

# **THE IMPACT OF SENSE OF BELONGING**

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Sarah Beth Box

PennWest University, California Campus

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PennWest University, California Campus  
School of Graduate Studies and Research  
Department of Education

We hereby approve the capstone of

Sarah Beth Box

Candidate for the Degree of Doctor of Education

6-13-24



Dr. Mary Wolf  
Associate Professor  
Doctoral Capstone Faculty Chair

6-13-24



Dr. Erika Willis  
Assistant Superintendent  
Doctoral Capstone External Committee Member

**Dedication**

I dedicate this capstone project to my children as a symbol of hard work and dedication. Never forget that within you is the ability to do what you love, be great at what you do, and achieve your dreams.

### **Acknowledgments**

Achieving this milestone would not have been possible without the help of many people in my life. I would like to take this opportunity to thank them for their support and encouragement.

Thank you to all the academics who helped me get to this stage. From primary school to higher education, the influence of educators who believed in me and encouraged me shaped the person I am today. I would like to recognize the educators who made up my capstone committee. The value of their guidance cannot be overstated. The knowledge and experience of Dr. Mary Wolf and Dr. Erika Willis guided me every step of the way.

To my husband and children, your votes of confidence kept me going. I could not have done this without you. Thank you to my family and friends for believing in me and helping me believe in myself. Your encouragement and support go beyond what words can adequately express.

Finally, thank you to the educators I have worked for, alongside, and those I have had the privilege to lead. I have been blessed to teach with the best and am proud to be a small part of preparing the next generation for success.

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### **Abstract**

Sense of belonging within the community has been identified as an important psychological mindset that is a critical contributing factor to individual success. This capstone research study focuses on how sense of belonging in the school environment impacts student attendance and academic growth. Through an extensive review and analysis of available literature, this study seeks to answer three research questions. 1) What is the relationship between a sense of belonging and student attendance? 2) What is the relationship between a sense of belonging and academic growth? 3) What is the relationship between a family's sense of belonging in the school environment, attendance, and academic growth? A quantitative research approach, comprised of student and family surveys, average daily attendance, and academic growth was used to collect data to answer the research questions. The results of this research study indicate that sense of belonging has a direct impact on both attendance and academic growth. The conclusions indicate that by improving the sense of belonging in the school environment, educators can strengthen other areas that are essential to student success. The findings within this study will provide district leaders with evidence to support opportunities for professional development aiming to increase sense of belonging in the school setting.

## **CHAPTER I**

### **Introduction**

Having a sense of belonging means feeling connected, accepted, and included in one's environment. The feeling of belonging is impacted by school climate and culture as well as the individual actions that are taken by the adults and peers that students encounter each day. Belonging is a major factor in a child's social-emotional development and impacts overall mental health and well-being.

As students and staff struggle to bounce back from the COVID-19 Pandemic the importance of relationships and positive connections has been a common factor in the news. Research has demonstrated a nationwide increase in mental health needs specific to students. The author of this capstone research is currently employed as the Director of Pupil Services in one of the largest school districts in the state of Pennsylvania. As such, they can attest to the need for increasing mental health support within the school setting. As a part of the researcher's role, they oversee a variety of areas with a direct relation to student support. This has provided them with a unique opportunity to see firsthand the needs of students while having the ability to enact change within the school system.

This study is important because experienced educators have noted the importance of the sense of belonging in student success. The connections that one feels with the education environment, whether good or bad, have influence. By better understanding the impact of a sense of belonging, educators can take intentional actions to ensure students feel connected, accepted, and included in the school environment.

**Background**

The Central Dauphin School District is a suburban Pennsylvania school district located just outside of the capital city of Harrisburg. As the ninth largest district in the state, Central Dauphin is comprised of two high schools, four middle schools, thirteen elementary schools, and a K-12 cyber academy. Over 12,500 students are educated each year within the district.

This study focuses specifically on approximately 3,000 students currently enrolled in grades three, four, or five at the time of the research was conducted. When initially researching a sense of belonging, many studies were identified with a focus on secondary school students in grades six through twelve. Experienced educators note the importance of the foundational skills that students gain during their first six years of school. These skills, academic as well as social and emotional, are the basis for the second half of the educational career and set the stage for continued success. This age group is unique in that they are often part of self-contained classes which naturally lend themselves to the strong community within the classes the students are assigned to.

The Central Dauphin School District has utilized the Panorama Survey tool for many years. This tool provides district leaders with perceptual data related to students, staff, families, and community members. Over the past two years, the use of this data to set goals and impact student belonging has become a focus. This focus has led to a better understanding of the sense of belonging as well as intentional actions to improve academic success within schools. While the data collected has been valuable in identifying student needs, there are many other ways that this data can be utilized. By

using Panorama data alongside academic and attendance data, a better understanding of how a sense of belonging impacts measures of student success will be gained.

### **Research Questions**

This capstone study focused on the following research questions:

1. What is the relationship between a sense of belonging and student attendance?
2. What is the relationship between a sense of belonging and academic growth?
3. What is the relationship between a family's sense of belonging in the school environment, attendance, and academic growth?

### **Financial Implications**

This study will utilize data that is already being collected within the school district. While there is a cost associated with the Panorama Survey, this cost is a current item budgeted by the Curriculum and Instruction Department. As such, there will be no fiscal impact related to the implementation of this survey tool. Academic data and attendance data are routinely collected as a part of the school system requirements. This data will have no financial implications for this study.

### **Summary**

In summary, this capstone project will explore the impact of student sense of belonging on academic achievement and attendance. The subsequent chapters will provide a review of the literature, research methodology, data results and analysis, and conclusions and recommendations.

## **CHAPTER II**

### **Review of Literature**

Having a connection to the place in which one lives, works, or learns is a protective factor that has a myriad of benefits. When an individual feels supported, they are better able to manage stress and other behavioral challenges. This connection, often referred to as a sense of belonging, is crucial to happiness, as well as mental and physical health (Boardman, 2020). A lack of belonging can potentially lead to disengagement and, in turn, result in academic difficulties and an overall lack of academic success. In an age of isolation, with increasing rates of loneliness, there is a growing perception that belonging matters not just for emotional well-being but also for physical health, and the health of social connections.

This literature review intends to gain an understanding of psychological theories on belonging, define a sense of belonging specific to the school environment, and identify ways that one's sense of belonging is established. This review focuses on many of the factors that past research has shown to impact the sense of belonging, including, but not limited to, relationships in the school setting, student attendance, and ways to cultivate belonging within the school setting.

#### **Sense of Belonging in the School Setting**

A sense of belonging is a central element of the human psyche, a 'bedrock of human meaning and social relations' (Creswell, 2002). The need to belong is as basic to the survival of humans as food and shelter. The human brain is drawn to belonging. The same region of the brain that craves food, craves connections to others (Tomova et al.,

2020). Just as the same region of the brain that experiences pain is activated when an individual experiences exclusion (Macdonald & Leary, 2005). Research has shown that the stronger one's sense of belonging is, the stronger their overall well-being is impacted. Like safety, a sense of belonging and the experience of reliable, caring relationships are basic human needs (Chang et al., 2019).

An individual's sense of belonging is an essential social element, evident in the identifiers we give ourselves and others as well as the groups we take part in. The individuals surrounding us are members of families, religious groups, sporting teams, clubs, support groups, spiritual groups, charities, and political parties. Even the association with the cities one lives in, the countries they originate from, and the nationalities of one's family, add to an individual's sense of belonging. Every aspect of our lives is structured around belonging to somewhere or something (Theisen, 2019). Research confirms that belonging is a fundamental psychological need (Baumeister & Leary, 1995; Maslow, 1943).

In a series of studies, belonging at school and in the classroom consistently correlated with students' high value placed on academics and high expectations for success (Goodenow & Grady, 1993). While we know all of this to be true, the work of promoting belonging at school for all students faces considerable challenges. A major factor in these challenges can be attributed to the fact that the field of education is working from a limited conception of school belonging, based on the discipline of psychology (Kutner, 2023). Despite the importance that a sense of school belonging has been understood to hold, researchers note that the work done in this area has shown a lack of clarity and does not allow us to understand the concept fully to implement more



targeted educational practices to build and sustain it (Allen & Bowles, 2012; Allen et al., 2016).

Allen and Bowles (2012) note:

Research on belonging in educational settings has been unsystematic and diluted by disparities in definition and terminology [...] One explanation for this lack of interest may be the disparity in measurements, terminology, and definitions that make empirically driven findings and interventions difficult to translate into school practices. (p. 108)

There is a consensus among researchers that a sense of belonging is a need and that positive results are obtained by meeting this need (Anderman, 2002). When the need for a sense of belonging is met, then individuals become happy, satisfied, joyful, and peaceful (Baumeister & Leary, 1995). When students' sense of belonging is high, they believe that school is more enjoyable and beneficial (Gillen-O'Neal & Fuligni, 2013), they typically have high self-esteem, and their general health condition is good (Ma, 2003). Adolescents with a strong sense of belonging see themselves as more capable and independent, they often have a strong sense of intrinsic motivation and confidence in themselves. They have more positive attitudes towards the school, class, their teachers, and peers. Students who have a strong sense of belonging tend to find school enjoyable and actively engage in school activities (Osterman, 2000).

### ***Defining Sense of Belonging***

There is general agreement among researchers that belonging is a basic human need that all people seek to fill (Allen et al., 2012; Baumeister & Leary, 1995;

Brofenbrenner, 1977; Maslow, 1943). There is less agreement about the belonging construct itself, how to measure belonging, and what individuals can do to fulfill the need for belonging. There are many definitions that describe the sense of belonging. In general, belonging impacts every person. Regardless of age or experience, a sense of belonging, or lack thereof, can be identified. “The sense of belonging and identification involves the feeling, belief, and expectation that one fits in the group and has a place there, a feeling of acceptance by the group, and a willingness to sacrifice for the group” (MacMillan & Chavis, 1986, p. 10).

Belonging in the school setting, while an example of the overall sense of belonging, is often studied in the context of child development, academic progress, and future success. Goodenow and Grady (1993, p. 60) described school belonging to be “the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment.” There is a general understanding that we have an innate need to belong. As humans, we seek a place where we feel kinship and support. We look for places where we feel respected and admired. When this is not the case, it can feel as though many other things in our lives are out of alignment, and we struggle to move forward in our understanding or improvement of ourselves. Belonging is a dynamic concept shaped by relational, cultural, historic, geographic, and contextual factors (Yuval-Davis, 2006).

Sense of belonging is often perceived as a psychological sense of membership (Goodenow & Grady, 1993) that is produced through the social connections that adolescents experience with their friends, peers, and teachers at school and which encapsulates relatedness, the affinity or bond that includes a sense of connection with

others (Baumeister & Leary, 1995). Over the past one hundred years there have been many research studies done that provide a better understanding of what a sense of belonging is and how it impacts adolescent development. Many of these studies have been the basis for psychological theories. Through this understanding, psychologists, physicians, and educators have been able to better address the needs of our youngest population.

**Maslow's Hierarchy of Needs.** The hierarchy of needs as defined by Maslow (1943) remains the most notable and widely discussed theory of basic human needs both in and out of psychology. Maslow's hierarchy of needs is a theory in psychology that is comprised of a five-tier model that illustrates human needs. Human needs are arranged in the form of a hierarchy, with physiological (survival) needs at the bottom, and the more creative and intellectually oriented 'self-actualization' needs at the top (Maslow, 1943). In this model, needs that are found lower on the tiers of the pyramid must be met before the higher tiers can be obtained. Love and belonging are found on the third tier, preceded only by physiological needs and safety needs.

In his prominent theory on motivation and personality development, Maslow proposed that five needs steer all human behavior. The most basic of the needs were referred to as Physiological needs and included needs such as hunger, thirst, and sex. Maslow's theory states that these physiological needs must be fulfilled before other needs that are found higher can be met.

As shown in Figure 1, going through Maslow's hierarchy of needs from bottom to top, on the step after physiological needs one can find the Safety need and then the Love and Belongingness need. The Safety need encompasses the need to feel safe and secure.

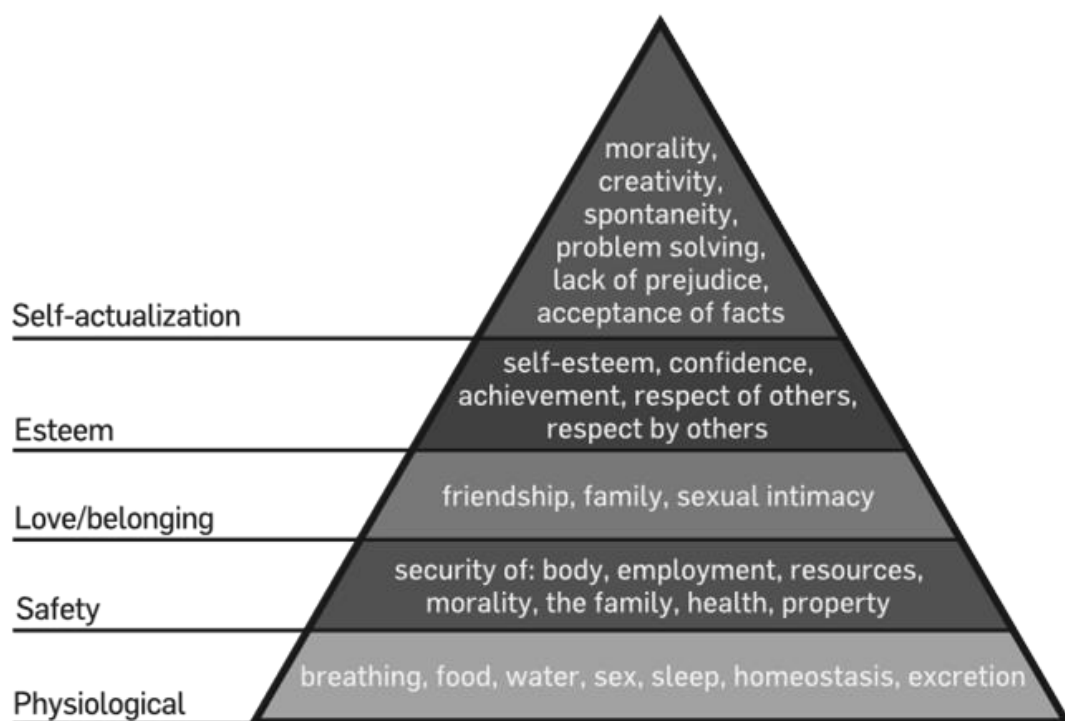
The Love and Belongingness need portrays the need to have social interactions and connections with other humans, often in the form of a partner, spouse, and/or family.

Self-esteem and Self-actualization can be found at the top of the hierarchy.

Achievements, a prerequisite for the fulfillment of Self- Maslow's model, is seen as a theory of human needs as well as a model of personality development. Maslow's stage model can also be seen as an optimal way in which a human develops from early childhood to late adulthood (Montag et al., 2020).

**Figure 1**

*Maslow's Hierarchy of Needs*



*Note.* Figure 1 shows the five levels of Maslow's Hierarchy of Needs. From "A Theory of Human Motivation." by A.H. Maslow, 1943, *Psychological Review*.

It is quite true that man lives by bread alone — when there is no bread. But what happens to man's desires when there is plenty of bread and when his belly is chronically filled?

At once other (and "higher") needs to emerge and these, rather than physiological hunger, dominate the organism. And when these in turn are satisfied, again new (and still "higher") needs emerge, and so on. This is what we mean by saying that basic human needs are organized into a hierarchy of relative prepotency.

(Maslow, 1943)

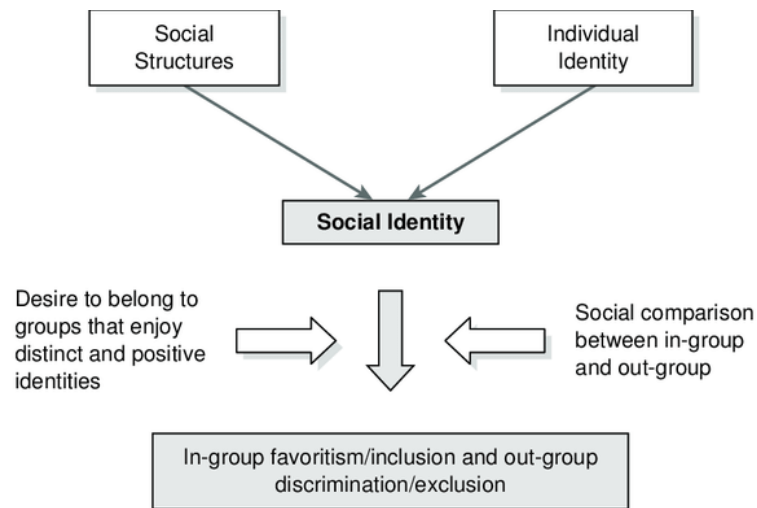
Maslow's Hierarchy of Needs connects belonging to the human need for love. It is noted that it must be present with other basic needs for a person to lead a happy and satisfying life (Maslow, 1943). The need for love and belonging is especially important in childhood and can override the need for safety as witnessed in children who cling to abusive parents (Bowlby, 1969, 1988). A sense of belonging, the feeling of connection with groups, places, individuals, and experiences, is a fundamental human need that predicts numerous mental, physical, social, economic, and behavioral outcomes (Allen et al., 2021).

**Social-Identity Theory.** As illustrated in Figure 2, social identity is a person's sense of who they are based on the groups in which they are members. Originally introduced in the 1970s, Tajfel's theory proposed that the groups (e.g., social class, family, team) to which people belong are an important source of pride and self-esteem. Groups give us a sense of social identity: a sense of belonging to the social world (Tajfel, 1979). According to social identity theory, people develop their social identity from the groups to which they belong. Examples of this would be identifying as a "teacher," "boy

scout,” or “soccer player,” (Scheepers & Ellemers, 2019). Individuals define their own identities as the social groups they are a part of. These identifications work to both safeguard and strengthen self-identity.

**Figure 2**

*Social Identity Theory*



*Note.* Figure 2 shows the Social Identity Theory, specifically focusing on the in-group and out-group impact. From “An integrative theory of intergroup conflict.” by H. Tajfel, J. C. Turner, W. G. Austin, & S. Worchel, 1979, *Organizational identity: A reader*

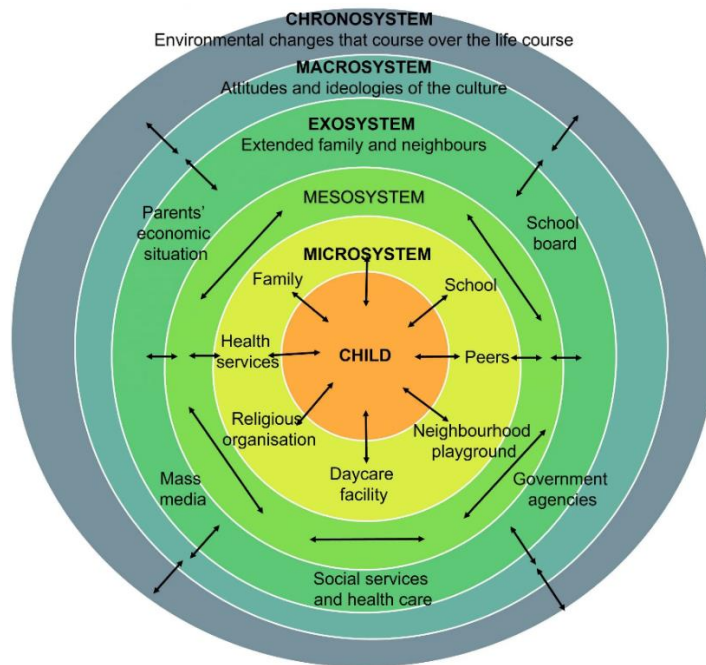
The social identity theory groups individuals into in-groups, or groups to which an individual belongs, and out-groups, those of which the individual is not a member. The central hypothesis of social identity theory is that group members of an in-group will seek to find negative aspects of an out-group, thus enhancing their self-image (McLeod, 2023). To establish the in-groups’ and out-groups worth, individuals continuously categorize themselves, evaluate in-groups and out-groups, and compare their value.

Social categorization, group evaluation, and the value of group memberships for the self-concept make up an individual's social identity (Trepte & Loy, 2017).

**Ecological Framework.** Psychologist Urie Bronfenbrenner's work focused on the interrelated systems that influence human growth and behavior. His model offers a comprehensive approach to understanding the many parts that contribute to human development. Bronfenbrenner's model highlights the importance of environmental factors, personal characteristics, and contextual factors in shaping development. Bronfenbrenner's research concluded that to study how a child develops, one must not only study the child but also the immediate environment and the interaction of the larger environment (Guy-Evans, 2023).

Bronfenbrenner felt that when the research was conducted in an unfamiliar space such as a laboratory, the results were not valid. He noted that when this occurred, the observation became a review of the impact of the unknown space on the student as opposed to the student's development. This research demonstrates the importance of the environment one is a part of on their overall well-being and sense of belonging.

Bronfenbrenner suggested that the child's environment is a nested arrangement of structures, each contained within the next (Bronfenbrenner, 1977). As shown in Figure 3, he organized them in order of how much of an impact they have on a child. Bronfenbrenner named the structures the microsystem, mesosystem, exosystem, macrosystem, and the chronosystem. He felt that the five systems are interrelated and the influence of one system on a child's development depends on its relationship with the others (Bronfenbrenner, 1977).

**Figure 3***Ecological Framework*

*Note.* Figure 3 shows the interrelated systems that make up the Ecological Framework.

From “Developmental science in the 21st century: Emerging questions, theoretical models, research designs and empirical findings.” by U. Bronfenbrenner & G. W. Evans, 2000, Social Development.

For example, according to the ecological systems theory, if the child’s parents and teachers establish and maintain a positive relationship, this should have positive effects on the child’s development, compared to a relationship in which the child’s parents and teacher do not have a cohesive relationship and the child’s development is negatively impacted.

As Bronfenbrenner’s (1995) research changed and evolved over the years, his focus shifted from environmental influences that impact child development to a broader



look at the developmental process individuals experience over time. In his more recent work, he has stated that "...development takes place through the process of progressively more complex reciprocal interactions between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate external environment."

**Belonging Hypothesis.** The theoretical basis for all the concepts mentioned previously is the belonging hypothesis. This hypothesis states that human beings have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships (Baumeister & Leary, 1995). In this hypothesis, belonging is defined as an individual's sense of being accepted, valued, included, and encouraged by others (Baumeister & Leary, 1995). Belongingness has been linked to a strong impact on emotional patterns and cognitive processes. Alternatively, lack of belonging has been correlated with multiple negative effects on health, adjustment, and well-being (Baumeister & Leary, 1995).

In their initial study, Baumeister and Leary (1995) argued that lacking fulfillment of the need to belong results in significant decreases in well-being. They concluded that the need to belong is fundamental but also suggested that there are individual differences correlated with this need. They surmised that people with an elevated need to belong would need to work harder to acquire positive relationships and, in addition, they may need a greater number of relationships as compared to individuals who had a lower need to belong. Furthermore, relationships should have a disproportionate effect on those with a high need to belong in fulfilling their needs and protecting them from depression and anxiety (Pillow et al., 2015).

**School Connectedness**

The concept of school connectedness was first explicitly identified, in writing, by a notable educational leader over one hundred years ago in 1908 (Perry, 1908). From that point on, researchers have studied the impact of the school setting on students in a variety of ways. Until the 1950s, most of the research on school connectedness took the form of case studies. Beginning in the 1950s, researchers began to take a close look at the characteristics impacting climate such as the condition of the building in which the school was located. It was not until the last thirty years that researchers focused on a complex set of elements that together make up school climate (Cohen et al., 2019).

During a typical school year, the average adolescent spends about one-quarter of the hours in which they are awake in the school setting, most within the classroom. This alone provides an opportunity for schools to be a powerful influence on their students' well-being and academic success. Recent research has studied the relationship between school climate and student outcomes. Findings show that students tend to perform better academically, have better socio-emotional health, use fewer substances, and participate less in violent, aggressive, and bullying behaviors because of a positive school climate (Cohen et al., 2019).

***Culture and Climate***

A study conducted in 1997 found that climate and culture were among the strongest concepts found to impact academic performance (Wang et al., 1997). As such, it is important for school leaders to clearly understand what is meant by culture and climate. The two terms, while often used interchangeably, are concepts that have separate and distinct meanings. While both concepts lead to significant impacts on student

learning and engagement, as well as teacher satisfaction and retention, the confusion between these terms can lead to misunderstandings (Strobel Education, 2023). In short, climate is often referred to as behavior, while culture is comprised of the values and norms of a school. These concepts are related but not the same.

Freiberg and Stein (1999) described school climate as the heart and soul of the school and the essence of the school that draws teachers and students to love the school and to want to be a part of it. The climate of a school has a profound impact on individual student experiences (Comer, 1980). “School climate includes major spheres of school life such as safety, relationships, teaching and learning, and the environment as well as larger organizational patterns (e.g., from fragmented to shared; healthy or unhealthy).” These dimensions not only shape how students feel about being in school but “these larger group trends shape learning and student development” (National School Climate Center, 2021, para. 2). Classrooms that promote community help all students feel safe, respected, and valued while promoting learning and engagement (Keyes & Heath 2023).

A school’s culture encompasses the shared values, beliefs, and practices within the entire school community. School climate refers to the overall atmosphere, including the physical and emotional safety of the students and staff. In the text, *Shaping School Culture*, school culture is defined as “norms, values, beliefs, traditions, and rituals built up over time” (Deal & Peterson, 2016, p. 12). School culture impacts each decision that occurs in the school setting. From the principal’s approach to discipline to how teachers and students interact and even the decisions on curriculum and instruction, culture has a major impact. School cultures that foster trust and draw on the strengths of communities contribute to the development of young people’s sense of agency and belonging (Riley,

2019). Peterson (2002) proposes that culture is built within a school over time as teachers, school leaders, parents, and students work together. Establishing a school culture that emphasizes a sense of inclusion, teacher and administrator support, increases academic engagement, and helps students feel safe, will provide a strong academic foundation to build on throughout the remainder of a student's school experience (Ordaz & Mosqueda, 2021).

While the culture is the overall beliefs, the climate of a school can be seen as the overall attitude or energy of the school. When examining the environment of a school, it is important to consider both climate and culture. Gruenert (2008, p. 58) states "It is much easier to change an organization's attitude (climate) than it is to change its personality (culture)." Belonging is not just a connection to other people, but also to place, power, and purpose. The experience of belonging is about being connected through community. It is a feeling of ownership in shared outcomes, and a sense of mission with others (Samuel, 2023).

### ***Family and Community Engagement***

Research studies have shown that family and community engagement in the school setting contributes to the success of the students within. The more the relationship between a child's family and school is a partnership, the more student achievement increases (Henderson, 2007).

Successful family and community engagement must be intentional. It requires resources, infrastructure, and leadership (Ross, 2023). When schools partner with families and the community, all benefit. Schools that are successful in this endeavor focus on what is best for the school and community, not just the educators.

Many children grow up to become members of the same community in which they are learning and growing. As such, it makes sense for the community to take an active role and partner with schools and families. Connections with the community can impact schools and students in a variety of ways. From in-house opportunities such as tutoring and volunteering to outside opportunities in the form of internships and experiences, all parties benefit from a positive relationship.

When schools, families, and communities have a strong bond, students are better understood and supported. To build a positive relationship, it is essential to promote a school environment where family and community members feel welcomed, respected, trusted, heard, and needed (Daly, 2022).

When students feel that they belong to a community, their learning experiences, including attendance in school, are positively impacted. Groups that are more likely to feel a lower sense of belonging, such as those who identify as LGBTQ, who have a disability, or who are from a different background than their peers often feel underrepresented and are less likely to do well than others. One strategy for schools to combat this is through community involvement. When students in minority groups see themselves represented in the community and see the involvement of that community in their school learning experiences, positive outcomes in academics and attendance are often a result (Daly, 2022).

### **Relationships in the School Setting**

Beliefs, values, and relationships all matter. An adolescent's relationships in the school setting are not only with their peers and teachers but with other staff as well. From the bus driver to the principal to the secretary, young people establish relationships with a

vast number of individuals in the school setting. These relationships play out not only in the classroom but also in locations such as the school bus, the cafeteria, the hallway, and the playground. The most significant factor for young people, in terms of whether they experience a sense of belonging or exclusion in school, is how they perceive their relationships with their teachers (Allen et al., 2021). When studying belonging, the measures utilized often focus on identifying the degree to which social relationships play a key role in a student's overall well-being (Walton & Cohen, 2011).

### ***Student-to-Teacher Relationships***

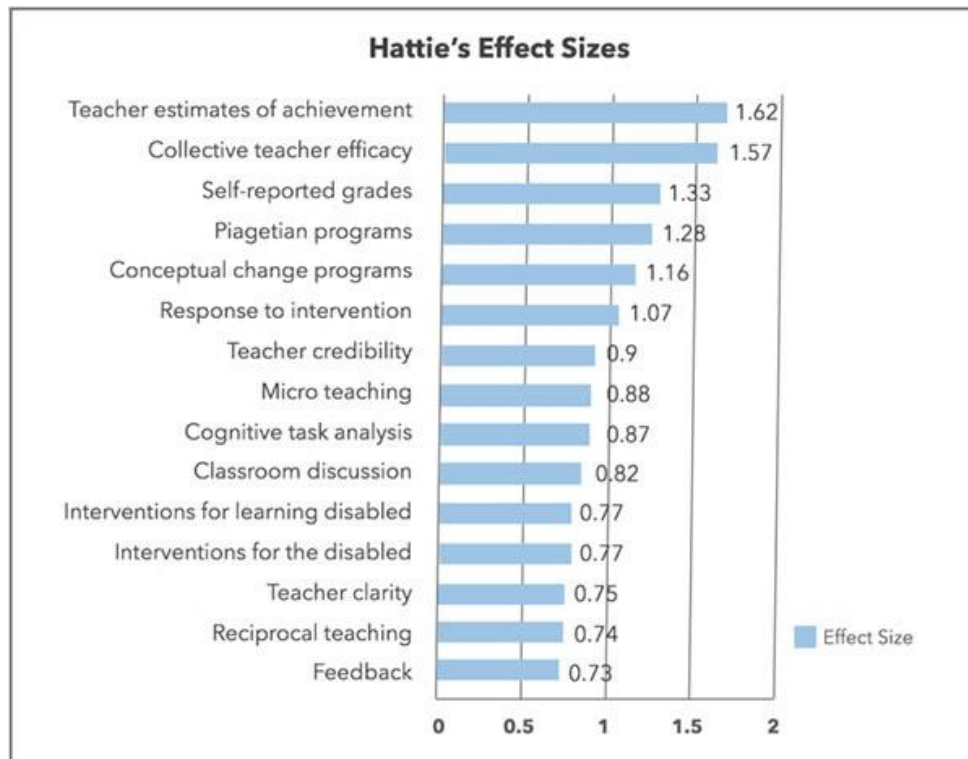
When students have a positive relationship with their teacher it positively impacts their academic performance and their social-emotional skills. Studies have shown that students who rate their relationships with teachers more positively tend to feel a greater sense of belonging and value academic subjects more highly (Panorama, n.d.). One study, conducted with first-grade students, found that when teachers model caring toward their students and utilize practices that foster interpersonal skills among the students in their class, students were less likely to reject one another (Donahue et al., 2003). Such conclusions indicate that developing individual teacher-student relationships has beneficial and cumulative impacts on other aspects of classroom life.

Positive teacher-student relationships, evidenced by teachers' reports of low conflict, a high degree of closeness and support, and little dependency, have proven to support students' adjustment to school, contribute to their social skills, promote academic performance, and foster students' resiliency in academic performance (Battistich et al., 2004). When students feel that their teachers believe they can improve in their academics,

they feel a greater sense of belonging and perform better on assessments (Muenks et al., 2020). The social-emotional experiences that occur among students and teachers characterize a critical aspect of the school climate (Durlak et al., 2011).

Teachers who have established close relationships with students reported that their students appeared more self-directed, more cooperative, and more engaged in learning and were less likely to avoid school (Birch & Ladd, 1997; Decker, Dona, & Christenson, 2007; Klem & Connell, 2004). All these factors are related to a sense of belonging in the school environment. While relationships alone do not establish a sense of belonging in a student, relationships are an essential element of belonging. A study conducted by Uslu (2016) revealed that teacher-student relationships are the most important variable for a sense of school belonging for both boys and girls. In line with this, as well as other research, the strongest factor impacting school belonging was teacher support (Hattie, 2019).

In 2019 John Hattie, Director of Melbourne Education Research Institute conducted a meta-study known as Visible Learning (Hattie, 2019). Figure 4 shows a sample of the results of this study which analyzed over eight hundred factors that impact student learning. In this study, Hattie found a strong ( $d = 0.52$ ) connection between enhanced academic outcomes and teacher-student relationships (Hattie, 2009). A similar meta-study which included more than 65,000 students, was conducted. This study looked specifically at school belonging. Allen found a large ( $r = 0.46$ ) effect between school belonging and teacher support (Allen et al., 2018).

**Figure 4***Hattie's Effect Sizes*

*Note.* Figure 4 shows examples of from Hattie's meta-study, *Visible Learning*. From "Visible learning: A synthesis of 800+ meta-analyses on achievement." by J. Hattie, 2009.

Research suggests that when a teacher tells students they have high expectations of them, the student begins to believe in their potential to meet those expectations and this results in a positive impact (Kelleher, 2020). Teachers at schools that are high-performing share a common set of high expectations for success (de Boer et al., 2018). Teachers often hold implicit viewpoints about what their students can achieve, and research shows that the mindset of these teachers matters. Research supports that students recognize when teachers hold high expectations for them and demonstrate higher levels



of achievement when educators do so (de Boer et al., 2018). “Learning happens in the space created when students reach for the higher bar” (Smith et al., 2018).

Student-teacher relationships foster a welcoming environment and produce success for both the student and the educator (Coristine et al., 2022). The impact of student-teacher relationships may not only impact student academic success but also fulfill basic student needs such as autonomy and competence. It is thought that this relationship results from the teacher not being only the source of learning or expertise in a subject area but also caring about the holistic development of the students in their care (Allen et al., 2021). A positive student-teacher relationship has proved to improve mental health and support students in developing self-worth (Pride Surveys, 2017). In a longitudinal study of 322 sixth and seventh graders, two attributes, commitment to school and positive feedback from teachers, had the greatest effect on students’ self-esteem (Hoge et al., 1990).

### ***Parent-to-Teacher Relationships***

In the school system, parents, an essential component to student success, often remain unseen. Parents are fundamental in their contribution to the school climate and culture. The sense of belonging of parents within the school community has potential implications for attendance and educational success yet it is often neglected in research (Allen, K-A, 2023).

Many schools are comprised of a community within the community. Parents can participate in the Parent Teacher Association, be a part of their child’s sports team parent group, follow the school’s Facebook page, or volunteer for a school activity.

Unfortunately, many of these opportunities are not intentional, but an incidental byproduct of their child's academic life. When schools are intentional and purposefully provide opportunities and comfortable spaces for parents to connect, parent belonging is enhanced (Allen, K-A, 2023).

Students who feel supported socially and academically by their parents are motivated to attend school activities and are also found to get along well with their peers (Uslu & Gizir, 2016). When parents and families participate in a student's education there is an emphasis on collective growth and shared responsibility. This fosters a sense of belonging for students, boosting academic outcomes. When parents are invested in their children's education, students feel valued and encouraged. This is critical to their overall well-being and achievement, in turn impacting the students' sense of belonging in the school environment (Murphy, 2023).

### ***Peer Relationships***

Peer relationships have been widely regarded to impact an individual's well-being in both positive and negative ways. When considering the school environment, peer relationships have proved to be key to the overall school climate. Students' relationships with their peers have also been shown to facilitate a sense of belonging in school (Goodenow & Grady, 1993). Schools are naturally a location where adolescents form relationships and as such, have been the basis of many studies surrounding the impact of peer relationships on child development. Students who are confident they belong and feel valued by their peers can engage more fully in learning (Romero, 2018). Positive peer relationships and close friendships are essential to an adolescent's adjustment. These

relationships meet the developmental need for relatedness and acceptance and may act as a protective factor (Brown, 2004).

In 2014 a qualitative case study explored how school-based relationships set the foundation for adolescents' sense of belonging. The results of this study showed that responsive peer relationships were beneficial in supporting students' sense of belonging in school. Responsive student-to-student relationships were recognized as those where students felt understood and accepted by their peers. Students in the study identified the feelings of acceptance stemmed from relationships in which academic and emotional support was involved. The authors of this study suggest that fostering responsive, interpersonal relationships between students that are academic and social in nature is critical in setting the foundation for adolescents' belonging in school (Kiefer et al., 2014).

### ***Social Media and Relationships***

With the increase in social media platforms, recent technology has added a level of complexity to students' belonging experiences and relationships. Social media has proven to have both positive and negative influences on adolescents' belonging experiences in online and in-person contexts (Allen et al., 2014). Social media can be both a limit and a boost to a young person's social well-being, depending on the nature of its use (Smith et al., 2021).

Over the past decade, online communication has emerged as a primary form of communication for youth between 15 and 24 years of age. Research has found social media communication to be a legitimate means of developing social connections and it can foster a sense of belonging among adolescents. This research is new and recognized

as a rapidly evolving field, important to educators and mental health professionals alike (Smith et al., 2021).

Much of the current research surrounding social media use and youth centers the time spent on social media and the outcomes on student wellbeing. These studies focus on the overall frequency of use as opposed to the quality of the interactions taking place.

The social displacement model hypothesized that the use of social media takes the place of face-to-face, meaningful, social interactions. In his study, Kraut tracked internet use and its impact on a variety of well-being indicators. This study did not look at adolescents, but rather focused on families. The key findings were that increased internet use was associated with declines in family communication and the overall size of participants' social networks in the real world. Increased use of the internet was also found to be connected to self-reported increases in stress, depression, and loneliness. The association is more significant for teens as opposed to adult participants. Based on these findings, it was concluded that increases in internet use were related to decreases in social support and accompanying feelings of loneliness (Kraut et al., 1998).

### **Attendance**

In the past, the idea of defining attendance expectations and absenteeism varied vastly from state to state. The No Child Left Behind Act of 2001 (NCLB) required that schools, for the first time, report truancy data to the federal government. The act required that schools kept detailed truancy records and while NCLB supported activities to reduce truancy and improve attendance rates in schools, it did not use truancy measures to punish schools. Instead, truancy was seen as the worst of the perceived cases

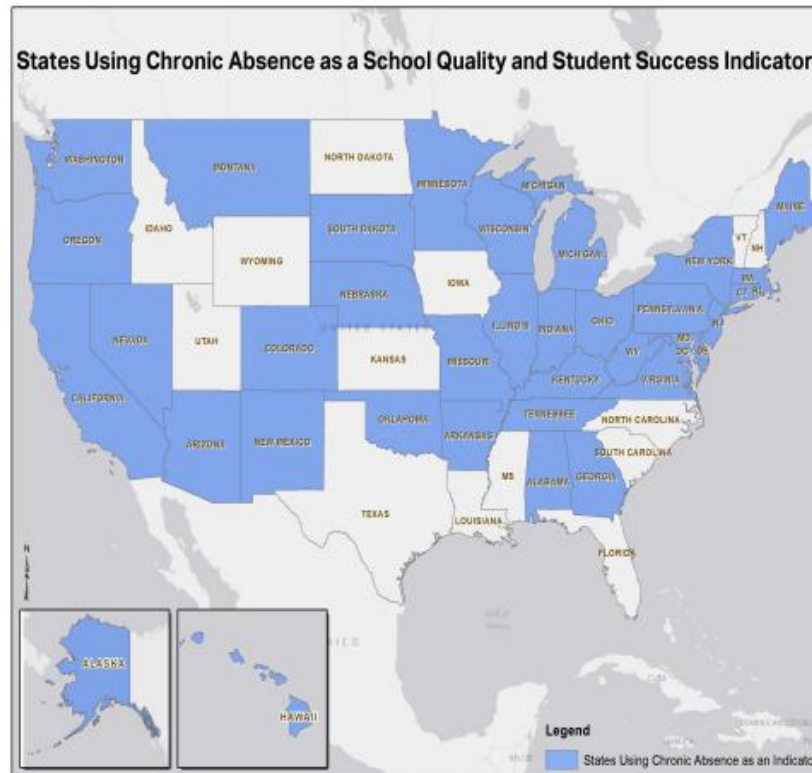
of failing test scores. This brought the problem of truancy to the forefront and showed the vastly different state laws surrounding truancy as well as the differing legal penalties.

In recent years, educators and policymakers have begun to take a close look at school attendance, particularly chronic absenteeism, and the effects of absenteeism on student success. In 2015, with the establishment of the Every Student Succeeds Act (ESSA), the federal government required the reporting of chronic absenteeism at school and district levels. While not providing specific federal laws, the Every Student Succeeds Act empowered individual states to design statewide accountability systems. In addition to measurements of annual school performance, ESSA required states to hold schools accountable for one measure of "school quality or student success (SQSS)" (Every Student Succeeds Act, 2015).

ESSA provided an opportunity for school districts to use federal funds to address the goal of reducing chronic absences. Under Title II of ESSA, districts can use Title II funds to support efforts combating absenteeism. This funding can be used for either professional development or preventative measures such as research-based interventions. States must now have data systems for tracking student absenteeism and reporting the information collected. This information can also be used as a school quality indicator. As a result,  $\frac{3}{4}$  of the United States, as shown in Figure 5, are utilizing this indicator (Lara et al., 2018).

### Figure 5

### States Using Chronic Absenteeism as a Quality School Indicator



*Note.* The map shows states using chronic absence as a school quality indicator. From “Who’s In, Chronic Absenteeism Under the Every Student Succeeds Act.” by P. Miller and R. Jordan, 2017, FutureEd.

### *Chronic Absenteeism*

Absenteeism from school is a problem that impacts the social, emotional, and educational development of adolescents (Haarman, 2011). While many individuals see absenteeism as a short-term condition, persistent absenteeism during childhood has shown to be a predictor of lasting problems that may persist into adulthood (King et al., 1995), such as “school dropout, delinquency, and occupational and relationship

problems” (Kearney & Bensaheb, 2006). Attending school is important for adolescent development and school is considered by many to be the primary social arena that creates “citizens” (Pellegrini, 2007).

With the addition of the ESSA requirements, a common definition of chronic absenteeism has become widely used. Chronic absenteeism is defined by the federal government for data collection and reporting in the Civil Rights Data Collection as missing 15 or more days of school per year. Most states define chronic absenteeism as missing 10 percent or more of the school year, typically 18 or more days, for any reason excused or unexcused.

Chronic absence has been proven by research to be a sign of academic risk. Studies have shown that students who miss school are less likely to meet key academic milestones. In the Chronic Absenteeism NEA Research Brief (2018), the authors note,

Children who are chronically absent have lower levels of school readiness upon entering kindergarten, are less likely to read at grade level by the third grade, show lower levels of social engagement, are more likely to drop out of school, and are less likely to graduate from high school or attend college.

Students who are not present at school also run a higher risk of having short-term and long-term social-emotional issues including relationship problems, marital and psychiatric concerns, teenage pregnancy, violence, and substance abuse issues (Rasasingham, 2015). Frequent absences from school can affect adulthood. High school dropout, which chronically absent students are more likely to experience, has been linked

to poor outcomes later in life, from poverty and diminished health to involvement in the criminal justice system (U.S. Department of Education, 2015).

### ***Factors that Impact Absenteeism***

A report released in 2019 notes that educators can improve attendance by first making their schools more welcoming places to attend. The report goes on to provide evidence that comprehensive strategies to improve students' health and safety, sense of belonging, emotional well-being and academic engagement are all key to combating chronic absences (Chang et al., 2019). Attendance improves, even in schools with high-risk populations such as extreme poverty, if there are quality teachers, courses, and extra-curricular offerings (Sheldon et al., 2004). Students who feel that they belong are more likely to attend school regularly and, as a result, engage academically.

Schools and teachers cannot solve attendance problems alone. The results of a study conducted by Sheldon et al. (2004) indicate that school, family, and community partnerships had the potential to significantly decrease chronic absenteeism. The information from this study reinforces the impact that school community engagement and the importance of parent-to-teacher relationships have on a student's overall well-being. Studies show that when schools work hard to intentionally develop school, family, and community partnerships, it results in higher levels of parent involvement, a greater number of students who pass standardized achievement tests, and fewer disciplinary actions with students (Sheldon et al., 2004).

School, family, and community partnerships are a crucial component of a school's efforts to reduce chronic absenteeism. Student attendance sees improvements if schools



take a comprehensive approach by implementing actions that support positive attendance trends, conduct effective home-school connections, and focus on the goal of improving and maintaining student attendance (Sheldon et al, 2004).

### **Cultivating a Sense of Belonging**

Schools play a crucial role in developing groups and social networks for students and offer unique opportunities for students to develop a sense of belonging (Allen et al., 2018). To connect with others in school, students must have the ability to engage in reciprocal conversation, listen to and evaluate perspectives that are different from their own, and navigate their environment, all while recognizing cultural norms and values that are specific to the school setting. Belonging can be identified as something that one does. As such, the skills necessary to belong can be explicitly taught and practiced. This practice is an important piece for schools to consider when working toward increasing a sense of belonging in the school setting (Ralph, 2022).

When students feel unsure about their belonging, they search for signs in their environment to indicate whether they fit in and are valued by others at school. When things are going well in school, they feel like they do belong. But when they experience adversity, their sense of belonging can decrease (Romero, 2018). In situations where a school's policies and practices result in students feeling marginalized, educational equity must be addressed so that all students share a strong sense of belonging. To increase the sense of belonging schools must first change the policies and practices that are marginalizing some students. Once these policies are addressed, schools can then focus on methods to increase the sense of belonging.

Sense of belonging within the larger community, often the school setting, has been identified as an important psychological mindset that is a critical contributing factor to a student's academic performance. While this is a widely accepted understanding, educators continue to question how to best develop a sense of belonging within a school setting (Tillery et al., 2013). Approaches such as providing students with opportunities to practice essential skills and giving students a voice that allows them to be active in what their school experience looks like have proven to increase their sense of belonging. In addition, providing students with social and emotional support, especially when they encounter tricky situations, by building the competencies of adults in the schools to address the social and emotional needs of students will positively impact the outcomes of all students (Grossman & Portilla, 2022).

### ***Opportunities***

Opportunities for students to practice the skills related to the sense of belonging in the school setting are an important consideration for schools focused on increasing belonging. Programs that help reduce concerns about a sense of belonging are effective at reducing achievement gaps (Romero, 2018). Recent studies have found that social-psychological interventions in education, brief exercises that target students' thoughts, feelings, and beliefs in and about school, can result in large gains in student achievement and a reduction in achievement gaps. These interventions are not intended to target academic content but instead focus on students' mindsets, such as their beliefs that they have the potential to improve their intelligence or that they belong and are valued in school (Yeager & Walton, 2011). An essential ingredient to developing a sense of belonging is effort. Students cannot belong if they do not make the effort to engage with

others (Theisen, 2019). This may feel uncomfortable for some students. By intentionally constructing opportunities where students feel safe and supported in their efforts, both academically and socially, schools can increase their overall sense of belonging.

### ***Supportive School Structures***

When students feel a sense of belonging in the school setting, they thrive. Unfortunately, often the policies and procedures in place negatively impact this opportunity (Grossman & Portilla, 2022). Addressing school policy as well as practices and procedures within the school setting, is often the first step in building supportive school structures.

The impact of the overall school and classroom environment should be taken seriously. The environment relates to students' motivation and engagement (Goodenow, 1993) and provides the means for adolescents to engage, perform, and be well at school (Crosnoe, 2011). Data indicates the need to listen to students and be cognizant of social interactions and the climate of the classroom to increase opportunities for young people to connect with their peers and teachers, as well as actively engage and participate in learning (Longaretti, 2020).

Longaretti (2020) utilized interview data analysis to identify three key deductions specific to a student's sense of belonging. The study identified that belonging at school was a significant element of the students' concept of resilience. The second key deduction was that positive friendships contribute to student sense of belonging at school and third, the study found that students connected belonging and not belonging to specific signs and consequences. The most significant finding of this study was that students had a strong awareness of the importance of being connected with a peer group as well as the

negative impact one may have when being left without the support of a peer group (Longaretti, 2020).

### *Student Voice*

Research has found that school belonging is not just about the quality of interactions with peers and teachers but is also affected by school policies and practices. To improve students' sense of belonging, many districts have tried to increase the level of student voice in both the school and district settings (Allen et al., 2019). Students who have an active role in the decisions being made impacting their school environment and, in turn, see their ideas and efforts being implemented, have a greater sense of control and ownership over their environment, which lessens the effects of stress and increases their sense of belonging (Grossman & Portilla, 2022).

“I define student voice as how all students have opportunities to participate in and influence the education decisions that will shape their lives and the lives of their peers” (Mitra, 2009, p. 1835). Providing opportunities for student voice in the classroom, school, and district-level decision-making, has become a more regular occurrence in the past decade. A shift from traditional teaching and learning practices to ones in which students are active in providing feedback and collaborating to address issues has become the norm. Schools across the nation have begun to utilize structures such as student advisory boards to gain insight (Holquist, 2019).

In a comprehensive literature review of the effects of student voice, Mager and Nowak (2012) found moderate evidence that student voice has a positive effect on communication skills, responsibility, self-esteem, social status, a sense of agency, democratic skills and citizenship, student–adult relationships, and school ethos. They also

found evidence of a positive impact on peer relationships, student health, and academic achievement (Mager & Nowak, 2012). Research shows that increasing student growth in these areas could lead to improvements in academic success, social and emotional learning, and overall well-being. Additionally, research indicates that the more students participate in the decision-making process, the broader the effect on the sense of belonging within the school (Magar & Nowak 2012).

### ***Restorative Approaches***

The social science of restorative practices offers a common thread to tie together theory, research, and practice in diverse fields such as education, counseling, criminal justice, social work, and organizational management. Restorative approaches are a broad term used to describe strategies that help to build community and relationships while managing conflict with dignity and respect. Restorative approaches are those that are intentionally constructed to proactively build community, improve relationships, and help students work together to address conflict when it occurs. These strategies focus on addressing harm that has been done as opposed to focusing on a violation of a policy or rule. This focus works on not only righting wrongs that have occurred but also preventing future incidents from occurring (Gregory et al., 2016).

While little research has been completed regarding the impact of restorative practices, recent studies suggest that restorative approaches decrease the number of racial disparities in disciplinary actions and occurrences of misbehavior (Grossman & Portilla, 2022). Evidence of their effects on bullying and absenteeism is more mixed, but research shows that the methods often lessen these struggles as well.

Restorative practices do not replace disciplinary measures but instead, provide an alternate approach to classroom management. Educators have begun to recognize that traditional methods such as out-of-school suspensions, have resulted in students who are at higher risk for chronic absenteeism, are involved with the justice system, and have a greater risk of dropping out before graduating from high school (Kirsch, 2022). By utilizing the framework of restorative practices, schools can focus on building trust and salvaging trust when it has been lost (Smith et al., 2018).

Restorative practices are connected in many ways to both social-emotional learning and a sense of belonging. Many districts implement restorative approaches in a tiered approach where all students participate in community-building activities while students who have a greater need, such as those who have been involved in a conflict, participate in a restorative process (Grossman & Portilla, 2022). Expressing one's feelings in a safe environment and working to build on emotional and social skills results in healthier classroom communities (Silverman & Mee, 2018).

Utilizing restorative approaches in the school setting has been shown to increase positive relationships between teachers, students, and peer groups while resulting in a reduction in overall disciplinary incidents (Gregory et al., 2016). As districts have focused on the importance of relationships between students and educators, many schools have implemented these strategies. Relationships between students and staff as well as those among peers have been found to have a significant impact on school climate as well as a sense of belonging.

**Summary**

When identifying essential elements for supporting student success and overall well-being in school, a sense of belonging is repeatedly identified as a critical factor. Sense of belonging encompasses the feeling of being connected to a larger community, such as a classroom, school, or academic institution. It involves feeling accepted, supported, and valued by peers, teachers, and other members of the school community. When students have a strong sense of belonging, they perceive themselves as important members of the school community and believe that they can succeed academically. Schools offer unique opportunities to improve belonging for school-aged children (Allen et al., 2018).

Students with a sense of belonging in school feel socially connected, supported, and respected. They trust their teachers and their peers, and they feel as if they fit in at school. They are not worried about being treated as a stereotype and are confident that they are seen as a person of value (Romero, 2018). Nurturing a strong sense of belonging in the upper elementary school setting is essential for students' academic success and overall well-being. By creating a supportive and inclusive school environment where students feel connected, valued, and respected, educators can inspire students to reach their full academic potential.

Considering the importance of a sense of belonging on a student's academic achievement and social-emotional well-being, this study aims to identify the impact of a teacher and student's sense of belonging on academic progress and attendance. Most studies reviewed detail the experiences and outcomes of secondary students in grades six

through twelve. To gain a better understanding of the impact of sense on elementary-age students, the data for this study focuses on students in grades three through five.



### **CHAPTER III**

#### **Methodology**

The literature review highlighted the defining features of a sense of belonging and identified factors that have been shown in past research to have an impact on a sense of belonging. A common theme throughout the literature review is the importance of one's sense of belonging and its impact on academic success and social-emotional well-being. Much of the published research on the sense of belonging in the school setting focuses on secondary and post-secondary school settings. It was difficult to find research focused on the elementary-age student.

The elementary years are foundational in a student's educational career. As a student progresses through their academic journey, fostering a strong sense of belonging among students can have a profound impact on their academic success. This sense of belonging in the school environment plays a vital role in shaping students' overall well-being, motivation, and academic achievement. Many skills that are learned early on are utilized in lifelong learning. By examining the sense of belonging at this stage of life, one can better meet the needs of all learners. Educators can use this knowledge to be intentional in their practices, in turn positively impacting their students' social-emotional development and overall mental health and well-being.

This methodology contains the specific procedures that were utilized throughout the action research study to identify, assemble, and evaluate the data collected on student and family sense of belonging and the impact that it has on academic success and attendance. The purpose of this methodology is to provide an in-depth explanation of the

process that was used throughout the research study to establish its credibility, reliability, and validity.

### **Purpose**

The connections that one feels with the educational environment, whether good or bad, have influence. The feeling of belonging is impacted by school climate and culture as well as the individual actions that are taken by the adults and peers that students encounter each day. Students' sense of belonging is linked to positive academic outcomes (Osterman, 2000). By better understanding the impact of a sense of belonging, educators can take intentional actions to ensure students feel connected, accepted, and included in the school environment. Belonging is a major factor in a child's social-emotional development and impacts overall mental health and well-being.

This action research study seeks to explore the impact that a sense of belonging has on academic success and student attendance. To facilitate and guide this research plan, three questions were developed:

1. What is the relationship between a sense of belonging and student attendance?
2. What is the relationship between a sense of belonging and academic growth?
3. What is the relationship between a family's sense of belonging in the school environment, attendance, and academic growth?

By developing a better understanding of the impact of a sense of belonging, educators can take intentional actions to ensure students feel connected, accepted, and included in the school environment. The information gained from this study will help to identify ways to be intentional in developing a stronger sense of belonging in the school

environment. By strengthening students' sense of belonging in the upper elementary years, students will be able to better meet the challenges that are set forth as they continue to secondary school.

The goal of this research is to identify the impact between a sense of belonging and student attendance and academic growth. This study will involve data collected from students in grades three, four, and five. The outcome of this study will provide district leaders with data to support a focus on the sense of belonging as well as identify how a sense of belonging impacts attendance and academic growth.

### **Setting**

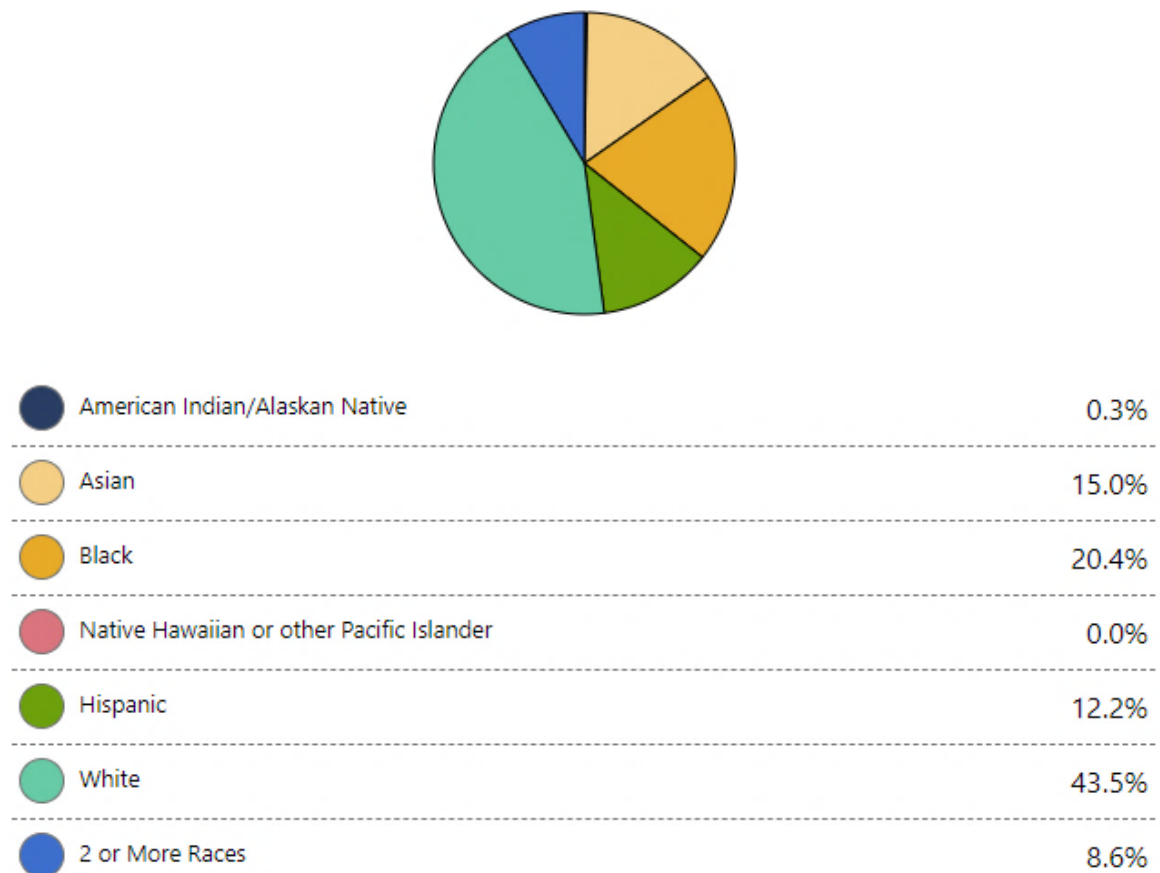
This capstone project examines the impact of a sense of belonging on grade three, four, and five students enrolled in the Central Dauphin School District. This school district, located in Central Pennsylvania, is a large suburban district consisting of nineteen brick-and-mortar buildings and one cyber academy. Thirteen of the school buildings house elementary students in kindergarten through grade five. For this study, data pertaining to approximately 2,000 students will be analyzed.

In the past five years, enrollment in the Central Dauphin School District has increased each year. In addition to the increasing number of students enrolled, the number of students receiving free and reduced lunch and those identified as English Language Learners has also increased. The average home price within the school district is \$219,900. The median home value is \$199,800 and the median household income within the district is \$75,567. New housing developments are being established throughout the district, resulting in some school buildings nearing capacity.

With a total student membership of over 12,500 students, the Central Dauphin School District is the eighth largest district in the Commonwealth and the largest of the ten school districts in Dauphin County. Encompassing an area of 118.2 square miles, students are transported from urban, rural, and suburban areas to attend one of the nineteen schools within the district. Of the over 12,500 enrolled students, 55.7% qualify for free or reduced lunch and 13.1% are identified as English Language Learners. As noted in Figure 6, students come from a variety of backgrounds.

**Figure 6**

*Percent of Students Enrolled by Race/Ethnicity*

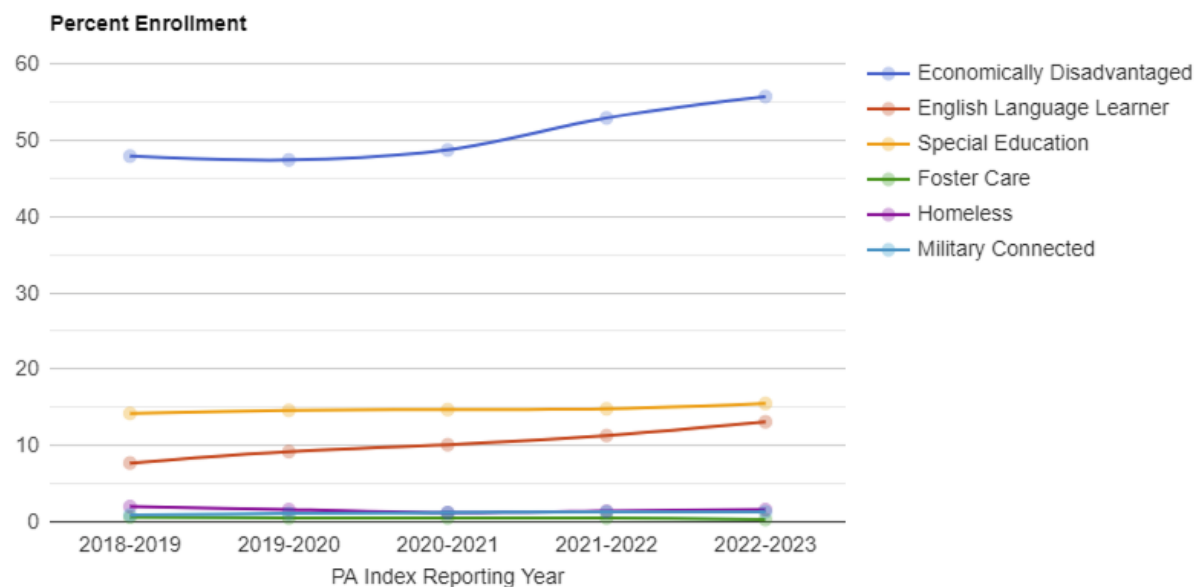


*Note.* The pie chart shows the percentage of students enrolled in the Central Dauphin School District organized by race/ethnicity. From “District Fast Facts – Central Dauphin School District – Future Ready PA Index” [Futurereadypa.org](http://Futurereadypa.org).

Student enrollment in the Central Dauphin School District has seen an increase over the past five years. Figure 7 shows the Percent Enrollment organized by student group. One area to note is the large increase in the percentage of students identified as economically disadvantaged. This group has increased from 47.9% during the 2018-2019 school year to 55.7% in the 2022-2023 school year.

**Figure 7**

*Percent Enrollment Organized by Student Group*



*Note.* This chart shows the percentage of students enrolled in the Central Dauphin School District organized by student group. From “District Fast Facts – Central Dauphin School District – Future Ready PA Index” [Futurereadypa.org](http://Futurereadypa.org).

The district is divided into two distinct feeder patterns with six elementary schools and two middle schools on one side feeding into Central Dauphin High School and seven elementary schools and two middle schools on the other side, feeding into Central Dauphin East High School. As of the 2022-2023 school year, the district also offers an online option. This school, known as CD Cyber Academy, is open to any student in the district as an alternative to traditional brick-and-mortar school.

The student enrollment in Figure 7 provides a snapshot of the district. Individual schools within the district differ greatly. As of the current school year, seven out of thirteen elementary schools are designated by the Pennsylvania Department of Education as Title 1 schoolwide programs. To be eligible for Title 1 schoolwide programs, schools must meet the required 40% poverty level. The seven identified elementary schools receive funding from the federal government to improve educational opportunities. While there are currently seven schools identified as Title 1, there are an additional four schools that meet the 40% poverty criteria and are eligible for Title 1 but not identified as such.

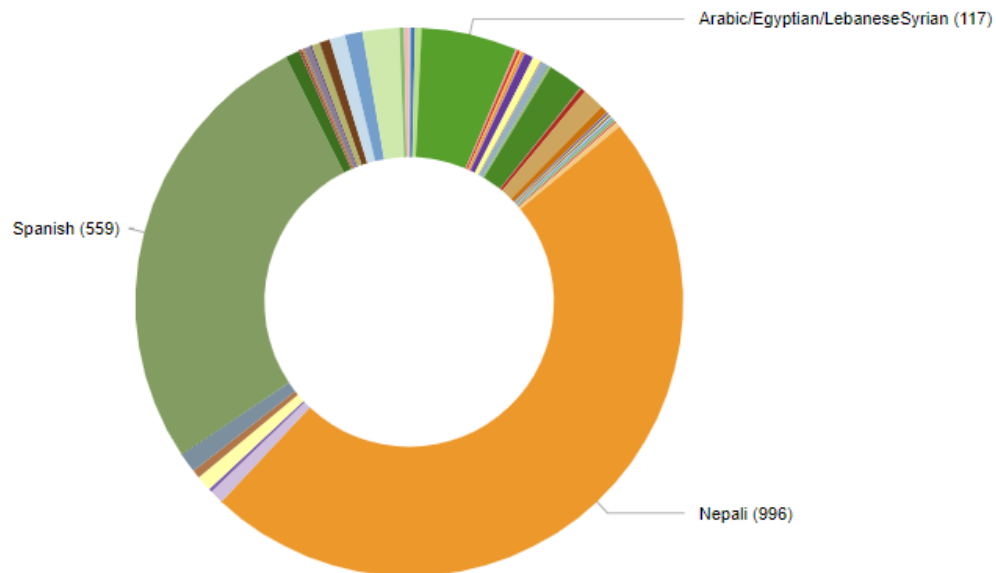
Eleven out of the thirteen elementary schools are designated as Community Eligibility Provision (CEP) sites. To be identified as a community-eligibility provision site, the disadvantaged student percentage population at a school needs to be at or around 40% or higher of the total student population. Students attending schools designated as CEP sites are eligible to receive a completely reimbursable meal, breakfast, and lunch, each school day at no cost.

Just over 2,000 of the 12,500 students enrolled in the district are identified as English Language Learners. This equates to 16% of the student population. Of the many languages spoken by English language learners within the district, the top three languages

spoken are Nepali, Spanish, and Arabic. Figure 8 shows a visual of the many languages spoken within the district.

**Figure 8**

*Breakdown of Language Spoken*



*Note.* This chart shows the breakdown of languages spoken by English Language Learners in the Central Dauphin School District. From “Elevation Dashboard” <https://app.ellevationeducation.com/>

### **Participants**

The participants for this capstone research project include students currently enrolled in grades three, four, and five in one of the thirteen brick-and-mortar schools. To protect the anonymity of the students participating, data was analyzed by overall class and building, not specifically by individual students.

For the academic data collection, student benchmark data included only students who were present for both the initial fall benchmark assessment and then the mid-year winter benchmark assessment. Data for students who moved into the district after benchmarks had been completed were not included in the class or building data. Table 1 contains a list of the number of classes, by building, as well as the total student enrollment at each grade level. To ensure data is confidential, each school has been assigned a letter.

**Table 1**

*Total Buildings, Classes, and Students*

School	Grade	Classes	# Students
A	3	2	45
A	4	3	53
A	5	2	32
B	3	2	46
B	4	2	40
B	5	2	41
C	3	3	76
C	4	4	87
C	5	3	69
D	3	2	44
D	4	2	52
D	5	2	32
E	3	3	69
E	4	2	50
E	5	3	65
F	3	5	117
F	4	6	140
F	5	5	133
G	3	2	28
G	4	1	26
G	5	2	35
H	3	4	104
H	4	5	120
H	5	4	115



I	3	3	73
I	4	3	73
I	5	3	63
J	3	4	81
J	4	3	75
J	5	4	87
K	3	6	139
K	4	5	127
K	5	6	147
L	3	4	73
L	4	4	77
L	5	4	85
M	3	4	86
M	4	5	113
M	5	4	89

*Note.* Table 1 is a list of buildings separated by grade, number of classes, and number of students. A total of 2,089 students in 133 classes spanning grades three through five are included in the data collection for this project.

For both the attendance and survey data, all students enrolled in the district at the time of data collection were included in the sample. Survey data was limited to those students who completed the survey.

Data regarding parents' sense of belonging was collected using the same survey tool as the students. The parent survey link was sent to all district families multiple times throughout four weeks. This link came from the Director of Public Relations as well as in emails from building principals. Additional attempts to encourage parent participation were garnered through social media platforms and posters displayed in the school buildings. All parent responses were anonymous with no way for the district to track the identifying factors of those who participated.

The researcher has worked in education for the past 22 years. The researcher has earned a bachelor's degree in early childhood education and Elementary Education from Bloomsburg University of Pennsylvania and continued her education at The Pennsylvania State University to earn a master's degree in curriculum and instruction and obtain a K-12 Principal certificate. She then attended the California University of Pennsylvania, earning her Superintendent Letter of Eligibility.

The researcher started her career teaching fifth grade, then moved on to serve as principal of a large suburban elementary school. She currently works as the Director of Pupil Services in the eighth largest school district in Pennsylvania.

### **Research Plan**

Before conducting any research, in addition to obtaining permission from the superintendent of the district to be studied, the researcher obtained approval from the PennWest Institutional Review Board on July 17, 2023, with an expiry of July 13, 2024 (Appendix A). Upon receipt of Institutional Review Board approval, this study was completed in multiple phases.

### ***Interventions***

This action research project focused on the impact that a sense of belonging in the school environment has on two different areas. These areas, academic progress, and attendance, were looked at in relation to both student sense of belonging in the school setting as well as parent and family sense of belonging within the school setting. Both survey data and secondary data were collected for use in this project.

*Panorama Survey*

Survey research is commonly used to assess students' sense of belonging through a series of questions designed to measure their perceptions of acceptance, support, and inclusion within the school community. Surveys focused on the sense of belonging often inquire about students' feelings of connectedness to peers, teachers, and the overall school environment. By collecting and analyzing survey data, a researcher can gain valuable insights into the factors that enhance or inhibit a student's sense of belonging, allowing schools and school districts to implement targeted interventions to improve student outcomes. The use of surveys can also provide researchers with data regarding a student cohort's overall sense of belonging. This information, when analyzed alongside other data such as academic growth and average attendance can assist researchers in identifying potential impacts.

To identify student a sense of belonging, a survey tool was utilized. This tool, the Panorama Survey measures both student and family perceptions of teaching and learning, culture and climate, and student experiences in the classroom and school. It is a research-based student perception survey that collects feedback data for teachers & school administrators. The survey contains multiple sections, each with a focus on gaining insights into engagement, communication, school climate, and culture. For this action research, the researcher focused specifically on one part of the survey, School Belonging. This part of the survey asks students questions about how much they feel they are valued members of the classroom community. It consists of four questions, see Table 2, each presented in a Likert scale format with five responses.

**Table 2**

Table 2 provides a list of questions, specific to belonging, that are asked of students in the Panorama Student Survey.

### *Classroom Belonging*

*How much do students feel that they are valued members of the classroom community?*

Grades 3-5

Question	Response Options				
How well do people in your class understand you as a person?	Do not understand at all	Understand a little	Understand somewhat	Understand quite a bit	Completely understand
How connected do you feel to the teacher in this class?	Not at all connected	Slightly connected	Somewhat connected	Quite connected	Extremely connected
How much respect do students in this class show you?	No respect at all	A little bit of respect	Some respect	Quite a bit of respect	A tremendous amount of respect
Overall, how much do you feel like you belong in this class?	Do not belong at all	Belong a little bit	Belong somewhat	Belong quite a bit	Completely belong

The Family-School Relationship section of the Panorama Survey was used to identify the sense of belonging in relation to parents. One question from this survey was the focus of this action research. The question, “How big of a problem is the following issue for becoming involved in your child’s school: You do not feel a sense of belonging with your child’s school community.” is one of a series of potential barriers to family engagement and is used to determine how favorable families feel toward the school environment. Families select from one of five options to identify how much of a barrier they see the statement as.

### *Acadience Reading K-6*

To look at the impact of a sense of belonging on academic success the Acadience Reading K-6 Assessment was utilized. Acadience Reading, formerly known as DIBELS,

is a widely used assessment tool in schools to help educators identify students who may be at risk for reading difficulties. This tool assesses various aspects of reading, such as fluency, decoding, and comprehension, to provide valuable insights into each student's reading abilities. Acadience Reading K-6 is a universal screener that is administered three times a year to all students in kindergarten through grade six. The assessment is quick to administer and provides detailed information regarding student proficiency as well as growth over time.

Among other things, Acadience Reading is used to examine the effectiveness of school-wide literacy supports. From a systems level, educators can use Acadience Reading to examine the effectiveness of a school's system of instructional support. At a student level, Acadience Reading can be used to identify the rate of growth over time, identify at-risk students, identify areas where instructional support is needed, and monitor at-risk students while they are receiving targeted interventions (Good et al., 2011).

Acadience Reading can be used as either a benchmark assessment and/or for progress monitoring. Benchmark assessment refers to assessing all students within a school or grade three times per year to identify those who may be at risk for reading difficulties. Benchmark assessments are conducted using grade-level content. The measures administered for benchmark assessment vary by grade, and time of year, and include those measures that are most relevant for making instructional decisions at that time. One important aspect is comparing the fall benchmark composite scores to the winter benchmark composite scores to determine the percent growth achieved during this period. This comparison helps educators track each student's development in reading skills and identify areas where additional support may be needed. By analyzing the

percent growth, teachers can adapt their instruction to meet student needs more effectively and work to ensure overall continued academic improvement both for individuals and groups of students.

Progress monitoring refers to testing students who may be at risk for future reading difficulty in the skill areas in which they are receiving instruction, to ensure that they are making adequate progress. Progress monitoring can be conducted using grade-level or out-of-grade materials, depending on the student's needs. Decisions about the skill areas and levels to monitor are made at the individual student level (Good et al., 2011).

This action research uses the Acadience Reading as a benchmark assessment. In the district, the use of Acadience Reading benchmark assessment is an important part of Multitiered Systems of Support (MTSS). All elementary schools within the district utilize the Acadience Reading data collected to identify instructional needs for grade-level cohorts, classes, and individual students.

For benchmarking purposes, students in grades three, four, and five are administered three subtests. These include Oral Reading Fluency (ORF), Retell, and Maze. For Oral Reading Fluency, a student is provided three passages, each in isolation. The test administrator times the student reading for one minute and records errors on the scoring booklet. There is a focus both on the number of words read as well as the accuracy of the reading. For the retell portion of the assessment, immediately after each passage, the student is timed for one minute in which they retell what they read. The test administrator records the number of words retold as well as the quality of the retelling based on set criteria.

Maze assesses the student's ability to construct meaning from text using word recognition skills, background information, and prior knowledge, familiarity with linguistic properties such as syntax and morphology, and reasoning skills (Good et al., 2011). For the Maze, the student is presented with a reading passage in which some words are replaced by a multiple-choice box that includes the original word and two distractors. The student reads the passage silently and selects the word in each box that best fits the meaning of the sentence (Good et al., 2011). The Maze can be administered either one-on-one or in a group setting. It is a timed assessment and students receive a score based on the number of correct responses within the time allotted.

The test administrator scores all sub-tests, and an overall composite score is assigned. Each of the sub-tests as well as the composite score are analyzed and students are grouped into one of one of four categories for each subtest, well below benchmark, below benchmark, benchmark, or above benchmark. For this capstone project the composite scores from fall 2023 and winter 2024 will be utilized.

### ***Attendance***

The Central Dauphin School District utilizes eSchools as the Student Information System (SIS). Student attendance is tracked through eSchools. Homeroom teachers take attendance at the start of the day and each school has an attendance secretary who reconciles student attendance based on student absences and the board policy pertaining to what constitutes an excused or unexcused absence. For this action research, average monthly attendance will be utilized. This data will be analyzed by individual building and grade level.

By analyzing Panorama survey data alongside information on average daily attendance rates, patterns and trends that highlight the influence of students' sense of belonging on their attendance can be identified. This research approach provides insights into how cultivating a strong sense of belonging among students can positively impact their overall engagement and commitment to attending school regularly.

### **Research Design, Methods & Data Collection**

The researcher used a quantitative approach, specifically correlational research, to answer the research questions. Quantitative research is a method used to collect and analyze numerical data to understand relationships, patterns, and trends in various fields. Creswell (2002) noted that quantitative research is the process of collecting, analyzing, interpreting, and writing the results of a study. Quantitative researchers seek explanations and predictions that will generate other persons and places. “The intent is to establish, confirm, or validate relationships and to develop generalizations that contribute to theory” (Leedy & Ormrod, 2001, p. 102). The researcher chose this method because the intent of the research is the identification of factors and the understanding of those factors that influence an outcome. Quantitative data was collected through multiple data sources and then used in conjunction to identify the impacts of the various factors.

Correlational research is a method used in quantitative analysis to examine the relationship between two or more variables without manipulating them. This type of research helps researchers understand how variables are related and if there is a connection between them. By utilizing correlational research in quantitative analysis, researchers can identify patterns, trends, and associations between different variables,



providing valuable insights into various phenomena and relationships in the world around us.

The first stage of data collection focused on data in the form of survey responses. Two survey sources were used for this action research. Surveys were open for completion by students and families for four weeks, from November 17, 2023, through December 12, 2023. The first survey was completed by students and the second by family members. Both surveys utilized a Likert scale, a commonly used tool in surveys and research to measure people's attitudes and opinions toward a particular topic. Likert scales provide a structured way to collect and analyze data, offering insights into people's perspectives. The Likert scale in each of the surveys utilized provided five responses to select from.

The second stage of data collection focused on secondary data in the form of attendance and academic growth. Attendance is a crucial aspect of academic success, reflecting a student's commitment to learning and growth. These two data sources provide valuable insight into students' success in the school environment.

Attendance data for this study was collected in the form of average percent of monthly membership. This is measured by the percentage of days in which a student attends within a given timeframe, typically a month. Average monthly attendance is calculated by dividing the total number of days attended by the total number of school days held in that month, then multiplying by one hundred to get a percentage. This data was collected from eSchools and organized by grade and building.

The financial implications of this research study were minimal. The proposed budget included software. This software, Acadience Data Management is budgeted for

\$29,250 and the Panorama EWS Dashboard Survey is budgeted for \$20,000.00. All items utilized for this study were budgeted in the district general fund.

Indirect costs associated with the study included the devices used to complete the survey the staff supervising the survey completion and the staff administering, scoring, and reporting Acadience Reading subtests. These items as seen in Table 3, are budgeted in the daily operations of the district. Survey instructions and supervision of administration as well as administration of Acadience Reading were overseen by classroom teachers and fell under the duties within the current bargaining agreement contract. There was not a separate fund designated for any part of this research study.

**Table 3**

*Budget Overview for Acadience Reading and Panorama Survey*

ACCOUNT	DESCRIPTION	BUDGET
10-1110-00-1-00-00-210-650	Acadience Data Management	\$29,250.00
10-2260-13-1-00-00-613-650	Panorama EWS Dashboard Survey	\$20,000.00
TOTAL		\$49,250.00

Academic data was collected in the form of fall composite to winter composite percent growth. Initial data collection occurred during the scheduled fall benchmark testing window which took place from August 29, 2023, through September 22, 2023. Data was then collected during the winter benchmark testing window which took place from January 3, 2024, through January 26, 2024. Tables 4, 5, and 6 provide an overview of the data collection and timeline utilized for this research project.

**Table 4***Data Collection Plan and Timeline: Research Question 1*

RESEARCH QUESTION	DATA SOURCES	TIMELINE
What is the relationship between a sense of belonging and student attendance?	<p>Average Daily Attendance Data (SIS) – Data regarding the average daily attendance of grade-level cohorts at elementary buildings will be utilized. This will be collected from the district Student Information System (SIS).</p> <p>Sense of Belonging Survey Data – Data regarding student sense of belonging within the school environment will be collected utilizing the Panorama Survey tool.</p>	<p>Monthly – September 2023 through December 2024</p> <p>December 2023 – January 2024</p>

Question 1 asked: What is the relationship between a sense of belonging and student attendance? The researcher used a survey and secondary data to collect quantitative data. The Panorama Survey is administered to all students in grades three through twelve within the school district. Before the administration of the survey, guardians were notified of the timeline for survey completion, the questions being presented to students, the location of the survey, the length of the survey, voluntary participation confidentiality, and contacts. Within this communication, they were provided an opportunity to opt out of the survey if they so desired (see Appendix B). The survey was anonymous, and participants used a web link to access the survey. The survey consisted of four Likert-scale questions. The Likert-scale questions included a five-scale answer which included a neutral response.

Secondary data in the form of average daily attendance was collected using the student information system, eSchools. For question one, this data was collected over five months. The information was organized by building and grade level cohort.

**Table 5**

*Data Collection Plan and Timeline: Research Question 2*

RESEARCH QUESTION	DATA SOURCES	TIMELINE
What is the relationship between a sense of belonging and academic growth?	Acadience Benchmark Data – Data showing overall student growth from the Fall 2023 benchmark to the Winter 2024 benchmark will be collected.	September 2023 January 2024
	Sense of Belonging Survey Data – Data regarding student sense of belonging within the school environment will be collected utilizing the Panorama Survey tool.	December 2023 - January 2024

Question 2 asked: What is the relationship between a sense of belonging and academic growth? The researcher used a survey and secondary data to collect quantitative data. The details of the administration of survey were described in research question one.

Secondary data in the form of academic growth over a semester was collected utilizing the Acadience Data Management System. For this study, student reading data was utilized. Data was collected to show growth by building and grade level cohort. All district students in kindergarten through grade five participate in benchmark assessments, including the Acadience Reading tool. The data in this study focused specifically on students in grades three through five.

**Table 6***Data Collection Plan and Timeline: Research Question 3*

RESEARCH QUESTION	DATA SOURCES	TIMELINE
What is the relationship between a family's sense of belonging in the school environment, attendance, and academic growth?	<p>Sense of Belonging Survey Data – Data regarding student sense of belonging within the school environment will be collected utilizing the Panorama Survey tool.</p> <p>Acadience Benchmark Data – Data showing overall student growth from the Fall 2023 benchmark to the Winter 2024 benchmark will be collected.</p> <p>Average Daily Attendance Data (SIS) – Data regarding the average daily attendance of grade-level cohorts at elementary buildings will be utilized. This will be collected from the district Student Information System (SIS).</p>	December 2023 – January 2024

Question 3 asked: What is the relationship between a family's sense of belonging in the school environment, attendance, and academic growth? The researcher used a survey and secondary data to collect quantitative data. All guardians of students in the school district are provided the opportunity to complete the Panorama Survey. Before the administration of the survey, guardians were notified of the timeline for survey completion, the questions being presented to students, the location of the survey, the length of the survey, voluntary participation confidentiality, and contacts. Completion of the survey is voluntary. Guardians were invited to participate in the survey through email

and social media postings. The survey was anonymous, and individuals who chose to participate used a web link to access the survey. The survey consisted of Likert-scale questions. The Likert-scale question included a five-scale answer which included a neutral response.

Secondary data in the form of average daily attendance and academic growth over a semester was collected utilizing the Acadience Data Management System and eSchools. The data to respond to research question three was collected by overall building as opposed to individual grade level cohorts.

### **Validity**

This action research project was intended for use by the Central Dauphin School District to review the impact of a sense of belonging on academic growth and attendance and to identify intentional ways to increase student sense of belonging in the upper elementary grades. While this data is singular to the Central Dauphin School District, the outcome of this study was intended to apply to other school districts to be used as a comparison to their systems.

To ensure the validity and reliability of this research study, strategies were implemented to minimize potential bias, promote objectivity, and recognize study limitations. Hendricks (2017) described validity as the “trustworthiness of the study.” Lincoln and Guba (1985) defined validity with the following: credibility, transferability, dependability, and confirmability (as cited in Hendricks, 2013). Credibility was defined as an “accurate representation” of facts, interpretations, and conclusions (Hendricks, 2013). The collection of multiple data sources in this study helps to strengthen the validity of this action research.

For the survey, the Panorama Education Survey tool was utilized. This tool ensures anonymous participation and is protected by a secure server. Guardians were provided the opportunity to opt their child out of participation if they chose (Appendix C). Data from the survey tool was provided without personal identifiers. Survey results can only be accessed through the password-protected server.

The data collected about average student attendance was maintained in eSchools, the student information system utilized by the Central Dauphin School District. This data is protected by a secure server. Users accessing this data must have specific rights to the system and utilize the district single sign-on (SSO). Data collected for attendance was not specific to individual students but pertained to cohorts of students organized by grade level and building.

The Acadience Reading data used in this study is maintained within the Acadience Data Management system. This system provides data management and reporting for the assessments that fall under the Acadience system. The Acadience Data Management system is password protected and individual access is granted based on user role. For this study, no individual student data was analyzed. All data used was in the form of individual class or grade-level cohorts.

Ensuring validity and reliability is critical in conducting high-quality research, as it increases confidence in the findings and conclusions drawn from the data. Validity and reliability increase transparency and decrease opportunities to incorporate bias on the part of the researcher. Both Acadience Reading and the Panorama survey tools utilized are certified as valid and reliable measures of assessment.

The researcher used triangulation of the data to address the research questions. Triangulation, a methodology often employed in academic research, involves using multiple data sources, theories, methods, or investigators to gain a more comprehensive understanding of the phenomenon under study. This approach not only enhances the validity and reliability of the research but also provides a more nuanced and holistic perspective. Multiple data sources were utilized to provide a complete picture of the research questions. Quantitative data collected in the form of the Panorama Survey, Acadience Reading, and eSchools attendance answered how a sense of belonging in the school setting impacts student success. Survey data was then organized and compared to the data collected regarding attendance and academic growth. A correlation analysis was utilized to identify positive or negative relationships between the data sources. This method reduced the bias in the conclusion of the results.

### **Summary**

Chapter III highlighted the methodology selected for this action research study. A quantitative approach was utilized to identify the impact of a sense of belonging on student achievement and attendance. The researcher followed protocol to study a problem, research literature, develop and implement a project timeline, choose participants, and collect data. This study has been developed to ensure that the data collected during this study was both valid and reliable. Chapter IV will examine the results of the data collection process.



## CHAPTER IV

### Data Analysis and Results

The primary purpose of this research project was to determine the impact of a student's sense of belonging in the school environment on academic growth and attendance, as well as the impact of family members' sense of belonging in the school environment on student academic growth and attendance. The research plan outlined in Chapter III provides a detailed overview of the data collection process.

Research data in the form of Panorama Survey results from students and families was collected from participants across thirteen elementary schools. Using a Likert scale, this survey collected data about sense of belonging in the school environment. Average daily attendance data specific to grades three through five was collected from eSchools, the district student information system. Finally, student growth data was collected in the form of overall composite growth data from the Acadience Reading benchmark testing results.

This chapter analyses the data collected to examine the established research questions and determine how a student's sense of belonging in the school environment impacts both attendance in school and academic growth. This chapter also provides a detailed discussion and interpretation of the results in relation to the established research questions. Three research questions guided the data collection and analysis in this chapter:

1. What is the relationship between a sense of belonging and student attendance?
2. What is the relationship between a sense of belonging and academic growth?

3. What is the relationship between a family's sense of belonging in the school environment, attendance, and academic growth?

Each data set will be presented and analyzed to examine the impact of sense of belonging in the school environment. In doing so, this chapter will provide an overview of the current level of belonging that students and families hold within the school environment as well as correlation data illustrating the impact this has on academic growth and attendance. This analysis will help to inform the district and provide an opportunity for district leaders to examine current practices and their impact on student success.

Pearson's product-moment coefficient was utilized to correlate the data for this research study. This test, also referred to as Pearson correlation coefficient, is a measure of the strength of a linear relationship between two variables. Obtained by taking the ratio of covariance of the two variables of the numerical dataset, normalized to the square root of their variances. The method attempts to establish a line of best fit for the dataset. Using this line of best fit, a researcher can identify either a positive or negative correlation and the strength of the relationship between the variables that are a part of the dataset (Laerd Statistics, 2020).

Figure 9 provides an interpretation guide for the Pearson Coefficient Correlation. This guide connects the size of the correlation to the strength of the correlation. Based on Pearson's Coefficient Correlation, the closer to the value +1 that a correlation measure is, the higher the reliability of the data set. To investigate the three research questions that are the focus of the study, the correlation coefficient of each data set was calculated and

used to identify the impact of a student's sense of belonging on attendance and academic growth at each grade level studied.

**Figure 9**

*Pearson Coefficient Correlation Interpretation*

Size of Correlation	Interpretation
.90 to 1.00 (-.90 to -1.00)	Very strong positive (negative) correlation
.70 to .90 (-.70 to -.90)	Strong positive (negative) correlation
.50 to .70 (-.50 to -.70)	Moderate positive (negative) correlation
.30 to .50 (-.30 to -.50)	Weak positive (negative) correlation
.00 to .30 (.00 to -.30)	Negligible positive (negative) correlation

The data collected for this study focuses on students in grades three, four, and five and looks at the impact that sense of belonging in the school environment has on average daily attendance and academic growth. For clarity and context, the academic growth data examined in this study focuses on student composite scores on the reading benchmark data that is collected district wide. One may argue that this data source is limited and does not fully encompass academic growth. For the purpose of this study, this data point is one that is understood by educators and educational leaders district wide, is readily available and is research based.

## **Data Analysis and Results**

### ***Participants***

The Central Dauphin School district is located in central Pennsylvania. The district is the largest in central Pennsylvania and is identified as the eighth largest district in the state. Over 12,000 students are enrolled in one of twenty schools which include the thirteen K-5 elementary schools, four middle schools, two high schools, and one K-12 cyber academy. The data collected for the purposes of this study focused specifically on students in grades three, four, and five. Data pertaining to elementary students assigned to one of 133 classes was collected for this research. This data, consisting of the results from 2,089 students was collected and stored anonymously. To ensure confidentiality, each school and classroom was assigned a unique letter and number to associate with reported data.

Survey data was collected from both students and families. For this study over 2,000 students and 633 families participated in the survey. Surveys were administered twice during the study time period and results were compared. Student survey participation at each school was between 90% and 95%. Family survey participation varied from school to school and cannot be reported as a percent as it was open to all family members as opposed to the student survey participation which was assigned based on the total number of students enrolled.

### ***Data***

For a research study to be robust, multiple data sources must be incorporated into the analysis. For this capstone research project, three different data sources were utilized. Within these data sources, multiple pieces of data were collected and analyzed. The

Panorama Survey data was collected in two forms, one focused on students and the second on families. Both surveys were completed two times during the data collection period, first at the start of the 2023-2024 school year and then at the midpoint of the 2023-2024 school year. This data was organized by building and grade level and included data from over two thousand students in grades three, four and five.

The Panorama Survey was also administered to families. This survey was sent to parent through an email that requested participation. Across thirteen elementary schools, 633 family members participated in the Panorama Survey. This data was organized by school building.

Next, student attendance data was collected in the form of average daily attendance from August 26, 2023, through December 22, 2023. This data was organized by school and grade level. The average daily attendance was calculated using the number of students present in school compared to those enrolled. These numbers were directly related to the day-to-day enrollment.

Finally, data pertaining to student growth on the Acadience Reading benchmark was collected. In September, the Acadience reading benchmark was administered to all students in grade three, four, and five. This benchmark assessment was repeated in January 2024. Data collected in the form of student growth in the overall composite score was collected.

## **Results**

The data used in this research project was collected from over 2,000 students across 133 classes in nineteen elementary school buildings. The academic progress data

and attendance data offered a substantial amount of analysis and a plethora of outcomes, leading to data that can be further examined in future research opportunities. Despite being an easier source of data to analyze, the survey data played an essential role in the overall research study. The data amassed allowed for a comparison between the perceptions of the survey participants and the student data collected.

The data collected from the student information system, Acadience Reading K-8 Assessment, and the Panorama Survey tools provided the necessary details to address the three research questions that made up the focus of the study. In conclusion, the data derived from the included sources revealed correlations between the data results and various themes highlighted in the Literature Review section.

The three research questions that form the basis of this research study were derived from the Literature Review completed as the initial research basis. On the subsequent pages the results of the data collected will be provided. An overview of the survey responses and a review of results, organized by research question, are discussed below.

### **Panorama Survey Results**

Table 7 shows that results for each of the elementary schools participating in the research study. This data is organized by individual grade level at each building. The table reports the percent of survey responses that were favorable. For the purposes of this study, a favorable response is identified as the top two Likert scale options. Individuals who chose the neutral response are not counted within the percent favorable. The data from the survey questions pertaining to sense of belonging is combined to identify an overall sense of belonging at each building and grade level.

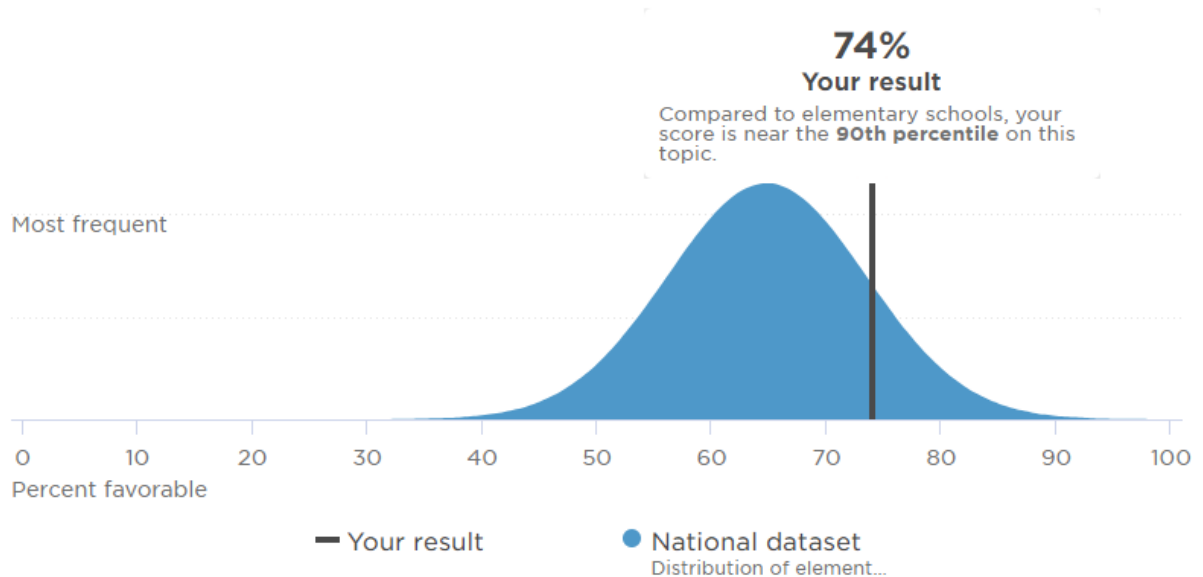
**Table 7***Sense of Belonging*

School	Grade 5	Grade 4	Grade 3
A	70%	76%	68%
B	70%	65%	75%
C	83%	80%	77%
D	79%	75%	75%
E	79%	72%	79%
F	76%	77%	77%
G	72%	65%	86%
H	79%	84%	73%
I	59%	65%	66%
J	76%	72%	80%
K	69%	68%	76%
L	54%	55%	75%
M	73%	77%	82%
N	88%	79%	88%

The overall student data was also reviewed for the purposes of this study. Results from all students in grades three, four, and five were combined to give an overall percent favorable for the subset of students. These results can be compared both to other schools and districts with similar demographics as well as to a national dataset. As illustrated in Figure 10, seventy four percent of Central Dauphin School District students in grades three through five reported a favorable sense of belonging. Compared to elementary schools in a national dataset, the score fell within the ninetieth percentile.

**Figure 10**

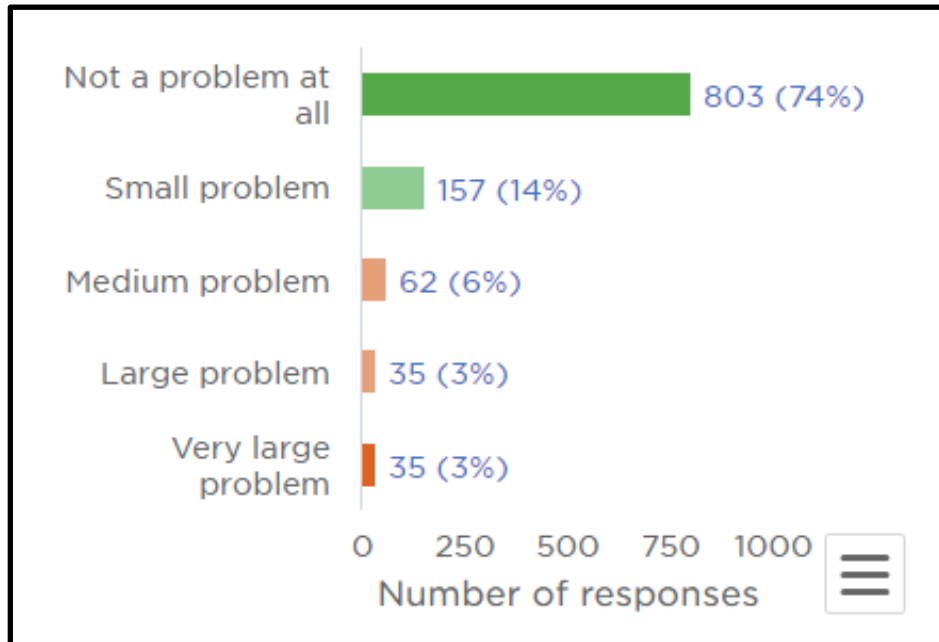
*Panorama Survey Data – Student Sense of Belonging Grades 3-5*



*Note.* Figure 10 shows the spring 2024 results of the Panorama Survey, specifically focusing on sense of belonging in grades three, four and five.

When looking at the sense of belonging and family members, eighty eight percent of survey responses showed a favorable response, “not a problem at all” or small problem” to the survey question focused on sense of belonging in the school environment. Figure 11 provides an overview of the family responses to the survey question. Like the student results, the percent favorable responses are derived from the top two Likert scale options. In this case, family members identifying lack of sense of belonging in the school setting as a barrier either as not a problem at all or as a small problem were included in the percent favorable.



**Figure 11***Panorama Survey Answer Distribution*

*Note.* Figure 11 shows the spring 2024 results of the Panorama Survey, specifically focusing on family sense of belonging with the school community.

### **Average Daily Attendance**

Table 8 provides the average daily attendance result for each school that was a participant in the research study. Data collected from the student information system, eSchools, was used for this result. This data was calculated by finding the total number of days of student attendance divided by the total number of days in the regular school year. Table 8 shows the average daily attendance organized by both school and grade level.

**Table 8***Average Daily Attendance*

School	Grade 5	Grade 4	Grade 3
A	92%	93%	91%
B	92%	93%	92%
C	92%	92%	92%
D	93%	92%	91%
E	93%	93%	92%
F	93%	92%	92%
G	94%	90%	90%
H	93%	92%	92%
I	93%	89%	92%
J	91%	93%	93%
K	91%	92%	92%
L	88%	91%	91%
M	92%	92%	92%
N	95%	91%	97%

**Academic Growth**

Table 9 shows the percent of academic growth by building and grade level. The information used to calculate this date includes the percent of students that met the grade level benchmark of the overall composite score for the fall assessment as compared to the percent of students that met the grade level benchmark score for the winter assessment.

The difference from the fall score to the winter school used for the purposes of this study.

**Table 9***Academic Growth*

School	Grade 5	Grade 4	Grade 3
A	7%	-9%	-12%
B	8%	11%	-1%
C	12%	5%	5%
D	0%	1%	-6%
E	3%	2%	-4%
F	-2%	-5%	3%
G	0%	-8%	0%
H	1%	0%	-2%
I	14%	0%	-9%
J	17%	5%	-4%
K	11%	4%	1%
L	7%	4%	2%
M	6%	5%	5%
N	3%	2%	0%

**Research Question 1**

What is the relationship between a sense of belonging and student attendance??

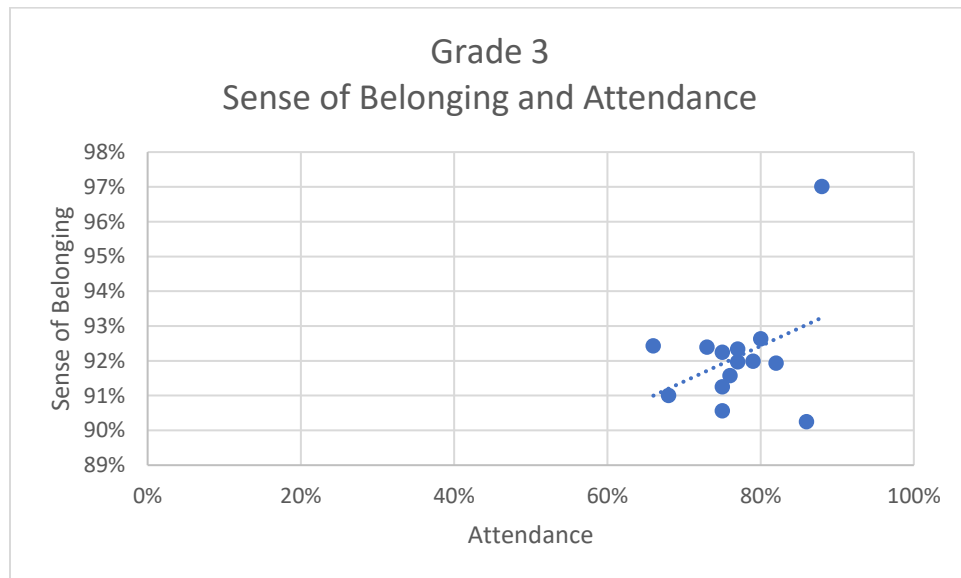
Table 10 contains the correlation data between sense of belonging and attendance.

When analyzing the data collected on student sense of belonging and attendance in grade three a Pearson correlation coefficient ( $r$ ) value of 0.321284089 was identified. This correlation coefficient results in a weak positive correlation.

**Table 10***Correlation Between Sense of Belonging and Attendance Grade 3*

	<i>Sense of Belonging</i>	<i>Attendance</i>
Sense of Belonging	1	
Attendance	0.32	1

Figure 12 provides the grade 3 correlation data specific to each school. This information is plotted on the graph and a line of best fit is identified. For grade 3, the line of best fit shows a positive slope. This indicates a positive linear relationship between variables. As such, one can assume that an increase in the value of sense of belonging will result in the increase in student attendance.

**Figure 12***Sense of Belonging and Attendance Grade 3*

When looking at the relationship between sense of belonging and attendance in grade 3 by specific buildings, most of the buildings are noted to have a moderate correlation. As seen in Figure 13, building N shows a high level of correlation between sense of belonging and attendance.

**Figure 13**

*Sense of Belonging and Attendance by Building Grade 3*

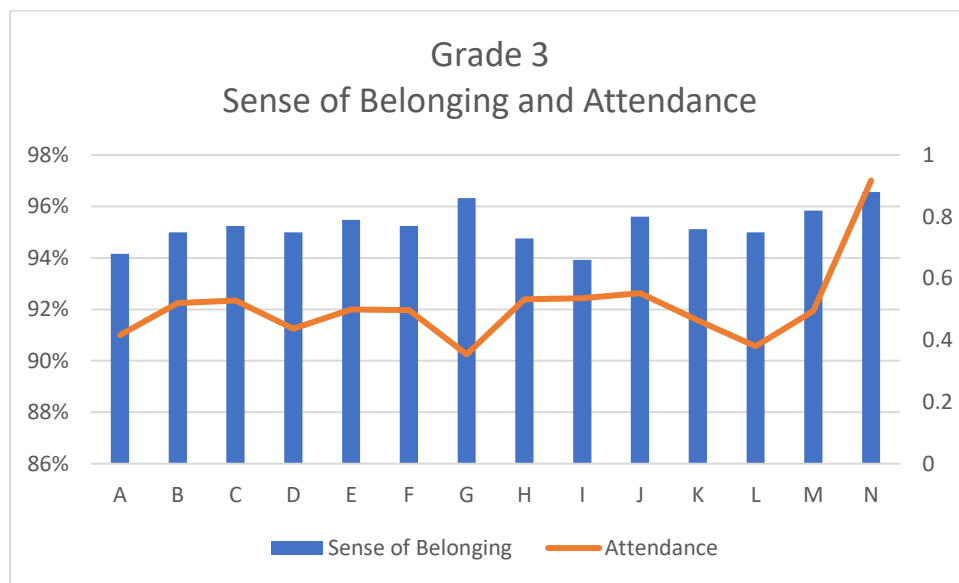


Table 11 contains the correlation data between sense of belonging and attendance. When analyzing the data collected on student sense of belonging and attendance in grade four, a Pearson correlation coefficient ( $r$ ) value of 0.499658821 was identified. This correlation coefficient results in a moderate positive correlation.

**Table 11**

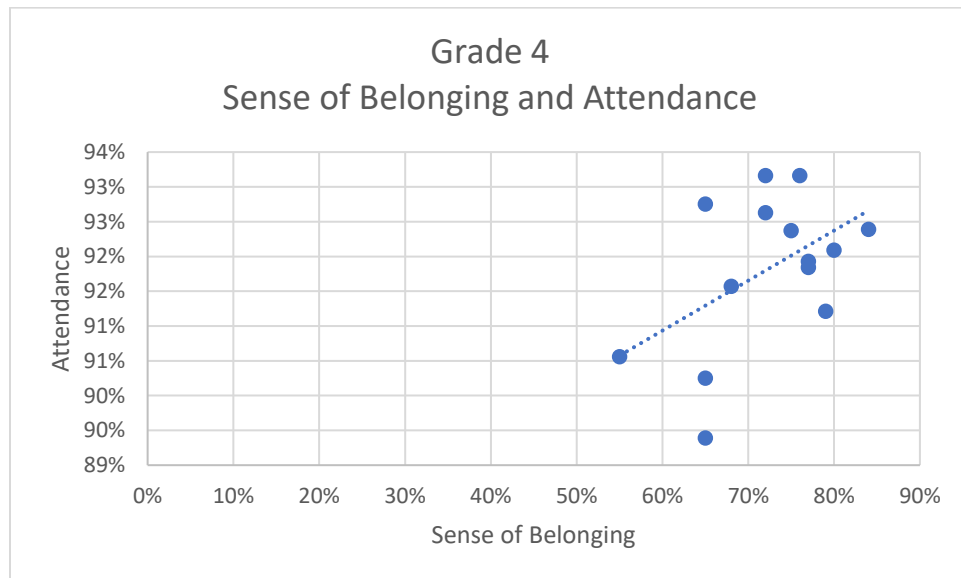
*Correlation Between Sense of Belonging and Attendance Grade 4*

	<i>Sense of Belonging</i>	<i>Attendance</i>
Sense of Belonging	1	
Attendance	0.50	1

Figure 14 provides the grade 4 correlation data specific to each school. This information is plotted on the graph and a line of best fit is identified. This line of best fit indicates a positive linear relationship between variables. As such, one can assume that an increase in the value of sense of belonging will result in the increase in student attendance.

**Figure 14**

*Sense of Belonging and Attendance Grade 4*



When looking at the relationship between sense of belonging and attendance in grade 4 by specific buildings, many of the buildings show a strong positive correlation. As seen in Figure 15, nine out of thirteen buildings included in the study show a strong positive correlation. The remaining four buildings, show a moderate positive correlation with no individual building showing a negative correlation. Overall, the data pertaining to student sense of belonging in grade 4 demonstrates a positive relationship between a sense of belonging and attendance.

**Figure 15**

*Sense of Belonging and Attendance by Building Grade 4*

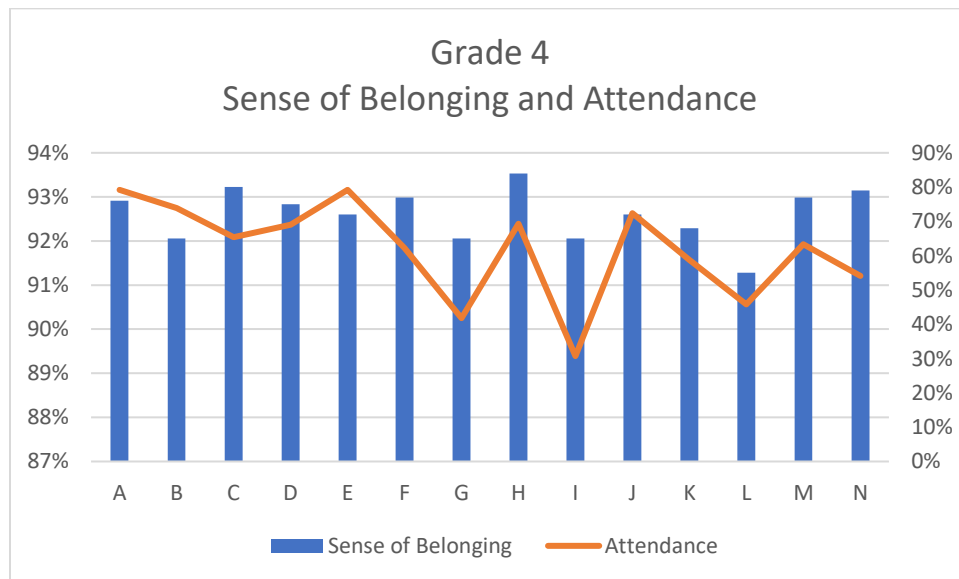
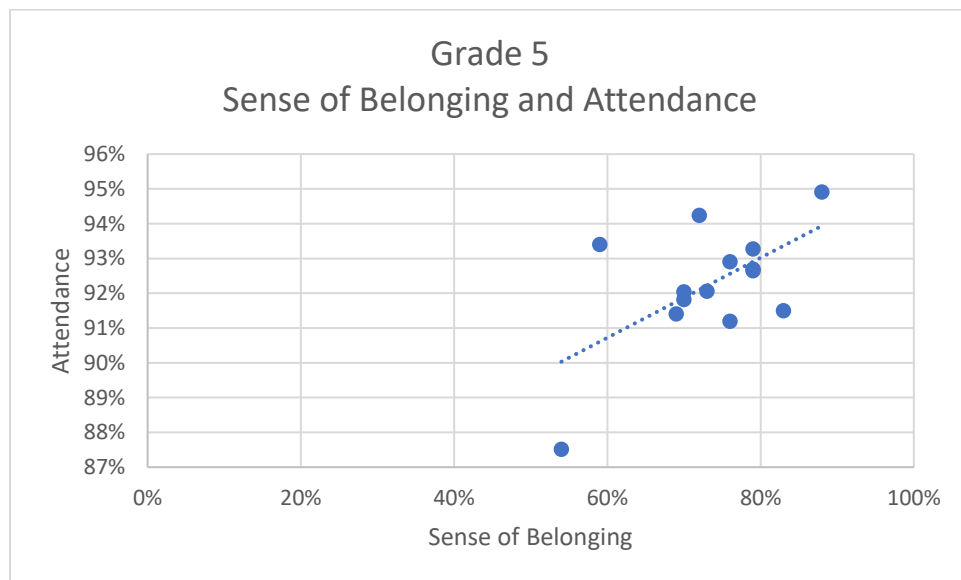


Table 12 contains the correlation data between sense of belonging and attendance. When analyzing the data collected on student sense of belonging and attendance in grade five, a Pearson correlation coefficient ( $r$ ) value of 0.591082166 was identified. This correlation coefficient results in a moderate positive correlation.

**Table 12***Correlation Between Sense of Belonging and Attendance Grade 5*

	<i>Sense of Belonging</i>	<i>Attendance</i>
Sense of Belonging	1	
Attendance	0.59	1

Figure 16 provides the grade 5 correlation data specific to each school. This information is plotted on the graph and a line of best fit is identified. Figure 16 includes a line of best fit which shows a positive slope. This indicates a positive linear relationship between variables. As such, one can assume that an increase in the value of sense of belonging will result in the increase in student attendance.

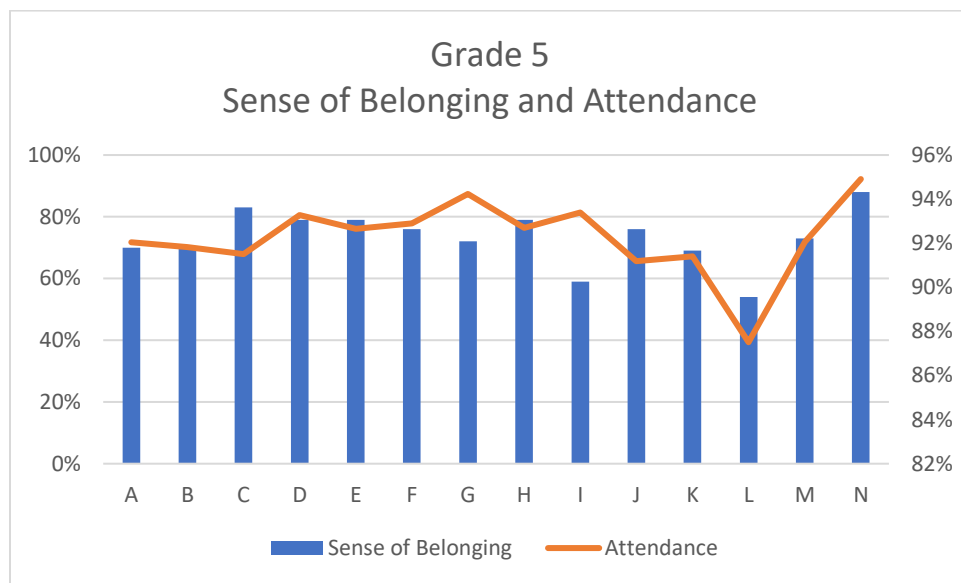
**Figure 16***Sense of Belonging and Attendance Grade 5*



When looking at the relationship between sense of belonging and attendance in grade 5 by specific buildings, all the buildings show a moderate positive correlation. The graph in Figure 17 illustrates the strong positive relationship between sense of belonging and attendance in all thirteen buildings.

**Figure 17**

*Sense of Belonging and Attendance by Building Grade 5*



## Research Question 2

What is the relationship between a sense of belonging and academic growth?

Table 12 contains the correlation data between sense of belonging and academic growth. When analyzing the data collected on student sense of belonging and academic growth in grade three, a Pearson correlation coefficient ( $r$ ) value of 0.579174212 was identified. This correlation coefficient results in a moderate positive correlation.

**Table 12**

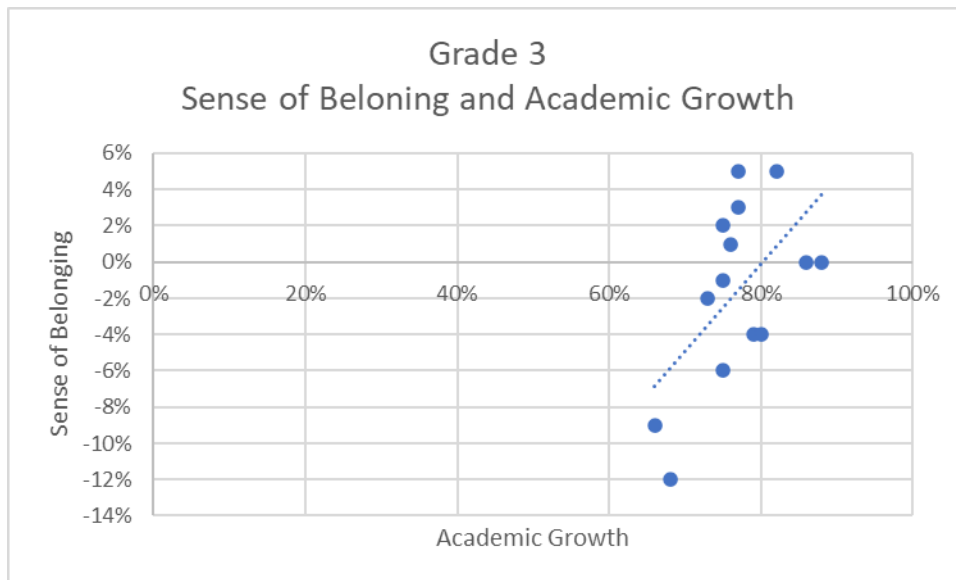
*Correlation Between Sense of Belonging and Academic Growth Grade 3*

	<i>Sense of Belonging</i>	<i>Academic Growth</i>
Sense of Belonging	1	
Academic Growth	0.58	1

Figure 18 provides the grade 3 correlation data specific to each school. This information is plotted on the graph and a line of best fit is identified. Figure 18 includes a line of best fit which shows a positive slope. This indicates a positive linear relationship between variables. As such, one can assume that an increase in the value of sense of belonging will result in the increase in student academic growth.

**Figure 18**

*Sense of Belonging and Academic Growth Grade 3*



When looking at the relationship between sense of belonging and academic growth in grade 3 by specific buildings, the resulting data is not consistent. As seen in Figure 19, many of the buildings show a moderate positive correlation with three showing a weak positive correlation. The remaining buildings show a negligible positive correlation with two individual buildings showing a negligible negative correlation. Overall, the data pertaining to student sense of belonging and academic growth in grade 3 demonstrates a positive relationship between a sense of belonging and attendance.

**Figure 19**

*Sense of Belonging and Academic Growth by Building Grade 3*

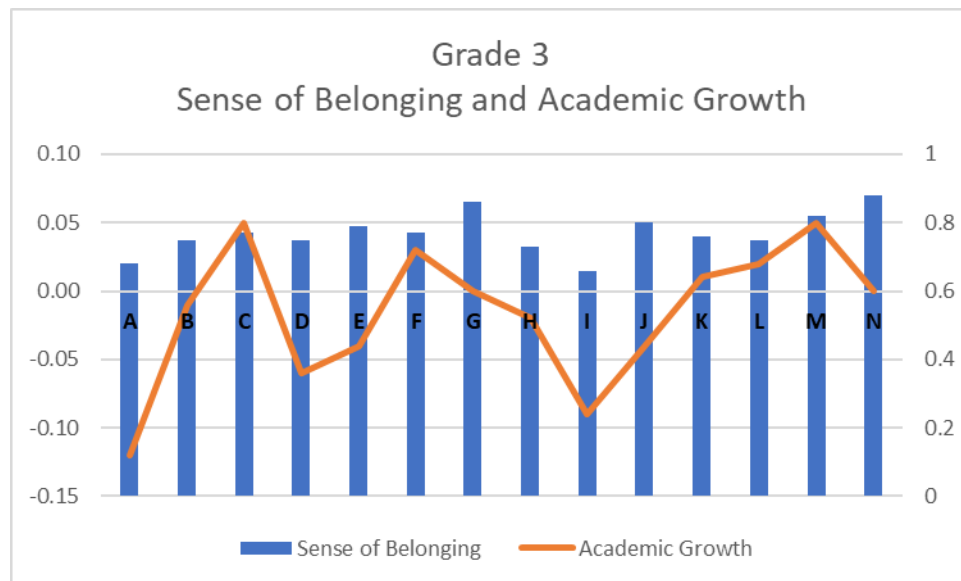


Table 14 contains the correlation data between sense of belonging and academic growth. When analyzing the data collected on student sense of belonging and academic growth in grade four, a Pearson correlation coefficient ( $r$ ) value of -0.153218195 was identified. This correlation coefficient results in a negligible correlation.

**Table 14**

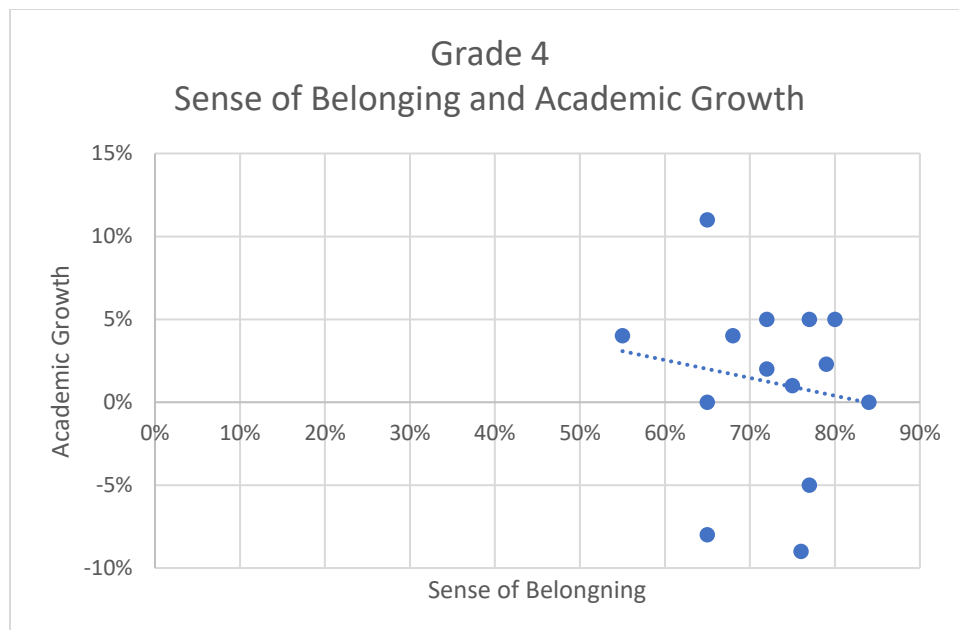
*Correlation Between Sense of Belonging and Academic Growth Grade 4*

	<i>Sense of Belonging</i>	<i>Academic Growth</i>
Sense of Belonging	1	
Academic Growth	-0.15	1

Figure 20 provides the grade 4 correlation data specific to each school. This information is plotted on the graph and a line of best fit is identified. The line of best fit shows the scatterplots far away from the line indicating sense of belonging cannot be judged directly or inversely proportional to academic growth in the data collected.

**Figure 20**

*Sense of Belonging and Academic Growth Grade 4*



When looking at the relationship between sense of belonging and academic growth in grade 4 by specific buildings, the resulting data is not consistent. As seen in

Figure 21, some of the buildings show a strong positive correlation with one showing a moderate positive correlation. The remaining buildings show a weak positive correlation with two individual buildings showing a weak negative correlation and two showing a negligible correlation. Overall, the data pertaining to student sense of belonging and academic growth in grade 4 demonstrates no correlation between sense of belonging and academic growth.

**Figure 21**

*Sense of Belonging and Academic Growth by Building*

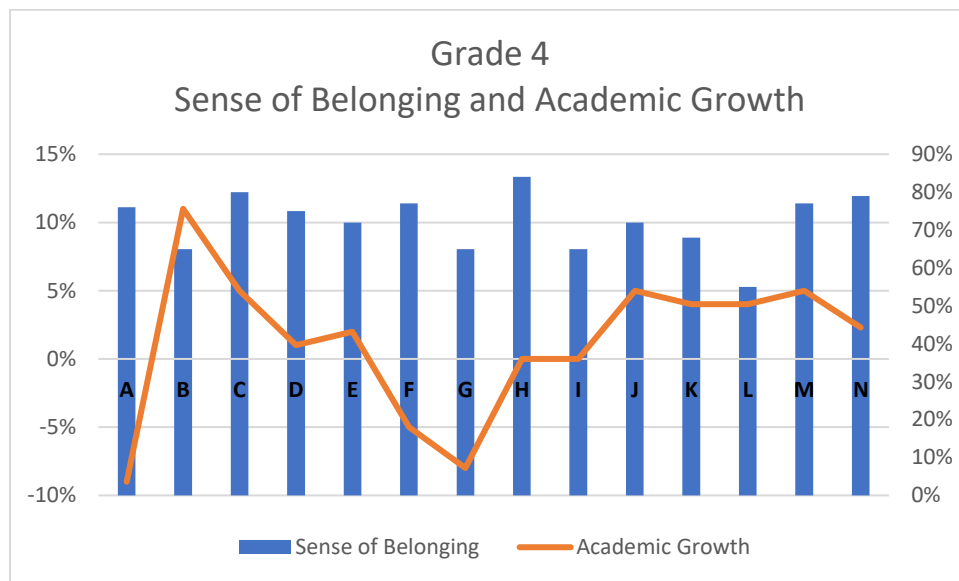


Table 15 contains the correlation data between sense of belonging and academic growth. When analyzing the data collected on student sense of belonging and academic growth in grade five, a Pearson correlation coefficient (r) value of -0.3218907 was identified. This correlation coefficient results in a weak negative correlation.

**Table 15**

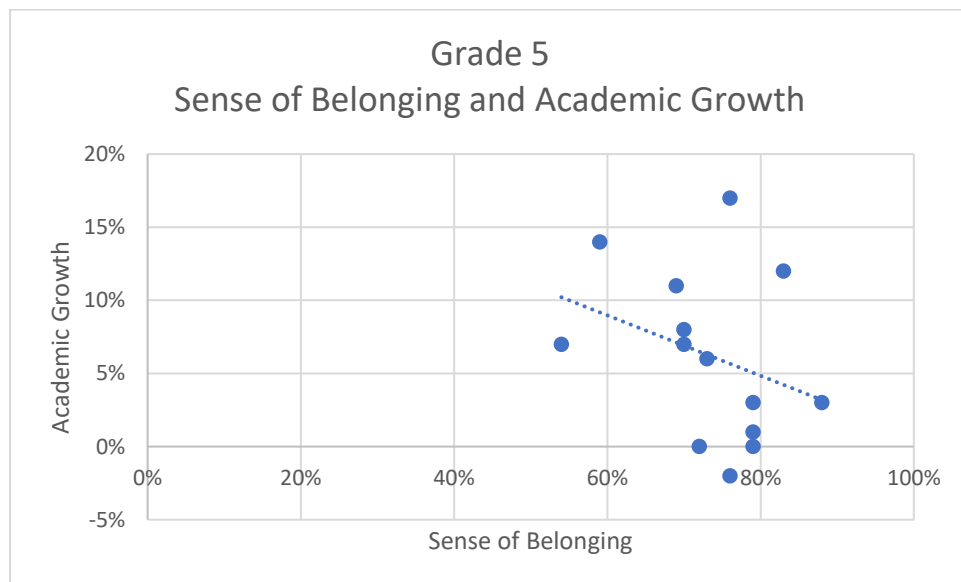
*Correlation Between Sense of Belonging and Academic Growth Grade 5*

	<i>Sense of Belonging</i>	<i>Academic Growth</i>
Sense of Belonging	1	
Academic Growth	-0.32	1

Figure 22 provides the grade 5 correlation data specific to each school. This information is plotted on the graph and a line of best fit is identified. Figure 22 includes a line of best fit which shows the scatterplots far away from the line. This indicates a result where sense of belonging cannot be judged directly or inversely proportional to academic growth in the grade four class data collected.

**Figure 22**

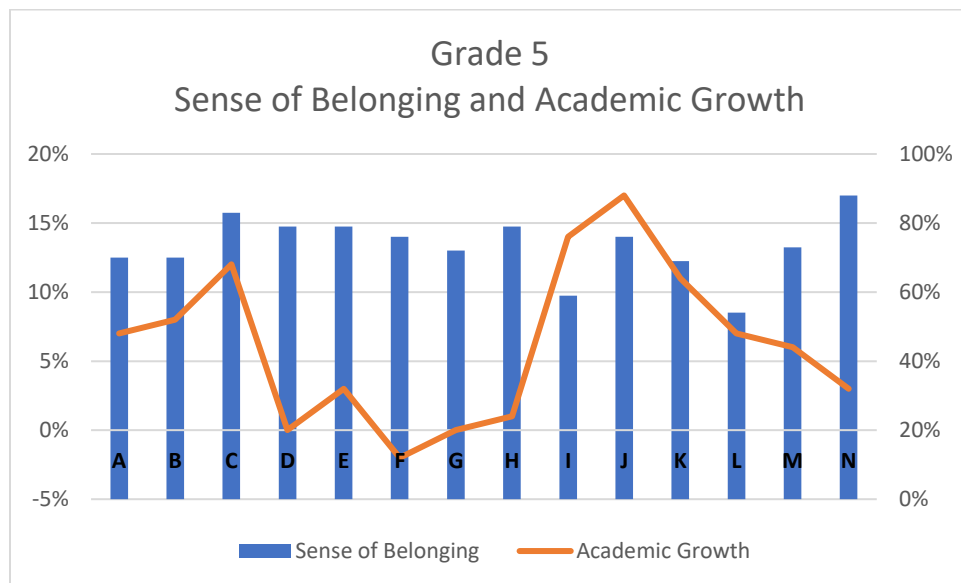
*Sense of Belonging and Academic Growth Grade 5*



When looking at the relationship between sense of belonging and academic growth in grade 5 by specific buildings, the resulting data is not consistent. As seen in Figure 23, ten of the thirteen buildings where data was collected show a positive correlation. Of the three buildings that did not show a positive correlation, one individual building showed a weak negative correlation, and two buildings showed a negligible correlation. Overall, the data pertaining to student sense of belonging and academic growth in grade 5 demonstrates no correlation between sense of belonging and academic growth, but as seen in Figure 23, this can be largely attributed to the variance in data between buildings included in the data collection.

**Figure 23**

*Sense of Belonging and Academic Growth by Building*



### Research Question 3

What is the relationship between a family's sense of belonging in the school environment, attendance, and academic growth?

When analyzing the data collected on student sense of belonging of parents in the school environment and attendance a Pearson correlation coefficient ( $r$ ) value of 0.127381195 was identified as seen in Table 16. This results in a negligible positive correlation.

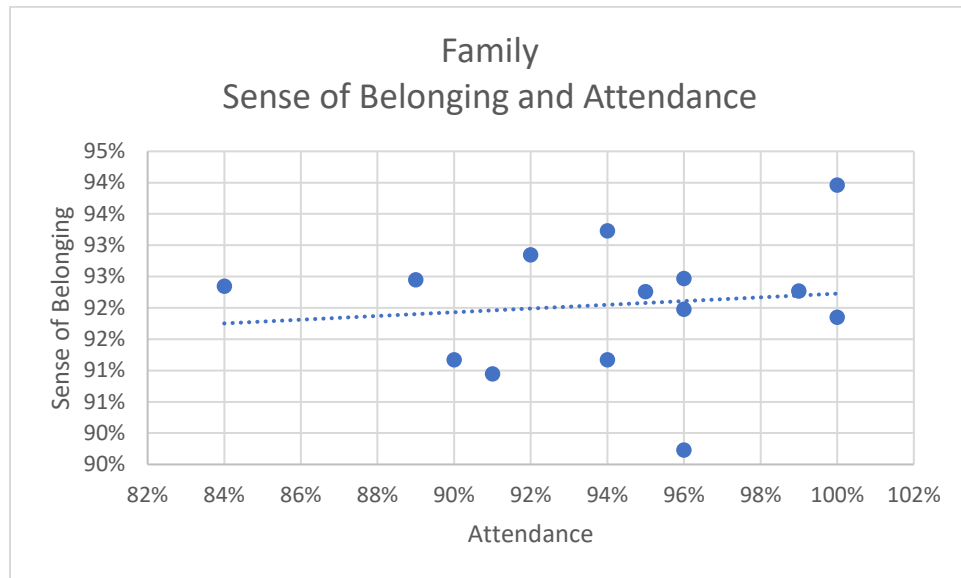
**Table 16**

*Correlation Between Sense of Belonging and Attendance - Family*

	<i>Sense of Belonging</i>	<i>Attendance</i>
Sense of Belonging	1	
Attendance	0.13	1

Figure 24 provides the family correlation data specific to each school. This information is plotted on the graph and a line of best fit is identified. Figure 24 includes a line of best fit which shows a slight positive slope, resulting in  $r$  being identified as positive.

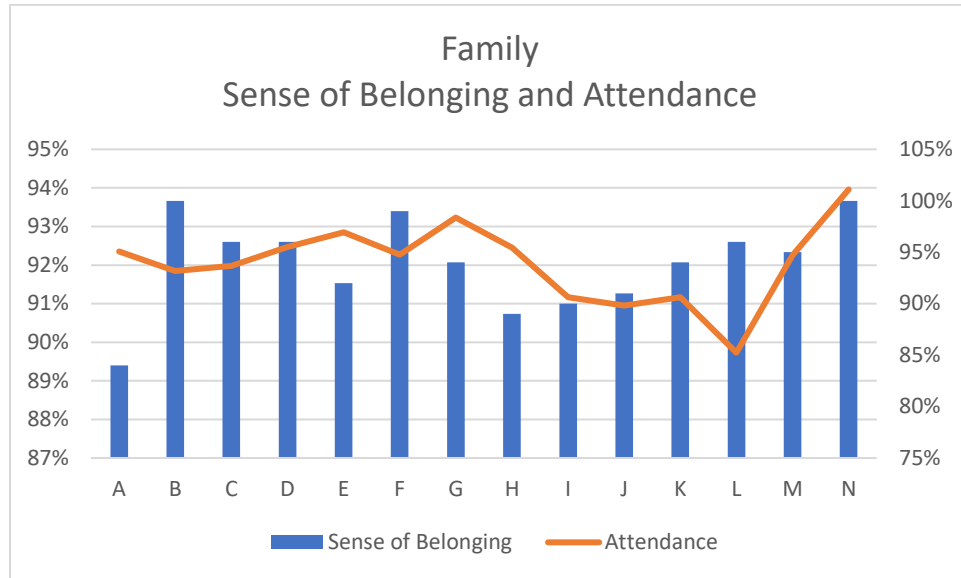


**Figure 24***Sense of Belonging and Attendance - Family*

When looking at the relationship between a family's sense of belonging and attendance by specific building, the resulting data shows a consistent slight positive correlation. As seen in Figure 25, all the buildings show a positive correlation with seven showing a moderate positive correlation. The remaining buildings show a moderate positive correlation with no individual building showing a negative correlation. Overall, the data pertaining to family sense of belonging and academic growth demonstrates a slight correlation between sense of belonging and attendance.

**Figure 25**

*Sense of Belonging and Attendance by Building – Family*



When analyzing the data collected on family sense of belonging in the school environment and academic growth, a Pearson correlation coefficient ( $r$ ) value of 0.417184453 was identified as seen in Table 17. This result shows a weak positive correlation. This data, illustrated in Figure 25, includes a line of best fit which shows a slight positive slope, resulting in  $r$  being identified as positive.

**Table 17**

*Correlation Between Sense of Belonging and Academic Growth - Family*

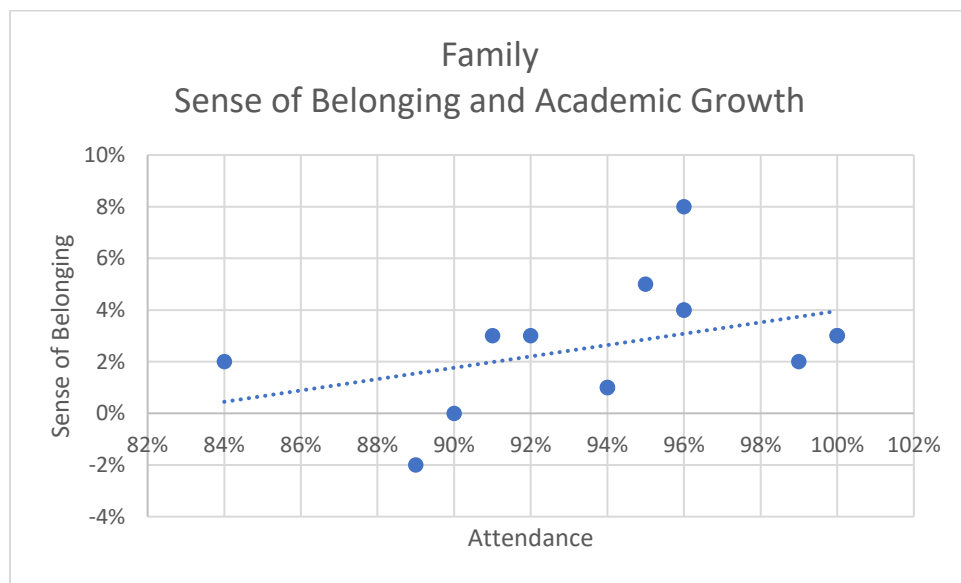
Academic Growth

	<i>Sense of Belonging</i>	<i>Academic Growth</i>
Sense of Belonging	1	
Academic Growth	0.42	1

Figure 26 provides the family correlation data specific to each school. This information is plotted on the graph and a line of best fit is identified. As illustrated in Figure 26, the line of best fit which shows a slight positive slope, resulting in  $r$  being identified as positive.

**Figure 26**

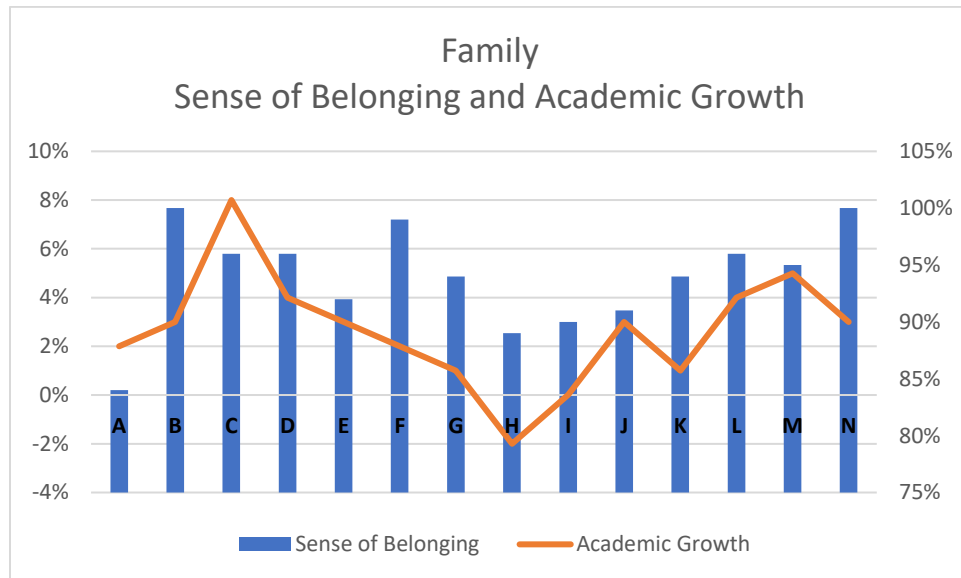
*Sense of Belonging and Academic Growth - Family*



As seen in Figure 27, all but one the buildings show a positive correlation with five showing a moderate positive correlation. The remaining buildings show a weak positive correlation with no individual building showing a negative correlation. Overall, the data pertaining to family sense of belonging and academic growth demonstrates a weak positive correlation between sense of belonging and attendance.

**Figure 27**

*Sense of Belonging and Academic Growth by Building – Family*



### Summary

This Doctoral Research Capstone Project focused on the impact of sense of belonging in the school environment on attendance and academic growth. The project also sought to identify the correlation between family sense of belonging in the school environment and the impact that it has on attendance and academic growth. A series of data points that included a Likert scale survey, benchmark testing, and average daily attendance was used to complete the research for this study. Chapter IV of the capstone research project focused on reviewing the results of the data collected in relation to the three identified research questions.

The literature review was utilized to both identify research questions and then select the data necessary to respond to the questions. The data was organized by tables displaying the correlation between each factor identified in the research questions. The

data collected provided valuable results that will provide the researcher and school district with information to shape both future studies and educational practices.

The research depicted, through the data collected, an overall positive correlation between sense of belonging in the school environment and both attendance and academic growth. Table 18 provides an overview of the correlation data collected for this research study. The type of correlation for each dataset is designated by the color of the cell in which the correlation coefficient ( $r$ ) value is noted. This data indicates that by focusing on sense of belonging in the school environment, educators can positively impact average daily attendance and academic growth, both of which are factors that demonstrate success in the school setting.

**Table 18**

*Correlation Coefficient Data Collection*

	Attendance	Academic Growth
Grade 3	0.321284089	0.579174212
Grade 4	0.499658821	-0.153218195
Grade 5	0.591082166	-0.3218907
Family	0.127381195	0.417184453

Correlation Interpretation Key	
Very Strong Positive Correlation	Very Strong Negative Correlation
Strong Positive Correlation	Strong Negative Correlation
Moderate Positive Correlation	Moderate Negative Correlation
Weak Positive Correlation	Weak Negative Correlation
Negligible Correlation	Negligible Negative Correlation

Overall data supports the assertion that sense of belonging in the school environment has a positive impact on average daily attendance. The relationships in all

correlation coefficients pertaining to attendance showed an overall moderate positive relationship. This demonstrates that when sense of belonging increases the average daily attendance also increases and, inversely, when attendance increases, sense of belonging also increases.

The data sets for the correlation between sense of belonging and academic growth varied more than those including the variable of attendance. Data for grade 4 and 5 showed a negative line of best fit with the scatterplots far away from this line. In both cases, while the line of best fit showed a negative slope, the resulting data had a negligible correlation and could not be judged as directly or inversely proportional.

The overall measures between sense of belonging academic growth also show a positive correlation. While the correlation between sense of belonging and academic growth is not as strong as the correlation between sense of belonging and attendance, the data supports the assertion that sense of belonging in the school environment has a positive impact on academic growth.

Chapter IV presents a detailed examination of data gathered from multiple sources illuminating the influence that sense of belonging has on school attendance and academic growth.

Chapter V will delve into additional implications arising from the study and address the limitations encountered during the research process. The data collected has not only addressed the initial research inquiries but has also fostered a deeper comprehension, laying the foundation for establishing correlations in future studies. Analyzing data and responding to research questions often triggers the emergence of new

inquiries. Thus, the succeeding chapter will provide conclusions as well as propose additional avenues for exploration linked to this capstone research study.

## **CHAPTER V**

### **Conclusions and Recommendations**

This capstone research study was designed to determine the impact of the sense of belonging in the school environment on academic growth and student attendance. Sense of belonging refers to the feeling of being accepted, included, and valued within a particular group or community. This emotional connection plays a crucial role in shaping an individual's identity and well-being, especially during the elementary school years. When students' sense of belonging is high, they believe that school is more enjoyable and beneficial (Gillen-O'Neal & Fuligni, 2013). Cultivating a supportive and inclusive environment can enhance students' overall school experience and contribute to their personal and academic success.

When students feel a strong sense of belonging in the school environment, they are more likely to engage in academic activities, seek help when needed, and develop meaningful relationships with their peers and teachers. They are more motivated to come to school regularly and engage in their learning experiences. Students who feel connected to their school community are less likely to skip classes or be absent. Students who are confident they belong and feel valued by their peers can engage more fully in learning (Romero, 2018). They see school as a place where they are valued, supported, and accepted. When students feel like they belong, they are more willing to participate in school activities and feel excited about coming to school each day.

This researcher sought to identify how a sense of belonging impacts student attendance and academic success. The review of literature provided the background information necessary to understand factors surrounding the sense of belonging in the



school environment as well as prior research and theories that have been developed about belonging.

The purpose of the research was to identify the relationship between students' sense of belonging and school attendance and academic growth. The research was completed during the 2023 – 2024 school year. The study took place at the Central Dauphin School District and focused specifically on students in grades three, four, and five. All data was collected and analyzed with findings and recommendations developed within the same time frame. Quantitative data in the form of average daily attendance, student growth on benchmark assessments, and in the form of Likert scale survey responses were utilized in the study. The data collected allowed the researcher to closely review each of the three research questions that the study focused on.

Results from this study indicate that Central Dauphin School District teachers and administrators would benefit from professional development focused on increasing sense of belonging. When educators are equipped with the knowledge and tools to create a supportive and inclusive classroom environment, students are more likely to feel valued, respected, and connected to their academic community. Professional development opportunities focusing on cultural competence, empathy building, and creating safe spaces can empower teachers to address diverse student needs effectively. By investing in teacher training and support, schools can significantly contribute to enhancing student belonging and overall academic success. With a better knowledge of what sense of belonging entails as well as training surrounding intentional practices that impact sense of belonging, educators will be better equipped to meet the needs of the learners they serve.

In this chapter, each research question will be analyzed individually. The fidelity of the research will be considered, and any limitations faced during data collection and analysis will be reviewed. The potential application of the results of this research study will be examined. Finally, this chapter will provide implications for future research studies and recommendations to move forward in the research surrounding a sense of belonging in the school environment.

### **Conclusions**

The research was completed during the 2023-2024 school year. The data was collected during the first half of the school year and then was analyzed with findings and recommendations developed. The results of the data that was examined allowed the researcher to focus on the three research questions that were communicated in Chapter I.

The following three questions were the core focus of this study:

- Research Question 1: What is the relationship between a sense of belonging and student attendance?
- Research question 2: What is the relationship between a sense of belonging and academic growth?
- Research question 3: What is the relationship between a family's sense of belonging in the school environment, attendance, and academic growth?

Each of the three research questions were addressed through data collection and those finding can be found in the subsequent sections of Chapter V.

All three of the research questions looked at the sense of belonging in the school environment. This research consisted of surveying Central Dauphin School District

students enrolled in grades three, four and five, as well as the parents of Central Dauphin School District elementary age students. The Panorama Survey was administered to all participants at the start of the 2023-2024 school year and again at the midpoint of the school year. This survey was utilized to identify the overall sense of belonging by grade and school building. The survey utilized a Likert scale with statements that students responded to base on their personal reflections on belonging in the school environment. Sense of belonging was then reported as percent of favorable responses.

As illustrated in Figure 26, seventy four percent of Central Dauphin School District students in grades three through five reported a favorable sense of belonging. Compared to elementary schools in a national dataset, the score fell within the ninetieth percentile.

Overall, results from the Panorama survey reflecting sense of belonging in the school setting are favorable for both students and family members. While both categories of respondents do have room to grow, there is evidence of a strong base of sense of belonging within the buildings surveyed.

The first research question looked at the relationship between sense of belonging and student attendance. This research question focused on the sense of belonging data collected through the Panorama student survey and sought to identify the impact sense of belonging has on student attendance.

Average daily attendance data was collected from the Central Dauphin School District student information system, eSchools. The correlation coefficient between sense of belonging and average daily attendance was calculated for each grade level. Overall,

all three grade levels showed a positive correlation. Data reflecting students in grade three resulted in a weak positive correlation while data for students in grades four and five both resulted in a moderate positive correlation. This data supports the conclusion that sense of belonging in the school environment positively impacts student attendance.

The second research question focused on the relationship between sense of belonging and student academic growth. This research question used the data collected through the Panorama student survey pertaining to sense of belonging and focused on its impact on student academic growth.

Academic growth data, in the form of the percent of student composite score growth from the beginning of the year benchmark to the middle of the year benchmark was collected from the Acadience reading system. The correlation coefficient between sense of belonging and academic growth was calculated for each grade level. Data for grade three results in a moderate positive correlation while data for grades four and five both resulted in a negligible correlation. Overall, the data collected regarding sense of belonging in the school environment and the impact on student academic growth was inconsistent. While the conclusion can be made that the sense of belonging in grade three positively impacts student academic growth, the results surrounding grades four and five were inconclusive. In conclusion, additional data collection would be necessary to come to an overall conclusion regarding the impact of sense of belonging on academic growth.

The third research question focused on the relationship between family perception of sense of belonging on both attendance and academic growth. This research question utilized the sense of belonging data collected through the Panorama family survey and the impact this has on both attendance and academic growth.

The correlation coefficient between sense of belonging and average daily attendance was calculated. When looking at the family perception on sense of belonging in relation to student attendance, a negligible positive correlation was identified. The facts collected for this specific data point showed that the sense of belonging could not be directly connected to student attendance.

The correlation coefficient between sense of belonging and student academic growth was calculated. When looking at family perception on sense of belonging in relation to student academic growth, a moderate positive correlation was identified. From this correlation, it can be concluded that family perception on sense of belonging has a positive impact in student academic growth.

The overall data analysis and results show that there is a positive impact between sense of belonging and both attendance and academic growth. While overall results indicated the correlation between both areas, those specifically related to sense of belonging and student academic growth were more varied than those related to student attendance. The overall results of this research study indicate the importance of sense of belonging in the school environment due to its impact of student success. Providing educators with a strong understanding of what sense of belonging means as well as ways to increase student sense of belonging in the school environment will positively impact student success.

### **Limitations**

While making every effort to ensure validity and reliability throughout the research project timeline, no experimental study is without some cause for concern or issues that may impact the results. The result of this doctoral capstone project has

potential limitations that should be considered both when reviewing the research as well as when seeking to provide additional research on this topic. The design of the current study is subject to the following limitations that should be considered.

***Limitation 1- Sample Size - Acadience Reading***

The sample size for the Acadience reading benchmark data was not exact. Transience of students moving from building to building within the district as well as those students who move in after the initial Acadience reading assessment should be considered. When at all possible, student data was limited to students who had been present for both the beginning of the year assessment as well as the mid-year assessment.

***Limitation 2 – Administration – Acadience Reading***

To be consistent and equitable when reviewing all student data, the administration of the Acadience reading assessment should all take place on the same day. While there is a multi-week testing window, the actual administration date of the test may differ by building, class and even student. This could potentially result in student data collected up to a month apart. This data may be further impacted by benchmark assessment administered to students moving into the district after the testing window yet being assessed upon entry.

***Limitation 3 – Likert Scale – Panorama Survey***

Likert scales are often used in research due to being easy to understand and quick to administer. They are also easy simple to create and easy for respondents to complete (Bertram, 2006). Likert scales are seen as a convenient way to collect a large quantity of data. The use of Likert scales has some limitations that must be considered though.

Research has identified several overall weaknesses with the use of Likert scales (Bertram, 2006).

Likert scales are not effective in expressing why a respondent feels a certain way, rather they are limited to responding how they feel. This could limit the understanding and use of the responses in research. Likert scales, when used for multiple questions in a series, can lead to one response influencing another. Respondents can get in the habit of answering a certain way and this can limit the reliability of the responses. Responses can also be impacted by different types of bias.

One example of this would be acquiescence bias, defined as a situation where participants may agree with statements based on their desire to please the experimenter. Students in an elementary setting often seek to please their teacher. While all students are informed that their responses are anonymous, acquiescence bias could still impact the outcome the survey responses.

Like acquiescence bias, is social desirability bias, or a situation where a respondent has a greater desire to be seen favorably than to be honest (Bertram, 2006). Elementary students are social in nature and often consider the opinions of their peers when in situation surrounding social opportunities and connectedness. Students complete the survey on their own devices but in the same room as their peers. This could potentially lead to social desirability bias with a respondent answering in a way they believe their peers would see as favorable.

***Limitation 4 – Sample Size – Panorama Family Survey***

The Panorama family survey was administered during the same time period as the Panorama student survey. Participation on the Panorama student survey is easy to track because the enrollment numbers at each building is used to identify a percent completed for each survey section. This survey is completed during the school day, on school devices, and with the technical support of district staff. Schools plan for administration and ensure all students have an opportunity to complete the survey. Administration of the family survey is not able to be controlled in the same way.

During the survey window, family members are provided an email with instructions for survey completion. To complete the survey, the participant needs to use the link provided to access the survey on a device that connects to the internet. Survey participation varies from building to building. To encourage participation in the Panorama family survey, signage was posted in frequently used areas of district buildings, building administrators were encouraged to include the information in their newsletters and reminder emails were sent throughout the survey administration window. The participation in the family survey is identified as a limitation to this research study. The survey was provided to all guardians within the district, but not all guardians participated. The district does not have a total number of potential participants and is not able to track percent completion. As a result, the researcher was not able to ensure that survey completion was representative of the district demographic. Further students with more guardian participation can provide recommendations based on a larger pool of data.



***Limitation 5 – Teacher Ability and Efficacy***

It is important to consider that many factors impact academic growth and is difficult to provide a definitive conclusion regarding which of these factors have impacted the academic data in this study. The role that the classroom teacher plays on student academic growth cannot be discounted. Student growth in the classroom is greatly impacted by the skills of the educator presenting the instruction. From lesson design to learner engagement, to expertise in the content being presented and even the level of confidence a teacher has in their own ability, student progress is impacted in many ways. When drawing conclusions on the impact of sense of belonging on student academic growth, it is important to also consider the role of the educator.

**Recommendations for Future Research**

The results and conclusions of this Doctoral Capstone Project lend themselves to future research opportunities. Teachers and school staff play a crucial role in making students feel welcomed and valued. Encouraging collaboration, celebrating diversity, and providing opportunities for students to connect can help enhance the sense of belonging within the school community.

This researcher recommends replicating the study by including more participants in the surveys. The family participation is low in relation to the student participation. By including a larger number of family participants, the reliability of the data will increase. The family participation also differed from school building to school building. A more consistent percentage of family participation would be a goal of future research.

Identifying ways to increase survey participation would potentially strengthen the data. Ideas such as providing incentives for family participation in the survey or

opportunities for survey completion during a family engagement night may increase future participation. The need to provide multiple email prompts may be addressed by having devices available at times such as student conferences when family members are already planning to be present in the school setting. Consideration should also be given to the timing of the survey to determine if this has an impact on the results. The timing may be a factor that could increase the family response rate.

This research was completed during the span of one school year with the data collection taking place within a six-month time frame. Future research would benefit from a multi-year study. By expanding the research time period, future researchers could consider cohorts of students over time and across building and teachers. Data collection surrounding a six-month period limits the opportunity for exploration surrounding the impact of sense of belonging over time.

This research project used one assessment for the academic growth data collection. The academic growth data examined in this study focused on Acadience reading student composite scores that are collected district wide. This data source could be considered as limited and not fully encompass academic growth. Acadience reading composite scores were selected for this research because they are understood by educators and educational leaders district wide, are research based, and are readily available. Future research would benefit from a more expansive collection of academic data. Analyzing data pertaining to other content areas or multiple sources for reading would allow for more reliable data.

Research surrounding the impact of intentional interventions that increase sense of belonging would provide educators with an opportunity to put intentional practices in

place to better support the students within their classes. Implementing research-based Tier One practices with a focus on increasing sense of belonging building wide would be potentially impact student success in many areas. By identifying effective practices and supporting school staff in the implementation of these practices, schools can more effectively support learners.

Finally, future research on the impact of professional development for educators with a focus on sense of belonging in the school environment is recommended. The results from this study demonstrate the connection between student sense of belonging and factors impacting academic success. Educators play a crucial role in fostering a positive and inclusive environment where all students feel a sense of belonging, ultimately helping them thrive in their academic journey. This sense of community and connection can have a significant impact on academic performance, mental well-being, and overall student success. The field of education is working from a limited conception of school belonging, based on the discipline of psychology (Kutner, 2023). Despite the importance that a sense of belonging in the school environment has been understood to hold, researchers note that the work done in this area has shown a lack of clarity and does not allow us to understand the concept fully to implement more targeted educational practices to build and sustain it (Allen & Bowles, 2012; Allen et al., 2016). Future research surrounding how interventions impact overall sense of belonging will provide teachers and other school staff with the information they need to intentionally address factors impacting student sense of belonging resulting in schools being more effective in their goal of meeting the needs of all learners.

The conclusion that a sense of belonging in the school environment has a positive impact on attendance and academic growth provides a stepping off point for many other research opportunities. By further exploring this concept and adding to the research currently available, students at all levels will benefit. Studying the concept of sense of belonging in school is vital as it directly effects students' academic success, social interactions, and overall well-being.

By delving deeper into this area, researchers can uncover valuable insights into intentional practices that create inclusive environments where all students feel accepted, valued, and supported. Understanding the factors that impact a strong sense of belonging can lead to the development of effective intervention strategies to enhance students' school experiences and foster a positive learning environment for all. Continuing and expanding on research surrounding sense of belonging in school is vital for supporting student attendance and overall educational achievement.

### **Summary**

This Doctoral Capstone Project examined the impact that sense of belonging has on attendance and academic growth in the Central Dauphin School District. Data collected for the study consisted of survey data completed by 2,089 students and 633 family members, average daily attendance data and academic growth data in the form of Acadience reading composite results. This research incorporated key concepts from the review of literature which was used to develop effective research methodology. This project focused on three research questions with the resulting data yielding the following conclusions:

1. Sense of belonging in the school environment has a positive impact on student attendance in grade three, four and five.
2. Sense of belonging in the school environment has a positive impact on academic growth in grade three with negligible impact resulting in grade four and five.
3. A family sense of belonging in the school environment has a positive impact on student academic growth.
4. Overall data shows that a high level of student sense of belonging impacts both attendance and academic growth.

The results of this research study indicate that sense of belonging has a direct impact on both attendance and academic growth. The conclusions also indicate that by improving the sense of belonging in the school environment, educators can strengthen other areas that are essential to student success. The findings within this study will provide district leaders with evidence to support opportunities for professional development targeting an increase in sense of belonging in the school setting.

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**Appendix A****IRB Approval****Institutional Review Board****250 University Avenue****California, PA 15419****[instreviewboard@calu.edu](mailto:instreviewboard@calu.edu)****Melissa Sovak, Ph.D.****Dear Sarah Box,**

**Please consider this email as official notification that your proposal titled “The Impact of Sense of Belonging” (Proposal #PW23-005) has been approved by the Pennsylvania Western University Institutional Review Board as submitted.**

**The effective date of approval is 07/14/2023 and the expiration date is 07/13/2024. These dates must appear on the consent form.**

**Please note that Federal Policy requires that you notify the IRB promptly regarding any of the following:**

- (1) Any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented)**
- (2) Any events that affect the safety or well-being of subjects**
- (3) Any modifications of your study or other responses that are necessitated by any events reported in (2).**
- (4) To continue your research beyond the approval expiration date of 07/13/2024, you must file additional information to be considered for continuing review. Please contact [instreviewboard@calu.edu](mailto:instreviewboard@calu.edu)**

**Please notify the Board when data collection is complete.**

**Regards,**

**Melissa Sovak, PhD**

**Appendix B**

## Student Opt-Out

Dear CDSF Families,

November 10, 2023

We thank you and your family for being our valued partners as we work together to educate the children in our district. CDSF values input from our community - and we need to hear from your child(ren)! They are important partners as we work to improve our communication, academic program and overall experience for students and their families.

In order to learn more about student experiences at school, we will be asking for your child's feedback via an online survey that s/he will be completing at school and/or at home. The survey shouldn't take more than 20-30 minutes to complete.

We are asking that all of our students from 3rd through 12th grade participate in the surveys, as their feedback will provide invaluable insights into their experiences and how to improve and adapt our district and schools to their needs. If a student doesn't feel like they have enough information to answer a question, they will be able to skip the item altogether. The responses to these surveys will be completely confidential. We are partnering with a third-party vendor, Panorama Education, to support us in administering these surveys.

The survey content will ask students to self-reflect on their experiences of *Sense of Belonging and Rigorous Expectations*. Additionally, students will be asked to answer questions about *Emotions, Self-Management, and Social Awareness*.

Please notify us if you would like your child to **opt out** of taking the surveys by filling in your name and your child's name below and returning it to your child's school by Thursday, November 16, 2023.

We thank you in advance for your support. If you have any questions about the survey administration, please don't hesitate to contact your child's school.

\* \* \* \* \*

I do not want my student to participate in the survey.

Student Name: \_\_\_\_\_

School Name: \_\_\_\_\_

Grade: \_\_\_\_\_

Guardian Name: \_\_\_\_\_

Guardian Signature: \_\_\_\_\_