F. The SEI acquires an overall student engagement by measuring two functions of school engagement. Affective (Psychological) Engagement is measured by the Teacher-Student Relationship (TSR), Peer Support at School (PSS), and Family Support for Learning (FSL) subscales. Cognitive Engagement is measured by the Control and Relevance of School Work (CRSW), Future Aspiration and Goals (FG), and Intrinsic Motivation (IM) subscales. The SEI uses a 4-point Likert scale response with scale descriptors: 1 – strongly disagree, 2 – disagree, 3 – agree, and 4
– strongly agree. All items were added and divided by 35 to obtain a mean Total Student Engagement Score (SEI).

In the Affective (Psychological) Engagement sections, to obtain the Teacher-Student Relationship mean scores on the subscale, questions 3, 5, 10, 13, 16, 21, 22, 27, and 31 are summed and divided 9. To obtain a mean score for the Peer Support at School subscale, questions 4, 6, 7, 14, 23, and 24 are summed and divided by 6. To obtain a mean score for the Family Support for Learning subscale, questions 1, 12, 20, and 29 are summed and divided by 4 (reference Appendix F).

In the Cognitive Engagement section, to obtain a mean score for the Control and Relevance of School Work subscale, questions 2, 9, 15, 25, 26, 28, 33, 34, and 35 are summed and divided by 9. To obtain a mean score for the Future Aspiration & Goals subscale, questions 8, 11, 17, 19, and 30 are summed and divided by 5. To obtain a mean score for the Intrinsic Motivation subscale, questions 18 and 32 are reversed scored, summed, and divided by 2 (reference Appendix F).

Ethnic Identity Scale

The Ethnic Identity Scale was developed and used as part of this research to measure an individual’s ethnic identity formation (Umana-Taylor et al., 2004). The scale validity was conducted using a sample of 231 eleventh-grade students in a large, ethnically diverse city in the Midwest. The 17-item instrument has a Cronbach’s alphas of internal consistencies of .84-.89 across all three subscales (Umana-Taylor et al., 2004). The subscales coefficient alphas ranged
from .82 to .88 for exploration, .83 to .88 for resolution, and .71 to .75 for affirmation (Umana-Taylor et al., 2008). Original validation studies of the Ethnic Identity Scale, tested on a sample population of \( n = 846 \), produced a range mean of 15.9 – 20.8, a mean of 18.43, and a standard deviation of 5.65 for the Exploration score; a range mean of 22.7 – 23.6, a mean of 23.10, and a standard deviation of 2.18 for the Affirmation score; and a range mean of 9.6 – 11.7, a mean of 10.78, and a standard deviation of 3.30 for the Resolution score (Umana-Taylor et al., 2004) (reference Table 2).

The Ethnic Identity Instrument includes 17 items that assess the degree to which individuals (a) have explored aspects related to their ethnicity (Exploration), (b) have resolved any issues related to their ethnicity (Resolution), and (c) feel positive about their ethnicity (Affirmation). The complete instrument can be found in Appendix G. The Ethnic Identity Scale utilizes a 4-point Likert scale response with scale descriptors: 1 – does not describe me at all, 2 – describes me a little, 3 – describes me well, and 4 – describes me very well. Specific questions require a reverse score where a score of 1- does not describe me at all becomes a 4 – describes me very well or vice versa. A score of 2-describes me a little becomes a 3-describes me well or vice versa. Questions 1, 2, 7, 9, 10, 13, and 16 are reversed scored.

To obtain a total score for Exploration, responses to questions 2, 4, 5, 6, 8, 11, and 15 are totaled. To obtain a total score for Affirmation, responses to questions 1, 7, 9, 10, 13, and 16 are totaled. To obtain a total score for Resolution, responses to questions 3, 12, 14, and 17 are totaled (reference Appendix G).
Student Attendance

For this research, student engagement is defined as the number of days students attend school. In a meta-analysis by Credé et al. (2010), student attendance positively affected course grades and GPA as the strongest predictor of college performance. Attendance has been linked to higher performance on exams and final course grades. The relationship between attendance and academic performance is strongest for nontraditional and/or underperforming students. Often, these students may not have access to information technology, mentorship, and cultural capital. Consistent class attendance provides opportunities for nontraditional students to access these resources. Additionally, attendance indicates student motivation, participation, time management, and adherence to program or institutional expectations (Credé et al., 2010).

The student attendance report was obtained from Math & Science Academy after completing the 2020-2021 academic year. School officials emailed the attendance record for all enrolled students. Records were formatted using a Microsoft Excel document.

Quantitative Statistical Power Analysis

A statistical power analysis was calculated using the web address https://clincalc.com/stats/samplesize.aspx to determine the minimum number of participants needed for sufficient statistical power for all three instruments. For the Grit instrument, a minimum of 23 participants are required. For the Student Engagement Instrument (SEI), 245 participants are required. For the Ethnic Identity Instrument, 22 participants are required for Affirmation, 27 for Resolution, and 284 for Exploration.
Quantitative Data Preparation Procedures

The QUAN data were prepared for analysis through the instrument summation section. In the QUAN portion of the research, the Sample size included 29 males, 26 females, and one non-binary student for a total of \( n (\) = \) 56.

The Qualtrics survey responses were downloaded into a Microsoft 365 Excel worksheet in the instrument summation section. Using Microsoft 365 Excel, Grit, School Engagement, and Ethnic Identity scales were formatted to include headings, additional rows, and columns. The header rows and columns coincided with instrument questions, questions requiring reverse scoring, total instrument scores, and total subscales scores per student. Additional heading and columns were added to include student IDs, survey completion date, grade level, gender, race/ethnicity, age group, and student attendance. The student days attended were gathered at the end of the 2020-2021 school year. Once the excel spreadsheet was formatted, the instrument totals and sub-scores were summed.

The total instrument totals scores and subscores were calculated using the Microsoft 365 Excel formula options. Following the scoring instructions for the Grit instrument, the mean student Grit score was obtained by summing responses to all questions and dividing by 12. The maximum score on this scale is 5= extremely gritty, and the lowest score is 1= not at all gritty. The Grit Scale also includes two subscales, Perseverance of Effort and Consistency of Interest. Mean scores from questions 1, 4, 6, 9, 10, and 12 were summed and divided by 6 to obtain the student’s mean score for the Perseverance of Effort subscale. Scores from questions 2, 3, 5, 7, 8,
and 11 were summed and divided by 6 to get a student’s average score for the Consistency of Interest subscale.

Following the Student Engagement Instrument scoring instructions (SEI), the average student’s score for the Teacher-Student Relationship subscale, questions 3, 5, 10, 13, 16, 21, 22, 27, and 31, were summed and divided 9. To obtain a student’s mean score for the Peer Support at School subscale, questions 4, 6, 7, 14, 23, and 24 were summed and divided by 6. To obtain a student’s mean score for the Family Support for Learning subscale, questions 1, 12, 20, and 29 were summed and divided by 4. To obtain a student’s mean score for the Control and Relevance of School Work subscale, questions 2, 9, 15, 25, 26, 28, 33, 34, and 34 were summed and divided by 9. To obtain a student’s mean score for Future Aspiration & Goals subscale, questions 8, 11, 17, 19, and 30 were summed and divided by 5. To obtain a student’s mean score for the Intrinsic Motivation subscale, questions 18 and 32 were summed and divided by 2.

Following the scoring instructions, the Ethnic Identity instrument does not have a total score. Therefore, to obtain a score for Exploration, responses to questions 2, 4, 5, 6, 8, 11, and 15 are totaled. To obtain a score for Affirmation, responses to questions 1, 7, 9, 10, 13, and 16 are totaled. To obtain a score for Resolution, responses to questions 3, 12, 14, and 17 are totaled.

As a final step, the excel spreadsheet was validated by a secondary party to verify that no mathematical errors had occurred and that the mathematical logic was intact. A QUAN data folder was created under a confidential, password-protected flash drive/research data/quantitative data/survey & school data/Qualtrics survey file. Once the QUAN data have been scrubbed and saved, uploading the file into SPSS was initiated.
SPSS statistical software was used to conduct the quantitative analysis. The research data/quantitative data/survey& school data/Qualtrics survey file was uploaded to SPSS. Categorical variables were assigned data labels. For example, Grade Level was assigned data labels as 1 = 9th grader, 2 = 10th graders, 3 = 11th graders, 4 = 12th graders. Gender was assigned data labels as 1 = male, 2 = female, 3 = non-binary/third gender, and 4 = prefer not to say. Race/Ethnic Identity was assigned data labels as 1= White, 2= Black/African American, 3 = Latin X/Hispanic, 4 = Asian, 5 = Native Hawaiian or Pacific Islander, and 6 = other. Age Group was assigned data labels as 1 = 13-15, 2 = 16-17, 3 = 18-19, and 4 = 20 plus. Once the QUAN data had been scrubbed and the categorical variables defined, the statistical analysis was initiated.

Rationale for Statistical Analysis

As exploratory research, the Quan data is analyzed using Descriptive Statistics, Correlation Statistics, and an Analysis of Variance (ANOVA). First, the research made use of descriptive statistics to explore the central tendency or distribution related to the student’s research instruments scores (Grit Scale, Ethnic Identity Scale, and Student Engagement Scale) as well as the number of days students attended school during the 2020-2021 academic year. By utilizing descriptive statistics, this research can explore differences or similarities in group scores compared to the original instrument studies. In addition, group differences in scores across the research instruments, demographics, and attendance rates during the 2020-2021 academic year can be described. Student disengagement is most notable among non-Ethno-European students
Exploring group differences may provide future research directions related to factors influencing student engagement or disengagement among non-ethno-European students.

Second, the research used Correlation Statistics to explore whether the Instrument total scores were linearly related to attendance and between instrument subscales. Generally, student engagement has primarily focused on three dimensions of student engagement; affective, cognitive, and behavioral (Archambault et al., 2009). By utilizing correlations statistics, exploration beyond the three dimensions of school engagement can be considered, including a cohesive identity continuum through a cultural lens.

Thirdly, an Analysis of Variance was used to explore whether there was a meaningful variance across the means for students’ grade levels and gender. The information-processing approach, outlined by Pressley and Scheinder (1997) and Wyer (2004), suggests a gradual capacity in the individual’s ability to develop strategies for dealing with new situations, sort facts, and improve memory capacity and perceptual abilities occur during adolescence. These new strategies and capacities are referred to as metacognition. For purposes of the research analysis, grade level and gender were used to explore whether differences in a student’s cognitive development were a factor of Grit, Ethnic Identity, and Student Engagement.

**Quantitative Data Analysis Procedures**

For the Quantitative Analysis, the totals and subscales scores of each instrument, the Grit Scale, Ethnic Identity Scale, and Student Engagement Instrument (SEI), were analyzed. The Grit Scale scores include a total score and two subscales of Perseverance of Effort and Consistency of
Interest. The Ethic Identity Scale includes scores for Affirmation, Exploration, and Resolution. The Student Engagement Instrument scores (SEI) have a total score and six subscales of Teacher Student Relationship, Peer Support at School, Family Support for Learning, Control and Relevance of School Work, Future Aspirations and Goals, and Intrinsic Motivation. Student attendance was measured by the number of days students attended school during the 2020-2021 academic year.

First, Descriptive Statistics (i.e., means and standard deviations) were calculated for all variables. Second, data were analyzed in SPSS to assess potential correlations, using Pearson’s r, among the following variables (n = 56). Third, One-way ANOVAs were run to determine if instrument scores differed significantly by Grade Level and Gender groups. Race/Ethnic Identity was not used as a factor as there was insufficient diversity in this category for statistical significance. Age Groups were not used as a factor due to their similarity with Grade Levels. A Tukey Post Hoc Test was run for the Grade Level factor to determine which specific group means differ. A *p < .05 was used to determine statistical significance between the observed scores.

Qualitative Method Section

Qualitative Participants

In the QUAL portion of the study, students at a Math & Science Academy, grades 9-11, were invited to participate in a 45-minute semi-structured interview for the Qualitative portion of this study. Student participants in the Qualitative portion, n (=) 12 accounted for 3.6% of the
school’s total 9-11 grade population. Demographic information was collected on each student participant. Demographic information includes gender, race/ethnic identity, and age group.

Demographic information was obtained via self-report as part of the data collection. Five (42%) student participants identified as male, and 7 (58%) as female. Five student participants (42%) identified as Black/African American, 6 (50%) as Latin X/Hispanic, and 1 (8%) as other. The ages of the student participants included 5 (42%) in the 13–15-year-old group, 3 (25%) in the 16–17-year-old group, and 4 (33%) in the 18–19-year-old group (see Table 3).

Table 3

Qualitative Student Demographic Information

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number of Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>7</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>White</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Black/African American</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Latin X/Hispanic</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Native Hawaiian/Pacific Islander</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1</td>
</tr>
<tr>
<td>Age Range</td>
<td>13-15 years old</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>16-17 years old</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>18-19 years old</td>
<td>4</td>
</tr>
</tbody>
</table>

The National Center for Education Statistics (2020) indicates that 79% of public-school teachers are White, only 9% are Hispanic, 7% are Black, and 5% other. In Chicago, 52% of teachers are white, 21% are black, and 19% are Latino (CPS, 2020). At Math & Science Academy, 50% of teachers are white, 20% are black, and 21% are Hispanic (ISBE, 2020).
Teachers and school staff members were invited to participate in a 45-minute semi-structured interview for the QUAL portion of this study. Five staff members, \( n (=) 5 \) agreed to participate in the QUAL study, and participants signed a letter of agreement to participate. Demographic information of gender and race/ethnicity was collected on each staff participant via self-report. Four (80%) staff participants identified as female and 1 (20%) as male. Three (60%) staff participants identified as White, 1 (20%) as Black/African American, and 1 (20%) as Latin X/Hispanic (see Table 4).

Table 4
Teacher/School Staff Demographic Information

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number of Staff</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Female</td>
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<td>80</td>
</tr>
<tr>
<td>Ethnicity</td>
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<td></td>
</tr>
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<td>60</td>
</tr>
<tr>
<td>Black/African American</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Latin X/Hispanic</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

Qualitative Data Collection Procedures

In the QUAL portion of the research, students and teachers attending Math & Science Academy were invited to participate in a semi-structured interview. The QUAL portion of the study included \( n (=) 12 \) students and \( n (=) 5 \) teacher participants. Teachers and students who agreed to participate were emailed a calendar invite that included the date, time of the meeting, and a zoom hyperlink. Verbal consent to participate in the research was restated upon participants joining the video session. Participants were also reminded the video would be
recorded for audio purposes only. Upon verbal consent, the audio recording option of zoom was activated. Seventeen interviews were conducted and coded. No additional analysis or thematic saturation was considered once 70% of the thematic excerpts were coded (Green and Thorogood, 2004).

**Interview Questions**

The semi-structured interview consisted of open-ended questions exploring Ethnic/racial identity perceptions and whether teachers and students consider Ethnic/racial identity important in education (Reference Appendix H). The first part of the interview focused on topics such as Self-Identity/Ethnic/racial Awareness, Family Ethnic/racial background, and Social and Racial Discrimination/Privilege awareness. Examples of questions are:

- **Question 2:** What does your Ethnic/racial background mean to you? Please explain?
- **Question 3:** How important is it that familial customs and practices are maintained at home and outside the home?
- **Question 4:** How do you think your life might be different if you belonged to another ethnic/racial group?

In the second portion of the interview, the focus transitioned to School-Based ethnic/racial Awareness. Examples of questions are:

- **Question 1:** How does your school address race/ethnicity?
  
  Follow up: How do you contribute to the ethnic/racial culture of your school?
- **Question 2:** In your opinion, how do social studies or history classes depict ethnic/racial
history?

Question 5: What are some common grounds you have with your teachers (or teachers with students) as it relates to race and ethnicity?

To finalize the interview, teachers and students were asked to describe actions school officials could take or implement to improve student attendance. The interview concluded by asking participants about any questions or concerns and thanking them for their participation. The zoom audio recording option was discontinued after the Q&A portion of the interview. All audio files were immediately sent to a private email address, where the electronic files were saved on a confidential, password-protected flash drive. The audio files were assigned an interview number (i.e., Student or Teacher Interview 1, etc.) and saved under the teacher or student interview audio file. The zoom audio recording was deleted from the zoom platform and email system for security purposes and to protect the confidentiality of the participants.

**Qualitative Thematic Saturation**

For this research, thematic Saturation is achieved when the analysis reveals no new themes or the thematic codes represent at least 70% of the total excerpts (Green and Thorogood, 2004).

**Qualitative Data Preparation Procedures**

The QUAL interviews were prepared for analysis through two main parts, the interview transcription and the scrubbing of the transcriptions. Intelligent transcription was utilized to
scrub interviews (Bailey, 2008 & Davidson, 2009). The QUAL portion of the study included \( n (\, = \, 17 \) participants; \( n (\, = \, 12 \) students, and \( n (\, = \, 5 \) teacher interview audio files.

In the first step, all student and teacher audio folders were created under a confidential, password-protected flash drive/research data/qualitative data/interviews/audio file. Each audio file was assigned and saved by interview number (i.e., Student or Teacher Interview 1, etc.). Once the audio folders had been created and the teacher and student audio files were saved, transcription was initiated.

The audio files were transcribed in the second step using Microsoft 365 transcription software. Utilizing Microsoft 365, each teacher and student interview audio file was uploaded. The transcription used text-only transcription and did not utilize the timestamp or speaker categories. Upon Microsoft 365 completing a transcription, the audio files were compared to the Microsoft Word transcription for errors and consistency, and speaker categories were added (i.e., Interviewee or Researchers). Since the representation of audible speech as written words requires reduction, interpretation, and representation to make the written text legible and meaningful, Intelligent transcription was utilized for this portion of the QUAL data scrubbing. Intelligible transcriptions permit the transcriber to decrease the text clutter and coherency by adding personal pronouns and omitting articles in the rushed speech. Also, apart from what is considered in the edited transcript, the intelligent transcript does not include filler words (Bailey, 2008 & Davidson, 2009). Jargon words are written in their standard version, and grammar and time conflicts are solved. A complete understanding of the content of the audio recording is required to maintain the meaning of the phrases. This type of transcription is helpful for academic transcriptions where high accuracy and reading and comprehension of texts are essential (Bailey,
2008; Davidson, 2009). Each transcribed audio file was saved under a confidential, password-protected flash drive/research data/qualitative data/interviews/audio transcript. To analyze the student and teacher transcription, the transcribed files were merged into two separate Microsoft 365-word documents, one file for all the teacher interviews and one for all student interviews. The documents were saved under a confidential, password-protected flash drive/research data/qualitative data/interviews/coding 1. In preparing the data for analysis, teacher and student excerpts categorized as “Interviewee” were assigned a sequential number (i.e., Para 1, etc.). Additionally, page numbers were added to the documents. This allowed the QUAL excerpts to be deconstructed and analyzed to identify patterns and themes.

**Rationale for Inductive Coding Analysis**

In line with the Convergent-Parallel design, an inductive coding approach was the most salient to drawing relationships and conclusions between generalized ideas and statistical findings related to factors that influence school engagement among non-Ethno-Europeans students. This research used open and selective coding, then merged the codes to assess students and teachers transcribed excerpts and combine them with the Quantitative research instruments (Kiger & Varpio, 2020). As part of the Quan and Qual merging process, a secondary code was assigned to the selective codes based on the Quan Instruments scales. These third codes were quantified using a frequency table and compared to the statistical Quan findings.
Qualitative Coding Analysis Procedures

In line with the Convergent-Parallel design, the teacher and student transcripts were analyzed using an Inductive Coding process (Kiger & Varpio, 2020). Whole sentences or paragraphs were used to form various codes. Stage 1 of the open coding process includes a frequency table. These tables were developed to organize teachers’ and students’ codes and excerpts more readily and clearly (Charmaz, 2014). The Code Frequency table consists of three columns. In the first column are the initially assigned codes. Columns two and three provide teachers' and students’ code frequency, and column four references a code frequency percentage. Codes frequency representing at least 70% of the total coded excerpts are used in subsequent analysis. Additionally, the teacher’s and student’s thematic examples provide positive and negative passages that teachers and students deemed important to school engagement.

The thematic categorization began when the interviewer introduced the question of Ethnic/racial identity and ended at the conclusion of the interview. Lastly, a reduction approach was used based on the thematic code frequency to quantify the data and answer the QUAL research questions.

Teacher and student interviews were coded in three distinct stages. In stage 1, a general thematic/open coding was created. The assigned codes were tracked utilizing the Microsoft 365-word software “notes” option. The notes section referenced the assigned thematic code, the interview number, the page where the excerpt can be found, and the paragraph number (i.e., Self-authorship, Interview 1, pg.2/Para. 5). A frequency table was created to organize teacher and student thematic codes readily and clearly. The initial Teacher and Student thematic coding were
re-saved under the confidential, password-protected flash drive/research data/qualitative data/interviews/coding 1.

In stage two, the coded teacher and student thematic excerpts were individually organized in two Microsoft 365-word documents based on their respective assigned code (i.e., Self-Authorship, etc.). Once this process was completed, the organized excerpts were abbreviated, and the page number where the excerpt can be found was listed (i.e., Self-Authorship = S/A pg. 1, etc.). Teacher and student thematic codes were compared using a frequency table. Both the teacher and student excerpts were reduced by Selective coding. Teachers and students assigned codes with zero or frequency lower than 10 (0 > 10) were removed or combined with other codes. Excerpts in which the interviewee related personal stories which did not contribute to the research topic were excluded. Codes with a frequency of at least 70% of the total coded excerpts are used in subsequent analysis. The Teacher and student thematic coding was saved under the confidential, password-protected flash drive/research data/qualitative data/interviews/coding 2.

All remaining excerpts after stage two coding were assigned a secondary code using the QUAN instrument subscales in stage three. The QUAN instruments are [1] Ethnic Identity Scale: Affirmation, Exploration, and Resolution, [2] Grit Scale: Perseverance of Effort and Consistency of Interest, [3] Student Engagement Scale (SEI): Teacher-Student Relationship, Peer Support at School, Family Support for Learning, Control and Relevance of School Work, Future Aspiration and Goals, and Intrinsic Motivation. Like Coding in stage 1, Coding in stage 3 was tracked utilizing the Microsoft 365 Word software “notes” option. The notes section referenced the original assigned thematic code (i.e., Self-authorship, Interview 1, pg.2/Para. 5) and added a secondary note referencing the abbreviated code, page number from stage two (i.e., S/A pg. 1,
etc.), the assigned QUAN subscale and excerpt (i.e., Note 1: Self-authorship, Interview 1, pg.2/Para. 5, Note 2: (Teacher Support) S/A Pg. 11). The excerpts in this part of the coding process were scrubbed once more using intelligent transcription. Using Intelligent transcripts, personal pronouns were added, articles in rushed speech were omitted, and filler words and jargon were deleted (Bailey, 2008 & Davidson, 2009). Lastly, the assigned excerpts were organized in a final Microsoft 365 Word document based on their respective assigned QUAN sub-scale. Teacher’s and Student’s QUAN subscales were compared using a frequency table. The table combined the QUAL thematic codes with the QUAN subscales by frequency. This process allows the QUAL themes and codes to be merged and compared with QUAN findings. The teacher and student thematic codes were saved under the confidential, password-protected flash drive/research data/qualitative data/interviews/coding 3.
CHAPTER IV: QUANTITATIVE ANALYSIS AND RESULTS

Consistent with the Convergent-Parallel Mixed Methods approach, Chapters IV and V are broken down into the QUAN and QUAL data analysis and findings sections. In these sections, the QUAN and QUAL data are analyzed and explained independently, then integrated, allowing further analysis, direct comparison, or interrelations.

Research Setting

Schools in Chicago's Southern or Northwest areas have historically struggled with educational outcomes. The Illinois State Board of Education (ISBE) Department of Data Strategies and Analytics (n.d.) reported that during the 2020-21 school year, ninth-graders on track to graduate fell 5.1% to 82.2% statewide from pre-pandemic levels. One of the areas with the highest social, economic, and educational needs is the Humboldt Park Neighborhood.

Math & Science Academy is situated in the southern part of the Humboldt Park neighborhood. A predominately non-Ethno-European-serving school, students attending Math & Science Academy's academic attainment is below expectations in college readiness based on the 2019 PSAT or SAT scores. Student attainment is also measured through the school’s 5Essentials survey results. The 5Essential factors to school success include Effective Leaders, Ambitious Instruction, a Supportive Environment, Involved Families, and Collaborative Teachers. In Collaborative Teachers, the 5Essentials survey indicates that the teacher participation rate is 84.4%, compared to CPS school's average rate of 78.5%. On the other hand, students rate their
teacher’s participation at 53.7%, compared to CPS schools at an average of 81.4% (University of Chicago, 2019).

![QUAN Data Analysis Stage 2](image)

Figure 2. Convergent-Parallel Mixed Method Design QUAN Overview

The QUAN data analysis and finding sections include the research setting, the research questions, data analysis, statistical power, and preliminary findings. The analysis includes three steps, Descriptive Statistics, used to analyze the normal distribution of the sample population, Analysis of Variance (ANOVA), used to determine statistical significance between the observed variables, and a Bivariate Correlation, used to analyze potential correlations between the variables and well as the strength of the correlation.

**Statistical Power**

To obtain Statistical power, the Grit instrument requires a minimum sample size of $n (=) 23$. The Ethnic Identity scale of Affirmation requires a sample size of $n (=) 22$, the Ethnic Identity scale of Resolution a sample size of $n (=) 27$, and Ethnic Identity Exploration requires a sample size of $n (=) 284$. The Student Engagement Instrument (SEI) requires a minimum sample size of $n (=) 245$. The research yielded a total sample size of $n (=) 56$. 
Quantitative Research Questions

Students enrolled at Math & Science Academy campus located on the northwest side of Chicago, Illinois, in the Humboldt Park neighborhood, during the 2020-21 school year in which educational activities were offered exclusively in a virtual environment, participated in the QUAN portion of the research study. Students completed a survey of three instruments related to Grit, ethnic identity, and school engagement. Student survey results, demographic information, and daily attendance rates were used to investigate factors that explore student attendance in a virtual learning environment.

The following questions guided the QUAN portion of the research:

*Research Question 1:* Do Student Ethnic Identity, Student Grit, or Student Engagement factors (SEI) relate to the number of days students attended school during the 2020-2021 academic year?

*Research Question 2:* Are there differences in Student Ethnic Identity, Student Grit, or Student Engagement factors (SEI) by Grade Level or Gender?

For the Quantitative Analysis, the totals and subscales scores of each instrument, Grit Scale, Ethnic Identity Scale, and Student Engagement (SEI), were analyzed. The Grit Scale scores include a total score and two subscales of Perseverance of Effort and Consistency of Interest. The Ethnic Identity Scale includes scores for Affirmation, Exploration, and Resolution. The Student Engagement Instrument (SEI) includes a total score and six subscales of Teacher Student Relationship, Peer Support at School, Family Support for Learning, Control and Relevance of School Work, Future Aspirations and Goals, and Intrinsic Motivation. Student
attendance is measured as the number of days students attended school during the 2020-2021 academic year.

Quantitative Analysis

Step 1: Standard Deviation of Mean

Data were analyzed using descriptive statistics to explore the central tendency or distribution related to the student’s research instruments scores (Grit Scale, Ethnic Identity Scale, and Student Engagement Scale) and the number of days students attended school during the 2020-2021 academic year. This research explored differences or similarities in group scores compared to the original instrument studies.

Comparing the mean scores from this study to the original instrument studies, the Grit mean score of this sample population of 3.22 was outside the original study range of 3.41-3.78 (Reference Table 5). Similarly, the Student Engagement mean score (SEI) of 3.11 was outside the mean score of the original study at 3.21. Regarding the Ethnic Identity means scores, Affirmation and Resolution mean scores were outside the original study range. The Affirmation means score was 19.38 compared to the original study range of 22.7-23.6. The Resolution mean score was 12.55 compared to the original study range of 9.6-11.7. The Exploration mean score was within the normal range of the original study, with this sample population mean score of 19.38 compared to the original range of 15.9-20.8. The mean difference between the research data and the original instrument findings may be related to the research data's statistical power as well as the normality of distribution. Grit, Ethnic Affirmation, Student Engagement (SEI), and School Attendance scores were normally distributed. Ethnic Exploration and Resolution were not
normally distributed. The mixed results between the sample population means and the original study may have been influenced by sample size and other unknown factors.

### Table 5

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measures</th>
<th>Means (S/D)</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>Total Score</td>
<td>3.22 (.38)</td>
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<tr>
<td>Ethnic Identity</td>
<td>Exploration</td>
<td>19.38 (5.25)</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Affirmation</td>
<td>21.80 (3.26)</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Resolution</td>
<td>12.55 (3.14)</td>
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</tr>
<tr>
<td>Student Engagement</td>
<td>Total Score</td>
<td>3.11 (.39)</td>
<td>56</td>
</tr>
<tr>
<td>Attendance</td>
<td>Total Attendance</td>
<td>127.4 (.32)</td>
<td>56</td>
</tr>
</tbody>
</table>

Secondly, the means and standard deviations provide information about the spread of a variable’s values in the sample population. Utilizing the normal distribution rule ($\mu \pm \sigma - 68\%$, $\mu \pm 2\sigma - 95\%$, and $\mu \pm 3\sigma - 99.7\%$), a determination of whether each variable means (Grit, Student engagement (SEI), Ethnic Identity, and student attendance) are normally distributed across grade level and gender can be discussed.

**Grit Scale Results**

Grit does not appear to be normally distributed among 9 and 10 graders. Similarly, of the 10th graders, $n (=) 11$, 6 cases or 55% of the sample population are within one standard deviation of the mean, while 45% or 5 cases are outside one standard deviation. Grit was normally distributed among 11 and 12 graders. Similarly, of the 12th graders, $n (=) 8$, 7 cases or 88% of the
sample population are within one standard deviation of the mean. Lastly, Grit appears to be normally distributed among gender, females and males (Reference Table 6).

Table 6

Means and Standard Deviations by Grade Level and Gender

<table>
<thead>
<tr>
<th></th>
<th>9</th>
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<th>12</th>
<th>F</th>
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<td>n = 18</td>
<td>n = 8</td>
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<td>3.01 (.14)</td>
<td>3.32 (.47)</td>
<td>3.46 (.38)</td>
<td>3.17 (.38)</td>
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<tr>
<td>Perseverance</td>
<td>3.55 (.47)</td>
<td>3.60 (.51)</td>
<td>3.98 (.60)</td>
<td>3.88 (.60)</td>
<td>3.79 (.46)</td>
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<tr>
<td>Consistency</td>
<td>2.77 (.51)</td>
<td>2.41 (.58)</td>
<td>2.65 (.62)</td>
<td>3.04 (.33)</td>
<td>2.55 (.63)</td>
<td>2.89 (.41)</td>
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<tr>
<td><strong>Ethnic Identity</strong></td>
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<td></td>
</tr>
<tr>
<td>Affirmation</td>
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<td>22.91 (1.81)</td>
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<td>19.50 (4.60)</td>
<td>22.03 (3.26)</td>
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<td>Exploration</td>
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<td>22.18 (4.49)</td>
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<td>17.88 (5.72)</td>
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<td>Resolution</td>
<td>11.47 (3.12)</td>
<td>14.27 (2.61)</td>
<td>12.61 (3.36)</td>
<td>12.63 (2.72)</td>
<td>12.97 (2.92)</td>
<td>12.00 (3.37)</td>
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<tr>
<td><strong>Total Student Engagement</strong></td>
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<td></td>
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<tr>
<td>Teacher Support</td>
<td>3.17 (.43)</td>
<td>3.02 (.42)</td>
<td>3.10 (.36)</td>
<td>3.08 (.33)</td>
<td>3.16 (.30)</td>
<td>3.04 (.47)</td>
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<td>Peer Support</td>
<td>3.25 (.43)</td>
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<td>3.12 (.37)</td>
<td>3.13 (.38)</td>
<td>3.14 (.34)</td>
<td>3.12 (.46)</td>
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<tr>
<td>Family Support</td>
<td>2.92 (.55)</td>
<td>2.91 (.77)</td>
<td>2.82 (.49)</td>
<td>2.96 (.32)</td>
<td>2.88 (.45)</td>
<td>2.88 (.64)</td>
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<tr>
<td>Rel of School Work</td>
<td>3.25 (.62)</td>
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<td>3.20 (.56)</td>
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<tr>
<td>Future Aspirations</td>
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<td>3.00 (.48)</td>
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<td>2.93 (.72)</td>
<td>3.15 (.45)</td>
<td>2.96 (.58)</td>
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<tr>
<td>Intrinsic Motivation</td>
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<td>2.80 (.25)</td>
<td>2.90 (.41)</td>
<td>3.13 (.24)</td>
<td>2.92 (.35)</td>
<td>2.92 (.44)</td>
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</tr>
</tbody>
</table>

Ethnic Identity Scale Results

Ethnic Identity Affirmation appears to be normally distributed across grade levels.

Ethnic Identity Exploration does not appear to be normally distributed across grade levels.

Ethnic Identity’s Resolution scale appears normally distributed for grades 9th, 10th, and 11th but not 12th. Lastly, Ethnic Identity Affirmation appears normally distributed across gender, males and females, but not across Ethnic Identity Exploration and Resolution (reference Table 6).
Student Engagement Scale Results (SEI)

Total Student Engagement (SEI) scores are normally distributed for 9th and 10th graders but not for 11th and 12 graders. Lastly, Student Engagement (SEI) scores are normally distributed among gender, females and males (reference Table 6).

Step 2: Correlation

Correlations were analyzed to answer the following research question:

*Research Question 1*: Do Student Ethnic Identity, Student Grit, or Student Engagement factors (SEI) relate to the number of days students attended school during the 2020-2021 academic year?

A Bivariate Correlation analysis was used to assess potential correlations among all variables based on Pearson Correlation Coefficient and a two-tailed Significance Test (n = 56). See Table 7 for correlations. Student attendance is measured as the number of days students attended school during the 2020-2021 academic year. Pearson’s r Coefficient is used to measure the strength of the correlation between variables. Pearson’s r can range from -1 to +1. The closer the r is to zero, the weaker the linear relationship.

The results showed no correlation between instrument scores (Grit, Ethnic Identity, School Engagement (SEI) and days students attended school during the 2020-21 academic year (Reference Table 7). An analysis of the total instrument total scores and subscales was also explored. Correlation between the instrument’s scores was noted.
### Table 7

Correlations Among Instrument Subscales and Student Attendance

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<th></th>
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<th>2</th>
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<td>2. Perseverance</td>
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<td>3. Consistency</td>
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<td>Ethnic Identity</td>
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<td>4. Affirmation</td>
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<td>5. Exploration</td>
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<td>.19</td>
<td>-.35**</td>
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<td>7. Total Student Engagement</td>
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<td>.31*</td>
<td>-.07</td>
<td>.25</td>
<td>.16</td>
<td>.13</td>
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<td>.17</td>
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<td>.09</td>
<td>.87**</td>
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<td>9. Peer Support</td>
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<td>.34*</td>
<td>.01</td>
<td>.22</td>
<td>.13</td>
<td>.18</td>
<td>.76**</td>
<td>.59**</td>
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</tr>
<tr>
<td>9. Family Support</td>
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<td>.29*</td>
<td>-.11</td>
<td>.15</td>
<td>.06</td>
<td>.05</td>
<td>.70**</td>
<td>.61**</td>
<td>.50**</td>
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<td>11. Rel. of Sch. Work</td>
<td>.04</td>
<td>.12</td>
<td>-.07</td>
<td>.15</td>
<td>.04</td>
<td>-.03</td>
<td>.83**</td>
<td>.68**</td>
<td>.39**</td>
<td>.46*</td>
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<td>12. Future Aspirations</td>
<td>.04</td>
<td>.25</td>
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<td>.08</td>
<td>.11</td>
<td>.20</td>
<td>.64**</td>
<td>.70**</td>
<td>.49**</td>
<td>.66**</td>
<td>.41*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Intrinsic Motivation</td>
<td>.24</td>
<td>.21</td>
<td>.11</td>
<td>.19</td>
<td>.31*</td>
<td>.27*</td>
<td>.41**</td>
<td>.26</td>
<td>.29*</td>
<td>.15</td>
<td>.27*</td>
<td>-.10</td>
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<td>.18</td>
<td>.06</td>
<td>-.03</td>
<td>.09</td>
<td>-.02</td>
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<td>.02</td>
<td>.01</td>
<td>.01</td>
<td>-.01</td>
<td>.08</td>
</tr>
</tbody>
</table>

Notes. *p < .05 **p < .01

Positive correlations were found in the relationship between Grit’s subscale of Perseverance of Effort and five variables: Ethnic Identity Resolution scale, $r (=).31$, total Student Engagement’s score (SEI), $r (=).31$, and subscales of Teacher Student Relationship, $r (=).30$, Peer Support at School $r (=).34$, and Family Support for Learning $r (=).29$, (Reference Figure 3).
Figure 3. Correlations: Perseverance of Effort
Positive correlations were found between Student Engagement (SEI) Intrinsic Motivation subscale (SEI), and Ethnic Identity scales of Exploration ($r = .31$) and Resolution ($r = .27$) (Reference Figure 4).

![Figure 4. Correlations: Intrinsic Motivation](image)

A negative correlation was found between Grit’s subscale of Consistency of Interest and both Ethnic Identity scales of Exploration ($r = -.35$) and Resolution ($r = -.27$) (Reference Figure 5).
Step 3: Analysis of Variance (ANOVA)

Thirdly, the data were analyzed utilizing an Analysis of Variance (ANOVA) and Tukey HSD Post Hoc Test to answer the following research question:

*Research Question 2:* Are there differences in Student Ethnic Identity, Student Grit, or Student Engagement factors (SEI) by Grade Level or Gender?

Utilizing the Analysis of Variance, the research instruments and respective scales means were compared to Grade levels (9th, 10th, 11th, 12th) with a sample size of \( n \) (=) 56 and Gender (male and female) with a sample size of \( n \) (=) 55. Variables include instrument scores of total Grit Score and subscales of Perseverance of Effort, Consistency of Interest, Ethnic Identity scale scores of Affirmation, Exploration, Resolution, total Student Engagement Score (SEI), and
subscales of Teacher Student Relationship, Peer Support at School, Family Support for Learning, Control and Relevance of School Work, Future Aspirations and Goals and Intrinsic Motivation.

The results showed no statistical significance between Grade Level and the Grit subscales, Grade level and the Ethnic Identity scales, or Grade Level and Student Engagement total score (SEI) and its subscales (reference Table 8). The results showed a statistical significance between Grade Level and total Grit score at $p = .036$. The results showed no statistical significance between Gender and the total Grit Score or Gender and the Student Engagement total score and subscales (SEI). The results showed a statistical significance between Gender, males and females, and the Grit Consistency of Interest subscale at $p = .035$ and the Ethnic Identity Exploration scale at $p = .049$ (Reference Table 8).

Table 8

Results of ANOVA Comparing Variables Based on Student Grade Level and Gender

<table>
<thead>
<tr>
<th>Instrument Scales</th>
<th>Grade $F$ (df)</th>
<th>$p$</th>
<th>Gender $F$ (df)</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Grit Score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perseverance of Effort</td>
<td>2.34 (3, 52)</td>
<td>.084</td>
<td>2.68 (2, 53)</td>
<td>.570</td>
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<tr>
<td>Consistency of Interest</td>
<td>2.27 (3, 52)</td>
<td>.091</td>
<td>3.53 (2, 53)</td>
<td>.035</td>
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<tr>
<td><strong>Total Ethnic Identity</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>EI: Affirmation</td>
<td>1.99 (3, 52)</td>
<td>.126</td>
<td>2.47 (2, 53)</td>
<td>.782</td>
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<tr>
<td>EI: Exploration</td>
<td>2.10 (3, 52)</td>
<td>.111</td>
<td>3.20 (2, 53)</td>
<td>.049</td>
</tr>
<tr>
<td>EI: Resolution</td>
<td>1.94 (3, 52)</td>
<td>.133</td>
<td>9.43 (2, 53)</td>
<td>.391</td>
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<tr>
<td><strong>Total Student Engagement (SEI)</strong></td>
<td>3.35 (3, 52)</td>
<td>.800</td>
<td>2.70 (2, 53)</td>
<td>.516</td>
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<tr>
<td>Teacher Student Relationship</td>
<td>.219 (3, 52)</td>
<td>.238</td>
<td>.021 (2, 53)</td>
<td>.980</td>
</tr>
<tr>
<td>Peer Support at School</td>
<td>.147 (3, 52)</td>
<td>.931</td>
<td>.625 (2, 53)</td>
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<tr>
<td>Family Support for Learning</td>
<td>.994 (3, 52)</td>
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<td>1.12 (2, 53)</td>
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<td>Control &amp; Rel. School Work</td>
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<td>Future Aspirations &amp; Goals</td>
<td>1.11 (3, 52)</td>
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<td>.314 (2, 53)</td>
<td>.732</td>
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<td>Intrinsic Motivation</td>
<td>.106 (3, 52)</td>
<td>.956</td>
<td>2.33 (2, 53)</td>
<td>.107</td>
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</table>

Notes. *$p < .05$ **$p < .01$
The Tukey HSD Post Hoc Test showed that the Total Grit Score was statistically significant between Grade Level groups 10th and 12th graders at $p = .043$ (reference Table 9).

Table 9

Results of Tukey HSD Between Grade Level

<table>
<thead>
<tr>
<th>Variable</th>
<th>Grade Level</th>
<th>Grade Level</th>
<th>$p$</th>
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<tbody>
<tr>
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<td>10th</td>
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</tr>
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<td>9th</td>
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<td>10th</td>
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<tr>
<td></td>
<td>10th</td>
<td>11th</td>
<td>.125</td>
</tr>
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<td></td>
<td>10th</td>
<td>12th</td>
<td>.043</td>
</tr>
<tr>
<td></td>
<td>11th</td>
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<td></td>
<td>12th</td>
<td>11th</td>
<td>.781</td>
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</table>

Preliminary Findings

All correlations fall within the low strength range, suggesting no significant relationship between student Grit, Ethnic Identity, and Student Engagement factors (SEI) in association with the number of days a student attended the virtual learning environment, although some negative and positive correlations were found.

Grit appears related to students’ grade level, gender, ethnic identity scales, and school engagement subscales. The study revealed a statistical significance between Grade Level and total Grit score at $p = .036$. Total Grit Score was statistically significant between Grade Level groups 10th graders and 12 graders at $p = .043$. Among Gender, males and females, the Grit
subscale of Consistency of Interest at $p=.035$ and the Ethnic Identity Exploration scale at $p=.049$ showed a statistical significance. Grit’s subscale of Perseverance of Effort and Ethnic Identity Resolution scale ($r = .31$), total Student Engagement’s score (SEI- ($r=.31$) and subscales of Teacher-Student Relationship ($r = .30$), Peer Support at School ($r = .34$), and Family Support for Learning ($r = .29$) showed positive correlations. A negative correlation was found between Grit’s subscale of Consistency of Interest and both Ethnic Identity scales of Exploration ($r = -.35$) and Resolution ($r = -.27$).
CHAPTER V: QUALITATIVE ANALYSIS AND RESULTS

Figure 6. Convergent-Parallel Mixed Method Design QUAL Overview

The QUAL data analysis and finding sections include QUAL thematic saturation requirement, research question, and analysis. Consistent with the Inductive Coding approach, the analysis section uses open coding, selective coding, QUAN & QUAL Merged Codes, and Preliminary Findings (Kiger & Varpio, 2020).

Thematic Saturation

Thematic Saturation is achieved when the analysis reveals no new themes. The thematic codes must represent at least 70% of this research's teacher and student excerpts. The research achieved a 78.8% thematic saturation. The remaining 21.2% of the excerpts were not used or did not contribute to a further understanding of the research question.

Qualitative Research Question

During the 2020-2021 academic year, teachers and students at Math & Science Academy were invited to participate in a semi-structured interview to explore their perceptions of factors contributing to student engagement. To explore teacher and student perceptions, \( n (=) 17 \) interviews were conducted (\( n (=) 12 \) student interviews, and \( n (=) 5 \) teacher interviews.) The
interviews were analyzed using inductive coding to explore whether teachers’ and students’ Ethnic Identity perceptions contributed to school engagement.

The following question guided the QUAL portion of the research:

_Research Question 3:_ What do teachers and non-Ethno-European students consider to be important factors to school engagement?

**Open Qualitative Coding**

In line with the Convergent-Parallel design, the teacher and student transcripts were analyzed using an Inductive Coding process (Kiger & Varpio, 2020). Whole sentences or paragraphs were used to form various codes. Stage 1 of the open coding process includes a frequency table. These tables were developed to organize teacher’s and student’s codes frequency readily and clearly (Charmaz, 2014). The Code Frequency table consists of three columns. In the first column are the initially assigned codes. Columns two and three provide teachers’ and students’ code frequency, and column four references a code frequency percentage (reference Table 10). Codes frequency representing at least 70% of the total coded excerpts are used in subsequent analysis.

The initial open coding analyzed 406 excerpts (Reference Table 10). Of the 406 coded teacher and student excerpts, six codes represent 79.3% of the coded excerpts. Teacher and student excerpts appear most frequent with codes related to Relationship/Connection at 17.2%, Self-Authorship at 15.7%, Assimilation/Rejection at 15.0%, Representation at 15.0%, Barriers at 8.3%, and Curriculum at 8.1%.
Table 10
Stage 1 Open Coding Results

<table>
<thead>
<tr>
<th>Coding 1</th>
<th>Teacher’s Coding 1 Frequency</th>
<th>%</th>
<th>Student’s Coding 1 Frequency</th>
<th>%</th>
<th>Coding 1 Totals</th>
<th>Coding 1 Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Authorship (SA)</td>
<td>23</td>
<td>12.7</td>
<td>41</td>
<td>18.2</td>
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<td>15.7</td>
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<td>Colorism (COL)</td>
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<td>2.2</td>
<td>0</td>
<td>-</td>
<td>4</td>
<td>0.9</td>
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<tr>
<td>Nationalism (NAT)</td>
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<td>3.8</td>
<td>0</td>
<td>-</td>
<td>7</td>
<td>1.7</td>
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<tr>
<td>Assimilation/Rejection (A/R)</td>
<td>32</td>
<td>17.6</td>
<td>29</td>
<td>12.8</td>
<td>61</td>
<td>15.0</td>
</tr>
<tr>
<td>Religion (REL)</td>
<td>3</td>
<td>1.6</td>
<td>0</td>
<td>-</td>
<td>3</td>
<td>0.7</td>
</tr>
<tr>
<td>Relationship/Connection (R/C)</td>
<td>29</td>
<td>16.0</td>
<td>41</td>
<td>18.2</td>
<td>70</td>
<td>17.2</td>
</tr>
<tr>
<td>Representation (RP)</td>
<td>14</td>
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<td>47</td>
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<td>15.0</td>
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<tr>
<td>Family Dynamics (F/D)</td>
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<td>3.3</td>
<td>0</td>
<td>-</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>Curriculum (CUR)</td>
<td>18</td>
<td>9.9</td>
<td>15</td>
<td>6.6</td>
<td>33</td>
<td>8.1</td>
</tr>
<tr>
<td>Appropriation (REP)</td>
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<td>2.2</td>
<td>0</td>
<td>-</td>
<td>4</td>
<td>0.9</td>
</tr>
<tr>
<td>Community (COMM)</td>
<td>8</td>
<td>4.4</td>
<td>4</td>
<td>1.7</td>
<td>12</td>
<td>2.9</td>
</tr>
<tr>
<td>Barriers (BAR)</td>
<td>13</td>
<td>7.1</td>
<td>21</td>
<td>9.3</td>
<td>34</td>
<td>8.3</td>
</tr>
<tr>
<td>Self-Agency/Motivation (SA/M)</td>
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<td>7.1</td>
<td>19</td>
<td>8.4</td>
<td>32</td>
<td>7.8</td>
</tr>
<tr>
<td>Resources (RE)</td>
<td>8</td>
<td>4.4</td>
<td>8</td>
<td>3.5</td>
<td>16</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Note: Teacher Excerpts total: 181; Student Excerpt total 225; Combine excerpts 406.
Note: Reference Appendix I: Table 13 Coding Data Definitions
Note: Reference Appendix J: Table 14 Coding 2 and 3 Break Down

Selective Qualitative Coding

Selective coding was used to analyze further the initial fourteen codes. Codes with zero or frequency lower than 10 (0 > 10) were removed or combined with other codes. Colorism, nationalism, religion, family dynamics, appropriation, community, resources, and self-agency/motivation were combined with other codes or not used. Excerpts were removed for two reasons; excerpts in which the interviewee's related personal stories or single statements answers which did not contribute or provide further insight to the research questions were not used.
The Selective coding scheme reduced the initial 14 codes to 6 codes (Reference Table 11). The selective coding analyzed a total of 304 excerpts. Of the 304 coded teacher and student excerpts, six codes represent 79.3% of the coded excerpts. Teacher and student excerpts appear most frequent with codes related to Relationship/Connection at 23.6%, Assimilation/Rejection at 18.7%, Representation at 17.7%, Self-Authorship at 17.4%, Barriers at 13.1%, and Curriculum at 9.2%. The teacher and student coded excerpts were comparable in frequency for Relationship/Connection and Curriculum but differed in codes related to Representation, Assimilation/Rejection, Self-Authorship, and Barriers (Reference Table 11).

Table 11

<table>
<thead>
<tr>
<th>Coding 2</th>
<th>Teacher’s Coding 2</th>
<th>Student’s Coding 2</th>
<th>Coding 2 Totals</th>
<th>Coding 2 Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship/Connection (R/C)</td>
<td>32</td>
<td>40</td>
<td>72</td>
<td>23.6</td>
</tr>
<tr>
<td>Self-Authorship (S/A)</td>
<td>17</td>
<td>36</td>
<td>53</td>
<td>17.4</td>
</tr>
<tr>
<td>Assimilation/Rejection (A/R)</td>
<td>32</td>
<td>25</td>
<td>57</td>
<td>18.7</td>
</tr>
<tr>
<td>Representation (RP)</td>
<td>13</td>
<td>41</td>
<td>54</td>
<td>17.7</td>
</tr>
<tr>
<td>Barriers (BAR)</td>
<td>21</td>
<td>19</td>
<td>40</td>
<td>13.1</td>
</tr>
<tr>
<td>Curriculum (CUR)</td>
<td>14</td>
<td>14</td>
<td>28</td>
<td>9.2</td>
</tr>
</tbody>
</table>

Note: Teacher Excerpts total: 129; Student Excerpt total 175; Combine excerpts 304
Note: Reference Appendix J: Table 14 Coding 2 and 3 Break Down

Selective Coding Discussion & Analysis

The discussion and analysis findings provide vignettes as examples of student and teacher perceptions of factors contributing to student engagement at Math & Science Academy.

Furthermore, they assist in answering the research question:
Research Question 3: What do teachers and non-Ethno-European students consider to be important factors to school engagement?

The selective coding results revealed that students consider the following factors as contributors to student engagement at Math & Science Academy: relationship/connection, self-authorship, assimilation/rejection, representation, barriers, and curriculums. Of particular importance is that these factors appear to reinforce or undermine a student’s cohesive identity continuum. Students entering secondary education have already begun to form a cohesive identity continuum. The cohesive identity continuum is shaped by their caregiver’s attachment pattern, family scripts, social threats, and the educational experience. These attachment patterns lead to coping mechanisms that influence the student-school relationship and may contribute to academic disengagement. The pedagogical literature indicates that a harmonious relationship between students and the school setting based on mutual respect, kindness, cooperation, and understanding of the cohesive identity continuum is essential for a positive school climate and educational success among non-Ethno-European students (Čiuladienė & Kairiene, 2017; Pagliaro, 2011).

Teachers and students who participated in the research noted the role Relationship/Connection has on a student’s cohesive identity and educational engagement. For example:

Teacher example 1: (Relationship/Connection) Interview 2 pg.20/Para.101; “Feel invested, like, “This teacher cares about me, she wants to do things that we want to do.” And then from there you can just…build on that and find things that, you know are interesting.”

Teacher example 2: (Relationship/Connection), Interview 4 pg.33/Para. 171, “…having a principal outside shaking hands as the kids walk in, having security guards…asking…
questions about how their games went, things like that. When you have people around you that support you in a very positive manner, it makes you more likely to show up.”

Student Example 3: (Relationship/Connection) Interview 10 pg.73/Para.607: “I look at these teachers as not just my teacher. I look at these teachers as my best friends I feel like…they put themselves in our shoes and they understand us more. They’re just trying to teach us…and just get through the day. With that, we’re just teaching them they teach us…”

Student Example 4: Relationship/Connection) Interview 1 pg.7/Para.28, “A very good English teacher, uh? She cared about the blacks, whites, Hispanics and the Asians and anybody that was having trouble or just need to talk. She was always there, you know. She always stayed after school, and she always did more than she needed to do. And she had an…influence on other students, and she was like basically named the best teacher in the school.”

The excerpts demonstrate that connections are built by active participation and engagement between students and school staff/faculty. Engagement is created through curiosity and interest in the person and not just the student. Additionally, students seem to value teachers’ ability to maintain consistency and be available beyond academic needs. A teacher’s ability to maintain consistency facilitates a student’s self-authorship. The student’s self-authorship is supported as teacher stability provides comfort and a secure base for students to explore the physical and social environment safely. On the other hand, hostile, intrusive, or emotionally unavailable educators appear to have the most difficulty creating a secure base from which students can explore themselves and their environment (Moss & St-Laurent, 2001). Students Self- Authorship can take on many forms of expression, for example:

Teacher Example 5: (Self-Authorship) Interview 1 pg.7/Para. 40: “I know students at our school are very aware when teachers and staff don’t look like them. And I think it takes them a little longer to connect to that person and see that person as more than whatever their race and ethnicity is. I’ve had experiences with like, black students, who will say to me “Well, in my culture we do this and this and that,” because they want me to know.

Teacher Example 6: (Self-Authorship), Interview 4 pg.42/Para. 224, “High School has a big impact on kids psyche and their development. So, I mean, they need to be playing an
active role in that conversation. They need to be providing the students with the resources, the pubs, the opportunities to explore their identity and their racial and ethnic history and culture.”

Student Example 7: (Self-Authorship) Interview 6 pg.48/Para.361: “I don’t get it…we are people… we are human. So, I don’t see why you stare at me when you’re the same. We just pulling differences then our color, yeah, the color was skin. The only difference is some of us come out white, dark. But…is like the same.”

Student Example 8: (Self-Authorship) Interview 10 pg.78/Para.633: “…It makes me feel wonderful because I see I understand that even though we went through slavery and we had bad times, we still did good things. We weren’t just always horrible or bad people, or we weren’t always looked at as bad people…”

The excerpts demonstrate that while a teacher may be cognizant of the importance of students’ self-authorship, students may enter the classroom with biases about self-perceptions, how teachers perceive them, and how they like to be perceived. These biases serve as defense mechanisms that assist students’ cohesive identity continuum. During adolescence, student’s interactions with their local environment, including the educational setting, either reinforce or disrupt a student’s natural abilities and interests, affecting their cohesive identity continuum (Bernal & Knight, 1993). This interaction includes comparing peers and other social entities with the adolescent’s family plans and scripts. Adolescents whose family scripts and plans are reinforced result in a strong sense of their cohesive identity continuum that shield them against an identity confusion or crisis created by the perspectives of others. If the adolescent is apathetic and is pressured to conform to the scripts and plans from a different cohesive identity continuum, they may develop a weak sense of self and experience identity crisis or confusion (Erikson, 1950). Educators who fail to be aware of student biases related to their self-perceptions, the perceptions of the teacher’s response to them, and how they like to be perceived are likely to contribute to a student experiencing friction in assimilating or being rejected. For example:
Teacher Example 9: (Assimilation/Rejection) Interview 5 pg.56/Para.295: “Education… for black and brown, is to put students in this mold and make them all like, you know, carbon copies of each other.”

Teacher Example 10: (Assimilation/Rejection) Interview 2 pg.17/Para.90. “…a lot of students…come…hostile because I’m white…- because of all the negative interactions that they’ve had with white teachers and their upbringing…I understand…I have to…try and break down and build that trust.”

Student Example 11: (Assimilation/Rejection) Interview 11 pg.80/Para.655: “Teachers they can have favoritism with certain students because of their race and I feel like if they don’t understand everyone’s race… teachers play a big part in discipline when it comes to um being racist or hurting anybody’s feelings…”

Student Example 12: (Assimilation/Rejection) Interview 5 pg.33/Para.263, “I’m almost in the range…I’m that light skinned Hispanic and I’m also like high in academic and the student was dark, and he was not high in academic, so they put him down for that. They’re like oh like we really can’t succeed with him, but they saw…they could succeed with me.”

The excerpts demonstrate that both teachers and students experience friction related to assimilation or rejection. Teachers may experience this friction in a general or specific fashion, but students appear to experience this friction in a very personal way. The student’s personal experience appears to be influenced by their desire to see themselves in others or at least models that represent them. The models representing the student experience and the education model are important factors in school engagement. The absence of these models or models that portray a deficit in the student’s culture and identity appears to affect students negatively. For example:

Teacher Example 13: (Representation) Interview 2 pg.15/Para.83, “‘When they’re learning something they see in themselves… it’s a huge factor in schools where it’s dominantly students of color and staff of color.”

Teacher Example 14: (Representation), Interview 5 pg.48/Para.259, “…students’ population… don’t take race and ethnicity in consideration as far as with education. I think it’s more…homogenous…tribal. If you have a family or you in a community where they don’t relish education, they don’t see education, or they don’t see people in the community or in their lives that look like them that are engineers, teachers or PhD… It’s not real consideration.”
Student Example 15: (Representation) *Interview 4 pg.27/Para.213*: “I think they feel left out. That, like not all sides were shown, and that history American history is only focused on what the European white people did. And there’s nothing to do with us.”

Student Example 16: (Representation) *Interview 10 pg.78/Para.632*: “I learned about slavery through all my grades of elementary, so like in high school I don’t want to just learn about slavery. I want to learn about what other...things...black people did good, or things that black people do well. I don’t want to just learn about hearing that black people were getting treated badly for over 100 years.”

The excerpts demonstrate that students seldom see positive examples of themselves in an academic environment. On the other hand, they are often exposed to negative examples of their culture and race. In part, the negative examples may be unwittingly influenced by the Ethno-European Education’s aim to acculturate non-Ethno-European students during a pivotal part of their cohesive identity continuum development. Since Non-Ethno-European students’ experiences and culture are rarely accounted for by an Ethno-European education system, they struggle to differentiate themselves from the educational in-group philosophy of acculturation. The Ethno-European acculturation philosophy runs aground with the non-Ethno-European student’s need to form a cohesive identity continuum. As a result, they perceive school as foreign or incongruent with their experiences. The incongruent experience appears to be reinforced by multiple barriers students must contend with. These barriers can include environmental and psychological conditions. For example:

Teacher Example 17: (Barrier) *Interview 4 pg.34/Para.172*, “You know, racial identity and race in general and the undiscussed biases that are within the educational system are more prevalent now than I would say when -- Maybe like, two, even two years ago.”

Teacher Example 18: (Barriers) *Interview 4 pg.33/Para.167*, “Oftentimes the students will, on their way to school, encounter what I would consider a dangerous situation, so they’re crossing sometimes gang lines, sometimes they’re coming, you know, into different territories. Most of my students, in a normal setting, like, normally when they’re in school, are responsible for helping their siblings get to school, so oftentimes I would
say a lot of truancy or attendance issues our students face are because of familial obligations that are outside of the typical school hours.”

Student Example 19: (Barriers) Interview 5 pg.32/Para.260, “…if you’re like a person of color, you’re most likely… place where… you don’t succeed or you do just because of the obstacles that are placed. I feel like there’s not a lot of opportunity for people of color and I feel like If you were white, the opportunities would be given to you easier.”

Student Example 20: (Barriers) Interview 1.Pg. 1/Para.3, “They (teachers) might have a singular hatred…saying, oh, you know my race, or another race isn’t like that. It’s only this race and I’m only having trouble with this race….and that’s how like a secret hatred…starts to form.”

The excerpts demonstrate that students’ needs extend beyond academics and may enter the classroom with an expectation that they will not succeed. These expectations appear to be further exacerbated by most educational curriculums used in an urban setting. Many elementary and secondary education institutions fiercely oppose dialogue around critical race theory and ethnic identity education. Educational institutions are not alone in the endeavor to limit ethnic and racial curriculums or classroom discussion around ethnic and racial disparities as well as non-Ethno-European contributions to society. Aronson & Laughter (2016) highlights several legislative attempts to ban classroom discussion on the negative effect U.S. racial history has on non-Ethno-Europeans, as well as any discussions about conscious and unconscious bias, privilege, discrimination, and oppression non-Ethno-European experience. School curriculums in an urban setting are perceived to be ineffective by teachers and students. In part, this perception appears to be related to social-economic disparities experienced by non-Ethno-European groups.

For example:

Teacher example 21: (Curriculum) Interview 5 pg.52/Para. 274: “the curriculum is not filled with culture or ethnicity of what I look like, what I see, what I can relate to. So, if I’m not able to engage fully in person, now I’m on a laptop sitting in front of a screen and you just put stuff up in front of me that I must do and I have to complete, now I’m really
disengaged, because now I’m only not dealing with the curriculum that I feel this not of interest to me”

Teacher example 22: (Curriculum), Interview 5 pg.50/Para.266, “…teaching is about the test, and teaching to the test, and teachers have, in some sense, been taken away that autonomy to kind of break out, talk about culture, talk about painters, talk about artists, talk about music, talk about these different things, because there are so many arenas that kids can go into…to be themselves, and to make money in these professions.”

Student example 23: (Curriculum) Interview 10 pg.77/Para.629: “Learning the regular school stuff that won’t get you through life like really, after we learn regular school stuff, we’re not goanna really use that in life.”

Student example 24: (Curriculum) Interview 5 pg.39/Para.291, “when we…get into the real world…I don’t even know. I learned so much pointless things… I really don’t want to go into something STEM. So, it was like... “you should go into science, you should go into math” and I was like I don’t want to do that like that’s not for me.”

The excerpts demonstrate that students feel the school curriculums are unpractical or theoretical, offering little instruction or benefit to matters of daily living or teaching on how to generate and manage finances. On the other hand, students whose cohesive identity continuum is affirmed in the educational setting through relationship/connection, self-authorship, representation, and curriculums that demonstrate positive aspects of their ethnicity and experience demonstrate improved outcomes in math and science and have increased college aspirations (Howard, 2003; Bouche & Harter, 2005). Students who primarily experience contention in the education system to assimilate or be rejected and have higher rates of social and economic barriers are at greater risk of school disengagement (Bridgeland et al., 2006; American Psychological Association [APA], 2008).

This research revealed that teacher and student coded excerpts were comparable in frequency on the role Relationship/Connection plays to student engagement (SEI) at 24.8% for teachers and 22.8% for students. On the other hand, teachers spoke less about factors related to Representation at 10.0%, while student excerpt frequency ranged at 23.4%. Students also spoke
more frequently about factors related to Self-authorship at 20.5%, while teachers only spoke about such factors 13.1% of the time. Lastly, teacher excerpts related to Assimilation/Rejection were 24.8%, while student excerpts were only 14.2% (Reference Table 11). The excerpt frequency suggests that both teacher and students understand the importance of building relationships but may arrive at that point with distinct motives. Teachers may see relationships as a means of assimilation, while students may see them as a way of self-authorship.

**QUAN and QUAL Merged Code**

In this section, the codes outlined in Table 12 were analyzed using the eleven QUAN instrument subscales. The subscale of the QUAN instruments are as follows: Ethnic Identity: Affirmation, Exploration, and Resolution; Student Engagement (SEI): Teacher-Student Relationship, Peer Support, Family Support, Control & Relevance, Future Aspiration & Goals, and Intrinsic Motivation; Grit: Perseverance of Effort and Consistency of Interest.

A total of 304 excerpts were analyzed using the eleven QUAN subscales, with each excerpt being assigned a secondary code based on the eleven QUAN subscales. Of the eleven QUAN Subscales and 304 excerpts, five QUAN subscales represent 78.8% of the total secondary coded excerpts. Thirty-five-point eight percent of QUAL codes of Self-Authorship, Assimilation/Rejection, and Representation are related to the QUAN subscale of Affirmation and Exploration. Twenty-four-point three percent of the QUAL code of Curriculum is related to the QUAN subscale of Consistency of Interest and Control and Relevance. Eighteen-point seven percent of QUAL code of Relationship/Connection is related to the QUAN subscale of Teacher/Student Relationship (Reference Table 12).
### Table 12

Stage 3 Merged Coding Results

<table>
<thead>
<tr>
<th>Coding 3 QUAN Subscales</th>
<th>Teacher’s &amp; Student’s Coding 3 Qual Codes</th>
<th>Frequency</th>
<th>Coding 3 Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affirmation (EA) &amp; Exploration (EE)</td>
<td>Self-Authorship Representation Assimilation/Rejection Consistency of Interest (CI) &amp; Control &amp; Relevance (CRSW) Curriculum Teacher/Student Relationship (TSR) Relationship/Connection</td>
<td>109</td>
<td>35.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75</td>
<td>24.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>58</td>
<td>18.7</td>
</tr>
</tbody>
</table>

*Note: Teacher Excerpts total: 129; Student Excerpt total 175; Combine excerpts 304

*Note: Reference Appendix J: 19 Coding 2 and 3 Break Down.

The merged coding (QUAN + QUAL) results revealed that the selective coding factors (Reference Table 12) were comparable to the QUAN instruments scales: Ethnic Identity Instrument subscale of Affirmation and Exploration was comparable to the selective coding relationship, representation, and assimilation/rejection. Grit Instrument subscale of consistency of Interest was comparable to Curriculum. School Engagement instrument (SEI) subscales of Control & Relevance and Teacher/Student relationship were comparable to Relationship/Connection.
Merged Code Discussion and Analysis

Math & Science Academy students appear to enter the high school years with internal needs to learn something about themselves and external needs to learn something about the world. The internal and external needs contribute to a student’s cohesive identity continuum experiences shaped during childhood (Bronfenbrenner, 1977). As adolescents’ need for exploration and affirmation intersects with their local environment, including the educational setting, their natural abilities and interests are reinforced or disrupted, affecting the cohesive identity continuum (Bernal & Knight, 1993). This interaction includes comparing peers and other social entities with the adolescent’s family plans and scripts. The adolescent’s scripts and plans either survive or rupture during adolescence, resulting in the sense of cohesive identity continuum or identity confusion or crisis (Erikson, 1950). Adolescents whose family scripts and plans are reinforced result in a strong sense of their cohesive identity continuum that shield them against an identity confusion or crisis created by the perspectives of others (Erikson, 1950).

In the internal needs, students appear to seek affirmation and exploration. These internal needs are represented in the student’s needs for self-authorship, representation, and the stress of assimilation or rejection. For example:

Student Example 25: (AFFIRMATION) Self-Authorship/Para.68 Pg. 9. “…when you’re popular, people expect things from you. Like if somebody talk trash to you, you’re going to have to fight because they said oh your goanna let him talk to you like that? But they don’t want you to fight him and once you fight, you know it’s either that you win or lose, that you basically lose your reputation.”

Student Example 26: (EXPLORATION) Self-Authorship/Para.66 Pg. 8. “… the first thing I saw was the white point of view… like my… slavery… But I didn’t know what we really are… black kids were mainly popular then white kids and it was more like… the jocks… I was not really like that. I really wanted to… grow into more knowledge.”
Student Example 27: (AFFIRMATION) Self-Authorship/Para.82 Pg. 10. “…high school is just something that makes you think that you’re dumb… You’re not smart, but everybody is smart. It just makes you think that…”

Student Exampled 28: (EXPLORATION) Self-Authorship/Para.70 Pg. 9. “Pretty sure all the students want to know about…history but they want to learn about their history first… until history class is told from our race…it is going to be divided. …we will learn about American history so classes will always be combined.” Self-Authorship/Para.94 Pg 11. “…It makes me feel wonderful when I see and I understand that even though we went through slavery and we had bad times, we still did good things. We weren’t just always horrible or bad people, or that we weren’t always…bad people.”

The excerpts demonstrate that students contend with threats to their internal identities.

These threats come from various conditions such as a student, a teacher, and socio-economic threats. For example:

Student example 29: (AFFIRMATION) Representation Para. 130 Pg. 14. “I see a lot of things on the news that’s always going down with like a uh African American or black or anybody. I see them getting shot a lot, and even if you try to stay away from like watching the news or anything, it will always just pop up in your face.”

Student example 30: (EXPLORATION) Representation/Para.116 Pg. 13. “…when…something happens, like when George Floyd… they were talking about Black Lives Matter. But if that never happened, they probably wouldn’t talk about anything…”

Student example 31: (AFFIRMATION) Representation Para.96 Pg. 16. “…when they put the topic of black people or brown and black race… don’t just teach them about slavery… don’t teach them about…just Martin Luther King, or Malcolm X, or people like that or Rosa Parks. Teach them about people that they don’t know, that were black…that did good things.”

Student example 32: (EXPLORATION) Representation/Para.115 Pg. 13. “…it’s my culture and I don’t really know much about it and I like learning about it like cultures. And their foods and everything is like learning about like other places you know that’s not like Hispanic like Mexican and Caribbean…”

The excerpts demonstrate that negative stereotypes and a lack of positive representations can reinforce students’ internal threats. These threats appear to be important in understanding a student’s desire to assimilate or experience rejection. For example:
Student Example 33: (AFFIRMATION) Assimilation/Rejection Para.8 Pg.2 “…Not as easy being a person of color in education system…because there’s so many things that are targeted at them in a like racist way that go unnoticed…for example, if you’re a light skinned Hispanic…they like you just get that benefit of like looking white compared to like being afro Latino…then people, from the hood like they don’t deserve all these opportunities like they’re not going to succeed.” (AFFIRMATION) Assimilation/Rejection/Para.21 Pg.3. “The stereotype is that there’s a lot of white people they go to college and the Hispanics don’t go to college…they just like to stay working. Most people think that Hispanics are lazy.”

Student Example 34: (EXPLORATION) Assimilation/Rejection/ Para. 11 Pg. 2. “…I feel like a lot of teachers go off…like your brown, you’re Mexican… you’re Hispanic and that’s it. Like there is anything else…I…had that…situation where…I don’t feel Mexican enough or I don’t feel this enough…”

Student Example 35: (AFFIRMATION) Assimilation/Rejection/Para. 27 Pg. 3. “… that’s just how the world works… they don’t like when we’re educated… They just don’t want us to be great to have a good life like them. They think that they’re superior.”

Student Example 36: (EXPLORATION) Assimilation/Rejection/ Para.15 Pg.2. “…When we would talk about police brutality and like all the things happening…there would be students coming off mute and talking about it, and the teacher would be like, without words… did not know what to say because they’ve never had an experience like that. They would talk to us like...“my neighborhood like there is a police officer and we always felt safe” but students were like, “Oh yeah, we feel like if there’s like a police officer like monitoring our neighborhood, we would know something was wrong that we should go probably inside”, and the teacher was like, “oh like I would feel safe…it was like...an awakening for them …”

The excerpts demonstrate that students experience threats to the internal need to learn about the self through affirmation and exploration. However, they also have an external need to learn something about the world. In the absence of positive stereotypes or representation, students’ perceptions about the role of education may be skewed. As students enter high school, they are increasingly interested in self-expression and autonomy. One of the challenges students face is the extent to which areas of interest and control and academic relevance are provided through the school curriculum. For example:

Student example 37: (CONSISTENCY OF INTEREST) Curriculum/ Para.153 Pg. 17. “So it was like.... like, “you should go into science, you should go into math” and I was
like I don’t want to do that like that’s not for me and now they’re adding like art into it. Like now they’re adding like art and music and stuff, and now it’s like well now it’s too late. I’m passionate about art like I’m going into like an art major now and I don’t have that experience because you wanted me to be STEM for so long.”

Student example 38: (CONSISTENCY OF INTEREST) Curriculum/Para. 155 Pg. 17. “We should learn a basic math like adding subtracting for like calculus, like, what are we going to do with that…? In real life, like, when there’s no job or anything, we just like don’t play it safe. And some jobs only talk, mostly don’t use that. (CONSISTENCY OF INTEREST) Curriculum/Pg.154. Pg. 17. “I feel like they don’t really teach you about life…like how life is really is.”

Student example 39: (CONTROL & RELEVANCE) Curriculum/Pg. 148 Pg. 16. “Uhm, it was clearly geared to Americans, European because they don’t. With like the whole Columbus thing, they didn’t show the other side of what he did.”

Student example 40: (CONTROL & RELEVANCE) Curriculum/Para.108/Pg. 12. “…I think they (students) feel left out. That, not all sides were shown, and that history…American history…only focused on what the European…white people did…and there’s nothing to do with us…”

The excerpts demonstrate that students experience school curriculums being out of touch with their ethnic, social, and economic experiences. While some students may assimilate the school curriculum, few may integrate the knowledge since it does not mirror their historical, social, and ethnic make-up. While school systems may not be able to meet all students' internal and external needs, the relationship between students and teachers can contribute to or impede a student’s academic engagement.

The relationship between teachers and students can be a source of discord or facilitate students’ internal and external needs. When a student experiences a conflictual relationship with a teacher, they often feel like an outcast. For example:

Student example 41: (TEACHER/STUDENT RELATIONSHIP) Relationship/Connection/Para.38 Pg. 5.” It was hard to connect with the teachers cause they just they wouldn’t talk to you, they would just…it was just a job to them. They didn’t care about anybody.”
Student example 42: (TEACHER/STUDENT SUPPORT) *Relationship/Connection/ Para.28 Pg.4.* “I would say it’s more like they (teachers) don’t care. They don’t care if you pass and or fail. But they still do need to do their job and they know that so… they’ll give you help, but they won’t really help you. If you’re struggling on a topic they be like, ‘alright, this is how you do it…’. once they give you the help and you still don’t understand…and you fail…the student complains…saying hey, I don’t understand it and you’re not really helping me. She or he’s goanna say like. ‘I did the best I can. I told you this, this is how you supposed to do it and you weren’t listening.’ Its goanna be like they…help you because of the job but they won’t really help…learn it.”

Student example 43: (TEACHER/STUDENT SUPPORT) *Relationship/Connection Para.25 Pg. 3.* “Teachers can have favoritism with certain students because of their race and I feel like…they don’t understand everyone race… teachers play a big part in discipline when it comes to um being racist or hurting other student’s feelings…”

The excerpts demonstrate that students who experience negative engagement with teachers often feel ignored and devalued and are more likely to experience school disengagement. This finding supports the research conducted by Bryson and Hand (2007), who found that students are more likely to engage in school if their teachers demonstrate enthusiasm, are concerned with students’ success and provide academic support. Students who experience positive engagement with teachers often feel supported. For example:

Student exampled 44: (TEACHER/STUDENT SUPPORT) *Relationship/Connection Para.29 Pg.4.* “Teachers…have one favorite student even though they…say they don’t. They have the kids that knows…schools is important…the kids that just wants to have fun…and the normal kids that balances school and fun. For the teachers who want to have a connection… ‘I’m not just here to teach you… I’m going to connect to you so we can have this…common understanding.’ Kind of like an understanding of the parent and the child… ‘I’m here, I’m providing for you to live, and you know in return…you can…clean up or just at least get good grades.’ So, the teacher should have that type of connection with the students. They’re like, ‘hey, you know I’m here.’…’ I’m here if you want to talk or anything.” It’s like mutual agreement…you can at least do your work. You know you don’t want to make that person… that’s nice to you…mad… or disappoint them cause that’s just being mean and…being rude. The teacher…achieves…the students…doing their work and they at least try in that class….But in most of my classes, like there are teachers like that, but there’s a lot of teachers that don’t care…the end of the class you might want to like still stick around just to talk to him/her, you know, say, ‘hey, what do you know? What do you like? they’ll
just have that little connection, and if they can just stick around… you’re going to stick around just to have that little connection, and you can grow a bigger connection…”

Student example 45: (TEACHER/STUDENT SUPPORT) 
Relationship/Connection/Para 60 Pg. 8. “…you can usually tell when someone acting or is in a type of mood. You could tell how they’re feeling… if I know that I can trust you and tell you about what’s going on in my personal life, then it’ll make me feel like we’re really connected… makes me feel safe…”

Student example 46: (TEACHER/STUDENT SUPPORT) Relationship/Connection/Para 63 pg. 8. “…Some teachers give off a good energy that makes the students want to learn… they care and when they have like talks with you, that’s…cool, …you actually pay attention…you feel like you could get to know them more.”

Student example 47: (TEACHER/STUDENT SUPPORT) Relationship/Connection Para 62 Pg. 8. “Pay attention to student moods because there’s probably something wrong with a student depending on their mood and they just don’t want to talk about it and you know they probably can make them feel safe and talk about it after class.”

The excerpts demonstrate that students enter the classroom environment with biases about how the teacher perceives and will treat them. Negative interactions with teachers may unwittingly reinforce students’ biases, while positive engagement can contribute to trust and improve student engagement in a particular class.

Preliminary Findings

One of the most challenging aspects of teaching is motivating and increasing students’ academic engagement. Students' challenges are coping with teacher demands, boredom, and a lack of perceived academic relevance. Students' behavioral, emotional, and cognitive engagement are factors that most researchers agree contributes to academic engagement (Finn & Rock, 1997), yet the body of research is predominantly focused on student response and motivation. Although student-focused research is important to understanding academic engagement, this study revealed that a teacher's “Psychological Grind” is a potential factor in
understanding student engagement. This study defined a teacher’s “Psychological Grind” as the ability of an educator to remain emotionally, psychologically engaged, and consistent despite the student’s emotional and cognitive instability. This phenomenon is described in more detail in chapter VI, the Educators Psychological Grind & Theoretical Implications section.

A teacher’s emotional and psychological engagement appears critical as students enter the classroom environment with a psychosocial moratorium (Erikson, 1956). A moratorium is when a person explores different identities about the self and the world. The QUAL portion of this study revealed that part of the student moratorium includes preconceived bias about how teachers perceive and treat them. In the QUAL portion of the study, 35.8% of excerpts by the research participants are exploring their identity through self-authorship and seeking models that act as mirrors to their forming cohesive identity continuum. Participants contend with the pressures to assimilate or experience rejection amid the need for affirmation and exploration. The pressure to assimilate or be rejected is most prominent in the school environment. In this environment, 24.3% of all excerpts described the importance that school curriculums are consistent with areas of interest and provide students a sense of control & relevance over their education. Without a curriculum that aligns with students’ consistency of interest and control and relevance, students experience emotional, psychological, and physical barriers to school engagement. The silver lining in the research is that the teacher/student relationship, which accounts for 18.7% of the analyzed excerpts, revealed that students desire a teacher who can demonstrate an aptitude for Psychological Grind. Teachers who maintain this Psychological Grind appear to assist the student in solidifying their cohesive identity continuum, thereby influencing student academic engagement.
CHAPTER VI: FINDINGS, LIMITATIONS AND FUTURE CONSIDERATIONS

Figure 7. Convergent-Parallel Mixed Method Design Overview

Chapter VI provides information related to the research implications (practical and theoretical), conclusions, future research considerations, limitations of the research, and lessons learned.

Overview of Results and Findings

A cohesive identity continuum is imperative in understanding non-Ethno-European students' school engagement. Life experiences shape a cohesive identity continuum from birth through adulthood. These experiences include the child and caregiver’s interactions which give rise to attachment patterns, family scripts & plans, and a cultural identity that is challenged or reinforced in the social environment, including the educational setting (Erikson, 1950, Tajfel, 1972, Bowlby & Ainsworth, 1991, Kroger & Marcia, 2011). When the student’s cohesive identity continuum measures up to their peers or authority figures, a sense of pride and accomplishment in their self-worth, schoolwork, sports, social activities, and family life occurs. If adolescents do not feel their cohesive identity continuum measures up to their peers or authority figures, inferiority and inadequacy develop (Erikson, 1950).
Implications

This research finding suggests that adolescents enter secondary education with various levels of a cohesive identity continuum, including attachment patterns, family plans and scripts, and cultural identity formation (Kroger & Marcia, 2011, Erikson, 1950). Several internal and external needs arise depending on the student’s cohesive identity continuum development level. This research refers to these internal and external needs as a student’s psychosocial moratorium (Erikson, 1950). Lastly, this research findings discuss how a teacher’s Psychological Grind influences a student’s cohesive identity continuum and psychosocial moratorium (Reference Figure 8).

Figure 8. Research Finding Model Overview
Student’s Psychosocial Moratorium

Internal Needs

The present research findings imply that students enter secondary education with a psychosocial moratorium (Erikson, 1956). This moratorium is composed of internal and external needs. In the internal moratorium, students seek Affirmation & Exploration. The need for affirmation and exploration exists because students strive for self-authorship and representation and contend with pressures to assimilate or experience rejection during a pivotal stage of life.

This study found that most students experience school as providing inadequate instruction to navigate their daily lives. Students in our study expressed a desire for opportunities to experience practical learning in areas such as finances, work opportunities, art, music, and culture. Since funding for such opportunities has been eliminated from non-Ethno-European education institutions, students perceive education as separate from their emerging identity of self-authorship. Instead, they perceive school as a barrier to identity formation, a possible contributing factor to the high number of truancy among non-Ethno-European students across large education systems in America. For example, Chicago represents the third-largest education system in America. The Chicago Education system serves approximately 330K students consisting of 35.8% African Americans, 46.7% Latino/Hispanics, and 10.9% Whites. By and large, Chicago Public Schools are underfunded and have historically struggled with educational outcomes and student engagement among non-Ethno-European students. The Illinois State Board of Education (ISBE) Department of Data Strategies and Analytics (n.d.) reported during the
2020-21 academic year that 30% of students were chronically absent. Fifty-six percent of CPS' Black students, just under 51% of students with IEPs, and close to 40% of the district's Hispanic students, were reported chronically truant. Metrics designed to determine college and career readiness also saw steep declines. The percentage of ninth-graders on track to graduate fell to 82.2% statewide during the 2020-2021 year from pre-pandemic levels. The education system appears to be out of touch with the increased needs of non-Ethno-European students in America and the importance of self-authorship as a factor of school engagement.

Albert Bandura (2002) described the individual as both a producer and a product of society. In the education system, students are often relegated to depositories of an education curriculum that undermines aspects of their culture and provides little to no opportunity to invoke personal qualities of self-representation. The lack of positive cultural representations and opportunities for self-representation in the school system impacts child development and educational attainment trajectories. According to Vygotsky (1978), society influences behavior by contributing to how individuals internalize higher psychological functions. Internalizing is the reconstruction of external stimuli or experiences. For Vygotsky, the childhood experiences appear twice. First at the social level, which he called the “inter-psychological,” and second, inside the individual, which he called the “intra-psychological.” The internalization process is a continuum in the human experience and is the basis of the qualitative leap from lower cognitive functions to metacognitive functions (Vygotsky, 1978). The research findings are consistent with the work of Bandura (2002) and Vygotsky (1978) and suggest that a lack of self-authorship contributes to student academic disengagement among non-Ethno-European students attending
public education institutions. The absence of self-authorship and positive representation in schools undermines students’ ability to internalize and reconstruct their experiences.

A student’s internal need for representation is crucial to a student’s intra- and inter-psychological identity formation as adolescents enter the secondary education system. Eisenberg-Berg (1979) suggests that children's reasoning tended to be hedonistic, stereotyped, approval-seeking, and interpersonally oriented. However, beginning in middle childhood, the child shifts from a self-orientation to others-orientation. This shift plays a key role in the positive or negative representations students observe in their environment. This research showed that students are often exposed to negative representations of their ethnic and cultural backgrounds. These negative models are most prominent in the student’s perception of curriculums which do not provide examples of positive contributions from non-Ethno-European people. Additionally, students enter a classroom with preconceived biases toward Ethno-European teachers. These perceptions appear to contribute to a student’s conclusion that the education system does not exist for their best interests. Educators rarely consider the critical role positive representation of a student’s ethnic and cultural background has on school engagement. Instead, the focus on poor academic achievement among non-Ethno-European students is often rationalized and attributed to social-economic disparities.

The general assumption that educational engagement difficulties revolve around socio-economic barriers informs only part of the education achievement gap in America. A comparison of the most disadvantaged students across Economic Co-operation and Development countries (OECD) puts the United States around the OECD socioeconomic average. The United States has the sixth-largest proportion of students with an immigrant background among OECD countries.
After controlling for socioeconomic status, U.S. student academic performance ranks below the OECD countries. Students with an immigrant background explain just 4% of the performance variation between countries. Furthermore, data from the United States indicates that 5% of the 25% most socioeconomically disadvantaged students outperform students who experience minimal economic challenges. This data suggests that factors beyond social-economic challenges contribute to school disengagement among non-Ethno-European students. This research suggests that a student’s psychosocial moratorium and a teacher’s Psychological Grind are factors to consider in the cohesive identity continuum of students. Specifically important is both the teacher’s and student’s cohesive identity continuum interaction in the classroom and their respective attachment styles. Attachment styles emerge partly from early relationships with caregivers and educators and serve as an enduring template for subsequent relationships (Larose et al., 2001). Without healthy attachment styles, self-authorship opportunities, and positive representation models, students may experience the pressure to assimilate or be rejected by an education system they do not trust or understand.

Traditional education’s objective is to shape individual students’ minds for labor, to respect authority figures, exhibit compliance, and to acculturate an Ethno-European philosophy and worldview. The inception of the philosophy of the educational system originates with its architect, Thomas Jefferson, and the industrial revolution. Jefferson believed that education must be a republican paideia with an all-out effort to Americanize through the schools, the press, the pulpit, the work of the artist, the courtroom, and the political assembly, a national character holding Ethno-European values and safeguarding American history (Tyack, 1966). Education was relegated to the Ricardian Labor Hypothesis during the Industrial Revolution, also known as
the Labor Theory of Value. This philosophy was developed by Adam Smith and David Ricardo and adopted by Karl Max, who saw education as an economic mechanism. Under this viewpoint, students are raw goods whose value is a derivative of a perceived finished good that is ready to be consumed by a labor market. This education mechanism runs counterintuitive to students in 21st-century education systems. In part, this counterintuition by students has emerged as the age of technology and information arrived. Because of the technology and information focus, the research finding suggests that students are less likely to see the world as a collection of external facts or yield exclusively to authority figures. Students perceive the world and education system as a milieu of interpretive and abstract ideas. In this milieu, students seek to create personalized meaning and interpretations about the self and the world (Herman, 1988). Anthropologists Levine (1984), Wiesner (2002), and Rogoff (2003) suggest that neither culture, environment, nor individuals are static but dynamic co-creators. Charles Supper and Sara Harkness affirm that individuals construct environments not as a random mass of unrelated customs, behaviors, situations, beliefs, and values, but as an ever-present invisible systematic structure of reality (Super & Harkness, 1999). Without understanding this invisible reality, students experience education as a rigid and unmovable force that rejects non-Ethno-European students who refuse to assimilate.

External Needs

The research finding suggests that students’ external moratorium is influenced by an education system that is consistent or inconsistent with their interests, allows or hinders the
ability to exercise some control over their education, and is relevant or unrelated to their experiences. Central to these external needs and experiences is the school’s curriculum.

School curriculums can have unintended effects on students’ school disengagement. This study showed that students often feel disengaged because of the high-stakes teaching curriculums. Students perceived education and its curriculum as test preparation. This perception contributes to students experiencing the role of teachers as exclusively focused on testing outcomes and who are not interested in building healthy relationships. Students’ perception of the curriculum and teachers’ lack of relationship building is not without merit. The No Child Left Behind Act of 2001 instituted education reform based on the philosophy that setting high standards and establishing measurable goals for schools would improve individual outcomes for public school students. The legislation required states to develop standardized tests and give these assessments to all students at designated grade levels to receive federal funding. Another such effort was the Race to the Top. On June 24, 2009, $4.35 billion was allocated to promote innovation and improve state and local K-12 education achievement. States were awarded funds for achieving performance standards, implementing reforms, complying with Common Core standards, building comprehensive data systems, and turning around low-performing schools. These reforms have led to ethical dilemmas among school districts. High-stakes testing has resulted in high-profile cheating scandals and fewer teachers entering the field of education (Hursh, 2013). While the goal of this legislature was to improve and facilitate education reform, the outcome has been counterproductive as they operationalized education through high-stakes testing to meet the needs of an economic workforce.
Students may not respond enthusiastically to education if they are solely viewed as depositories intended to contribute to an economic workforce. Instead, students seek an education system that facilitates a community of learners, where each person in the group is a teacher, a contributor, and a community member. This study showed that students might respond positively to a flexible curriculum that incorporates topics of interest and allows for a certain level of control. As such, the education system should not treat students as passive learners who require the input of knowledge or information from a teacher or expert. Rather, an education system should allow students to share their collective knowledge so that they may piece together their individual experiences in a way that clarifies their understanding of themselves, the world, and supports their cohesive identity continuum. An education system incorporating these external needs will likely foster mutually supportive social and intellectual relationships with peers and teachers while reducing other vulnerabilities contributing to student disengagement (Caprara et al., 2000).

Educator’s Psychological Grind

Theoretical Implications

This study suggests that a teacher’s Psychological Grind functions as the intersectionality between a student’s psychosocial moratorium and academic engagement. This research defines a teacher’s Psychological Grind as the ability of an educator to remain emotionally and psychologically engaged and consistent, despite students’ emotional and cognitive instability. Unfortunately, teachers working with urban communities are rarely exposed to emotional and
psychological training and interventions during formal education. As such, they are left learning these skills in the classroom, where study findings suggest students’ psychosocial moratorium is composed of a need for Exploration, Affirmation, Consistency of Interest, Control & Relevance, and teachers who can demonstrate an aptitude for Psychological Grind.

To support a teacher’s Psychological Grind, Congressional Senate HR Bill 4221 (Teacher Health and Wellness Act) has approved the Director of the National Institutes of Health to conduct a study that increases our understanding of methods that reduce a teacher’s stress and increase teacher retention and well-being. This is especially important since the American Federation of Teachers (2015) reports that 78% of teachers experience emotional and psychological burnout. Moreover, a survey of 30,000 teachers revealed that 89% were enthusiastic about teaching when they entered the profession, but enthusiasm declined by 15% within the first three years. Ten percent of teachers exit the education system after one year, and 17% leave within five years (Gray & Taie, 2015). Turnover rates are much higher in urban districts, where up to 70% of teachers leave the education system within the first year (Gray & Taie, 2015). To compound these high burnout and turnover rates, the National Center for Education Statistics (NCES, 2020) indicates that 79% of public-school teachers are White, 9% are Hispanic, and 7% are Black. In Chicago, 52% of teachers are white, 21% are black, and 19% are Hispanic/Latino (CPS, 2020). In contrast, less than 10% of enrolled students are white, while 39% are black, and 46% are Hispanic (CPS, 2020). This indicates that teachers may benefit from resources that support their psychological grind, as this factor contributes to a teacher’s and student’s ability to form healthy attachment relationships.
Wentzel (1998) examined the impact of an adolescent’s supportive relationships with parents, teachers, and peers on motivation at school. Consistent with our findings, the researchers concluded that peer support, teacher support, and parent support were positive predictors of academic engagement. Wentzel and other researchers affirmed attachment theory’s important role in human development (Ainsworth & Bowlby, 1991). In attachment theory, the child’s early emotional formation has some continuity with the social behaviors exhibited later in life. Disorganized attachment patterns by infants and toddlers are observed when caregivers interfere with a child’s exploration due to alternating periods of hostility, intrusiveness, or emotional detachment. Children who experience a disorganized attachment pattern appear to have the most difficulty using the caregiver as a secure base (Moss & St-Laurent, 2001). In times of stress, attachment figures provide comfort and serve as a secure base for children to safely explore the physical and social environment. Caregivers who have not mastered the ability to adequately regulate their emotions interfere with a child’s healthy attachment and increase the child’s stress response. Children develop an internal representation of themselves and their attachment figures in these interactions. These internal working models contribute to how individuals interpret external events and organize their attachment behaviors (Ainsworth & Bowlby, 1991).

Disorganized attachment patterns reduce the child’s interest in exploring the world and interrupt the learning process (Duchesne et al., 2009). Ainsworth (1990) described the quality of attachment as an influencing agent in the child’s ability and willingness to explore the environment and use the caretaker as a safe base. Evidence suggests that lower exploratory competence and cognitive difficulties in avoidant and ambivalent attached toddlers and older children who experienced disorganized attachment are present and influence many factors in the
child’s self-perception and educational outcomes (Moss & St-Laurent, 2001). Because of the disorganized attachment to their parents, children may feel uneasy in the relationship, perceive themselves negatively through parental behaviors, and anticipate rejections or incoherent responses from caregivers, including educators. The child may deduce that their emotions cannot be shared and that they should minimize the importance of these emotions or attempt to hide them (Duchesne et al., 2009). Emotional detachment has short and long-term impacts on the child’s emotional and cognitive life as the caregivers-child relationship provides the prototype for a child’s later expression and regulation of emotional and self-perception.

Securely attached children spend more time exploring than their insecure counterparts, demonstrating more effective exploration behavior (Duchesne et al., 2009). The caregiver-child relationships that allow the child to balance attachment and exploration needs are essential to the early development of internal working models that promote exploratory competence, self-efficacy, and self-esteem (Moss & St-Laurent, 2001). In adolescence, these early attachment patterns (secure/disorganized) become increasingly pronounced and contribute to a student’s school engagement.

As students enter adolescence, the extent to which they experienced a secure or disorganized attachment to their caregivers is compounded by the need for autonomy (Schindler et al., 2007). As adolescents’ need for exploration, self-authorship, and social interaction increases, the caregiver’s emotional and psychological resilience declines due to the shift in parental influence (Jeynes, 2015). Adolescent attachment hierarchies beyond the microcosm of the home environment begin to emerge. Adolescents may place friends at the top of a hierarchy, with parents and teachers being relegated further down the hierarchy (Rosenthal & Kobak,
Adolescents with fragile attachments to caregivers may form a hierarchy that increases parent conflict and is influenced by peer pressures. The rise in peer pressure and increased conflict with authority figures ensues a decline in the youth’s openness to being influenced by adult figures, including educators (Jeynes, 2015). It is precisely in the adolescence stage that a teacher’s Psychological Grind is most relevant.

This research finding suggests that students with poor attachment patterns have biases and perceptions about the education system and teachers formed well before entering the classroom. Teachers have a brief window of opportunity to contribute to a healthy attachment with students. Teachers must attune, grasp, interpret, and respond to the student’s internal and external needs to create a healthy attachment to students. The method by which teachers respond to the student’s emotional needs contributes to their emotional security and addresses the student’s distress, anxiety, and fear, affecting their ability to regulate behaviors. If the teacher is consistent with the students’ internal and external needs, students encode an internal working model of self (“I feel loved”) and (“I can trust the adults around me,”) which influence the student’s capacity to effectively cope with emotions during distressing situations (Duchesne et al., 2009). Hence, they are more likely to be motivated and perform better during high school and college (Duchese & Larose, 2007). Bryson and Hand (2007) found that students are more likely to engage in school if their teachers engage with them and the materials being taught. Teachers who demonstrate enthusiasm, are concerned with students’ success and provide academic support for students contribute to student engagement (Bryson & Hand, 2007). The teacher-student relationship is a positive contributor to student school engagement (Anderson et
This study revealed that education outcomes for non-Ethno-European students are most salient when teachers exhibit psychological grind in their student interactions.

Grit

The QUAN portion of this study revealed that Grit is a significant factor. These results are consistent with the work of Duckworth et al., 2007. The results showed that total Grit scores are statistically significant at all grade levels. Research participants (males and females) across all grade levels have a statistical significance between the Grit subscale of Consistency of Interest and the Ethnic Identity Exploration scale. These findings suggest that students’ interests and exploration are important factors in understanding themselves and their world. On the other hand, negative correlations were found between Grit’s subscale of Consistency of Interest and both Ethnic Identity scales of Exploration and Resolution, suggesting that if students’ need for exploration, consistency of interest, and self-authorship (resolution) are not met, they are less likely to demonstrate high Grit scores. An area of interest is that Grit scores seem to increase in statistical significance between 10th and 12 graders, suggesting that something occurs during their junior year that impacts students' grit scores. Lastly, the Grit subscale of Perseverance of Effort is positively correlated with the Ethnic Identity Resolution scale, total Student Engagement score (SEI), and subscales of Teacher Student Relationship, Peer Support at School, and Family Support for Learning. These findings suggest that as a student’s perceived relationship and connection increases, so does the student’s Grit. Grit is a significant factor in our study, not because students enter the classroom with a low or high grit, but rather because of
the importance students place on factors related to their cohesive identity continuum and psychosocial moratorium.

Lastly, Grit appears to be related to a student’s grade level and gender. The study revealed a statistical significance between Grade Level and total Grit score at $p = .036$. Total Grit Score was statistically significant between Grade Level groups 10th graders and 12th graders at $p = .043$. Among Gender, males and females, the Grit subscale of Consistency of Interest at $p = .035$ and the Ethnic Identity Exploration scale at $p = .049$ showed a statistical significance. These findings suggest that the 10th and 12th graders who participated in this research desire an educational experience that offers consistency and exploration of interest. In part, the student’s desires for consistency and exploration can be attributed to the information-processing approach outlined by Pressley and Scheinder (1997) and Wyer (2004), which suggests adolescence seek opportunities to develop strategies for dealing with new situations, sorting facts, and improving memory capacity and perceptual abilities.

In this study, students’ level of Grit provides a basic understanding of their motivation, but it did little accounting for a student’s psychosocial moratorium and a teacher’s Psychological Grind. The QUAL portion of the study suggests that students enter the classroom environment with a psychosocial moratorium (Erikson, 1956). This study revealed that students’ moratorium includes biases that may impede healthy relationship formation with teachers. Thirty-five percent of QUAL excerpts revealed that participants are exploring their identity through self-authorship and seeking models that act as mirrors to their forming cohesive identity continuum. Additionally, 24.3% of students contend with teaching methodologies or curriculums they perceive to be inconsistent with areas of interest and do not provide students a sense of control
and relevance over their education. Despite the student’s psychosocial moratorium, 18.7% of the analyzed excerpts revealed that students desire a teacher who can demonstrate an aptitude for Psychological Grind.

Conclusions

Developing students’ full potential necessitates policymakers, educators, and the public to evaluate the challenges and disparities 21st-century students encounter while involved in the public education system. Academic performance standards drive much of educational reform and funding. Despite the focus on performance standards, statistics from the Program for International Student Assessment (PISA) places the United States 38th out of seventy-one countries in math and twenty-four in science (Desilver, 2017). The Organization for Economic Co-operation and Development (OECD) reports that the United States performs below average in mathematics, reading, and science (2012). Though these academic performance standards are factors to consider, education stakeholders seldom account for qualitative influences that affect secondary educational achievement. Policymakers and education leaders focus less on education research, indicating that as students reach high school, as many as 40 – 60% become chronically academically disengaged (Klem & Connell, 2004). Additionally, the National Center for Education Statistics (2019) reports that only 83% of public high school students graduated with a regular diploma within four years of starting 9th grade. Conversely, education stakeholders perceive factors of students’ psychosocial moratorium and well-being as secondary to academic achievement concerns. Policymakers and educators rarely associate the rise of student academic disengagement and diminished social skills, such as adaptive decision-making and conflict
resolution, as related to a teacher’s Psychological Grind and healthy attachment (Blum & Libbey, 2004). Yet, most educators, policymakers, and the public agree that secondary educational achievement is an important milestone in students’ cognitive, emotional, and academic trajectory.

This research sought to explore factors that lead to student engagement in urban communities using a Convergent-Parallel Mixed Method Design. The following research questions guided the study:

*Research Question 1:* Do Student Ethnic Identity, Student Grit, or Student Engagement factors (SEI) relate to the number of days students attended school during the 2020-2021 academic year?

*Research Question 2:* Are there differences in Student Ethnic Identity, Student Grit, or Student Engagement factors (SEI) instrument scores by Grade Level or Gender?

The research findings suggest that Ethnic Identity, Grit, and School Engagement factors (SEI) were not related to the number of days students attended school at Math & Science Academy. However, the research confirmed that student Grit is an influencing factor across all grade levels and is associated with a student’s psychosocial moratorium. This moratorium is associated with a student’s internal and external needs for Affirmation, Exploration, Resolution, total Student Engagement scores (SEI), and subscales of Teacher Student Relationship, Peer Support at School, and Family Support for Learning.

*Research Question 3:* What do teachers and non-Ethno-European students consider to be important factors to school engagement?
The research findings suggest that a teacher’s Psychological Grind is the intersectionality between the student’s psychosocial moratorium and internal and external needs, influencing school engagement (Erikson, 1956). Lastly, this research supports the educational philosophy of John Dewey (1909) and other educational psychologists who believed that a student is an organic whole, physically, intellectually, socially, and emotionally. “To educate the student, one must take the child as a member of society in the broadest sense, and demand for and from the schools whatever is necessary to enable the child intelligently to recognize all his social relationships and take his part in sustaining them,” (Dewey, 1909).

Future Considerations

Attachment theory has clear and important implications for education. This research is positioned to contribute to the field of Attachment Theory (Ainsworth & Bowlby, 1991) by focusing on teacher and student attachment patterns as influenced by a student’s psychosocial moratorium and a teacher’s Psychological Grind. This study may enable other researchers to explore attachment patterns that influence school engagement among non-Ethno-European students.

Limitations

The research was conducted during the 2020-2021 school year, when, for the first time in the history of education in America, all educational activities were offered exclusively in a virtual environment. Beginning in January 2020, the COVID-19 pandemic altered the traditional education system across the globe. The Illinois Board of Education state report card (2020)
statistics show that statewide chronic absenteeism rose to 21.2% in 2021, a 5-percentage increase from 2019. Black, Native American, and Hispanic students had higher chronic absenteeism rates. Black students saw a significant increase in absenteeism from 30.9% in 2019 to 39% in 2021. Hispanic students went from 19.5% in 2019 to 24.8% in 2021. Native students rose from 23.6% in 2019 to 26.7% in 2021. Students attending Math & Science Academy were no exception.

According to school attendance records, during the 2020-2021 academic year, 40% of students enrolled were chronically truant. School closures and anxieties about COVID-19 limited the research study in the following ways: access to the sample population, implementation of quantitative research instruments, quantitative sample size power requirements, and alternative explanations to the quantitative variable.

In January of 2020, the Center for Disease Control (CDC) and political bodies proposed that all schools and businesses close for two weeks to minimize the transmission of the virus. However, two weeks turned into almost six months, of which 12th graders during the 2020-2021 school year were the first class to not experience graduation ceremonies across the United States. The school closure severely hindered the ability to connect and conduct the research within the school building as initially designed. The research team was relegated to contacting students via the school’s email system and phone calls. This lack of student access also contributed to how research instruments were implemented.

This research used three QUAN instruments (Ethnic Identity Scale, Grit Scale, and School Engagement Scale) as well as QUAL semi-structured interviews. Due to CDC guidelines and school closures, Northern Illinois University Qualtrics Survey platform was utilized to collect instrument data. Although the instrument questions and Likert scales were not altered in
any way, some instruments were best suited to be administered in person. The qualitative semi-structured interviews were conducted via zoom, which were subject to environmental disruptions (i.e., parents, siblings) or other factors distracting participants. Due to these limitations, the sample size of the research was small.

The low sample size limited some of the QUAN research instruments’ statistical power analysis. Ethnic Identity Exploration requires a sample size of \( n = 284 \). The Student Engagement Instrument (SEI) requires a minimum sample size of \( n = 245 \). The research yielded a total QUAN sample size of \( n = 56 \). Due to the nature of the research limitations and the extraneous conditions under which the research was conducted, the findings are tenuous and cannot be extrapolated beyond the research setting. However, as exploratory research, the research findings suggest a potential line of study that can contribute to understanding student engagement for non-Ethno-European students in urban communities.

Lastly, the quantitative portion of the study found no significant relationship between the variables of student grit, ethnic identity, and school engagement and the variable of the number of days a student attended the virtual learning environment. It is important to note that confounding factors related to the measured variable were not considered part of this research study. For example, students attending Math & Science academy had limited access to resources that would allow them to join virtual classrooms. Moreover, many students reported taking care of younger siblings or working part-time jobs. Finally, the school struggled to adapt and engage students in a virtual environment. As a result, Chicago Public Schools implemented a pass/fail grading policy. This grading policy permitted student grade point averages (GPA) not to be negatively impacted by circumstances beyond their control, as in-person instruction had been
halted due to the COVID-19 pandemic. Under this grading policy, Chicago Public School students would not receive a lower grade than in the third quarter of 2019. Chronic truancy increased as students had limited resources to engage in a virtual environment and had little extrinsic motivation to engage in school activities.

Lessons Learned

Conducting a mixed methods research study has rewards and challenges. On the one hand, it challenges the researcher to explore a wide range of QUAN and QUAL research models and analyses. This exploration provides an opportunity to be a well-rounded researcher. Conversely, merging two distinct research models is an undertaking I would not encourage a Ph.D. candidate to undertake. Despite the challenges, three valuable lessons were learned that will contribute to future research opportunities.

First, committing and following the proposed research design is essential for Quantitative, Qualitative, or Mixed Method approaches. Each design has benefits and drawbacks. Quantitative methodologies require a large sample size and a wider data collection window. Smaller sample sizes may be satisfactory for Qualitative designs, but you need access to the research environment, and the study findings are limited in generalizability. Mixed methods may appear as the best of both methodologies; however, being clear about the mixed method design is important. In this study, I began with an Explanatory Sequential Mix Method design only to uncover that this approach requires that I collect Quantitative data first. Collecting the quantitative data first supports current research, and the Qualitative data is intended to expand on the Quantitative findings. I realized that my data collection model was not consistent with an
Explanatory Sequential Mix Method design and considered using an Exploratory Sequential Mix method design only to uncover this model requires I collected Qualitative data first to inform how I should collect and design the Quantitative research question. Finally, I settled on the Convergent Parallel Mix Method design, consistent with my data collection procedures.

Second, maintaining the methodology’s simplicity is important. If using a quantitative analysis, avoid using multiple research instruments. I used three different research instruments in my research and did not consider the critical factor of an instrument’s Statistical Power requirements during the instrumentation selection. This oversight led to limitations in my study due to small sample sizes. If using qualitative analysis, avoid relying on electronic intermediates to collect data as these factors can negatively affect the richness of the data.

Thirdly, when conducting the literature review, pay close attention to how other similar research used quantitative, qualitative, or mixed-method models, the instruments used, how the data was collected, and the type of analysis used. Research methodologies that are ad hoc will unnecessarily dispense energy and time. Lastly, when in doubt, ask for help. To receive the necessary support, be concrete, provide examples and ask specific questions to colleagues, advisors, or mentors. To complete a Ph.D., you must recognize that the research experts are you, not an external entity.
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February 1, 2021

Recruiting Script

Dear Faculty and Students,

My name is Luis E. Lopez; I am a graduate student at Northern Illinois University Ph.D. Program. I am conducting questionnaires and interviews as part of a research study to increase our understanding of how ethnic and racial identity may motivate student academic engagement. I like to invite you to participate in this research and help us increase our understanding of the effects of ethnic and racial identity. You are in an ideal position for providing valuable firsthand perspective regarding race and ethnic identity formation and school engagement. The research study involves completing an electronic questionnaire with the option of participating in a follow-up interview, which takes about 45 minutes to complete. We are looking forward to capturing your thoughts and perspectives as a student or faculty member. Your responses to the questions and surveys will be kept confidential. Each interview will be assigned a number code to ensure personal identifiers are not revealed during the analysis and findings write up. There is no compensation for participating in this study. However, your participation will be a valuable addition to our research, and results could lead to a greater public understanding of ethnic, racial identity formation and school engagement during the COVID-19 virtual learning environment. If you are willing to participate, please suggest a day and time that suits you, and I will do my best to be available. If you have any questions, please do not hesitate to ask.

Thank you for considering participating in our research,

Sincerely, Luis E. Lopez, LCPC

z1785915@students.niu.edu
APPENDIX B. PARENT CONSENT FORM
Consent for Participation in Research

Introduction
The purpose of this form is to provide you (as the parent of a prospective research study participant) information that may affect your decision as to whether or not to let your child participate in this research study. Read the information below and ask any questions you might have before deciding whether or not to give your permission for your child to take part. If you choose to let your child be involved in this study, this form will be used to record your consent.

Purpose of the Study
If you agree, your child will be asked to participate in a research study on the influence ethnic and racial identity has on students' school engagement in a COVID-19 virtual learning environment. The purpose of this study is to evaluate potential motivators of student’s school engagement in a virtual learning environment.

What is my child going to be asked to do?
If you allow your child to participate in this study, they will be asked to:

- Complete a confidential online survey. This online survey consists of 64 questions that address Ethnic/racial Identity, School Engagement, Students Perseverance, and Consistency toward a set goal. The online survey takes approximately 10 minutes to complete.

- Eighteen students will be selected to participate in a 45-minute online video platform interview. This 45-minute interview will explore students' perception of Ethnic and Racial Identity and their experience in an academic environment. Semi-structured interviews will be audiotaped and transcribed for accuracy. Any [audio and/or video] recordings will be stored securely, and only the research team will have access to the recordings. Recordings will be kept for approximately one year from the completion of the research and then erased.

NOTE: This is a research study and, therefore, not intended to provide a medical or therapeutic diagnosis or treatment.

Does my child have to participate?
No, your child’s participation in this study is voluntary. Your child may decline to participate or to withdraw from participation at any time. Withdrawal or refusing to participate will not affect their relationship with the Math & Science Academy in any way. You can agree to allow your child to participate in the study now and change your mind later without any penalty.
What if my child does not want to participate?
In addition to your permission, your child must agree to participate in the study. If your child does not want to participate, they will not be included in the study, and there will be no penalty. If your child initially agrees to be in the study, they can change their mind later without penalty.

Will there be any compensation?
You/Your child will receive participation credit as part of their Physical Education Course. Class points or Extra credit will be reflected in your child's academic record.

When will the Research Take Place?
This research study will take place during regular academic activities or as agreed by participating parties.

Why am I being asked?
You are being asked to be a subject in a research study about Ethnic Identity and school engagement. This research is sponsored by Northern Illinois University and Math & Science Academy. We ask that you read this form and ask any questions you may have before agreeing to be in the research.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future academic progress. If you decide to participate, you are free to withdraw at any time without negative consequences.

Why is this research being done?
The purpose of this research is to determine what effects, if any, ethnic/racial identity play in your academic engagement in a COVID-19 virtual learning environment.

What are the potential risks and discomforts?
Answering questions about your ethnic identity, engagement in academics, and perseverance may create some emotional upset or discomfort. You have the right not to answer any question that you do not want to answer. You may take a break or stop the survey at any time.

Are there benefits to taking part in the research?
There are no direct benefits to you for participating in this study. However, the information gained from your participation may help lead to a greater public understanding of ethnic, racial identity formation, and school engagement during the COVID-19 virtual learning environment.

What about privacy and confidentiality?
The only people with access to your survey responses are members of the research team. A research code number will be used to identify your survey responses from those of other participants. A master list of persons participating in the study and their identifying information will be kept secure in a locked file and destroyed upon completion of the study.
The electronic survey includes the option to indicate your student ID for the purpose of receiving the previously mentioned Physical Education Course credit. A list of student ID numbers provided on the electronic survey will be provided to the Math & Science Academy High School staff to receive the course credit.

No identifying information about you or provided by you during the research will be disclosed to others without your written permission. When the research results are published or discussed in conferences, no information will be included that would reveal your identity.

**What are the costs for participating in this research?**
There are no costs for your participation in this research.

**Will I be reimbursed for any of my expenses or paid for my participation in this research?**
There are no expenses to the participants of this study.

**Can I withdraw from the study?**
You have the right to choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences. You may also refuse to answer any questions you don’t want to answer and still remain in the study.

**Who should I contact if I have questions?**
The Principal Investigator conducting this study is Mr. Luis E. Lopez. You may ask any questions you have now. If you have questions later, you may email Mr. Lopez at: z1785915@students.niu.edu

**What are my rights as a research subject?**
If you have any questions about your rights as a research subject, you may call the Office for Protection of Research Subjects at 312-996-1711.

**Remember:**
Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with the Math & Science Academy or any other agency you are involved with. If you decide to participate, you are free to withdraw at any time without affecting these relationships. You will be given a copy of this form for your information and to keep for your records.
**Signature of Subject**

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this research. I have been given a copy of this form.

____________________________________________  ____________________________________________________________  
Parent/Guardian Signature  Date

____________________________________________  
Printed Name

____________________________________________  
Signature of Researcher  Date (must be same as subject’s)
APPENDIX C. STUDENT ASSENT FORM
Consent for Participation in Research


Why am I being asked?

You are being asked to be a subject in a research study about Ethnic Identity and school engagement. This research is being sponsored by Northern Illinois University and the Math & Science Academy. You have been asked to participate in the research because your familiarity with Ethnic/racial knowledge. We ask that you read this form and ask any questions you may have before agreeing to be in the research.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future academic progress or position at the Math & Science Academy. If you decide to participate, you are free to withdraw at any time without negative consequences.

Why is this research being done?

The purpose of this research is to determine what effect, if any, Ethnic/racial Identity and Perception has on student ethnic identity formation and whether such effect influences student’s school engagement.

What procedures are involved?

If you agree to be in this research, we will ask you to participate in a 45-minute semi-structure interview. You may choose to be met by a research team member at a time and location convenient for you. You will be answering questions about your ethnic identity, school engagement, and perseverance towards goals.

What are the potential risks and discomforts?

Answering questions about your ethnic identity formation, engagement in academics, and perseverance may create some emotional upset or discomfort. You have the right not to answer any question that you do not want to answer. You may take a break or stop the survey at any time.

Are there benefits to taking part in the research?

There are no direct benefits to you for participating in this study. However, the information gained from your participation may help the implantation of Ethnic Identity curricula and improve virtual learning engagement across the Math & Science Academy.

What about privacy and confidentiality?

The only people who will know that you are a research subject are members of the research team. A research code number will be used to identify your survey responses from those of other participants. No identifying information will be included on the survey forms. A master list of persons participating in the study and their identifying information will be kept secure in a locked file and destroyed upon completion of the study.
No identifying information about you, or provided by you during the research, will be disclosed
to others without your written permission. When the results of the research are published or
discussed in conferences, no information will be included that would reveal your identity.

**What are the costs for participating in this research?**
There are no costs for your participation in this research.

**Will I be reimbursed for any of my expenses or paid for my participation in this research?**
There are no expenses to the participants of this study.

**Can I withdraw from the study?**
You have the right to choose whether to be in this study or not. If you volunteer to be in this
study, you may withdraw at any time without consequences. You may also refuse to answer any
questions you don’t want to answer and still remain in the study.

**Who should I contact if I have questions?**
The Principal Investigator conducting this study is Mr. Luis E. Lopez. You may ask any
questions you have now. If you have questions later, you may email at:
z1785915@students.niu.edu

**What are my rights as a research subject?**
If you have any questions about your rights as a research subject, you may call the Office for
Protection of Research Subjects at 312-996-1711.

**Remember**
Your participation in this research is voluntary. Your decision whether or not to participate will
not affect your current or future relations with the Math & Science Academy High School or any
other agency you are involved with. If you decide to participate, you are free to withdraw at any
time without affecting these relationships. You will be given a copy of this form for your
information and to keep for your records.
Signature of Subject

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this research. I have been given a copy of this form.

_____________________________________________  _________________________
Student Signature                                   Date

__________________________________________________________
Printed Name

__________________________________________________________  _________________________
Parent/Guardian Signature                           Date

__________________________________________________________
Printed Name

__________________________________________________________  _________________________
Signature of Researcher                           Date (must be same as subject’s)
APPENDIX D. TEACHER CONSENT FORM
Consent for Participation in Research

Why am I being asked?
You are being asked to be a subject in a research study about Ethnic Identity and school engagement. This research is being sponsored by Northern Illinois University and the Math & Science Academy. You have been asked to participate in the research because your familiarity with Ethnic/racial knowledge. We ask that you read this form and ask any questions you may have before agreeing to be in the research.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future academic progress or position at the Math & Science Academy. If you decide to participate, you are free to withdraw at any time without negative consequences.

Why is this research being done?
The purpose of this research is to determine what effect, if any, Ethnic/racial Identity and Perception has on student ethnic identity formation and whether such effect influences student’s school engagement.

What procedures are involved?
If you agree to be in this research, we will ask you to participate in a 45-minute semi-structure interview. You may choose to be met by a research team member at a time and location convenient for you. You will be answering questions about your ethnic identity, school engagement, and perseverance towards goals.

What are the potential risks and discomforts?
Answering questions about your ethnic identity formation, engagement in academics, and perseverance may create some emotional upset or discomfort. You have the right not to answer any question that you do not want to answer. You may take a break or stop the survey at any time.

Are there benefits to taking part in the research?
There are no direct benefits to you for participating in this study. However, the information gained from your participation may help the implantation of Ethnic Identity curricula and improve virtual learning engagement across the Math & Science Academy.

What about privacy and confidentiality?
The only people who will know that you are a research subject are members of the research team. A research code number will be used to identify your survey responses from those of other participants. No identifying information will be included on the survey forms. A master list of persons participating in the study and their identifying information will be kept secure in a locked file and destroyed upon completion of the study.
No identifying information about you, or provided by you during the research, will be disclosed to others without your written permission. When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity.

**What are the costs for participating in this research?**

There are no costs for your participation in this research.

**Will I be reimbursed for any of my expenses or paid for my participation in this research?**

There are no expenses to the participants of this study.

**Can I withdraw from the study?**

You have the right to choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences. You may also refuse to answer any questions you don’t want to answer and still remain in the study.

**Who should I contact if I have questions?**

The Principal Investigator conducting this study is Mr. Luis E. Lopez. You may ask any questions you have now. If you have questions later, you may email at: z1785915@students.niu.edu

**What are my rights as a research subject?**

If you have any questions about your rights as a research subject, you may call the Office for Protection of Research Subjects at 312-996-1711.

**Remember**

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with the Math & Science Academy or any other agency you are involved with. If you decide to participate, you are free to withdraw at any time without affecting these relationships. You will be given a copy of this form for your information and to keep for your records.

**Signature of Subject**

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this research. I have been given a copy of this form.

____________________________________________  ______________________
Faculty Signature  Date

___________________________________________
Printed Name

____________________________________________  ______________________
Signature of Researcher  Date (must be same as subject’s)
APPENDIX E. GRIT SCALE
Grit Scale

Directions for taking the Grit Scale: Please respond to the following 12 items. Be honest – there are no right or wrong answers!

1. I have overcome setbacks to conquer an important challenge.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

2. New ideas and projects sometimes distract me from previous ones.*
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

3. My interests change from year to year.*
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

4. Setbacks don’t discourage me.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

5. I have been obsessed with a certain idea or project for a short time but later lost interest.*
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
Not like me at all

6. I am a hard worker.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

7. I often set a goal but later choose to pursue a different one.*
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

8. I have difficulty maintaining my focus on projects that take more than a few months to complete.*
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

9. I finish whatever I begin.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

10. I have achieved a goal that took years of work.
    - Very much like me
    - Mostly like me
    - Somewhat like me
    - Not much like me
    - Not like me at all

11. I become interested in new pursuits every few months.*
12. I am diligent.

Scoring subscales:
5 = Very much like me
4 = Mostly like me
3 = Somewhat like me
2 = Not much like me
1 = Not like me at all

For questions 1, 4, 6, 9, 10 and 12 (Perseverance)
1. I have overcome setbacks to conquer an important challenge
4. Setbacks don’t discourage me.
6. I am a hard worker.
9. I finish whatever I begin.
10. I have achieved a goal that took years of work.
12. I am diligent.

For questions 2, 3, 5, 7, 8 and 11 (Consistency)
2. New ideas and projects sometimes distract me from previous ones.*
3. My interests change from year to year.*
5. I have been obsessed with a certain idea or project for a short time but later lost interest.*
7. I often set a goal but later choose to pursue a different one.*
8. I have difficulty maintaining my focus on projects that take more than a few months to complete.*
11. I become interested in new pursuits every few months.*

All the points are added up and divided by 12. The maximum score on this scale is 5= extremely gritty, and the lowest score is 1= not at all gritty.
APPENDIX F. STUDENT ENGAGEMENT INSTRUMENT
**Student Engagement Instrument (SEI)**

1. My family/guardian(s) are there for me when I need them.
   - 1 – strongly disagree
   - 2 – disagree
   - 3 – agree
   - 4 – strongly agree

2. After finishing my schoolwork I check it over to see if it’s correct.
   - 1 – strongly disagree
   - 2 – disagree
   - 3 – agree
   - 4 – strongly agree

3. My teachers are there for me when I need them.
   - 1 – strongly disagree
   - 2 – disagree
   - 3 – agree
   - 4 – strongly agree

4. Other students here like me the way I am.
   - 1 – strongly disagree
   - 2 – disagree
   - 3 – agree
   - 4 – strongly agree

5. Adults at my school listen to the students.
   - 1 – strongly disagree
   - 2 – disagree
   - 3 – agree
   - 4 – strongly agree

6. Other students at school care about me.
   - 1 – strongly disagree
   - 2 – disagree
   - 3 – agree
   - 4 – strongly agree

7. Students at my school are there for me when I need them.
   - 1 – strongly disagree
   - 2 – disagree
   - 3 – agree
   - 4 – strongly agree

8. My education will create many future opportunities for me.
   - 1 – strongly disagree
   - 2 – disagree
   - 3 – agree
4 – strongly agree

9. Most of what is important to know you learn in school.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

10. The school rules are fair.
    1 – strongly disagree
    2 – disagree
    3 – agree
    4 – strongly agree

11. Going to school after high school is important.
    1 – strongly disagree
    2 – disagree
    3 – agree
    4 – strongly agree

12. When something good happens at school, my family/guardian(s) want to know about it.
    1 – strongly disagree
    2 – disagree
    3 – agree
    4 – strongly agree

13. Most teachers at my school are interested in me as a person, not just as a student.
    1 – strongly disagree
    2 – disagree
    3 – agree
    4 – strongly agree

14. Students here respect what I have to say.
    1 – strongly disagree
    2 – disagree
    3 – agree
    4 – strongly agree

15. When I do schoolwork I check to see whether I understand what I’m doing.
    1 – strongly disagree
    2 – disagree
    3 – agree
    4 – strongly agree

16. Overall, my teachers are open and honest with me.
    1 – strongly disagree
    2 – disagree
17. I plan to continue my education following high school.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

18. I’ll learn, but only if the teacher gives me a reward.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

19. School is important for achieving my future goals.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

20. When I have problems at school my family/guardian(s) are willing to help me.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

21. Overall, adults at my school treat students fairly.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

22. I enjoy talking to the teachers here.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

23. I enjoy talking to the students here.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

24. I have some friends at school.
   1 – strongly disagree
2. When I do well in school it’s because I work hard.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

26. The tests in my classes do a good job of measuring what I’m able to do.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

27. I feel safe at school.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

28. I feel like I have a say about what happens to me at school.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

29. My family/guardian(s) want me to keep trying when things are tough at school.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

30. I am hopeful about my future.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

31. At my school, teachers care about students.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

32. I’ll learn, but only if my family/guardian(s) give me a reward.
1 – strongly disagree
2 – disagree
3 – agree
4 – strongly agree

33. Learning is fun because I get better at something.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

34. What I’m learning in my classes will be important in my future.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

35. The grades in my classes do a good job of measuring what I’m able to do.
   1 – strongly disagree
   2 – disagree
   3 – agree
   4 – strongly agree

Subscales:

**Effective Psychological Engagement:**
- Teacher Student Relationship (Questions: 3,5,10,13,16,21,22,27,31)
  3. My teachers are there for me when I need them
  5. Adults at my school listen to the students.
  10. The school rules are fair.
  13. Most teachers at my school are interested in me as a person, not just as a student.
  16. Overall, my teachers are open and honest with me.
  21. Overall, adults at my school treat students fairly.
  22. I enjoy talking to the teachers here
  27. I feel safe at school.
  31. At my school, teachers care about students.

- Peer Support at School: (Questions 4,6,7,14,23,24)
  4. Other students here like me the way I am
  6. Other students at school care about me.
  7. Students at my school are there for me when I need them.
  14. Students here respect what I have to say.
  23. I enjoy talking to the students here.
  24. I have some friends at school.

- Family Support for Learning: (Question 1,12,20,29)
  1. My family/guardian(s) are there for me when I need them.
  12. When something good happens at school, my family/guardian(s) want to know about it.
20. When I have problems at school my family/guardian(s) are willing to help me.
29. My family/guardian(s) want me to keep trying when things are tough at school.

**Cognitive Engagement:**
- Control and Relevance at School, (Question: 2,9,15,25,26,28)
  2. After finishing my schoolwork I check it over to see if it’s correct.
  9. Most of what is important to know you learn in school.
  15. When I do schoolwork I check to see whether I understand what I’m doing.
  25. When I do well in school it’s because I work hard.
  26. The tests in my classes do a good job of measuring what I’m able to do.
  28. I feel like I have a say about what happens to me at school.

- Future Aspiration & Goals: (Questions 8,11,17,19,30)
  8. My education will create many future opportunities for me.
  11. Going to school after high school is important.
  17. I plan to continue my education following high school.
  19. School is important for achieving my future goals.
  30. I am hopeful about my future.

- Intrinsic Motivation: (Questions 18,32)
  18. I’ll learn, but only if the teacher gives me a reward.
  32. I’ll learn, but only if my family/guardian(s) give me a reward.
APPENDIX G. ETHNIC IDENTITY SCALE
Ethnic Identity Scale

The U.S. is made up of people of various ethnicities. Ethnicity refers to cultural traditions, beliefs, and behaviors that are passed down through generations. Some examples of the ethnicities that people may identify with are Mexican, Cuban, Nicaraguan, Chinese, Taiwanese, Filipino, Jamaican, African American, Haitian, Italian, Irish, and German. In addition, some people may identify with more than one ethnicity. When you are answering the following questions, we’d like you to think about what YOU consider your ethnicity to be.

Please write what you consider to be your ethnicity here __________________________________ and refer to this ethnicity as you answer the questions below.

<table>
<thead>
<tr>
<th>Question</th>
<th>Does not describe me at all</th>
<th>Describes me a little</th>
<th>Describes me well</th>
<th>Describes me very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My feelings about my ethnicity are mostly negative.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I have not participated in any activities that would teach me about my ethnicity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I am clear about what my ethnicity means to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I have experienced things that reflect my ethnicity, such as eating food, listening to music, and watching movies.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I have attended events that have helped me learn more about my ethnicity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I have read books/magazines/newspapers or other materials that have taught me about my ethnicity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I feel negatively about my ethnicity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I have participated in activities that have exposed me to my ethnicity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I wish I were of a different ethnicity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. I have learned about my ethnicity by doing things such as reading (books, magazines, newspapers), searching the internet, or keeping up with current events.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
12. I understand how I feel about my ethnicity.  
<table>
<thead>
<tr>
<th>Does not describe me at all</th>
<th>Describes me a little</th>
<th>Describes me well</th>
<th>Describes me very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

13. If I could choose, I would prefer to be of a different ethnicity.  
<table>
<thead>
<tr>
<th>Does not describe me at all</th>
<th>Describes me a little</th>
<th>Describes me well</th>
<th>Describes me very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

14. I know what my ethnicity means to me.  
<table>
<thead>
<tr>
<th>Does not describe me at all</th>
<th>Describes me a little</th>
<th>Describes me well</th>
<th>Describes me very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

15. I have participated in activities that have taught me about my ethnicity.  
<table>
<thead>
<tr>
<th>Does not describe me at all</th>
<th>Describes me a little</th>
<th>Describes me well</th>
<th>Describes me very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

16. I dislike my ethnicity.  
<table>
<thead>
<tr>
<th>Does not describe me at all</th>
<th>Describes me a little</th>
<th>Describes me well</th>
<th>Describes me very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

17. I have a clear sense of what my ethnicity means to me.  
<table>
<thead>
<tr>
<th>Does not describe me at all</th>
<th>Describes me a little</th>
<th>Describes me well</th>
<th>Describes me very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Subscales:

Affirmation: Questions, 1, 7, 9, 10, 13, 16
1. My feelings about my ethnicity are mostly negative.
7. I feel negatively about my ethnicity.
9. I wish I were of a different ethnicity
10. I am not happy with my ethnicity.
13. If I could choose, I would prefer to be of a different ethnicity
16. I dislike my ethnicity.

Exploration: Questions, 2, 4, 5, 6, 8, 11, 15
2. I have not participated in any activities that would teach me about my ethnicity.
4. I have experienced things that reflect my ethnicity, such as eating food, listening to music, and watching movies.
5. I have attended events that have helped me learn more about my ethnicity
6. I have read books/magazines/newspapers or other materials that have taught me about my ethnicity
8. I have participated in activities that have exposed me to my ethnicity
11. I have learned about my ethnicity by doing things such as reading (books, magazines, newspapers), searching the internet, or keeping up with current events.
15. I have participated in activities that have taught me about my ethnicity.

Resolution: Questions, 3, 12, 14, 17
3. I am clear about what my ethnicity means to me.
12. I understand how I feel about my ethnicity.
14. I know what my ethnicity means to me.
17. I have a clear sense of what my ethnicity means to me.
APPENDIX H. SEMI-STRUCTED INTERVIEW
a. Self-Identity Ethnic/Racial Awareness

**Question 1**: What is Ethnic/racial Identity?

**Question 2**: What does your Ethnic/racial background mean to you? Please explain?

**Question 3**: How do you feel about the Ethnic/racial group you belong to? Please explain?

**Follow up**: Would you say you are proud of your ethnic group and its accomplishments?

b. Family Ethnic/Racial background Awareness

**Question 1**: What ethnicity or race does your family recognize at home?

**Question 2**: What are the customs and practices at home that reinforce your Ethnic/racial identity? (i.e., food, music, word phrases, discipline, etc.)

**Question 3**: How important is that familial customs and practices are maintained at home and outside the home?

**Question 4**: How important is it for you to be recognized as a member of your family’s Ethnic/racial identity?

**Question 5**: What stress, if any, would you experience being perceived to have a different Ethnic/racial identity as compare to your family?

c. Social and Racial Discrimination/Privilege Awareness

**Question 1**: What benefits, if any, do you believe your Ethnic/racial identity provide?

**Question 2**: How would you feel if you were targeted because of your Ethnicity or Race?

**Question 3**: What are your thoughts pertaining to friendships outside your Ethnic/racial Identity?

**Question 4**: How do you think your life might be different if you belonged to another Ethnic/racial group?

d. School-Based Ethnic/Racial Awareness

**Question 1**: How does your school address race/ethnicity?

**Follow up**: How do you contribute to the Ethnic/racial culture of your school?

**Question 2**: In your opinion, how do social studies or history classes depict Ethnic/racial history?

**Question 3**: If you were interested in learning more about your Ethnic/racial background, what would you do?

**Question 4**: Have you ever attended events and or taken classes that have helped you learn more about your ethnicity? Why or why not?

**Question 5**: What are some common grounds you have with your teachers (or teachers with students) as it relates to race and ethnicity?
Follow up: What do teachers (or students) share about race/ethnicity?

Follow up: How do teacher’s (or students) affirm the importance of race/ethnicity in the classroom?

Question 6: What are activities that can affirm Ethnic/racial identity in the classroom?

Follow up: How would these activities improve academic engagement?
APPENDIX I. CODING DATA DEFINITIONS
Table 13

**Coding Data Definitions**

<table>
<thead>
<tr>
<th>Data Codes</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Self-Authorship (S/A)</td>
<td>“An internal capacity to define one's beliefs, identity and social relations” (Kegan, 1994; Magolda, 2001)</td>
</tr>
<tr>
<td>2. Colorism (COL)</td>
<td>“A predisposition to act or be identified on the bases of skin color.”</td>
</tr>
<tr>
<td>3. Nationalism (NAT)</td>
<td>“A predisposition to act or be identified on the bases of nationality”</td>
</tr>
<tr>
<td>4. Assimilation/Rejection (A/R)</td>
<td>“The desire or pressure to acculturate or experience marginalization.” (Berry, 2005).</td>
</tr>
<tr>
<td>5. Religion (REL)</td>
<td>“A predisposition to define oneself by religious values.”</td>
</tr>
<tr>
<td>6. Relationship/Connection (R/C)</td>
<td>“The extent to which an individual feels a secure, avoidant, anxious or disorganized attachment.” (Ainsworth, 1973; Bowlby, 1969)</td>
</tr>
<tr>
<td>7. Representation (RP)</td>
<td>“Cultural and ethnicity represented in society.”</td>
</tr>
<tr>
<td>8. Familial Dynamics (F/D)</td>
<td>“Familial support/barriers to student’s identity &amp; academic outcomes.”</td>
</tr>
<tr>
<td>9. Curriculum (CUR)</td>
<td>“School curriculums support a cultural diverse education.”</td>
</tr>
<tr>
<td>10. Appropriation (APP)</td>
<td>“Assimilation or integration of another groups cultural artifact.”</td>
</tr>
<tr>
<td>11. Community (COM)</td>
<td>“Belonging, supported, and safety in a community setting.”</td>
</tr>
<tr>
<td>13. Self-Agency/Motivation SA/M</td>
<td>“Factors which influence positive or negative motivation.”</td>
</tr>
<tr>
<td>15. Ethnic Affirmation (EA)</td>
<td>“feeling positive or negative about ethnic identity.”</td>
</tr>
<tr>
<td></td>
<td>(Umana-Taylor et al., 2004)</td>
</tr>
<tr>
<td>16. Ethnic Exploration (EE)</td>
<td>“Individual’s ability to explore aspects of ethnic identity.”</td>
</tr>
<tr>
<td></td>
<td>(Umana-Taylor et al., 2004)</td>
</tr>
<tr>
<td>17. Ethnic Resolution (ER)</td>
<td>“Resolution of any issue related to ethnic identity.”</td>
</tr>
<tr>
<td></td>
<td>(Umana-Taylor et al., 2004)</td>
</tr>
<tr>
<td>18. Perseverance of Effort (PE)</td>
<td>“Ability to persevere during challenges.” (Duckworth et al., 2007)</td>
</tr>
<tr>
<td>19. Consistency of Interest (CI)</td>
<td>“Ability to maintain interest during challenges.” (Duckworth et al., 2007)</td>
</tr>
<tr>
<td>20. Teacher-Student Relationship (TSR)</td>
<td>“Positive or negative relationship toward teachers” (Appleton et al., 2006)</td>
</tr>
<tr>
<td>21. Peer Support at School (PSS)</td>
<td>“Positive or negative relationship toward peers.” (Appleton et al., 2006)</td>
</tr>
<tr>
<td>22. Family Support for learning (FSL)</td>
<td>“Positive or negative relationship toward family.” (Appleton et al., 2006)</td>
</tr>
<tr>
<td>23. Control &amp; Relevance of School Work (CRSW)</td>
<td>“Positive or negative relationship about the benefits of school &amp; the future.” (Appleton et al., 2006)</td>
</tr>
<tr>
<td>25. Intrinsic Motivation (IM)</td>
<td>“Internal motivation in a school environment.” (Appleton et al., 2006)</td>
</tr>
</tbody>
</table>
APPENDIX J. CODING 2 AND 3 BREAKDOWN
Table 14

**Coding 2 and 3 Breakdown**

<table>
<thead>
<tr>
<th>Coding 1</th>
<th>Coding 2</th>
<th>Teacher frequency</th>
<th>Student frequency</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>Self-Authorship (S/A)</td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>11</td>
<td>17</td>
<td></td>
</tr>
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<td>14</td>
<td></td>
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<td>Resolution (ER)</td>
<td>4</td>
<td>9</td>
<td>13</td>
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<td>2</td>
<td></td>
</tr>
<tr>
<td>Teacher/Student Relationship (TSR)</td>
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<td></td>
</tr>
<tr>
<td>Control &amp; Relevance (CRSW)</td>
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<td>1</td>
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<tr>
<td>Future Aspiration &amp; Goals (FG)</td>
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<tr>
<td>Assimilation/Rejection (A/R)</td>
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<tr>
<td>Relationship/Connection (R/C)</td>
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<td>Curriculum (CUR)</td>
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**Self-Agency/Motivation (SA/M)**

| Resolution (ER) | 1 | - | 1 |
| Exploration (EE) | 2 | - | 2 |
| Perseverance Of Effort (PE) | - | 2 | 2 |
| **Consistency of Interest (CI)** | 2 | 7 | 9 |
| Family Support (FSL) | 2 | - | 2 |
| Teacher/Student Relationship (TSR) | 2 | - | 2 |
| Future Aspiration (FG) | - | 2 | 2 |
| Control & Relevance (CRSW) | 2 | - | 2 |
| Intrinsic Motivation (IM) | - | 7 | 7 |