

TRAUMA-INFORMED SCHOOL-BASED STRATEGIES

**Improving School Perception of Climate with Two Trauma-informed, School-based
Strategies in an Intermediate School Setting**

A Doctoral Capstone Project

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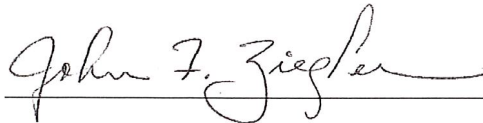
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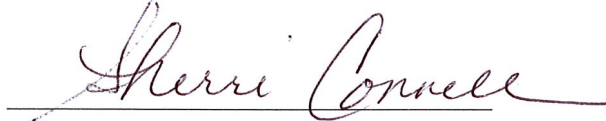
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Dedication

I dedicate my Doctoral Capstone Project to the amazing people in my life who have given me unwavering love, support, and encouragement along the way. To my daughters, Ava and Lucy, thank you for always understanding when I needed to write and providing the much-needed hugs to get me through the tough days. Of all the things in my life that make me proud, the two of you are far above all the rest. You amaze me every day, and I love you. To my parents, no matter what journey life takes me on, you are my biggest champions and make sure I have what I need to be successful. Thank you for always being there for me without question, no matter what. To my friends, I could not have gotten through the last couple of years without you. You have loved me and my family through all our ups and downs and have provided the laughs, love, and grace that made our lives feel full. You have believed in me when I didn't believe in myself. I love you all. Finally, thank you to Dr. Jeanine Page, my lifelong friend and loudest cheerleader. You (and Blaize) made this research study possible, and I will be forever grateful to you. Not only did you volunteer your time for a year to make the therapy dog intervention in my school a reality, but you pushed me to keep going when I didn't think I could. Your voice of reason and tough love are much appreciated. I can never thank you enough.

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Abstract

School districts today are facing an increased need for mental health support for students. This mixed-methods study analyzed the perceptions of the school climate by both students and teachers in the fifth and sixth grades at Penns Valley Elementary and Intermediate School, using two trauma-informed interventions: therapy dogs and mentoring. The purpose of this study was to determine if therapy dogs and mentoring could positively affect school climate, thereby providing resources for mental health support. Four research questions guided the study. The first two questions focused on the relationship between mentoring and therapy dog interventions and student perceptions of school climate while the third and fourth research questions focused on teacher perceptions of school climate when therapy dog and mentoring interventions were implemented in the classroom. Attendance, threat assessment, risk assessment, office discipline referral, and student survey data were collected to analyze student perceptions of school climate through qualitative and quantitative measures. A survey of teachers participating in the mentoring or therapy dog intervention was used to collect qualitative data on teacher perceptions of school climate. The research study analysis showed a positive relationship between student and teacher perceptions of school climate when the trauma-informed interventions of mentoring and therapy dog were implemented.

CHAPTER I

Introduction

School districts are reporting declining mental health in kindergarten through twelfth-grade students. In the State of Student Mental Health Survey conducted by Empowering Communities with Integrated Network Systems (ECINS, 2022), a staggering 85% of respondents agreed that students are more stressed than in previous years. Data from the National Center for Educational Statistics (2022) reports that only fifty-six percent of schools can support the increased needs of students in public schools. During analysis of this data, one can determine that the number of students who have experienced trauma in recent years is a rising trend. According to Wolpov et al. (2009), trauma is the ability to respond healthily to acute stress that compromises the welfare of a victim. In schools, these results are manifested in increased absenteeism and increased behaviors that lead to office referrals, threat and risk assessments, and suspensions.

Background

The Penns Valley Area School District (PVASD) is a small, rural public school district located in Centre County, Pennsylvania. Geographically, it is spread across approximately two-hundred fifty-five square miles and has a population of 13,180 people. This number has increased slightly over the past two consensus polls. A large portion of the population is made up of Amish families who do not attend public school. Despite the growth of the overall population, the number of students attending the school district is decreasing, with an enrollment of 1,430 students in kindergarten through twelfth grade. The Penns Valley School District population has a median household income of \$63,105 (“Penns Valley Area School District - U.S. News Education,” 2022).

The student population of Penns Valley Area School District is ninety-seven

percent white, with one percent black, one percent two or more races, and one percent Hispanic. Thirty-six percent of students in the district qualify as economically disadvantaged. Fifteen percent of students across the district receive special education services. The number of students receiving Special Education support has declined in all areas over the past three years, excluding autistic support, which has increased slightly.

Four buildings in the Penns Valley Area School District house the student population. They are separated as follows: two kindergarten through fourth-grade buildings, one building within a building housing a kindergarten through fourth grade, and also an intermediate with all fifth and sixth-grade students in the district. The final building is a seventh through twelfth-grade junior/senior high school. Students are transported primarily via school buses, with many students averaging hour-long bus rides. The elementary and intermediate building and the high school building are located across the street from each other in a relatively centralized part of the district. The other two elementary buildings are on the district's outer portions of the east and west ends.

Penns Valley Area School District is not immune to increased mental health and behavior concerns that have occurred nationwide. Therefore, the increase in student mental health after the pandemic has been identified as a top priority for Penns Valley Area School District, as indicated in the district's comprehensive plan (Penns Valley Area School District, 2022). Data collected from the Pennsylvania Youth Survey (PAYS) and an increase in threat and risk assessments, office discipline referrals, and absenteeism are reflected in comprehensive plan action items. For example, according to the PAYS survey data from 2021 (Pennsylvania Department of Education et al., 2021), 72% of students in grades six and eight said that they felt depressed or sad on most days. Similarly, 45% of these students reported that they sometimes think life is not worth it.

An alarming 21% of Penns Valley Area School District's sixth and eighth graders reported seriously considering suicide. The number considering suicide is up by 18% from pre-pandemic PAYS survey results for Penns Valley Area School District. These statistics are concerning and still do not fully account for the level of need the district is attempting to combat. Office discipline and other behavior data specific to Penns Valley Area School District also show an increasing trend toward at-risk decision-making among the student population.

Office discipline referrals in the 2022-2023 school year have nearly doubled compared to the previous two years at the Penns Valley Intermediate School. According to the district's student information system, there were 45 office discipline referrals in 2020-2021, 55 office discipline referrals in 2021-2022, and 100 office discipline referrals in 2022-2023. In general, social media concerns, bullying, and apathy toward classwork have significantly increased the need for the Positive Behavior Intervention Support team to increase intervention support for all students. This increase is documented through Penns Valley Area School District's quarterly School Climate and Culture Survey (Penns Valley Area School District, 2022). This issue is coupled with a rise in absenteeism that has moved beyond doctor-excused absences to an increase in unlawful absences.

Attendance is also an area of concern for Penns Valley Area School District. The Pennsylvania Department of Education provides a collection of multiple data points to determine the progress of schools in Pennsylvania. They refer to this information as the Future Ready Index. Penns Valley Area School District's Future Ready Index data from the 2018-2019 school year through the 2022-2023 school year shows an attendance decrease of 13.75% district-wide and 15.4% at Penns Valley Elementary and Intermediate School (Pennsylvania Department of Education, 2023). These percentages

follow a statewide trend, exhibiting an 11.6% decrease in attendance. Although the trend statewide is declining, Penns Valley Area School District has an attendance decrease that is higher than the statewide average.

Capstone Focus

The combination of these factors supports the need for Penns Valley Area School District to examine types of trauma-informed interventions that will positively affect student perceptions of climate and culture at school. For example, a trauma-informed approach, as defined by the PA Public School Code of 1949, Section 102,

includes a school-wide approach to education and a classroom-based approach to student learning that recognizes the signs and symptoms of trauma and responds by fully integrating knowledge about trauma into policies, professional learning, procedures, and practices to recognize the presence and onset of trauma, resisting the recurrence of trauma and promoting resilience tailored to a school entity's culture, climate and demographics and the community as a whole. (P.L.30, No.14)

The Colorado Department of Education (2022) defined core beliefs that characterize interventions for trauma-informed care as healthy supporting relationships with caring adults, learning environments that are safe, engaging, and supportive, explicit instruction, and practice of social and emotional skills that include problem-solving, self-awareness, self-regulation, and relationship skills.

Over the years, the impacts of the mental health crises that public schools face have become more prevalent. Efforts have been made at Penns Valley Area School District to work alongside outside agencies, district social workers and counselors, and teachers to ensure that all possible supports are in place. However, continually pursuing

for better support for students in Penns Valley Area School District is a priority. To that end, the purpose of this study is to examine the effects of trauma-informed, school-wide interventions on behavior, threat and risk assessments, school attendance, and perceptions of school climate by students at Penns Valley Intermediate School during the 2023-2024 school year. The research questions for this study are as follows:

Research Questions

1. What is the relationship between students' perceptions of school climate and the presence of a class-wide therapy dog as measured by student behavioral office referrals, Penns Valley Area School District's Threat and Risk Assessments, school attendance, and the Penns Valley Area School District School Culture Survey during the 2023-2024 school year?
2. What is the relationship between students' perceptions of school climate and the use of a class-wide teacher-student mentoring program as measured by behavior, Penns Valley Area School District's Threat and Risk Assessments, school attendance, and Penns Valley Area School District School Culture and Climate survey during the 2023-2024 school year?
3. What is the relationship between teacher perceptions of school climate and the use of a class-wide therapy dog as measured by a teacher perception survey?
4. What is the relationship between teacher perceptions of school climate and the use of a class-wide teacher-student mentoring program as measured by a teacher perception survey?

Expected Outcomes

Penns Valley Elementary/Intermediate School has employed both therapy dog and mentoring programs in the 2021-2022 and 2022-2023 school years. While there has been positive feedback for both, the results of this research are intended to learn the effect of each as a form of intervention on behavior referrals, attendance, and school climate at Penns Valley Elementary and Intermediate School. Furthermore, this research will help determine if further trauma-informed school-based interventions would decrease the number of students in need of mental health or behavioral support and increase student perceptions of school. The study results will help support future decision-making at Penns Valley Elementary and Intermediate School regarding appropriate programs and interventions to support school-wide cultural and behavioral improvement. This could potentially help streamline programming and provide evidence for the implementation of one or both programs.

Financial Implications

The financial implications associated with implementing this study are very small. The therapy dog handler volunteers her time and that of the therapy dog. As insurance for the therapy dog is obtained by its owner, this also is not an expense to the district. The mentoring program is based on a free resource, and the training and support are provided for free through the platform. The only monetary cost associated with the study will be for paper used to print pre-existing data from district platforms. This will be done to allow the researcher to better compare various forms of data for each group.

Although monetary costs for this study are minimal, there will be indirect costs. The first of these is time. In order to effectively implement both the mentoring and therapy dog programs, there will need to be a twenty-minute period of time built into

classroom schedules on a bi-weekly basis. It will be necessary for the researcher to schedule consistent times with the therapy dog owner. Mentors will also need to build their schedules around the assigned mentoring time. There will need to be flexibility from all involved individuals as unexpected occurrences such as school closures may cause the need for a change in scheduling.

Supplies needed for the surveys taken by participants and the data to be retrieved by the researcher are simply the district-supplied laptop and charging cord. There will also need to be access to wireless internet, Google Forms, and Google Sheets. The researcher will use an existing, lockable filing cabinet to store printed data throughout the study and for two years following its conclusion.

Summary

The study of mentoring and therapy dog interventions at Penns Valley Area School District employs minimal costs at the current time, both monetarily and also indirectly. The results of the research could positively impact school culture and student behavior by proving the effectiveness of two separate intervention programs that can be used at a school-wide level. This research study is a low-risk opportunity to provide valuable information to Penns Valley Area School District in an area where research is limited. The next chapter will focus on existing research, a review of related literature, and implications for practice.

CHAPTER II

Literature Review

School districts are reporting that the mental health of students in grades kindergarten through twelve is declining. The State of Student Mental Health Survey, conducted by Empowering Communities with Integrated Network Systems (ECINS) in 2022, 85% of respondents believe students are more stressed than in previous years. Data from the National Center for Educational Statistics (2022) shows that only 56% of schools are equipped to support the increased needs of students in public schools.

The analysis of this data reveals a growing trend in the number of students experiencing trauma in recent years. As noted by Wolpow et al. (2009), trauma impairs the ability to respond healthily to acute stress, thus compromising the welfare of the affected individuals. In schools, this trauma is evident through increased absenteeism and behaviors that lead to office referrals, suspensions, and threat and risk assessments.

Background of Penns Valley Area School District

This Capstone project will use data from the Penns Valley Area School District (PVASD), a small, rural public school district in Centre County, Pennsylvania. PVASD spans approximately two-hundred fifty-five square miles and serves a population of 13,180 people, a slight increase from the last two census polls. A significant portion of this population consists of Amish families who do not attend public school. Despite the overall population growth, student enrollment in the district has been declining, currently at 1,430 students from kindergarten through twelfth grade. The median household income in the district is \$63,105 (“Penns Valley Area School District - U.S. News Education,” 2022).

The student population in PVASD is ninety-seven percent white, one percent black, one percent two or more races, and one percent Hispanic. Thirty-six percent of the students are economically disadvantaged, and fifteen percent receive special education services. Over the past three years, the number of students receiving special education support has declined in all areas except for autistic support, which has seen a slight increase.

The district has four buildings housing students: two buildings for kindergarten through fourth grade, one building that includes kindergarten through fourth grade and an intermediate section for all fifth and sixth graders, and a final building for seventh through twelfth grades. Students are mainly transported by school buses, with many facing hour-long rides. The elementary and intermediate buildings are located near each other in a central part of the district, while the two other elementary buildings are on the east and west ends of the district.

State of Mental Health and Behavior at Penns Valley Area School District

The Penns Valley Area School District is not exempt from the rising mental health and behavior concerns seen nationwide. Addressing the increase in student mental health issues post-pandemic has been identified as a top priority in the district's comprehensive plan (Penns Valley Area School District, 2022). Data from the Pennsylvania Youth Survey (PAYS) and the rise in threat and risk assessments, office discipline referrals, and absenteeism are reflected in the comprehensive plan's action items. For example, the 2021 PAYS survey data (Pennsylvania Department of Education et al., 2021) revealed that 72% of students in grades six and eight felt depressed or sad on most days, 45% sometimes thought life was not worth it, and an alarming 21% had seriously considered suicide. The number of students considering suicide increased by

18% compared to pre-pandemic survey results for the district. These statistics are concerning and do not fully capture the level of need the district is addressing. Data from the district's office discipline and other behavior metrics also indicate an increasing trend in at-risk decision-making among students.

Office discipline referrals nearly doubled in the 2022-2023 school year at Penns Valley Intermediate School compared to the previous two years. The district's student information system recorded 45 office discipline referrals in 2020-2021, 55 in 2021-2022, and 100 in 2022-2023. Issues such as social media concerns, bullying, and apathy toward classwork have significantly increased the need for the Positive Behavior Intervention Support team to provide more intervention support for all students. This increase is documented in the district's quarterly School Climate and Culture Survey (Penns Valley Area School District, 2022). Additionally, absenteeism has increased, with an increase in unlawful absences beyond doctor-excused absences.

Attendance is another area of concern for the district. The Pennsylvania Department of Education's Future Ready Index, which tracks school progress, shows that from the 2018-2019 school year through the 2022-2023 school year, the district's attendance decreased by 13.75% district-wide and 15.4% at Penns Valley Elementary and Intermediate School (Pennsylvania Department of Education, 2023). These declines exceed the statewide trend of an 11.6% decrease in attendance.

These factors highlight the need for Penns Valley Area School District to explore trauma-informed interventions that positively impact student perceptions of school climate and culture. A trauma-informed approach, as defined by the PA Public School Code of 1949 (1949/2019),

involves a school-wide and classroom-based approach to education that recognizes the signs and symptoms of trauma. This approach integrates knowledge about trauma into policies, professional learning, procedures, and practices to recognize and address trauma, resist its recurrence, and promote resilience tailored to the school's culture, climate, demographics, and community as a whole (§ 102).

The Colorado Department of Education (2022) outlines core beliefs for trauma-informed care interventions, including healthy, supportive relationships with caring adults, safe and engaging learning environments, and explicit instruction and practice of social and emotional skills such as problem-solving, self-awareness, self-regulation, and relationship skills.

Perceptions of School Climate at Penns Valley Area School District

The upward trend of behavior and mental health needs relates to an increased trend of negative student perceptions of school culture and climate, according to Penns Valley Area School District's School Climate and Culture (Penns Valley Area School District, 2022) and behavior referral data. Further research on trauma-informed intervention strategies and their effect on the mental health of students is needed to determine how best to thwart this current crisis. Even with current interventions, mental health concerns and behavior referrals continue to rise. This research will help determine if further trauma-informed school-based interventions would decrease the number of students in need of mental health or behavioral support and increase student perception of school. For instance, suppose Penns Valley Area School District does not take steps to change the current trends in these areas. In this case, it will be difficult to assess student

academic gaps as the mental health, behavior, and school perception barriers will contribute to students' lack of growth.

It is widely accepted in education that students can only learn once all their needs are met. This theory's history is predominantly recognized through Maslow's Hierarchy of Needs (Maslow, 1943). Maslow's theory establishes that individuals need to have specific needs met before learning occurs. While multiple other studies have followed, the results overwhelmingly come back to an innate feeling of safety and security for students to succeed and grow with learning. Traditional consequences for behavior incidents and absenteeism issues have been punitive in schools. Given the increase in students exhibiting trauma-based behaviors, schools have begun to look toward trauma-informed approaches to managing student behavior.

In an investigation of trauma-informed approaches in elementary education, Wall (2021) suggests that poor self-esteem and shame are common emotional impacts of students with trauma. Furthermore, students who are dealing with trauma tend to have a difficult time naming how they are feeling, using words to describe emotions, and using good judgment. Given this information, there is a need to consider a shift in focus on strategies to support students with trauma backgrounds. According to Thomas et al. (2019), "Using a trauma lens when handling difficulties with students means shifting the question from "What is wrong with you?" to "What is happening with you?" (p.428). As it is not always known which students have histories of trauma or who might be dealing with unknown situations in the present, the literature goes on to state that a whole school environment in which all individuals are treated with compassion and care is necessary. The idea of treating all with compassion and care is inclusive of both staff and students.

PVASD's most recent district comprehensive plan (Penns Valley Area School District, 2022) responded to this need with a multifaceted support approach. From mental health personnel resources to an updated social-emotional curriculum and building projects, mental health needs are interwoven into all district-wide planning.

Therapy Dog Interventions in the Educational Setting

One trauma-informed intervention that has been gaining popularity in schools nationwide is the presence of therapy dogs in classrooms. This intervention requires a handler to always be present with the therapy dog. The handler is typically the owner of the dog. However, even if not the owner, the handler has completed the certification process with the dog, and it is a requirement for the handler to be with the therapy dog at all times. Studies show various implementation strategies for therapies involving trained therapy dogs. Although interventions involving therapy animals are gaining popularity, there is not an extensive base of research to support their effectiveness.

Friesen (2009) explored animal-assisted programs with children by reviewing literature related to Animal-Assisted Therapy (AAT). Her research examined the effects of students' physiological, emotional, and social reactions when interacting with animals in a therapy setting. She concluded that when therapy dogs are present with children, they feel like they are in a non-judgmental environment. Furthermore, although the animals cannot necessarily comprehend what the children say, the students feel understood. Friesen's analysis is further supported by Bradley (2013), who studied the effects of a therapy dog on student learning. The research review concluded that therapy dogs may be valuable tools for teachers, counselors, and caregivers in many settings. They also explored the importance of forming meaningful relationships and the

propensity for this to occur with the addition of a therapy dog in the learning environment.

A minimal amount of research on therapy animals, including therapy dogs, has been conducted across various settings and for multiple purposes. For instance, research explored the effects of therapy animals on cognitive and language development (Melson, 2003). As the idea of therapy animals gains ground, therapy dogs are beginning to be commonly seen in school settings to have students read to them, be available in unstructured settings such as recess, and be present during student-centered academic activities. Their presence is significant considering the numerous studies that report declining student achievements in reading, reading comprehension, and math since the COVID-19 shutdown (Contini et al., 2022).

Identified Need for Therapy Dog Interventions

Learning loss is a considerable concern in education today. However, mental health concerns in children and adolescents were already an issue of rising concern. The staggering number of adolescent suicide attempts in 2016 was 53,000 deaths, which was the third leading cause of adolescent deaths in that year (Shah et al., 2020). This number is still lower than in 2016. However, it has continued to increase in the post-pandemic United States. According to the Centers for Disease Control (Curtin & Hedegaard, 2021), “provisional suicide counts in 2021 totaled 47,646, 4% higher than in 2020 (45,979)” (p. 2). Although slightly lower than the 2016 statistic, it now accounts for the second leading cause of death in adolescents and is on the rise (Pennsylvania Department of Education, 2023).

Prevention and intervention are crucial to bringing this number back into decline. The state of mental health in schools is especially alarming, given the knowledge of what

trauma and mental health stress can do to students' capability to learn. Students' reactions to harmful or threatening situations are physiological. They will fight, flight, or freeze without stopping to rationalize or build a plan. For instance, their biological alarm system elicits behaviors not conducive to stable and long-term learning. When feeling threatened, the brain prioritizes survival over learning (Imad, 2022).

Furthermore, mental health needs are showing prevalence in schools today through smaller and sometimes more subtle factors. Parallels can begin to be formed in reviews of data surrounding behavior, attendance, and the perception of school culture. Griffin (2020) makes the comparison between COVID-19 being fatal to a small percentage but making many more ill due to the pandemic, resulting in post-traumatic stress disorder (PTSD) for a small percentage but creating short-term mental health effects for many. It stands to reason that given the effect of the recent COVID-19 pandemic, children will experience ongoing trauma and grief and will need a trauma-informed intervention approach to support this changed mental state.

At Penns Valley Elementary and Intermediate School (PVEI), visits with the therapy dog in past years have been used to reward students for positive behavior and for academic reading support. While teachers were primarily responsible for signing up students for sessions, students typically chose to visit the therapy dog when given that option over other reading and reward options. Although not used in the same structure or for the same purpose of this research, students in the school were motivated by a visit with the therapy dog. As mental health and trauma-informed needs are on the rise at Penns Valley Area School District, there is a need for the therapy dog intervention to move toward a whole-class, social-emotional intervention opportunity.

Effects of Therapy Dog Programs on Attendance

Truancy issues in public school systems have been concerning for many years but have been amplified recently. Although there is controversy over what constitutes truancy, for the purposes of this study, the therapy dog intervention specifically targets an overall look at the number of absences by homeroom and grade level. Research suggests that therapy dogs in classroom settings will encourage improved social interaction between students and their peers and adults (Friesen, 2009). School culture is an identified factor for chronic truancy among students (Maynard et al., 2012). Understanding the role of school culture in raising student attendance, among other educational benefits, leads educators to look for new and creative ways to build this culture.

Teachers in today's society are tasked with academic growth through engaging teaching strategies, which is by itself challenging. Now in addition to academic strategies, "there is a need for a bridge between teachers' instructional strategies and the services provided by school counselors to facilitate learning" (Bradley et al., 2013, p. 6). School counselors play an integral role in teaching social-emotional skills as well as creating safe spaces for students struggling with trauma.

School counselors alone are no longer enough to support the ever-growing needs of students in schools. While teachers attempt to incorporate trauma-informed strategies into classroom practices, intervention strategies that augment the work of teachers and school counselors on this front are needed. Research exists to reinforce the idea that not only are therapy dogs able to support student emotional well-being as counselors have typically done in the past, but they can do so in a way that is not possible through interaction with humans alone (Friesen, 2009). Baird (2023) states, "Therapy dogs

increase students' enthusiasm, confidence, and motivation to attend school and engage in activities, interactions, and challenges that can improve their school wellbeing" (p. 6).

Given this information, it is possible to hypothesize that students will have a higher attendance rate if their school well-being is improved. Therefore, positive effects should occur if therapy dog programs are implemented as an intervention strategy. Given the declining rate of attendance at Penns Valley Elementary and Intermediate School, if positive effects are shown through research, therapy dog interventions should be considered as a more widespread intervention program across the entire school district.

Effects of Therapy Dog Programs on Behavior

Many studies (Gómez-Calcerrada et al., 2021; Talaslampi et al., 2019) have examined the effects of therapy dogs in residential settings for treatment purposes. The importance of touch with residents and therapy dogs has been found to connect directly to their comfort and well-being (Orr et al., 2023). Likewise, in the educational setting, therapy dog interactions have been found to lower verbal, emotional, and behavioral stress (Friesen, 2009). The implications are heavy considering the rising trend of emotional and behavioral needs in students in school settings. The role of education in people's lives is essential to their success as contributing members of the community. Not only does education increase chances for a higher socioeconomic status, but it can also positively affect an individual's well-being. Alternatively, a low level of education can be associated with issues for individuals in adulthood, including social exclusion, prolonged unemployment, and a lack of vocational skills (Taslampi et al., 2019).

While mitigating factors exist in the circumstances surrounding a low level of education, which include but are not limited to low socioeconomic status, low level of parental education, and maltreatment, a common outcome found is a behavioral effect for

at-risk students in the school setting (Huffman et al., 2000). It has also been found that males are more at risk for being less well-educated than females in the general population (Talaslampi et al., 2019). Although not necessarily caused by school culture or antecedents in the school setting, these behaviors lead to a loss of educational time and focus and, therefore, have the effect of low education for students.

For students to learn, they must be actively engaged in school. Students experiencing trauma, which leads to behavioral issues, will have difficulty accessing educational opportunities. This difficulty is in part because students who are trauma-impacted struggle to deal with emotions, which can lead to difficulty expressing their emotions, dealing with difficult situations, and using good judgment (Wall, 2021). The use of interventions to support students with trauma backgrounds and potential behavioral problems is on the rise in schools today. According to Maynard et al. (2019), there has been a significant and rapid increase in the number of schools utilizing trauma-informed practices, which is likely caused by the large number of federal, state, and local initiatives related to trauma-informed care.

Within intervention frameworks, many rely on calming and relaxation strategies. These strategies are supported by adults building safe and supportive relationships in school (Wall, 2021). Therefore, therapy dogs should have an effect that positively factors into the needs of students at risk for behavior based on trauma or other factors. Research shows that therapy dogs have increased overall emotional stability in elementary students (Friesen, 2009). Although the classroom teacher still needs to explicitly teach social-emotional skills and contribute to a positive school environment, introducing a therapy dog removes the power relationship between a teacher and a child. According to Friesen (2009), “the power balance seems to shift by incorporating the ‘non-judgmental’ therapy

dog and what may be perceived by the child as a neutral or ‘highly likable’ adult into the intervention” (p. 265).

Further research indicates that not only is this relationship stabilized by a therapy dog, but the therapy dogs also allow students to experience positive moods while giving them comfort and needed support. These positive moods and feelings of support reduce the anxiety and stress many students feel (Baird, 2023). Given the propensity between increased student anxiety and stress and behavior issues in school, the effect of the therapy dog on these moods has shown positive improvements in behaviors overall (Beck, 2015). Findings also suggest that students are more social with a therapy dog, leading to decreased behavioral problems and increased emotional well-being when the therapy dog is present (Bradley et al., 2013). Grové et al. (2021) found that when therapy dog programs are in place, students benefit from forming a relationship with the dog, and this helps them connect more to the school community and have a greater sense of belonging at school.

Effects of Therapy Dog Programs on School Culture

To understand the effect of therapy dogs on school culture, one must be aware that the school culture of a building can be ever-changing. It is not a static entity; instead, school culture is cyclical in its ever-changing nature. Culture is highly dependent on staff interactions with students and each other and flexible changes to the environment based on reflections of life experiences and the surrounding environment (Hinde, 2005). It can be deduced that when interactions change, positively or negatively, there is a direct effect on the climate and culture of a building. These interactions can depend on personal circumstances, relationship changes, and building dynamics. Considering the need for a

positive school culture, schools should empower students by encouraging them to bring their experiences and voices to the classroom (Imad, 2022).

Some findings suggest the potential for therapy dogs to inform teachers of students' needs and current states of mind (Bradley et al., 2013). Knowing how quickly a culture can change and how beneficial a therapy dog can be for reading and understanding student needs, one can hypothesize that a therapy dog can positively affect the climate and culture of a classroom or school. Brelsford et al. (2017) found through a survey of teachers that there were increases in attention, motivation, mood, well-being, social-emotional development, and cognitive development when therapy dogs were part of the classroom environment. Therapy dogs are uniquely positioned to get close to a student, whether they are experiencing feelings of joy or distress. Because therapy dogs are devoted to their students and trained to be in tune with their emotions, they can be responsive and attuned to needs, allowing for continued joy or support when needed emotionally (Sanford, 2014). This quick intervention can support a change in a student's mental or behavioral state before an escalation occurs, allowing the school's climate to remain positive by utilizing a therapy dog.

Therapy Dogs and Autism Spectrum Disorder

Additional studies focus on the effects of a therapy dog on students with Autism Spectrum Disorder (ASD) who are in a separate classroom compared with those in the regular education classroom. It was reported that students with ASD had more behaviors that utilized a social approach and less social withdrawal. In contrast, according to their teachers, students in the regular classroom had more significant increases in positive social interactions (Brelsford et al., 2017). The PVEI classrooms that participated in this study included students with ASD, and therefore, the effects of therapy animals on

students with ASD are essential to note. The classroom and school culture are directly related to peer-to-peer and adult-to-student relationships. The evidence to support increased social interactions for both populations of students is important when determining the effectiveness of therapy dogs on school culture.

Therapy Dogs and Junior High Students

A study specific to junior high students has provided further insight into the effect of therapy dogs on school climate. The study found that the students who most frequently visited the therapy dogs did not perceive that they fit in with the average crowd of students. The students struggled with social interactions and friendships and often identified home factors that were causing emotional distress. The study (Weinbaum et al., 2021) further deduced that therapy dogs could mediate change for many emotional issues in students' daily lives. Individual factors that students deal with play a significant role in the perception of school culture. The ability to support individuals through emotional issues and social struggles has the potential to increase the overall school culture.

According to Weinbaum et al. (2021), junior high students involved in the therapy dog study

recognized a sense of *collective wellness*. Interestingly, it was recognized that the dogs could meet the needs of all students and that these needs were unique, ranging from simply creating a positive model of acceptance to being a helper for students to learn basic life skills. (p. 12)

This varied level of support emphasizes the belief that individual improvements for students are evident, and therapy dogs create positive social skill habits in students that contribute to the overall positive school culture.

Mentoring Programs for At-risk Youth in the Educational Setting

As an alternative to the therapy dog intervention, there is support in the literature for mentoring programs for students as trauma-informed interventions. A review of trauma-informed approaches by Wall (2021) states five core components necessary for their success: “safe and supportive relationships, structure and stability, shared agency, self-awareness and self-regulation, and social-emotional learning and skill building” (p. 126). The text continues to explain the positive impact of empowering students to share opinions, negotiate, and allow their voices to be part of the discussion process. This thought process ties directly to the concept of mentoring in schools. Mentoring is structured to allow a student and adult to form a relationship in which the student is comfortable sharing, asking for advice, and discussing goals (whether personal or academic). Multiple researchers studying trauma-based practices have focused systems and professional development on developing safe and trusting relationships between adults and students. While various interventions and research studies have provided steps to create this relationship, a common theme among them is having an intentional and structured approach as there is in a mentoring program.

For the purposes of the research study to be conducted at Penns Valley Area School District, students will be placed with mentors trained in a mentoring process and will have a step-by-step guide for implementing a mentor session. Questions and prompts will be supplied for mentors, and mentees will be able to answer questions and make notes about their needs during the mentoring session before the session begins. Research suggests that for the implementation of trauma-informed practices to be successful, not only must staff buy into the concept, but there must also be ongoing professional

development in the practice, as well as the flexibility to adjust practices to meet the needs of students or entities (Kimes, 2019).

Penns Valley Elementary and Intermediate School has implemented a mentoring program for several years in grades five and six. Adult mentors follow scripted questions during individual mentoring sessions to build relationships with students. The mentors who fill this position are staff members trained in the Penns Valley Elementary and Intermediate School Mentoring program and who work regularly with the students outside of mentoring. Beyond relationship-building dialogue, the chosen mentors check student academic progress, hear social concerns, and set weekly goals between mentoring sessions. Direct instruction on social-emotional skills, such as problem-solving, can help improve students' social awareness and competency (Wall, 2021). The problem-solving and goal-setting process during mentoring can help students build on individual social-emotional needs and goals. Goal-setting for social-emotional needs is extremely important given the increase in mental health concerns noted nationwide and paralleled by those prefaced regarding Penns Valley Area School District.

Effects of Mentoring Programs on Attendance

Mentoring has proven to benefit students. One of these benefits is a decrease in truancy for students affected by trauma. Rivers (2010) identifies multiple factors that work cyclically to improve school attendance. Among other factors, having a contact person at school and becoming involved in a mentorship relationship with that person is recommended. This person will not only keep track of absences and follow through with the student when they miss school but also help the student form a connection that motivates them to attend school each day. For students at risk for truancy issues, forming

positive relationships at school can be the difference between staying home and getting to campus each day.

While research has supported mentoring as having positive effects on students, it must be noted that it can be time-consuming and requires the support of multiple staff members to succeed. A positive finding that supports mentoring as an actionable intervention comes from Maynard (2012), who suggests that those who do not have significant resources or the time required to develop complex, collaborative programs can still help improve the attendance of truant students. As the district is considering implementing interventions to support students' attendance in school effectively, it is essential to note that mentoring is a reasonably simple intervention that can have clinically significant positive results. Guryan et al. (2020) found in a study on a mentoring program that attendance improved at all grade levels, Kindergarten through twelfth grade. However, the study showed the most significant increases in attendance at the middle-school age level.

Effects of Mentoring Programs on Behavior

Behavior referrals and classroom behavior incidents have increased at Penns Valley Elementary and Intermediate School. Although the data is inconsistent during the 2019-2021 school years because of school shutdowns and illnesses, the data shows a consistent incline before and since those years. This increase is coupled with an increase in enrollments and withdrawals after the start of the school year. Data from Penns Valley School District's Student Information System shows that district-wide enrollments and withdrawals increased from twenty-eight during the 2021-2022 school year to forty-one during the 2022-2023 school year. During that timeframe, reported discipline incidences rose from 214 in the 2021-2022 school year to 251 in the 2022-2023 school year.

Twenty-three student enrollments or withdrawals have occurred in the first three months of the 2023-2024 school year. Thus far, there have been 142 discipline incidents cited at Penns Valley Area School District in the 2023-2024 school year. Suppose the remainder of the 2023-2024 school year follows a consistent pattern of increases. In that case, this year will yield the most withdrawals, enrollments, and behavior incidences of the past three years.

A clear trend at Penns Valley Area School District is increased transience and behavior incidences. Research indicates that mentoring positively affects students from at-risk populations and those who are transient (Vannest et al., 2008). Given the learning loss and academic gaps evaluated through comprehensive planning, which have been a significant concern in the last several years, interventions must be implemented (Penns Valley Area School District, 2022). However, these interventions should consider a daily schedule with little room for intensive interventions because of increased academic support to close the gaps.

Trauma-informed interventions support positive relationships between students and adults. This stems from the fact that many trauma-impacted students have strained familial relationships (Wall, 2021). Given this information, students must build supportive adult and peer-to-peer relationships for the mentoring relationship to succeed. Adults in the mentoring role must complete training to practice scenarios that may occur during mentoring and appropriate responses. They also are given scripts to support relationship building. The mentoring process allows students to discuss peer issues and concerns, from bullying to friendship issues. They can talk with trusted adults in a safe space and are guided to the next steps for handling peer-to-peer relationship concerns. For students who do not have solid familial relationships, the mentoring program is a

pathway to an open and trusting environment. Having a safe space and trusting environment will allow students to learn conflict resolution, social competence, and expand their understanding and ability to form positive friendships with peers (Wall, 2021).

Mentoring and Bullying

Bullying, the act of repeatedly harassing, intimidating, or harming a student, is and has been a hot topic in education for years. While there is evidence that it happens at the elementary level, middle school reports of bullying are the highest, with 28% percent of middle schools reporting bullying that occurs daily or at least once per week, followed by high schools with 16% (Centers for Disease Control, 2023). To decrease behavioral issues in middle-level students, one must take into account the intensity with which bullying occurs. The approach to limiting bullying behaviors is multifaceted and can incorporate mentoring support. According to a study by Thompson and Smith (2011), “adult modeling of positive relationships/communication was quite widely used and rated as highly effective” (p. 20). In the study, positive relationships increased through a school-wide mentoring program. Multiple studies have shown that school mentorship programs provide the support students need to develop social skills, regulate emotions, and problem-solve situations (Owora et al., 2018). Trauma-based interventions, such as mentoring, can also be used to decrease behaviors related to bullying.

Mentoring and Threat and Risk Assessments

Aside from bullying concerns, daily behaviors are on the rise at PVEI, leading to increased threat assessments completed by school staff since the implementation of the threat assessment process in the 2021-2022 school year. Threat assessment protocols became required for all school districts via the Pennsylvania Department of Education

that same year. This procedure is targeted at screening any threat made by a student and completing a subsequent assessment if warranted by the screener. Although there was an initial overrepresentation of data as teachers and administrators learned the appropriateness of referrals for threat assessments, the data soon steadied and, since then, has been on a slow incline.

The initial overrepresentation is likely due to insufficient training on the process for all staff or the behaviors that warrant a screening. Once the initial referrals were made, administrators realized the need for further training. Since then, the referrals are a more accurate representation of student needs. Risk assessments, the counterpart of threat assessments that determine if students are a threat to themselves, have also had a steady incline from the process's inception in the same year. This incline correlates with the increase in mental health services that have been requested in the district. Based on the increase in need, Penns Valley Area School District has added an outside social work contractor to support students. The Board of Directors has also voted to increase the number of school counselors at the elementary and intermediate levels.

Although multiple studies have been conducted researching the effectiveness of interventions to prevent violent behavior, results are inconclusive across the literature (Flay et al., 2004; Jager et al., 2009; Wilson et al., 2003). However, Elliott (2023) found that programs that focused on individual goals such as problem-solving skills, decision-making, and self-control significantly impacted preventing violent behavior. The research is promising for schools that have the capabilities to implement a mentoring program that could support students' individual goals in the areas mentioned above.

Risk assessment data has also shown a steady incline over the past several years. There is mounting research being conducted on the mental health effects of the COVID-

19 of 2020 pandemic. Students, especially adolescents, are not immune to mental health concerns. Data shows that the concerns are founded, yet no overwhelming bank of resources is available for educators to deal with these mental health concerns in the school setting (Liang et al., 2020). However, there is evidence to support that targeted interventions focusing on self-criticism have contributed to a decline in non-suicidal self-injurious behaviors (Ramsey, 2019).

Data from risk assessments conducted at Penns Valley Area School District shows that a majority of founded risk assessments are in response to reports of self-injurious behaviors as opposed to suicidal ideations (Penns Valley Area School District, 2024). While outside agencies and mental health supports need to be implemented immediately for all students whose results on risk assessments are a founded risk, planning for ongoing school-based interventions is also crucial. Mentoring is a school-based intervention that can provide preventative support and ensure that an adult regularly intervenes with students who are at risk for following through on self-injurious behaviors.

Effects of Mentoring Programs on School Culture

Students' perception of school culture has been measured at PVASD every quarter for the past ten years through a Penns Valley Area School District self-created survey. Teachers and parents take an annual district-created survey tailored to their role in the district. The results of the school culture surveys are dissected by the administration, teachers, School Directors, and the community semi-annually for student data and annually for teacher, staff, and parent data. Growth is measured through percentage increases, and district goals are established based on progress. The perception of school culture by all stakeholders is a priority to the school district, so much so that a

considerable amount of time is spent each year determining how to use collected data to support the growth of a positive school culture. The importance of the analytical view of PVASD's data is even more apparent when considering that culture can be a self-repeating process.

Peer Relationships and School Culture

Hinde (2005) stated that “culture is shaped by the interactions of the personnel, and the actions of the personnel become directed by culture” (para. 5). The implications are that the personnel have control over a cultural climate that evades all aspects of the educational setting, including student perception. It can be found that positive relationships among adults and relationship-building opportunities lead to improved culture (Vreeman & Carroll, 2007). This is true for student perceptions of school culture and employee perceptions of their work environment and readiness to align with organizational goals. This phenomenon is supported by an understanding that the relationship between supervisor and peer, as well as peer to peer, can transform knowledge from individual to individual as well as groups and the organization (Shah et al., 2020). All these factors occur through forming positive peer relationships (Shah et al., 2020).

Trauma Experiences and School Culture

Transference of the thought process that relationship-building creates a positive workplace culture to student-to-adult relationships is the precipice for aligning mentoring programs with creating a positive school culture. However, the need for these relationships is exacerbated by the number of students who have traumatic experiences in the classroom setting. Prior to the COVID-19 pandemic of 2020, students with mental health and trauma experiences were present in schools. However, post-COVID-19

pandemic, the number of students who have experienced trauma and those dealing with mental health has increased exponentially. The implications are the same, whether this is because of increased trauma or awareness. School districts, specifically educators, need tools to help students deal with their experiences. This task can be difficult as students who have trauma in their backgrounds have difficulty trusting adults, feeling safe, or feeling connected at school (Rossen, 2013).

The condition of trust is imperative to growing relationships and building a positive culture. As stated by Jerald (2006), to create and maintain a strong culture, staff and students must be able to develop relationships that work together and understand the school's goal. The need to cultivate trusting relationships is further applicable to students with trauma experiences by Wall (2021), who emphasized the need to address social-emotional instruction and address issues with compassion and promptly, which allows traumatized students to learn risk-taking in learning and building relationships.

Mentoring is a process through which staff and students enter a relationship that allows for structured but individualized relationship-building sessions. Adults can help build an aligned vision for the student's education during structured mentor sessions. They also can build trust by establishing that they will follow through with any issues or concerns the student raises during the mentoring session. Although mentoring programs display variance depending on the adopted structure and fidelity of implementation, the components exist in various mentoring programs to support the social-emotional and trust-building relationships necessary for students with trauma to build the relationships necessary for contributing to a positive school culture and have healthy perceptions that provide evidence that a positive culture is in place and growing.

Mediating Factors

Despite literature supporting the effectiveness of trauma-informed interventions in the school setting, mitigating factors can influence the effectiveness of practices. As in all things education, one must understand there is no one-size-fits-all approach to support students. While studies have shown a positive correlation between the trauma-informed practices of mentoring and therapy dogs, as reviewed through the literature, not all students have successfully applied these approaches (Beck, 2015; Brelsford et al., 2017; Miranda-Díaz et al., 2020). The onus of the educators involved and their willingness to embrace trauma-based interventions must also be factored into the success of interventions. There are many contributing factors to teacher efficacy, which include, but are not limited to, professional development, awareness of trauma concerns, and resources and accessibility to needed materials and time for successful programming.

Factors Limiting the Effectiveness of Therapy Dog Interventions

Multiple research studies (Gómez-Calcerrada et al., 2021; Grové et al., 2021; Melson, 2003) support the implementation of therapy dogs for academic, behavioral, social-emotional, and physical growth. Despite positive results across studies, some concerns accompany the implementation of a therapy dog in a school setting. While all dogs who have gone through a certification program as therapy dogs must have regular check-ups with a veterinarian and also proof of updated vaccinations, there are sanitation (defecation, urination, vomiting) concerns as well as consideration for the health and safety of students when considering the implementation of a therapy dog (Beck, 2015).

Therapy Dogs and Allergy Concerns

Allergies to animals also cause concern for schools planning to implement therapy dog interventions. Schools participating in therapy dog interventions must take

appropriate precautions to ensure that all families are aware of the dog's presence and have the opportunity to share allergy concerns. Once allergies are known, schools must make arrangements to avoid putting students in harm's way based on dog allergies. While time-consuming and, at times, a logistical challenge, allergy concerns can be managed given an organized approach to scheduling therapy dog interventions. For instance, portions of the school can have devoted sites for the therapy dog to meet with students. Identified spaces would allow for the separation of any students with allergies. There should also be hand-washing protocols for students who come in contact with the therapy dog.

Therapy Dogs and School Safety Concerns

Another consideration for allowing therapy animals into a classroom is student safety. The Alliance of Therapy Dogs, the certification program that was used by the Penns Valley Elementary and Intermediate School's therapy dog, stated that

A certified therapy dog must be friendly, patient, confident, gentle, and at ease in all situations. Therapy dogs must enjoy human contact and be content to be petted, cuddled, and handled, sometimes clumsily, by unfamiliar people and to enjoy that contact. (Alliance of Therapy Dogs, 2022)

The certification program verifies that its therapy dogs are at ease in multiple situations by training them in locations with high noise, chaos, and people. They also choose quieter locations that require one-to-one interaction with children and adults. The emphasis on the demeanor of a therapy dog is to ensure that students and handlers do not get into situations that could lead to a dog bite. The effectiveness of a therapy dog intervention depends on the dog's training, temperament, and behavior. If a dog is not well-trained or exhibits unpredictable behavior, it may cause distress rather than provide

comfort. The school must first ensure safety before considering a therapy dog intervention. The school district needs to follow a strict protocol before implementing a therapy dog program that addresses all safety measures, including allergies, the temperament of the animal, and logistical considerations in the school building.

Alternatively, many argue against the use of therapy dogs in the school setting because of the well-being of the dog rather than the students. Proper protocols need to be put into place when involving animals in trauma-based interventions. It is essential to ensure that dogs have water and a safe environment to take a break between sessions. The handler must carefully monitor the dog for signs of stress. Although stress signals can vary depending on the animal, including shaking, putting ears back or their tails between their legs, persistent licking, and not wanting to move away from the handler (Friesen, 2009).

Factors Limiting the Effectiveness of Mentoring Programs

Mentorship in a school setting is a complex process. One must consider and plan for the many contributing factors to instituting a mentoring program to be successful. Research surrounding mentoring and effective program components is widespread in the educational setting and across various other organizations, including business, medical, and other fields of employment. Multiple components are generalized as effective for mentoring across different settings. Some that are common are knowledge or training of the mentor, communication and establishing trust, commitment and engagement, and altruism of the mentor (Holmes et al., 2018).

For mentors to effectively implement an intervention with students, especially those with traumatic backgrounds, they must be adequately trained on a structured mentoring process as well as trauma-informed practices. Interdisciplinary training that

ranges from brain science, neurobiology, and mental health to the effects of trauma as they present in school settings is essential to mentor-mentee success in the program (Thomas et al., 2019). Often, social-emotional learning curricula are intertwined with mentoring programs. The structure of this united approach allows educators to use a scientifically based curriculum that targets trauma-informed approaches so that all students are getting the needed support to be successful.

Establishing a relationship of trust between the mentor and mentee is crucial to the effectiveness of all other aspects of the mentoring program. A trusting relationship will help the student connect to school and feel a sense of belonging. It can also positively impact attendance, academic motivation, and goal setting. Coping skills, social skills, problem-solving skills, and an increased perception of a positive school climate are contingent on the relationship between mentor and student having a foundation of trust. Trust is essential because students with trauma backgrounds struggle to feel safe and connected. Building trusting relationships will create a space for students to feel safe and empowered and learn to thrive (Imad, 2022).

Mentor Commitment

Commitment and engagement are factors that can contribute to a variety of educational initiatives. If a mentor is committed and has bought into the concept of mentoring, their guidance and encouragement will have the ability to enhance a student's engagement in school activities. A study on supporting foster youth through a mentoring program resulted in information from stakeholder groups that found positive outcomes when a trusted adult was fully and emotionally invested in the student's well-being (Kimes, 2019). Without the mentor's investment, it has been found that the school can influence the results negatively as a moderating factor in the effectiveness of the trauma-

informed intervention. Specifically, according to Burckhardt (2017), “the teacher’s attitude to the study may influence the engagement of students” (p. 25).

As previously stated, mentors must fully embrace the educational practice of mentoring for positive and sustained results to be recognized. This concept ties directly into the final common factor: the altruism of the mentor. As can be seen in any situation when a person genuinely cares versus those where an obligation is being fulfilled, the approach and passion toward the project are evident when altruism is at the heart of it.

Miranda-Diaz et al. (2020) found that “altruism and empathy, particularly the ability to connect with youth across cultural differences, are considered important mentor attributes conducive to healthy mentoring relationships” (p. 174). Mentors who take an altruistic approach to mentoring are more likely to become culturally competent and build an understanding and respect for the diverse backgrounds of their mentees. Understanding and respect can lead to a more productive and effective mentorship relationship.

Challenges and Limitations of Trauma-informed Interventions

Trauma-informed interventions are a fairly recent trend in education. Therefore, the amount of research related to the effectiveness of these interventions in a school setting is limited. Furthermore, as their inception in the school setting becomes common, researchers find that initiatives conducted without proper professional development are less effective. Furthermore, teacher well-being may also be impacted by the increase in mental health needs in schools and the added task of implementing trauma-informed interventions. A consideration that almost half of the teachers in a national sample have stated they plan to transfer or leave the education profession due to school safety and climate concerns, a lack of teacher resources, and mental health needs further illustrate

the need to provide added training and resources for teachers (Cafaro et al., 2023). In this study, the trauma-informed interventions of therapy dogs and mentoring offer specific challenges to educators.

Challenges of Therapy Dog Programs in the Educational Setting

A challenge educational institutions face when implementing therapy dogs is inconsistent intervention implementation. There are several ways that therapy dog programs operate in schools. A significant difference is the distinction between schools owning and handling their therapy dog or handlers volunteering or being paid to bring therapy dogs from an outside agency or private contractor. When therapy dogs are brought into the school setting by outside handlers, there is a potential for inconsistency in their presence. Students should have regular and predictable access to a therapy dog to build a trusting relationship. Regular access occurs through careful scheduling and ensuring that contingency plans are in place when the therapy dog or the student is unavailable.

Time with students is a factor in consistent scheduling, as stated above, as well as the amount of intervention time scheduled. A study examining the effects of therapy dogs as a crisis intervention found inconclusive results based on multiple factors, a major one being the limited time that the intervention took place. The researchers concluded that the current study incorporated a fifteen-minute intervention, which was likely too short to positively influence stress symptoms over an extended period (Lass-Hennemann et al., 2018). A second study, which focused on the influences of interacting with pets when in distress, had a similar finding as the former study. Individuals in that study only had ten-minute interactions per session, leaving researchers questioning the effectiveness of a short intervention period (Matijczak et al., 2023).

Resource constraints are also a cause for concern with a therapy dog program. Proper training and handling of therapy dogs is crucial for successful implementation in a school setting. While there may be interest from a school district in implementing a therapy dog program, there may not be trained handlers and dogs who can fill the need. More research is needed to support the implementation of therapy dogs in schools, but it is not significantly widespread. If more studies are completed, and there are academic, social-emotional, and behavioral benefits, there will likely be a need for handlers and therapy dogs. When this occurs, the issues with finding properly trained handlers and therapy dogs would hopefully decrease (Beck, 2015).

Limitations of Therapy Dog Programs in the Educational Setting

It is important to note that the benefits of therapy dogs may not be generalized to all individuals or all trauma types. For this study, therapy animals will be used as a whole-class intervention. However, considerations must be made for the safety and well-being of all students. Some students may have experienced traumatic events involving dogs in their childhoods and would not benefit from a therapy dog intervention.

Others may have allergies to or fear of dogs, which would counteract any perceived benefit. In his study on therapy dogs in school and well-being, Baird (2023) concluded that:

participants believed that these students, who often have a generalized fear of dogs, could experience anxiety and panic in the presence of therapy dogs.

Participants also reflected on the emotional effects that therapy dogs could have on students with little or no experience with dogs, especially those without pet dogs at home.” While this study was qualitative and asked for participants'

perceptions, these sentiments were shared across multiple participants and, therefore, need to be considered when implementing a therapy dog program.

(p. 7)

There is a vast expanse of therapy dog interventions, which vary from targeted goals (academic, social-emotional, trauma recovery, physical activity) to individuals' backgrounds (physical disabilities, cognitive disabilities, mental health concerns, reading deficits). Although research has found benefits across multiple goals, settings, and participant abilities, there should not be a generalized view that if the intervention works for one area of need, it will apply to all.

Another limitation of therapy dog programming is the inconsistency of current practices. Using a therapy dog as an intervention in the school setting is gaining popularity. However, there are currently few resources accessible to educators that give guidelines and procedures for implementing a therapy dog program in various settings and with multiple populations of students (Grové et al., 2021).

Challenges of Mentoring Programs in the Educational Setting

Similar to therapy dog intervention, mentoring programs can face unique challenges in the educational setting. Although not limited to the following, several challenges are noted across multiple research studies. These include limited mentoring time, successful matching of mentors and mentees, professional development issues, and cultural sensitivity.

Time constraints are a problem that many educators face when implementing a mentoring program. This challenge is partly due to the staffing shortage many schools face today and a scheduling issue. Schools are currently resource-constrained in multiple areas, such as dealing with learning loss and providing special education or mental health

services, and therefore, program benefits need to be maximized through proper training (Cafaro et al., 2023) and creative uses of time and human resources. This challenge ties directly into the next issue of concern: matching mentors and mentees to allow for the most successful relationships. The issue of assigning mentors and mentees is of great importance when considering the backgrounds and needs of the mentored students. For instance, a study of fostered students showed that the mentorship program was unsuccessful if there was no trusting relationship between mentors and mentees (Kimes, 2019). Furthermore, mentors who felt they were inappropriately trained to deal with students who have experienced trauma were not likely to complete their mentor relationships.

Similar to the consideration of a therapy dog program in educational settings, as previously stated, mentoring programs in a public school must be sensitive to cultural backgrounds and differences. Miranda-Diaz et al. (2020) state, “Since mentors and youth often come from different socio-cultural backgrounds, mentors’ skills and ability to appreciate those differences are crucial to build and maintain a strong relationship” (p. 178). Despite these challenges, research has shown that mentoring can have positive effects and benefits for students if considerations are made for program structure and appropriate professional development is in place. Given appropriate professional development, mentors will be able to have the skills necessary to determine student needs, understand differences and background considerations, and provide the necessary level of support.

Limitations of Mentoring Programs in the Educational Setting

Mentoring programs are not new to educational settings. There is research to support the use of such programs for targeting truancy, behavior concerns, and students

who have experienced trauma (Maynard et al., 2012; Miranda-Díaz et al., 2020; Wall, 2020). The most significant limitation apparent across most research studies is the lack of a consistent structure and supporting professional development for staff. If educators are going to successfully mentor students who have trauma backgrounds or mental health concerns, there must be a learned understanding of how best to support those students.

Trauma-informed interventions, explicitly mentoring, are not passing trends. Imad (2022) writes, "It is about wanting to disrupt educational systems that too often prioritize knowing over caring, competition over collaboration, intervention over prevention, and individuals over community" (p. 45). In order to effectively implement this belief, educators need the appropriate training, resources, and support from the administration to implement programs effectively. Effective implementation will be evident in data supporting increased student achievement, attendance, and perception of school culture by mentored students.

Administration plays a vital role in the implementation of any intervention program. Intervention programs typically need approval from the Superintendent's office to ensure equity among all school buildings. Once approved, building leaders must support the implementation of the adopted program(s) by managing scheduling and human resource needs. The building principal must also monitor interventions to ensure they occur as scheduled and follow the appropriate protocols.

Implications for Practice

The literature overarchingly states that for therapy dog and mentoring intervention practices, there must be consistency, structure, and training for programs to be effectively implemented in school settings. Professional development should focus not only on applying trauma-informed practices but also on organizing and structuring the

interventions. For instance, staff members need information about session structure regarding relational information versus goal setting and academic encouragement. They also need to build systems in the classroom structure and organization that allow student mentoring or therapy dog interventions to occur.

Another vital component of implementing trauma-informed interventions is the collaboration between home and school. Therapy dog interventions require background information from families on allergy concerns, fear of dogs, and cultural customs that may interfere with a student's ability to participate in the intervention. Similarly, families must be aware that mentoring programs will encourage students to build trusting relationships and, therefore, prompt students to talk about their personal experiences and academic life experiences. Overall, with thoughtful planning, organization, and devotion of resources to trauma-informed interventions, therapy dogs and mentoring programs could benefit students in the school setting.

Chapter III

Methodology

Since the start of the COVID-19 pandemic, mental health concerns in public schools have risen. According to the National Center for Education Statistics (2022), a staggering 96% of public schools reported that the number of students requesting mental health services increased. Penns Valley Area School District found this same trend to be true. From pre-COVID-19 to the present, threat and risk assessments in the district increased by 18% and discipline referrals by 122% (Penns Valley Area School District, 2024). This startling trend precipitated the need for analysis of research related to increasing the mental health of students in public schools. In this chapter, the framework that was used to analyze the effects of the trauma-informed interventions of therapy dogs and mentoring on student behavior, attendance, and perception of school culture was introduced. Trauma-informed interventions were defined as “programs, organizations, or systems that realize the impact of trauma, recognize the symptoms of trauma, respond by integrating knowledge about trauma policies and practices, and seek to reduce retraumatization” (Maynard et al., 2019, p. 1).

A mixed-methods research design was utilized to synthesize qualitative data from teacher surveys regarding student perceptions of school climate, local student assessment data about school culture, and quantitative data from the school district’s student information system on attendance, behavior, and threat and risk assessments. The mixed-methods research design allowed for a comprehensive analysis of the research problem, with the intent to contribute to in-depth insights about the effectiveness of therapy dogs and mentoring interventions in the public school setting.

Purpose

Declining mental health across the United States has driven a need for local school districts to employ trauma-based interventions in educational settings. The State of Student Mental Health Survey (ECINS, 2022) stated that 85% of respondents agreed that students are more stressed than in previous years. The National Center for Educational Statistics (2022) reported that just 56% of schools have the support needed to deal with increased student needs in public schools. Based on this data, it was determined that there was a need for further research into trauma-informed interventions, specifically those that trained staff to use a trauma-informed lens when they prevented and de-escalated problematic behaviors (Maynard et al., 2019). Therapy dogs and mentoring were identified as two trauma-informed interventions that showed potential for increasing school culture, attendance, and behavior in schools. The existing research showing positive effects of these interventions as well as the ability to implement them in a school setting flexibly, led to their employment as the chosen trauma-informed interventions of this research study.

Multiple research studies (Gómez-Calcerrada et al., 2021; Grové et al., 2021; Melson, 2003) found that the implementation of therapy dogs had positive effects on academic, behavioral, and social-emotional growth. Furthermore, Grové et al. (2021) linked the implementation of a therapy dog program in school to student reports of feeling more connected to the school community and having a greater sense of belonging. This, in turn, led to an increase in school attendance. Improved behavior was also a consideration of the therapy dog research. A survey of teachers about the implementation of a therapy dog program noted increased attention, motivation, mood,

well-being, social-emotional development, and cognitive development in students when the therapy dogs were present (Brelsford et al., 2017).

Research on mentoring programs in public schools also revealed positive effects on behavior, attendance, and school culture. Rivers (2010) found that having a contact person in school and being involved in a mentorship program were factors contributing to improved student attendance in school. The positive correlation between a safe and trusting environment through a mentoring program and student growth in conflict resolution and social competence was also identified (Wall, 2021). These results were further supported by Vreeman and Carroll (2007), who found that positive relationships among adults and students led to improved culture.

Penns Valley Area School District identified a need to improve the mental health and school perception trends. The decision to focus on these areas was a conclusion formed through the school district's comprehensive planning committee. The committee met multiple times during the 2021-2022 school year and analyzed local survey data as well as academic data (Penns Valley Area School District, 2024). They determined that mental health and perceptions of school culture were two areas that need to be considered in future planning. An analysis of therapy dogs and mentoring interventions was needed to assist the school district in developing effective plans to target mental health concerns. While an analysis of existing research occurred in the literature review, research with Penns Valley Area School District participants exploring the district's own data provided the most guidance on whether one or both of these interventions would effectively meet the needs of students in the district. Therefore, four research questions were identified to determine the relationship between student and teacher participant perceptions of school

climate and therapy dogs and also the relationship between student and teacher participant perceptions of school climate and mentoring in the Penns Valley Area School District. The four questions that guided the research are as follows:

1. What is the relationship between student's perceptions of school climate and the presence of a class-wide therapy dog as measured by student behavioral office referrals, Penns Valley Area School District's Threat and Risk Assessments, school attendance, and the Penns Valley Area School District School Culture Survey during the 2023-2024 school year?
2. What is the relationship between students' perceptions of school climate and the use of a class-wide teacher-student mentoring program as measured by behavior, Penns Valley Area School District's Threat and Risk Assessments, school attendance, and Penns Valley Area School District School Culture and Climate survey during the 2023-2024 school year?
3. What is the relationship between teacher perceptions of school climate and the use of a class-wide therapy dog as measured by a teacher perception survey?
4. What is the relationship between teacher perceptions of school climate and the use of a class-wide teacher-student mentoring program as measured by a teacher perception survey?

These questions were designed to understand the effects of mentoring and therapy dog programs on school climate through the analysis of qualitative and quantitative data. The information gained from this study supported a comprehensive view of the urgency surrounding increased support for students, given trends in mental health and school

climate data in relation to the benefits and limitations of these trauma-informed interventions.

Setting & Participants

The Penns Valley Area School District, located in Central Pennsylvania, is a small, rural school district known to the localized community for the large amount of land that it spans. It envelopes roughly 255 square miles, and the entire area has a population of 13,180 people (“Penns Valley Area School District – U.S. News Education,” 2021). Although the census shows a slow growth in the population, this is mainly credited to the increase in the Amish population that lives in the school district. Therefore, the census growth has not transferred to an increased district enrollment, as the school-aged children of Amish families in the Penns Valley Area School District do not traditionally attend public school.

Penns Valley Area School District had an enrollment of 1,430 students in Kindergarten through twelfth grade, with a median household income of families in the district of \$63,105 (“Penns Valley Area School District - U.S. News Education,” 2022). While this rural community has been home to many small business owners and farmers, The Pennsylvania State University, located within a half-hour distance from most areas in the school district, has been a significant source of employment for the Penns Valley residents (Shields et al., 2006).

Penns Valley Area School District students are separated into four buildings district-wide. There are two kindergarten through fourth-grade buildings on the outlying ends of the district. More centrally located are an elementary and intermediate school and a junior and senior high school. The elementary and intermediate school, Penns Valley

Elementary and Intermediate School, contains one of the three kindergarten through fourth-grade elementary schools. It also houses all of the fifth and sixth-grade students district-wide on the intermediate side of the building. Penns Valley Elementary and Intermediate School has five sections of fifth-grade students and five sections of sixth-grade students, with 87 students in fifth grade and 104 students in sixth grade. Programs for elementary students who receive multi-disability support, autism support, and emotional support are also housed at Penns Valley Elementary and Intermediate School. Five students participate in the multi-disability classroom for fifth and sixth grades and two students who are enrolled in the emotional support classroom at these grade levels. All of these students were present in homeroom classes for the therapy dog and mentoring interventions.

The school district's student population was 96% white (Penns Valley Area School District, 2024). The high percentage of white students suggested that the community may have demonstrated a bias toward the traditions and values of that culture. These traditions and cultural considerations were accounted for when determining interventions appropriate for the research study. Approximately 38% of students in the district qualified as economically disadvantaged (Penns Valley Area School District, 2024). At the elementary level, the students identified as economically disadvantaged are enrolled in three separate elementary buildings. Given that in fifth grade, students from all three elementary buildings are combined at Penns Valley Elementary and Intermediate School, it provided representation of all demographics of students in the Penns Valley Area School District in one building.

The research setting chosen for this study was Penns Valley Elementary and Intermediate School. This school housed one of the three kindergarten through fourth-grade buildings in the district as well as the entirety of the fifth and sixth grade population of the district. Given its unique construct and the fact that all students in the district combined for the first time when entering fifth grade at Penns Valley Elementary and Intermediate School, it provided an opportunity to utilize a research setting that represented the diverse needs of the district in one school building.

Sixteen percent of students in the Penns Valley Area School District qualified for Special Education services (Penns Valley Area School District, 2024). The majority of elementary students who received special education services in the district attend Penns Valley Elementary and Intermediate School. This is due to the fact that special programs for students with supplemental support needs have historically been located at Penns Valley Elementary and Intermediate School. Students in these programs were included in regular education classrooms during mentoring and therapy dog sessions which allowed for a full demographic of the district's enrollment to be studied.

Penns Valley Elementary and Intermediate School represented the diverse demographics of the district. It also was determined to be a viable option as a research setting through a review of Pennsylvania Youth Survey (PAYS) data from 2021 (Pennsylvania Department of Education et al., 2021). This data revealed that 72% of students in grades six and eight said they felt sad or depressed on most days. Data from the same survey indicated that 45% of these students sometimes think that life is not worth living. These numbers have increased since the pandemic of 2020 and were

factored into human resource considerations, curriculum planning, and intervention support in the Penns Valley Area School District.

This research study was implemented in the Penns Valley Elementary and Intermediate School with participant teachers from the fifth and sixth-grade classrooms. The 191 students enrolled in the fifth and sixth grades were separated into 10 homeroom sections. There were five sections at the fifth-grade level and five at the sixth-grade level, with one regular teacher in each classroom. There were two paraprofessional staff members who supported students with learning disabilities in the regular education fifth-grade classrooms. There was also one special education teacher who supported students with learning support in the regular education classrooms. All of these individuals were invited to participate in the study, for a total of 13 potential participants.

Students in fifth and sixth grade also had classes with Itinerant teachers for art, music, agriculture, guidance, and physical education. They saw these teachers one week consecutively and then rotated to another Itinerant class the following week. The Itinerant teachers were not invited to participate in the study as they only had contact with the fifth and sixth-grade students one out of every five weeks. There was a school counselor, school psychologist, school social worker, and building principal who also worked with students. As they did not consistently interact with the students, they also were not asked to participate in the study.

Informed consent procedures were reviewed with all potential participants of the research study. The availability of an opt-out option and consent statement were clearly indicated in the survey, as depicted in Appendix B. The survey and informed consent statement were approved by the Institutional Review Board (IRB).

Research Plan

This research plan was aimed at trauma-informed interventions and the relationship they had on student perceptions of school culture and mental health. The Fifth and sixth-grade classrooms at Penns Valley Elementary and Intermediate School implemented mentoring and therapy dog visits during the 2021-2022 and 2022-2023 school years. However, they were used as grade-level strategies or class rewards and did not provide the level of focus, intent, and planning necessary to be considered interventions for students. Mentoring and therapy dogs continued to be utilized at Penns Valley Elementary and Intermediate School for the 2023-2024 school year. However, in order to determine the relationship between the interventions and student and teacher perceptions of school culture for fifth and sixth-grade students, classrooms participated in either a therapy dog intervention or a mentoring intervention rather than having a broad exposure to both. Participants in each intervention were provided with a structure to follow for the 2023-2024 school year.

Participants in this study were chosen using multi-stage random sampling, which is a process “that is a combination of cluster random sampling and simple random sampling” (Mertler, 2022, p. 22). Teachers of fifth and sixth-grade classrooms as well as the learning support teacher and learning support paraprofessionals who supported in those classrooms, were asked to participate in the study. Participants were chosen for either the mentoring or therapy dog intervention through mixed-random sampling. All participants were given the option to opt out of participation in the research study.

Multi-stage random sampling was utilized by assigning one color to fifth-grade teachers and one color to sixth-grade teachers. Each participating teacher for fifth grade

was assigned to the blue group and placed in order from one to five based on the alphabetization of their last name. The same process was followed for sixth-grade participants, except they were placed in the white group. An online randomizer was programmed with the options of therapy dog or mentoring, and the colors blue and white were used to assign an intervention to each participating teacher. The randomizer chose a color and an intervention. The color indicated which group of participants would be assigned to the intervention.

The intervention was assigned to the participants of the chosen group in numerical order from least to greatest. The process was repeated until three participants for each color were assigned to the same intervention. The remaining participants were assigned to the second intervention. For instance, if the randomizer assigned the white group the interventions mentoring, mentoring, therapy dog, and mentoring in that order, the researcher stopped using the randomizer and assigned the therapy dog to the final white group participant. The process was repeated until all blue and white group participants were assigned to an intervention. This process ensured there were a similar number of fifth- and sixth-grade participants in each intervention group.

Intervention Structure

The participants assigned to the therapy dog intervention met with the therapy dog one time every other week for a twenty-minute session, for a total of 28 sessions. Upon the therapy dog's arrival to the classroom, the students formed small groups or one large circle at the discretion of the classroom teacher. The student group or groups, facilitated by the teacher, then proceeded to choose a topic to discuss. As with the formation of the groups, the types of topics discussed were at the discretion of the

classroom teacher but included things such as students' favorite animals, a time they felt brave, a place they would like to travel, etc. The therapy dog moved among students or student groups in the room during the facilitated discussion and interacted with all students unless a student chose not to interact with him. While not set as an activity requirement, all teachers chose to follow a similar class discussion format during their therapy dog sessions. This created a therapy dog environment that followed a consistent structure and created an analogous examination of the data.

The student mentoring session consisted of a ten-minute, one-to-one session with the mentor and student once every other week. The mentor followed a loosely created script, such as the one below, but flexibly adjusted to individual student responses:

- Three minutes: The mentor posed an opening question designed to spark conversation (ex: If you could travel anywhere in the world, where would it be?).
- Six minutes: The mentor asked deepening questions (examples: What is important to you? What are some things you are curious about?).
- One minute: The mentor thanked the student for sharing and discussed when the next session would occur.

The questions and session outline were adapted from the Summit Learning Mentoring Model (Summit Learning Program, 2023). All mentors were trained in the Summit Learning Mentoring Model and had access to its resources.

Data Collection

Perception of school culture data for each classroom was analyzed based on Penns Valley Area School District's School Climate and Culture survey data, behavior referral data, threat and risk assessment data, and the Perception of Student Climate and

Culture survey data completed by research study participants (Penns Valley Area School District, 2022). Ten participants completed the survey in September, January, and April. Additionally, pre-existing data was collected for each of the 191 students in fifth and sixth grade at the Penns Valley Elementary and Intermediate School.

The participant survey collected participants' perceptions of the culture of their classrooms (Appendix B). It was given in September prior to the start of the interventions, in January as a mid-point data collection, and in April at the conclusion of the interventions. The survey questions were designed to determine if the intervention programs had an effect on class culture as perceived by the participants. The questions in the survey presented minimal risk to participants outside of everyday risks. The participants had previous experience answering school culture questions through the Penns Valley Area School District's School Climate and Culture survey (Penns Valley Area School District, 2022) given to teachers, staff, students, and community members each year. Furthermore, they had the opportunity to decline a question if they were not comfortable answering it. Participants were fully informed of the research methods and, therefore, were considered informed participants. The actual interventions of therapy dogs and mentoring presented a minimal risk. Both interventions focused on whole-class positive interactions and did not target individual negative behaviors.

Given the nature of trauma-informed interventions, students involved in the interventions could have potentially become uncomfortable or have found themselves in need of counselor support during or after an intervention session. A counseling team was available if an immediate referral was needed for any participant during or following therapy dog or mentoring sessions. However, no students were in need of counseling

services related to the therapy dog or mentoring interventions for the duration of the research study. Finally, dog allergies had the potential to be a concern for therapy dog intervention classrooms. Parents and guardians of all students at the Penns Valley Intermediate School were informed about the therapy dog (Appendix C). The letter's purpose was to help parents understand a therapy dog's role and list the purpose of using one. It also encouraged families to contact the researcher if they had any questions or concerns. Based on the information in the letter, they were able to ask that their student did not interact with the dog during or outside of therapy sessions. No parents of students, students, or teachers reported concerns about therapy dog involvement.

Research Methods & Data Collection

Analysis of the research questions for this study was done through a mixed-method data collection design. Specifically, the Convergent-Parallel Mixed-Methods framework was the most effective design for gathering the types of data needed to support the analysis of all research questions. The convergent-parallel approach is the “simultaneous collection of qualitative and quantitative data followed by the combination and comparison of these multiple data sources” (Edmonds & Kennedy, 2017). This framework allowed for concurrent examination of quantitative and qualitative data and conjunctive and independent interpretation of the data. Pre-existing data on school-wide behavior referrals, Penns Valley Area School District's School Climate and Culture survey data, and threat and risk assessments were collected as qualitative data. This co-occurred with the collection of the quantitative participant survey data regarding student perceptions of school climate and culture, which occurred before, during, and after participation in the therapy dog and mentoring interventions. While all collected data

were analyzed independently and considered essential for determining relationships between interventions and student perceptions and behavior, forming relationships based on all available data and giving each equal prioritization provided the most holistic view of the effectiveness of the interventions.

Historical Data

Baseline and ongoing behavior referral data for fifth—and sixth-grade students of Penns Valley Elementary and Intermediate School were collected monthly during the study. This data was necessary to determine if a relationship existed between trauma-informed interventions and student behavior. The baseline data collected indicated a rise in behavior incidences since the Pandemic of 2020, as depicted in Table 1. Had a relationship existed between the trauma-informed interventions implemented and behavior, the number of referrals for the 2023-2024 school year should have declined.

Table 1

Penns Valley Elementary and Intermediate Fifth and Sixth-Grade Office Discipline Referrals

School Year	Number of Office Discipline Referrals
2020 - 2021	45
2021 - 2022	55
2022 - 2023	100

Threat and risk assessments became a mandated protocol in Pennsylvania public schools with the addition of Article IIX-E, Threat Assessment, to Act 18 of 2019 (P.L.30, No.14). At Penns Valley Area School District, threat and risk assessments have been on a rising trend since that time. Data for Penns Valley Elementary and Intermediate School

fifth and sixth-grade students from the previous two school years showed this trend (See Table 2). Although a recent safety protocol in public school districts, the preexisting data to this research study added a further form of analysis of mental health and allowed for the examination of the relationship between the therapy dog and mentoring interventions and student perception of school culture and climate. Threat and Risk Assessment data was also collected for the 2023-2024 school year on a monthly basis to determine if there was a decline in these assessments since the implementation of therapy dog and mentoring programs.

Table 2

Penns Valley Elementary and Intermediate School Fifth and Sixth-Grade Threat and Risk Assessments

School Year	Number of Threat Assessments	Number of Risk Assessments
2021-2022	8	0
2022 - 2023	4	7

Additionally, attendance data for fifth and sixth-grade students at Penns Valley Intermediate School was collected for the years 2020-2021 through 2022-2023 (See Table 3). This data was analyzed to determine if the addition of mentoring and therapy dog interventions affected student attendance. Over the past four years, attendance has been significantly influenced by illnesses related to the COVID-19 Pandemic and cultural responses to masking mandates and safety protocols put in place when public schools reopened. Therefore, extraneous variables were considered during the analysis of attendance data, such as the spikes in absenteeism during the 2020-2021 school year due to prolonged illnesses. However, given the fact that the attendance data was analyzed in a

mixed-methods framework in addition to multiple sources of data, historical attendance data and data collected during the research study added value to a comprehensive analysis of the research questions.

Table 3

Penns Valley Elementary and Intermediate Fifth and Sixth-Grade Percent Present in School

Grade	2020-2021	2021-2022	2022-2023
5th Grade	94.77%	92.18%	93.42%
6th Grade	95.42%	92.32%	93.18%
5th & 6th Grade Combined	95.15%	92.32%	93.31%

Penns Valley Area School District’s School Culture and Climate survey data was collected three times throughout the course of the research study. The school district has given this survey since 2009 and data will continue to be collected at the conclusion of this research study. The district has used this data in previous years to create goals for the improvement of school culture through the Comprehensive Planning process. The baseline data collected for the 2021-2022 and 2022-2023 school years was inclusive of all third through sixth-grade student data for Penns Valley Elementary and Intermediate School (See Table 4). Therefore, the data represents a larger sample of students than the data pulled specific to fifth and sixth-grade students for the 2023-2024 school year.

The survey did not collect student names; however, students indicated their homeroom teacher and grade level. This information allowed the data to be analyzed in a way that was specific to the intervention being employed in that homeroom class. While

the full Penns Valley School Culture and Climate survey includes questions related to a variety of topics, for the purpose of this research study, specific questions were pulled that directly related to school culture and climate (See Appendix C).

Table 4

Penns Valley Elementary and Intermediate School Third through Sixth Grade School Culture and Climate Survey Results

Survey Question	2021-2022	2022-2023
Student surveys indicate a feeling of being safe.	93.58%	97.10%
Student surveys indicate they feel like they belong.	84.82%	92.14%
Student surveys indicate that their teachers care about them.	96.29%	98.37%
Student surveys indicate that their principal cares about them.	91.67%	94.97%
Student surveys indicate that they are recognized for good work.	89.89%	89.24%
Student surveys indicate that others treat them with respect.	72.52%	86.67%
Student surveys indicate that they have good friends.	93.2%	92.5%
Student surveys indicate that they like school.	79.29%	89.59%

Participant Data

The final piece of data analyzed was the Student Perception of School Climate survey given to research participants in September, January, and April. Participants were not identifiable in the final data analysis of the Student Perception of School Climate survey data. Details about the type of intervention used with the participant’s group were collected for analysis of the relationships between each intervention and student behavior and perceptions of school. However, further identifying information was not collected, and therefore, there was no breach of the participants' confidentiality. In order to

mitigate the potential of this risk of a break in confidentiality occurring, participant names were not kept in the exact location as their data. The researcher used a key to ensure that the analysis of data occurred without risk to the participants. The researcher, Dr. John Ziegler, Penn West Committee Chair, and the Institutional Review Board were the only individuals who had access to the key.

Participants were included in a mixed-methods investigation that provided insight into the potential effects of two specific types of trauma-informed interventions. The survey data they provided allowed the researcher to determine if there was a relationship between the interventions and student behavior and student perceptions of school climate. Beyond the scope of personal benefit for students in the Penns Valley Area School District, the research contributed to the literature related to the trauma-informed interventions of a therapy dog and mentoring, the relevancy of which is high given data that supports a mental health crisis in public school settings.

All participants were informed of the study and an informed consent statement was included at the top of the survey and stated the following (See Appendix B). The survey did not collect identifiable information from the participants; a moderator collected it as a further measure of confidentiality. Data was stored on a hard drive, which will remain for a period of two years upon completion of the study. After that time, the data will be destroyed. Any paper evidence or documentation related to this study will be destroyed after the two-year period ends. All of these methods are completed with the purpose of ensuring the confidentiality of participants.

Fiscal Implications

There were minimal financial implications for the implementation of this research study. The handler of the therapy dog used in the therapy dog intervention was responsible for the dog’s insurance and volunteered her time. Therefore, there was no monetary cost to the district for the therapy dog intervention. The mentoring program, which had been established in the building for multiple years, used a free resource for training, support, and session structure. The sole monetary cost for this research was for paper used to print pre-existing data collections from the various school district platforms, as seen in Table 5.

Table 5

Fiscal Implications

Account	Description	Budget
10-1110-610-000-10-230	Paper	\$100.00
Total		\$100.00

There were indirect costs associated with the research study. The first of these was time. The therapy dog intervention was implemented in participating classrooms for twenty minutes every other week. One-to-one mentoring occurred for each student in the participants' classrooms for twenty minutes bi-weekly during the mentoring intervention. This required time to be built into classroom schedules in order for these interventions to occur. Participants built schedules to ensure that the mentoring and therapy dog interventions were able to occur. However, there was a need for flexibility in scheduling as well to account for unexpected occurrences. This included school closures, illness of the therapy dog handler, absences of the mentors, and unforeseen events at Penns Valley

Elementary and Intermediate School that took precedence over the intervention schedules. This was partially accounted for by reviewing the school calendar in advance and adding additional weeks of therapy dog visits or mentoring to compensate for scheduled vacation days from school.

The researcher used a district-supplied laptop and charging cord to retrieve data. Google Forms, Google Sheets, Penns Valley Area School District's student information systems, and access to wireless internet were also needed. The researcher had access to a lockable filing cabinet and utilized this filing cabinet to store printed data during the research study.

Validity

Evaluating the validity of a research study is necessary so that the researcher ensures an authentic representation of collected data. According to Hendricks (2017), validity is a term used to describe the trustworthiness of a study. Furthermore, Lincoln and Guba's trustworthiness criteria are referenced further to define validity (Lincoln & Guba, 1985). The criteria are credibility, transferability, dependability, and confirmability. Hendricks (2017) ascribes that all of these components are necessary to ensure the validity of a research study.

This study used the triangulation of data in order to increase credibility. When employing triangulation, the researcher ensured that multiple forms of data were being analyzed. Qualitative data were gathered in the form of a participant survey regarding student perceptions of school culture, and data was pulled from a pre-existing school culture survey given to students district-wide three times each year. The participant survey was designed to gather inquiry data about perceptions of school culture with

questions that were similar in nature to those asked of students in the preexisting district school culture survey that has been validated and given to Penns Valley Area School District students for multiple years. The survey contained Likert-scale items, which follow the format used in the district's student school climate and culture survey. The district survey for students and the participant surveys were given within a two-week period of each other, providing perception data for the participants and students that reflected the same window of time.

In this mixed-methods study, qualitative data was also collected. The data included attendance trends, office discipline referrals, and threat and risk assessments completed for the fifth and sixth-grade students of Penns Valley Elementary and Intermediate School. This data was accessed through school records in the student information system. The data was triangulated with the survey data to determine if a relationship could be formed between the implementation of a therapy dog and increased school culture, as well as mentoring and increased school culture. The relationships between the collected quantitative data and both trauma-informed interventions implemented were explored as well.

It was important to examine qualitative and quantitative data synchronously, which validated the credibility of the study. However, it was also important to examine the reliability of measures. A moderator was used to collect participant survey data, ensuring the anonymity of respondents. Additionally, school data was collected through classroom overviews for each participant. This allowed the school data for students to be collected and analyzed in comparison to the implemented intervention without revealing individual student data.

Summary

This chapter reviewed the methodologies associated with the comprehensive study of the relationship between trauma-informed interventions and student perceptions of school culture, as well as mental health. Qualitative research in the form of teacher surveys and pre-existing school culture surveys, along with quantitative data on office discipline referrals, threat and risk assessments, and attendance, were combined to form a mixed-methods research design for the study. The need for effective trauma-informed interventions was established through data that tended to an increase in mental health concerns, as documented by existing student data, local student surveys, and student surveys collected by the Commonwealth. This research study provided an analysis of the interventions currently implemented at Penns Valley Elementary and Intermediate School in order to determine their effectiveness in meeting the established needs of the students.

Chapter IV

Data Analysis and Results

The purpose of this examination of data was to determine the impact, if any, the trauma-informed interventions of therapy dogs and mentoring had on school culture. It also examined the effect, if any, of therapy dog and mentoring interventions on behavior and attendance data. The data collected was comprised of attendance, office discipline referrals, threat assessments, risk assessments, student school culture surveys, and teacher perceptions of school culture surveys. The data was specific to fifth and sixth-grade students at Penns Valley Elementary and Intermediate School in the Penns Valley Area School District.

The historical data collected and reviewed in Chapter III combined fifth and sixth-grade data, with the exception of attendance data that was broken down into grade levels. Chapter IV data included the combined data that was used to analyze historical data from 2020-2021, but also for the areas of attendance, behavior, threat and risk assessments, and school culture that grouped responses by classrooms receiving mentoring and those participating in therapy dog interventions. In addition to the historical data, a teacher survey regarding the perception of student climate in their classrooms was analyzed from teachers at Penns Valley Intermediate School who participated in mentoring or therapy dog interventions and voluntarily completed the survey.

Data Analysis

This research study explored the relationship between student perceptions of school climate and teacher perceptions of school climate in relationship to two separate

interventions, therapy dog and mentoring. To determine if a relationship existed, it was necessary to analyze the data from two perspectives. First, data was analyzed with fifth and sixth-grade students combined into one set. This allowed for the comparison of trends from the 2020-2021 school year through the 2023-2024 school year. The data was then analyzed by comparing data from the therapy dog intervention group and the mentoring intervention group for the 2023-2024 school year. The separation of intervention group data provided an analysis and comparison of each intervention's effectiveness.

The first research question, "What is the relationship between student's perceptions of school climate and the presence of a class-wide therapy dog as measured by student behavioral office referrals, Penns Valley Area School District's Threat and Risk Assessments, school attendance, and the Penns Valley Area School District School Culture Survey during the 2023-2024 school year?" was designed to determine the relationship between student's perception of school climate and the presence of a class-wide therapy dog. Quantitative data in the form of office behavior referrals, threat assessments, risk assessments, and school culture data. Historical data was collected for fifth and sixth-grade students over the past two to three years (dependent upon availability) and compared with data from the 2023-2024 school year. Additionally, data from the 2023-2024 school year was broken down into homerooms participating in the therapy dog intervention and the mentoring intervention. The aforementioned data sets from homerooms who participated in the therapy dog intervention were analyzed for this research question.

The second research question, “What is the relationship between students’ perceptions of school climate and the use of a class-wide teacher-student mentoring program as measured by behavior, Penns Valley Area School District’s Threat and Risk Assessments, school attendance, and Penns Valley Area School District School Culture and Climate survey during the 2023-2024 school year?” also analyzed the students’ perceptions of school climate through the quantitative data office behavior referrals, threat assessments, risk assessments, and qualitative school culture data. The data analysis followed the same pattern as in the first research question, which was to compare previous data to that of data collected during the research study and find where variances in the data may occur. To answer this research question, the 2023-2024 data was analyzed by homerooms participating in the mentoring intervention.

Unlike the first two research questions which focused on students’ perceptions of school climate, the third and fourth research questions focused on teacher perceptions of school climate. Specifically, the third question asked, “What is the relationship between teacher perceptions of school climate and the use of a class-wide therapy dog as measured by a teacher perception survey?”. The fourth question, which focused on teacher perceptions of school climate when a mentoring intervention was in place, asked, “What is the relationship between teacher perceptions of school climate and the use of a class-wide teacher-student mentoring program as measured by a teacher perception survey?”. The qualitative data that was analyzed and interpreted for both of these questions were obtained from a survey voluntarily answered by teachers whose classes were participating in the interventions. The survey (See Appendix B) mirrored several of

the questions analyzed from the district-wide annual student school climate survey, which allowed for cross-tabulation when analyzing the data.

Results

Historical data from the 2020-2021 school year through the 2022-2023 school year related to research questions one and two was gathered and used in the study's methodology. The related data for the 2023-2024 school year was collected and compared with the historical data from 2020-2021 through 2022-2023 to determine data trends. The data analysis of the historical data compared with the 2023-2024 school year was then compared to determine if therapy dog and mentoring interventions had a positive impact on school culture.

Prior to the 2023-2024 school year at Penns Valley Elementary and Intermediate School, fifth and sixth-grade students did not participate in class-wide, structured, trauma-informed interventions. For the 2023-2024 school year, all fifth-grade students participated in a trauma-informed intervention with either a therapy dog or mentoring. Mentoring occurred in a one-to-one setting with a teacher, who would ask questions and create a conversation about the student's interests, academic goals, and other topics the student wished to discuss. This happened bi-weekly for each student involved in the mentoring intervention. Therapy dog sessions were a whole class intervention and structured so that class discussions occurred around questions or topics. The comparison of overall data for the 2023-2024 school year and historical data for 2020-2021 through 2022-2023 provided insight into the relationship between trauma-informed interventions and increased student perception of school climate.

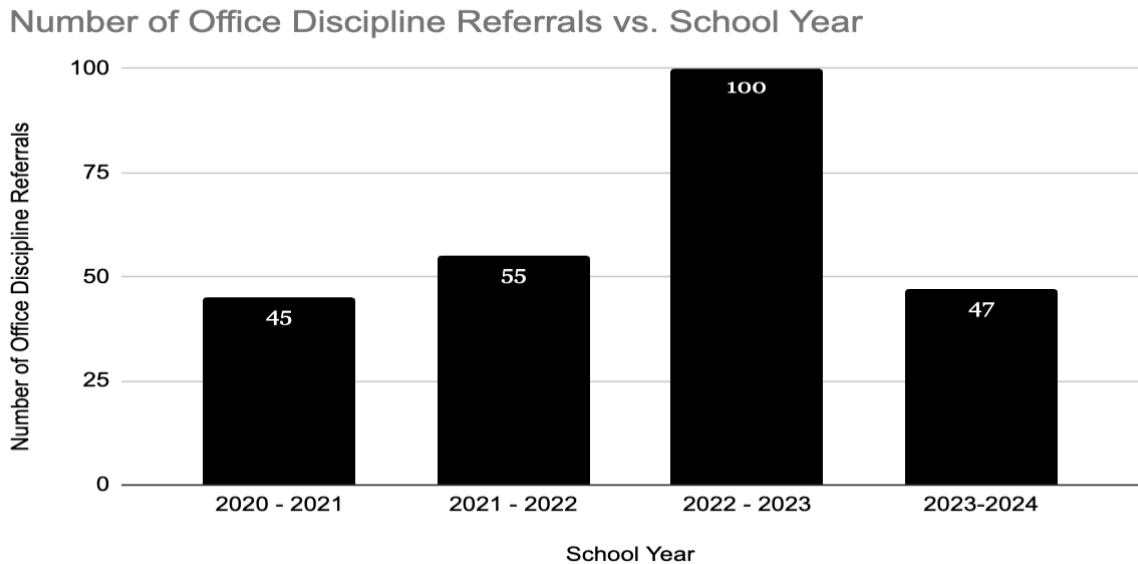
Penns Valley Elementary and Intermediate Fifth and Sixth-Grade Office

Discipline Referral Data

Office Discipline Referral data for students in fifth and sixth grades at Penns Valley Elementary and Intermediate School was collected for the 2020-2021 school year through the 2023-2024 school year. Data was not collected for the 2019-2020 school year as the building shut down in March due to the COVID-19 pandemic. Figure 1 shows the data from the 2023-2024 school year and three previous school years, 2020-2021 through 2022-2023.

Figure 1

Number of Office Discipline Referrals Per School Year



Note. The 2020-2021 school year data was included in the data set for Figure 1; however, synchronous learning was offered during this time when students were home due to COVID-19 illnesses, leading to a large number of students present online and not physically in attendance at the school building.

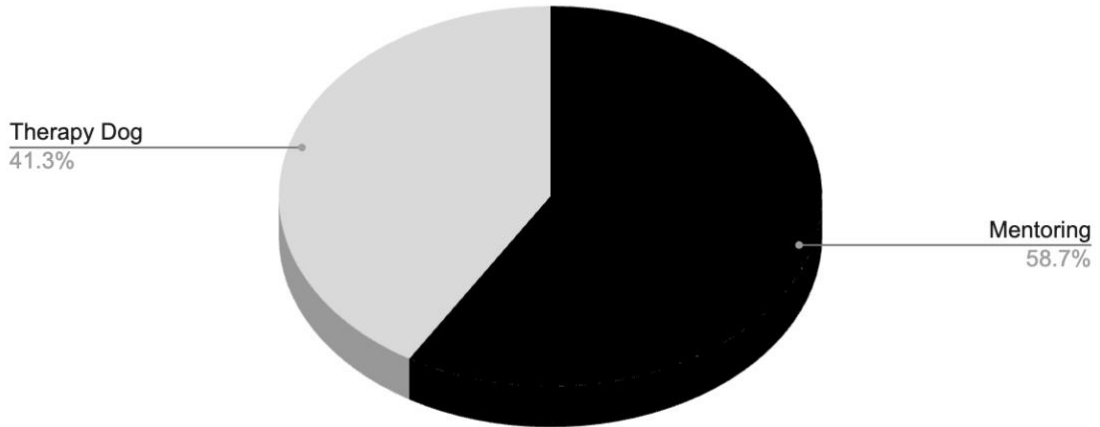
The 2023-2024 school year data showed a significant decrease in office discipline referrals for all students in grades five and six at Penns Valley Elementary and Intermediate School from the previous school year, and lower than the 2021-2022 school year. It must be considered that while higher by two referrals than the 2020-2021 school year, the number of students who attended via online synchronous learning from their homes or hospitals and, therefore, were not present in the building to receive an office discipline referral.

The overall data showed a significant decrease in office discipline referrals for students receiving office discipline referrals. Research question one, “What is the relationship between student’s perceptions of school climate and the presence of a class-wide therapy dog as measured by student behavioral office referrals, Penns Valley Area School District’s Threat and Risk Assessments, school attendance, and the Penns Valley Area School District School Culture Survey during the 2023-2024 school year?” and research question two, “What is the relationship between students’ perceptions of school climate and the use of a class-wide teacher-student mentoring program as measured by behavior, Penns Valley Area School District’s Threat and Risk Assessments, school attendance, and Penns Valley Area School District School Culture and Climate survey during the 2023-2024 school year?” focus specifically on the relationship between student perceptions of school climate as related to each intervention: therapy dog and mentoring. Figure 2 and Figure 3 represent the number of office discipline referrals by fifth and sixth-grade students who participated in each intervention.

Figure 2

Percentage of Office Discipline Referrals by Intervention

Office Discipline Referrals by Intervention Group
2023-2024 School Year

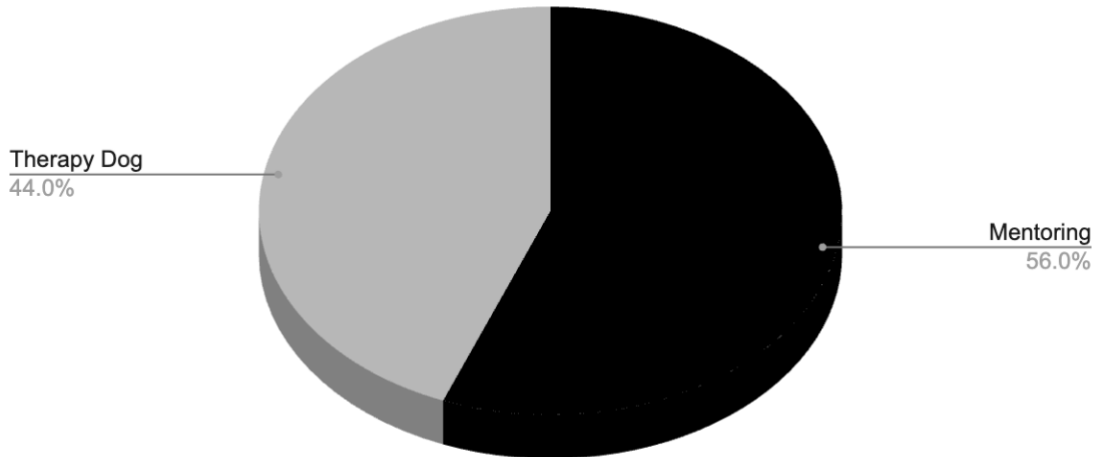


Students in the mentoring program intervention accounted for 17% of office discipline referrals for fifth—and sixth-grade students. The number of individual students accounting for referrals in each intervention had to be considered as well. This is especially true considering that both the mentoring intervention and the therapy dog intervention were inclusive of at least one student who not only received the class-wide trauma-informed intervention but also had a behavior intervention plan in place in addition to the trauma-informed intervention.

Figure 3

Percentage of Unique Individuals with Office Discipline Referrals in Each Intervention Area

Percentage of Individual Students with Office Discipline Referrals



The number of unique students accounting for the discipline referrals in each intervention area was also important to the analysis of discipline data. Twenty-four unique students were included among the 47 office discipline referrals, and two of the students who received office discipline referrals accounted for 34% of the 47 office discipline referrals. Both of these students were identified as needing a behavior plan and behavioral support. One student was included in the mentoring intervention and one in the therapy dog intervention.

Summary of Discipline Data

Attendance data for all students in fifth and sixth grade showed a significant decrease of 53% in office discipline referrals from the 2022-2023 to the 2023-2024

school year. All students were included in either mentoring or therapy dog interventions for the 2023-2024 school year. Upon further breakdown, it was determined that although only a slight margin of difference, students included in the therapy dog intervention have 17.4% less of the office discipline referrals. Further evaluation of the data indicated that a total of 24 individual students contributed to the 47 office discipline referrals.

The therapy dog intervention group had the fewest individuals with at least one office discipline referral, 12% fewer. While the therapy dog intervention group had fewer individual students contributing to office discipline referrals and fewer overall referrals, the discrepancy in data between the two groups was not as significant as the standalone data. The data showed that both the therapy dog intervention and mentoring intervention groups decreased in office discipline referrals from the 2022-2023 school year.

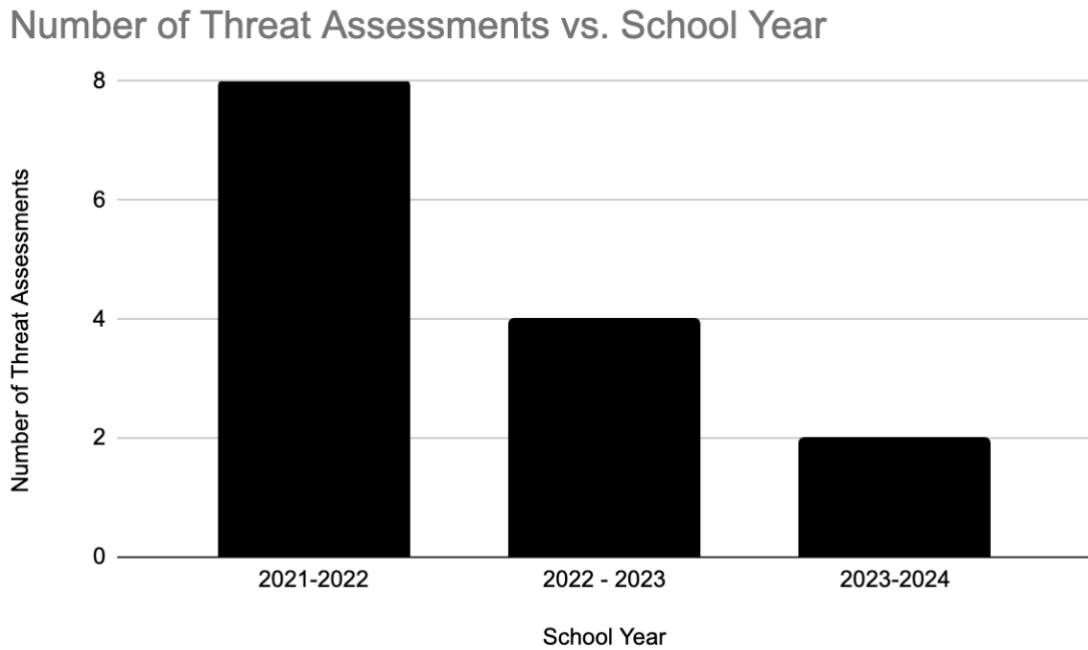
Penns Valley Elementary and Intermediate Fifth and Sixth-Grade Threat and Risk Assessment Data

Threat and Risk Assessment procedures for the Penns Valley Area School District were initiated during the 2021-2022 school year. Threat assessments are used to determine if a person's behavior poses a threat to another person. Risk assessments are conducted when a person's behavior poses a threat to themselves. The three years of data collected on threat and risk assessments for fifth and sixth-grade students at Penns Valley Elementary and Intermediate School were included in the analysis of student perceptions of school climate for threat assessments. However, although the process for risk assessments was active during the 2021-2022 school year, data on assessments was not collected and retained. Therefore, data pertaining to student perceptions of school climate through the lens of risk assessments was only available for the 2022-2023 school year

and the 2023-2024 school year. Figure 4 represents the historical threat data, inclusive of the 2023-2024 school year.

Figure 4

Number of Threat Assessments by School Year



The number of threat assessments over the past three years for fifth and sixth-grade students at Penns Valley Elementary and Intermediate School has been on a decreasing trend. The 2021-2022 school year marked the inception of the new threat assessment process. The district did not provide in-depth training to non-members of the threat assessment team during the first year. Therefore, several of the reported threats were unfounded and did not warrant a referral to the threat assessment team. The following school year, the district trained all employees on the threat assessment process. There were less unfounded reports in the 2022-2023 school year. Although the specific

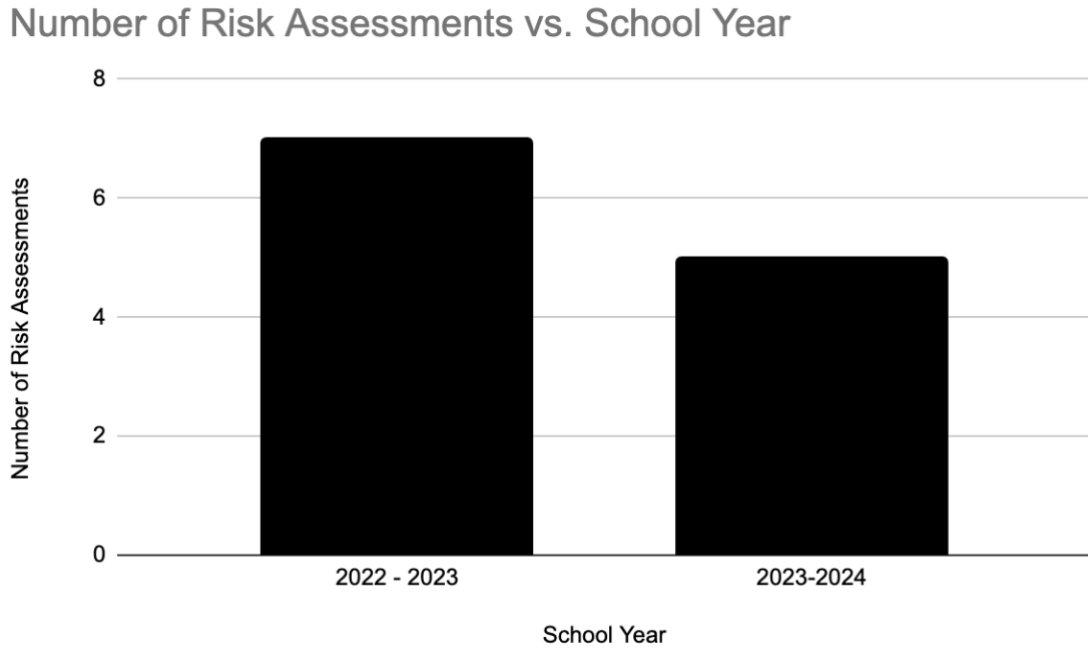
cause is unknown, the knowledge of the process and the difference between a threat and a poor choice of diction may have been relevant.

Figure 5 represents the number of risk assessments that occurred in the 2022-2023 and 2023-2024 school years. The risk assessment process was first implemented in the 2021-2022 school year. However, data on the number of risk assessments performed was not collected until the 2022-2023 school year. Therefore, there was less risk assessment data to analyze than threat assessment data. Although there was less of a drop from the previous school year in risk assessments than threat assessments, the data showed that 28.6% fewer risk assessments were needed.

Figure 6 represents the number of risk assessments and threat assessments by intervention type. The data showed that while the mentoring group had more threat assessments for the 2023-2024 school year, the therapy dog group had more risk assessments. However, it should be noted that there were only a total of two threat assessments completed for fifth and sixth-grade students in the 2023-2024 school year at Penns Valley Area School District and only five risk assessments. Overall, these numbers have declined for both risk and threat assessments, leading to the conclusion of a positive relationship between both the therapy dog and the mentoring intervention for student perceptions of school climate.

Figure 5

Number of Risk Assessments by School Year



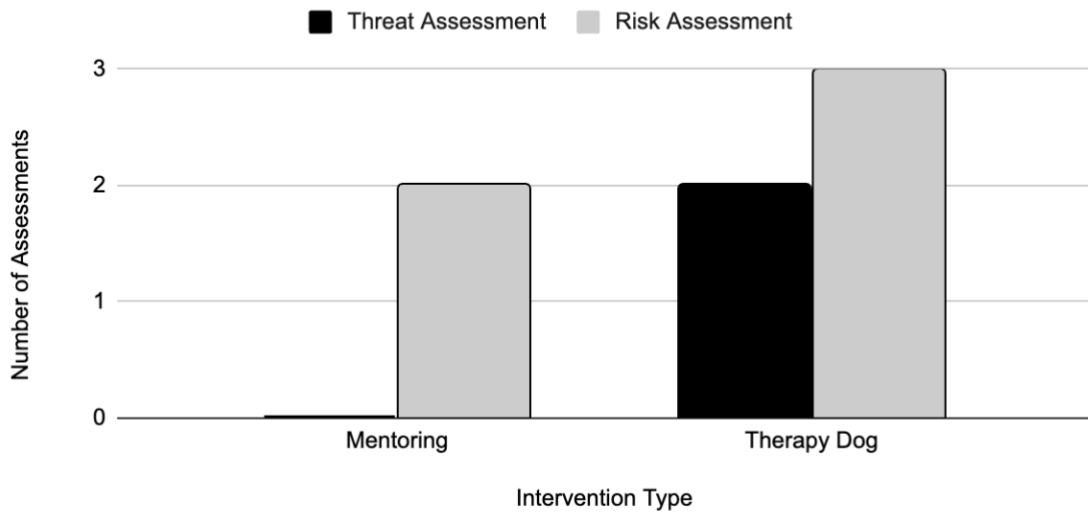
Note. Risk assessment procedures were implemented at the same time as threat assessment procedures in the 2021-2023 school year. However, Penns Valley Area School District did not collect and record the number of risk assessments that occurred that school year.

Figure 6

Number of Threat and Risk Assessments by Intervention Group

Number of Threat Assessments and Risk Assessments by Intervention Group

PVEI Fifth and Sixth Grade Students



Summary of Threat and Risk Assessment Data

Threat and risk assessment procedures at Penns Valley Area School District were implemented during the last three years, with risk assessments having data for only the last two school years, 2021-2022 and 2022-2023. The procedures include a structured process for questioning students, determining threat or risk levels, and implementing safety plans. However, there was a decreasing trend of threat and risk assessments from the previous years to the 2023-2024 school year. While a limited scope, triangulation of this data with other pieces of historical data was valuable in determining if relationships existed between trauma-informed interventions and student perceptions of school climate.

Penns Valley Elementary and Intermediate School Fifth and Sixth-Grade

Attendance Data

Historical attendance data was collected for the 2021-2022, 2022-2023 and 2023-2024 school years. Although data could have been collected for years prior to 2021-2022, the disruption of attendance due to COVID-19 and subsequent data trends upon students returning to in-person learning made analysis of data prior to the 2020-2021 school year irrelevant to current trends in attendance. This is due to the fact that the 2019-2020 school year was the first year that synchronous and online learning, as well as school closings for extended periods of time, changed what it meant for students to be present in school at Penns Valley Area School District. Figure 7 represents the school attendance data for all fifth and sixth-grade students at Penns Valley Elementary and Intermediate School who attended the past four years. Figure 8 is the attendance data grouped by intervention area, mentoring or therapy dog.

Figure 7

Percentage of Students Present by School Year

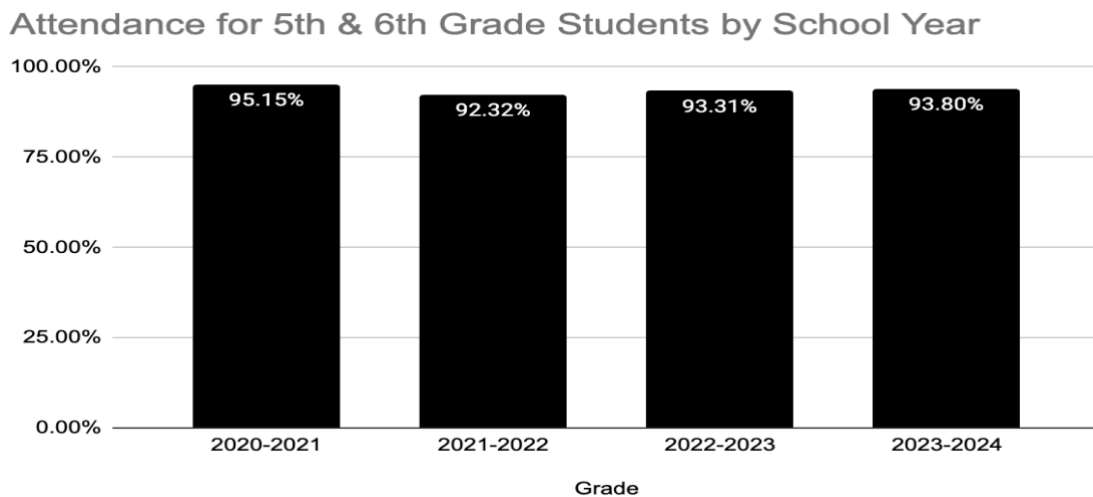
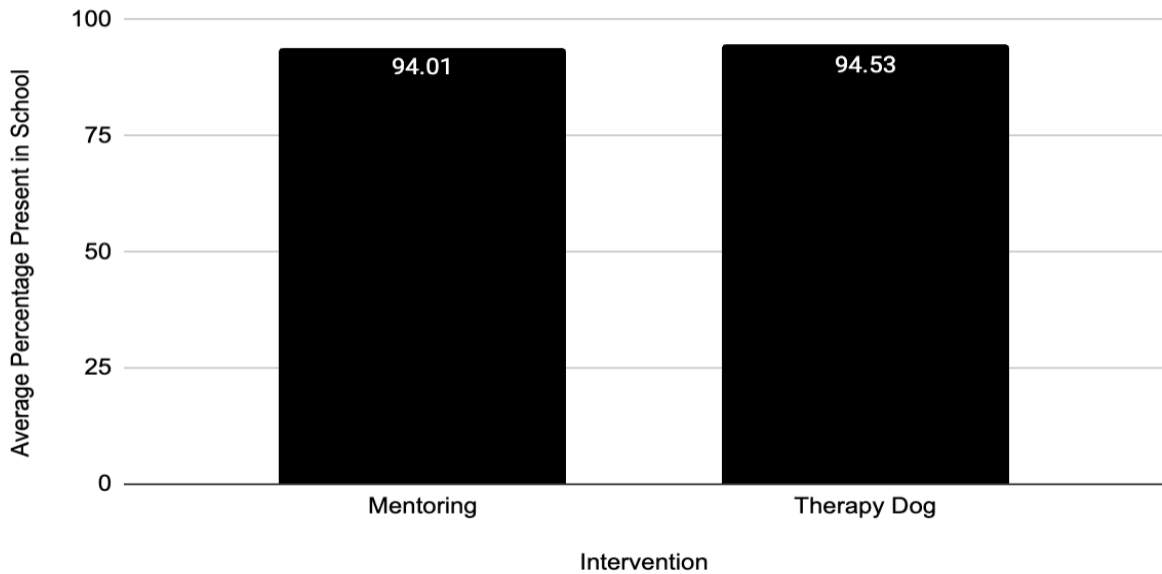


Figure 8

Percentage of Students Present in the 2023-2024 School Year by Intervention Group

Average Percentage Present in School vs. Intervention



Summary of Attendance Data

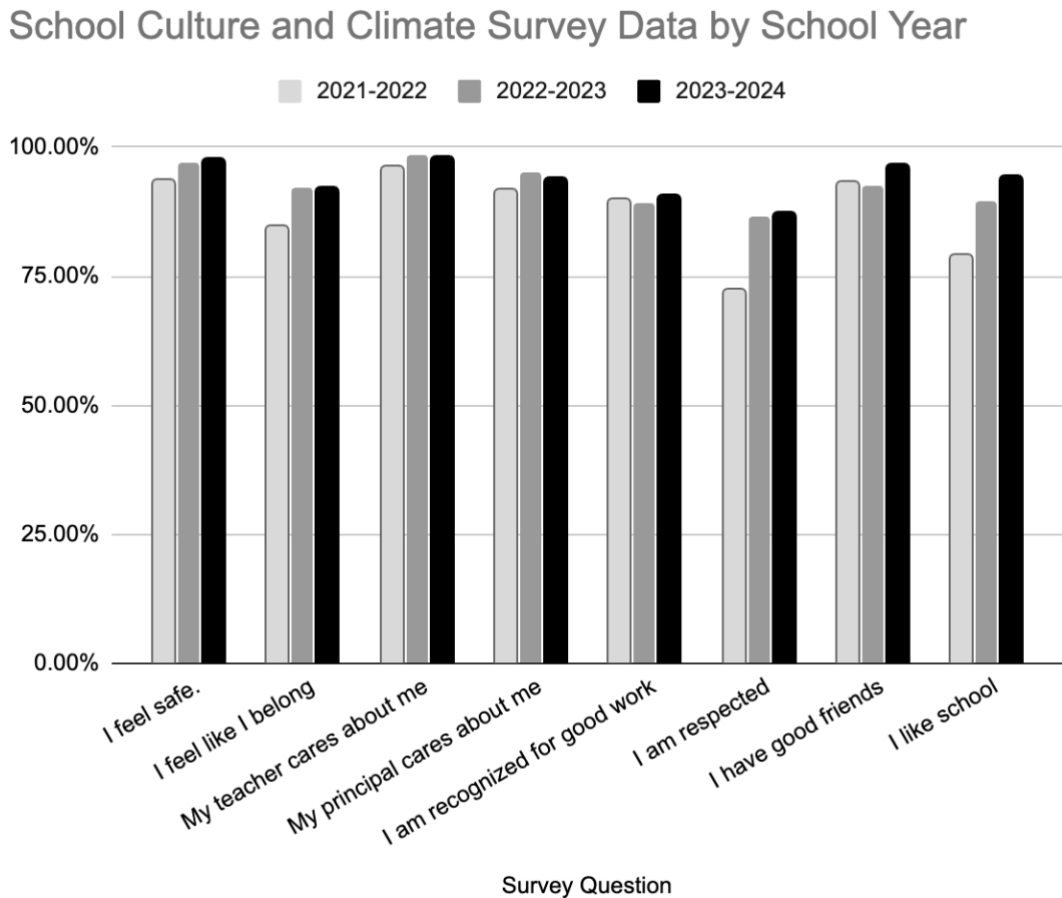
The past three years of attendance data have stayed consistent within 1.5%. Despite a slightly higher percentage of attendance in the 2020-2021 school year, the difference between that year and the 2023-2024 school year was only 1.4%. A further analysis of the attendance data separated attendance percentages by the intervention students participated in for the 2023-2024 school year. This data, like the combined and historical data, showed little variance at a 0.5% difference. The attendance data collected appeared to add no significant value to the relationship between mentoring and therapy dog interventions in a class-wide setting.

Penns Valley Elementary and Intermediate Fifth and Sixth-Grade School Culture and Climate Survey Data

The Penns Valley Area School District conducts student school culture and climate surveys quarterly throughout each school year. Historical data from the 2021-2022 and 2022-2023 school years for the school culture and climate surveys was collected and analyzed as a collective for fifth and sixth-grade students at the Penns Valley Elementary and Intermediate School. The school culture and climate data survey data is included in Figure 9 and organized by school year and survey question.

Figure 9

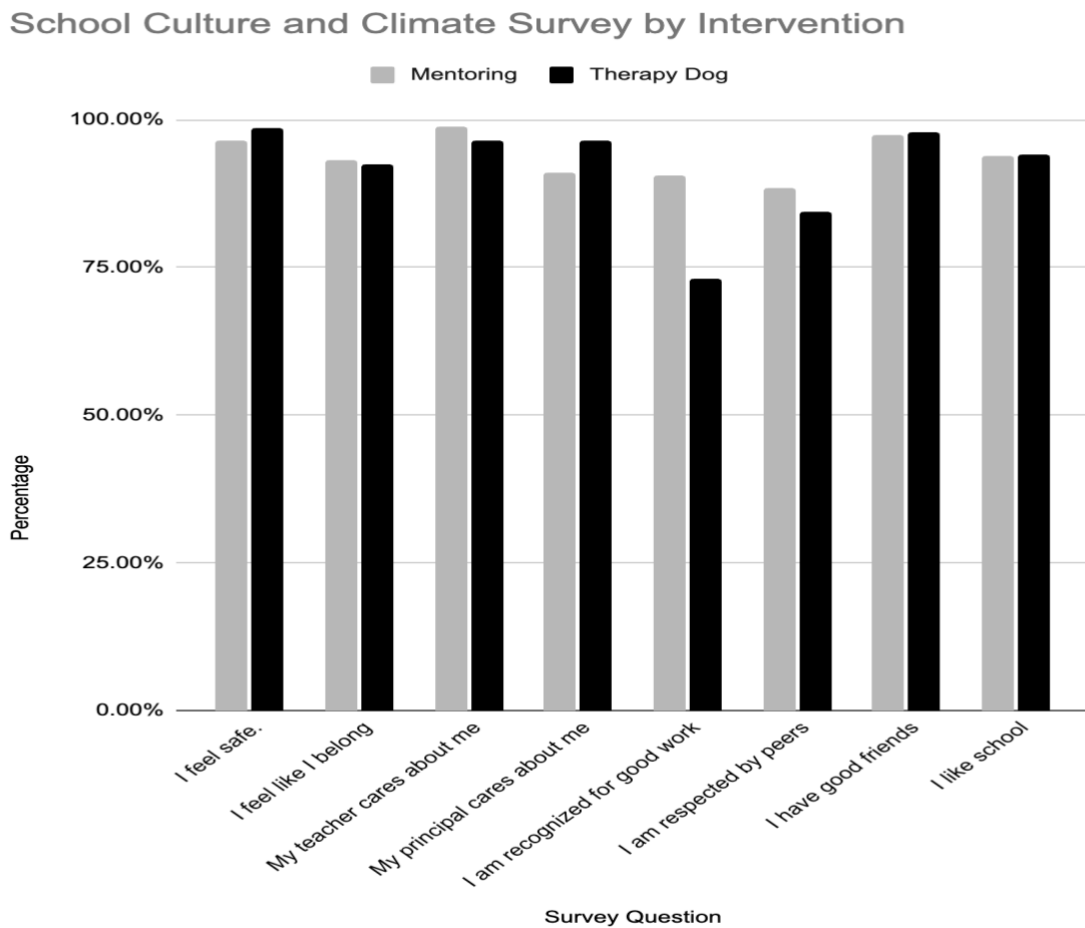
School Culture and Climate Survey Data by School Year



Cultural survey data from the 2023-2024 school year were analyzed through intervention groups. Figure 10 represents the collected school curriculum and climate survey data by intervention group.

Figure 10

School Culture and Climate Survey Data by Intervention Group



Summary of Student School Culture and Climate Survey Data

There are insignificant variances between therapy dog and mentoring interventions on the student school climate and culture survey questions. The one question showing a more significant difference depending on intervention type is “I am

respected by peers.” A variable attributed to this data is the inclusion of one homeroom’s responses in the therapy dog group which was over 20% below the average in all groups. If this outlier were removed from the therapy dog percentages, both intervention groups would have the same percentage of positive responses. This same homeroom had multiple data points in the school culture and climate survey that were lower than other groups.

Overall, Student School Culture and Climate survey data showed a positive increase or an insignificant decrease. Student feelings of being safe, having friends, and liking school all had a small but significant increase from the 2021-2022 and 2022-2023 school years to the data collected during the 2023-2024 school year.

Summary of the Relationship Between Student Perceptions of School Climate and Therapy Dog or Mentoring Interventions

Research questions one and two are closely related. They were written to determine student perceptions of school culture measured through the same qualitative and quantitative data pieces such as attendance, office discipline referrals, threat and risk assessments quantitatively, and school culture survey data qualitatively. The difference in the questions is that research question one targeted students participating in a therapy dog intervention, which utilized a therapy dog during whole group discussions and team building exercises, while research question two pertained to students participating in a mentoring intervention, which provided a one-to-one space for students and their teacher to answer questions related to home and school. In both cases, the teacher attempted to build a trusting relationship with students. Analysis of the data related to these questions needed to be conducted using two perspectives: One that viewed the data as a whole set

that included all fifth and sixth-grade students participating in an intervention and one that separated the data into therapy dog or mentoring intervention groups.

The purpose of this analysis approach was to account for the fact that all students in fifth and sixth grade received trauma-informed intervention support on a class-wide basis. This was a change from previous years when mentoring and therapy dog visits were not class-wide and did not happen in a structured and consistent method. The overall data was beneficial to an understanding of the relationship between student climate and trauma-informed interventions. Data analysis by the mentoring or therapy dog intervention group was necessary to answer each research question specifically. The data was used to determine the effectiveness of trauma-informed interventions and to form relationships that may exist between unique interventions and school climate.

Analysis of the threat and risk assessment data, office discipline referral data, and school culture and climate data all showed a positive relationship between trauma-informed interventions and student perception of positive school climate through increased positivity on survey data and decreases in office discipline referrals and threat and risk assessments for the 2023-2024 school year. Although only two to three years of data were presented in some cases, all of these areas displayed a positive increase in the 2023-2024 school year. The triangulation of these data sources showed the positive relationship between trauma-informed interventions and student perceptions of school climate.

The final piece of data collected, attendance data, did not show significant growth or decrease and instead maintained a consistent percentage when a trauma-informed intervention was utilized. However, it must be noted that the attendance data for fifth—

and sixth-grade students at Penns Valley Elementary and Intermediate School has been consistently high, above 92% from 2021-2022 through the 2023-2024 school year.

The next step of the data analysis process focused on the same data sets, which were separated into each type of therapy and then compared. While a triangulation of the combined data showed a positive relationship between the trauma-informed interventions and student perception of school climate, the data by intervention did not indicate that one intervention was more successful than the other in creating a positive school culture. Both showed results at an almost equal percentage on each survey question area for therapy dog and mentoring intervention groups.

Teacher Perceptions of School Climate

The final two research questions collected qualitative data through the use of a teacher survey. The perception survey that was administered to teachers participating in the mentoring or therapy dog interventions at the Penns Valley Elementary and Intermediate School was designed to have questions similar to the student perception of school climate survey but from the lens of what teachers feel about their classroom climate based on student responses to each other and to school. Research question number three asked, “What is the relationship between teacher perceptions of school climate and the use of a class-wide therapy dog as measured by a teacher perception survey?” Question number four explored, “What is the relationship between teacher perceptions of school climate and the use of a class-wide teacher-student mentoring program as measured by a teacher perception survey?” Similar to the first two research questions, they are related in the type of measurement used to determine the relationship but differ in the type of intervention they measured.

The responses to survey questions by teachers leading classes utilizing the therapy dog intervention were used to analyze research question number three. There were evident themes of high levels of feeling safe and respected. According to responses from the teacher perception survey, students in the therapy dog program also regularly attended school. Figures 11, 12, 13, and 14 represent the data collected from teacher surveys regarding feelings of respect and safety as well as attendance. Very little variance occurred from the initial survey data to the ending survey data.

Figure 11

Therapy Dog Teacher Perception Data: Respect Each Other

Therapy Dog: My students treat each other with respect.

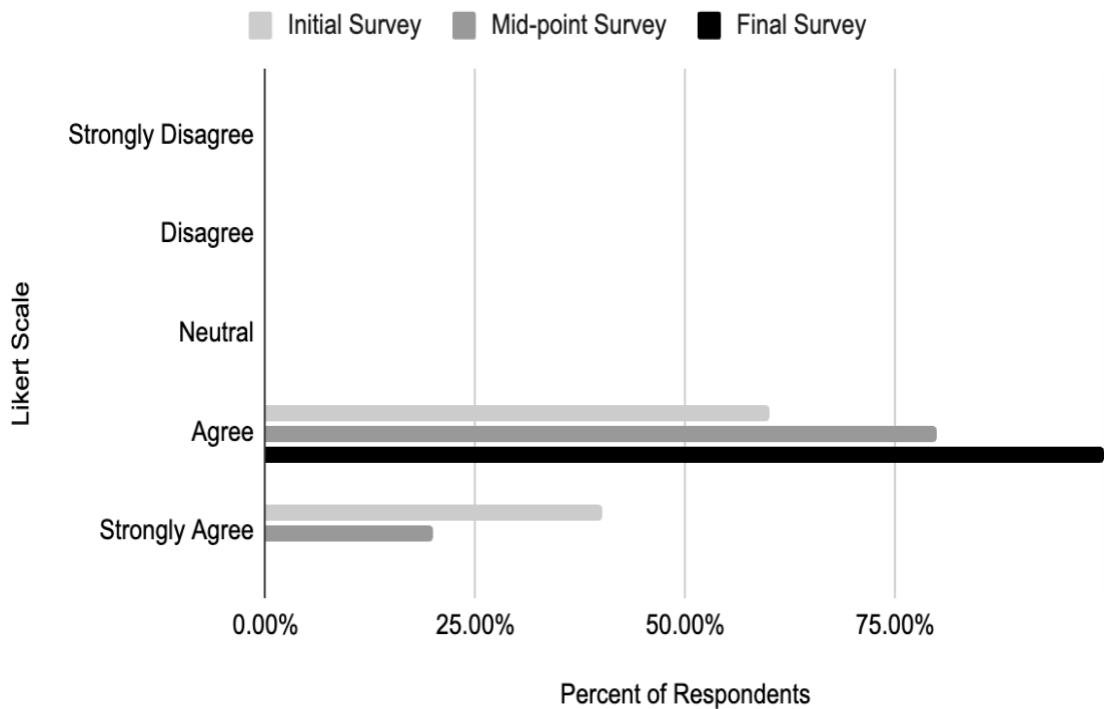


Figure 12

Therapy Dog Teacher Perception Data: Treat Me with Respect

Therapy Dog: My students treat me with respect.

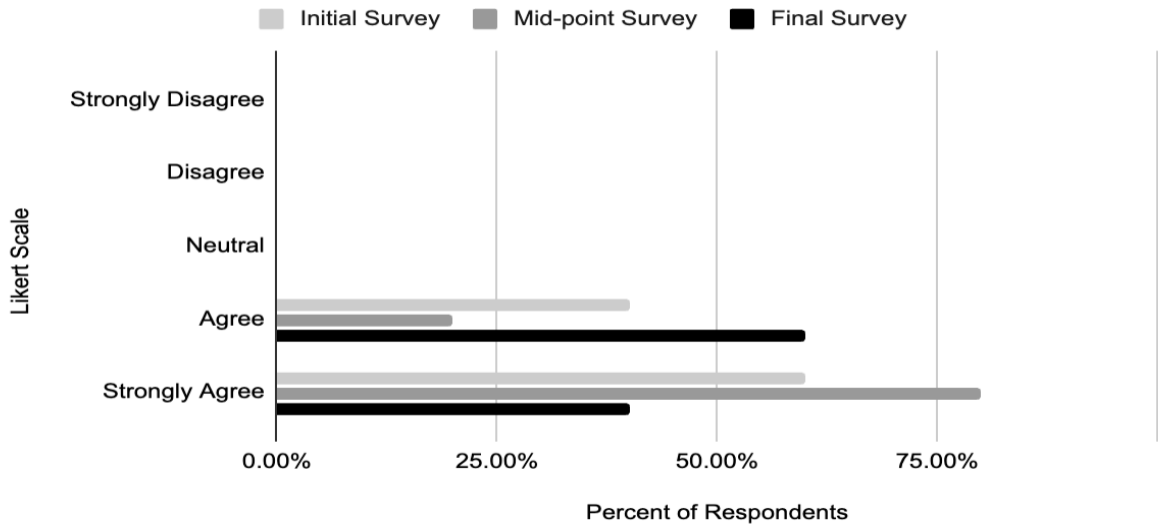


Figure 13

Therapy Dog Teacher Perception

Therapy Dog: Students feel safe in my classroom.

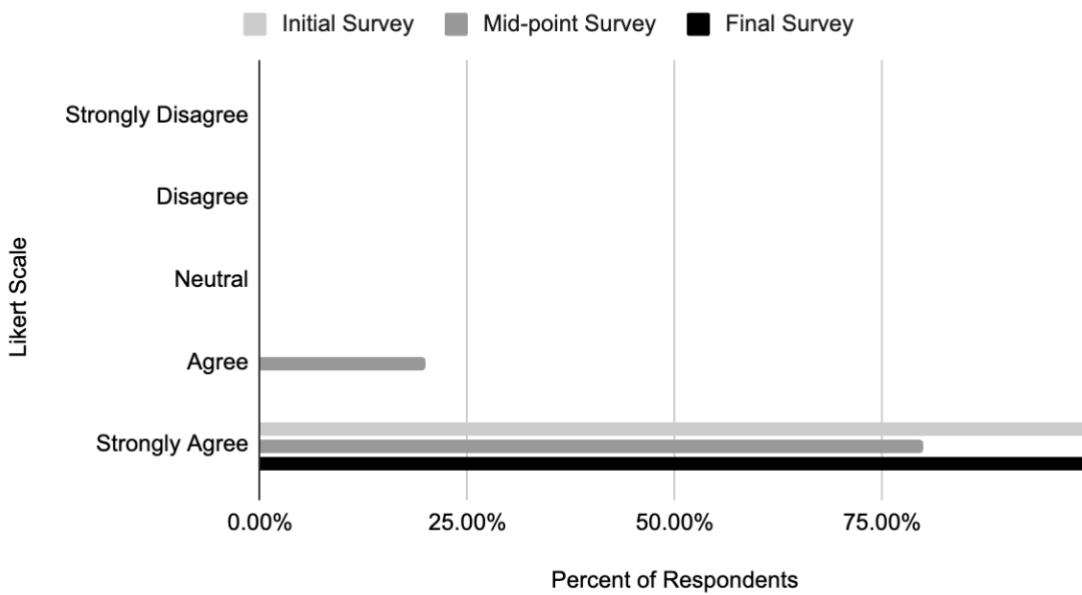
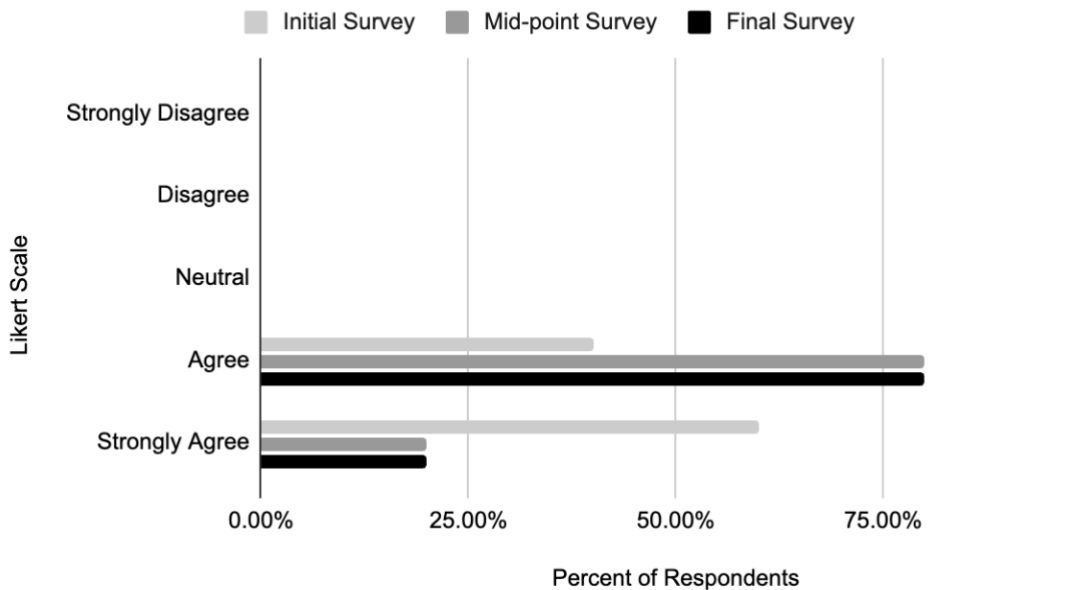


Figure 14

Therapy Dog Teacher Perception Data: Attend School Regularly

Therapy Dog: Students in my class attend school regularly.



The majority of data collected from the therapy dog respondents to the teacher perception survey was positive and formed a positive relationship conclusion between the therapy dog intervention school climate. Data showed fewer positive results for questions related to conflict and mean behavior. Figures 15, 16, and 17 are representative of the conflict and mean behavior analysis. The data shows a slight decrease in positive interactions from the initial teacher perception survey data to the final teacher perception survey data.

Figure 15

Therapy Dog Teacher Perception Survey: Rash Reactions

Therapy Dog: Students in my class do not react quickly or rashly when provoked.

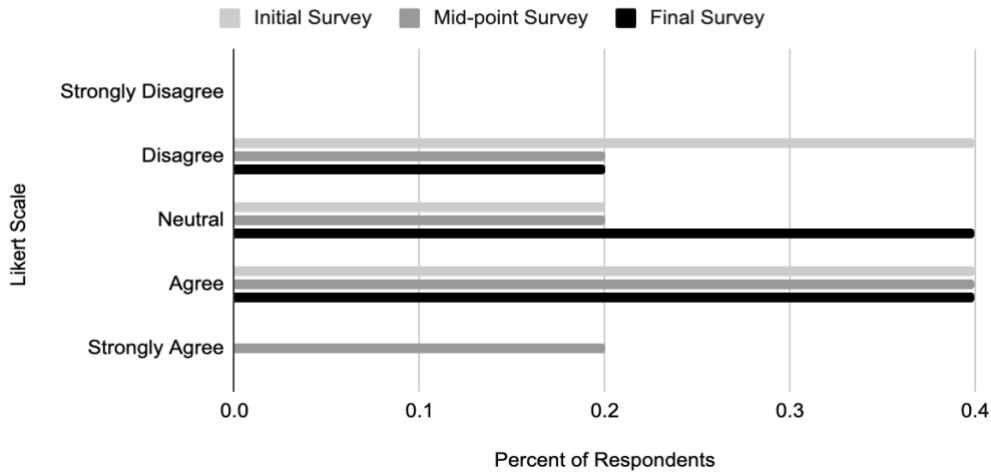


Figure 16

Therapy Dog Teacher Perception Survey: Student Arguments

Therapy Dog: Students in my class get in arguments with each other when they don't agree.

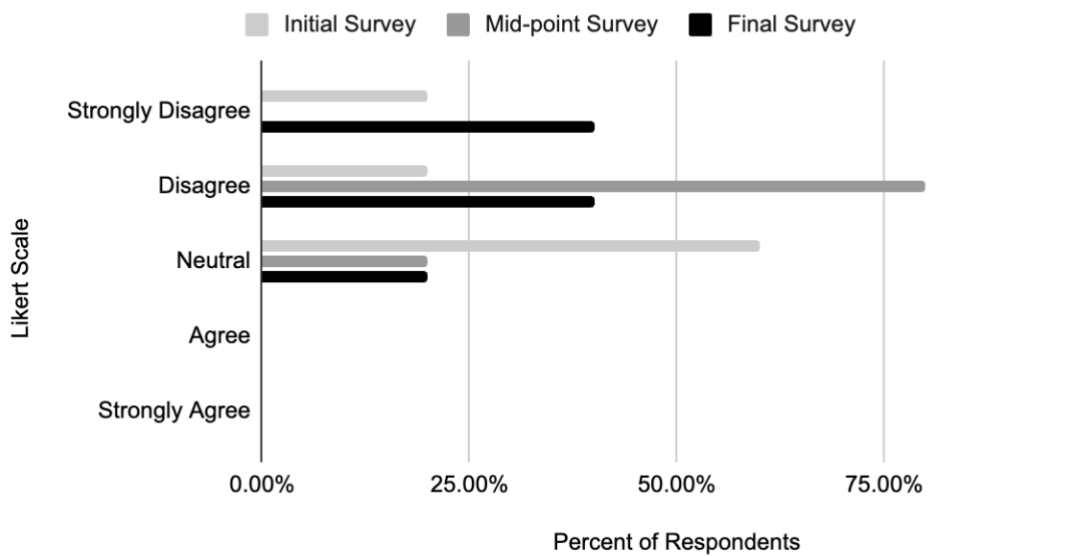
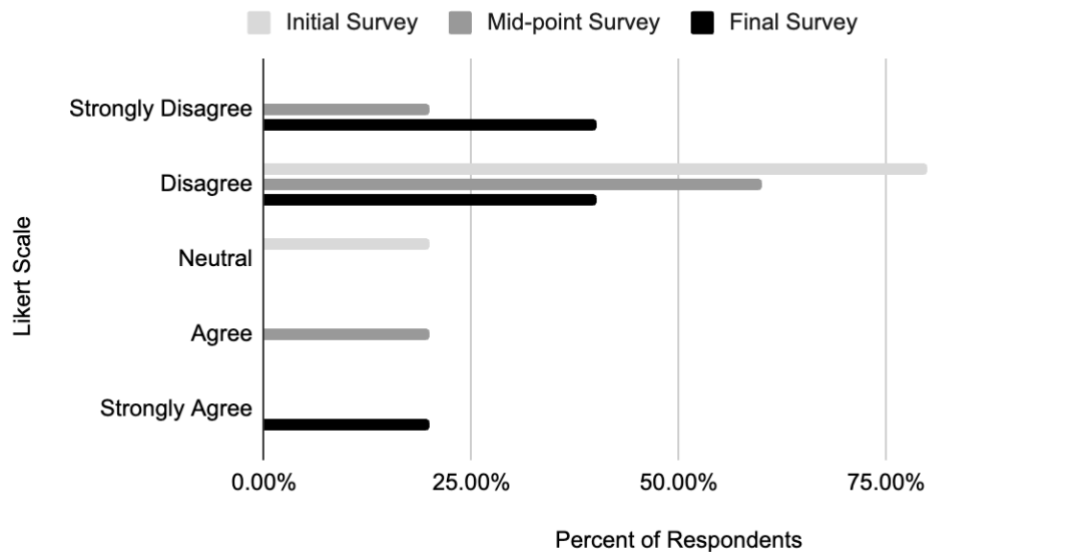


Figure 17

Therapy Dog Teacher Perception Survey: Students Look Out for Selves

Therapy Dog: Students in my class only look out for themselves.



Research question four, which inquired about the relationship between mentoring and teacher perception of school climate, had themes similar to research question three, which asked about the relationship between teacher perception of school climate and the therapy dog intervention. The data shows that teachers of students included in a mentoring intervention felt safe, respected, and cared about each other, as indicated by their responses to strong agreement and agreement on survey questions specific to those areas. Also, like the teacher perception data for the therapy dog intervention, students included in the mentoring intervention had fewer positive relationships in terms of conflict and mean behaviors as opposed to other reported areas.

The variance between the initial survey results in September and the end of the research study survey results in April was minimal. Figures 18, 19, 20, and 21 depict

data about positive relationship trends between mentors and school climate according to teacher perceptions. Data showed that a small percentage of teachers, as indicated in Figures 22, 23, and 24, felt that students displayed mean behaviors or engaged in conflict, both questions which lend themselves to a negative school culture. Figures 22 and 23 represent data that shows a slightly negative relationship between mentoring and teacher perceptions of school climate, specific to reactions when provoked and conflict. The data indicated that teachers from both intervention groups felt that students were easily provoked and would participate in conflict. There was no consistent variable among groups that indicated a reason for the negative perceptions in these categories, especially as respect and safety showed a strong positive relationship for the mentoring intervention group.

Figure 18

Mentoring Teacher Perception Data: Respect Each Other

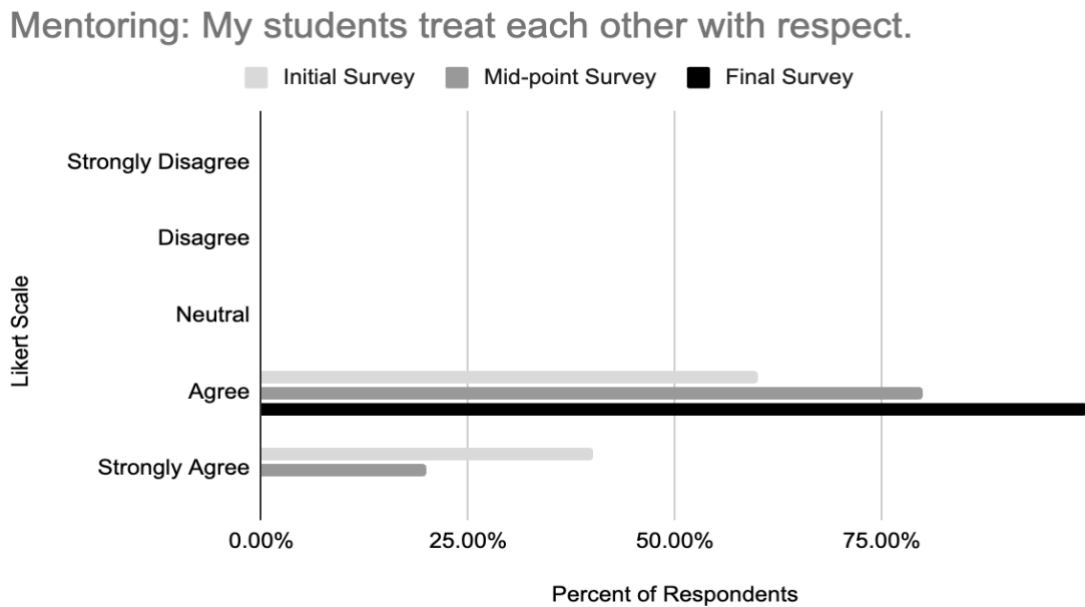


Figure 19

Mentoring Teacher Perception Data: Treat Me with Respect

Mentoring: My students treat me with respect.

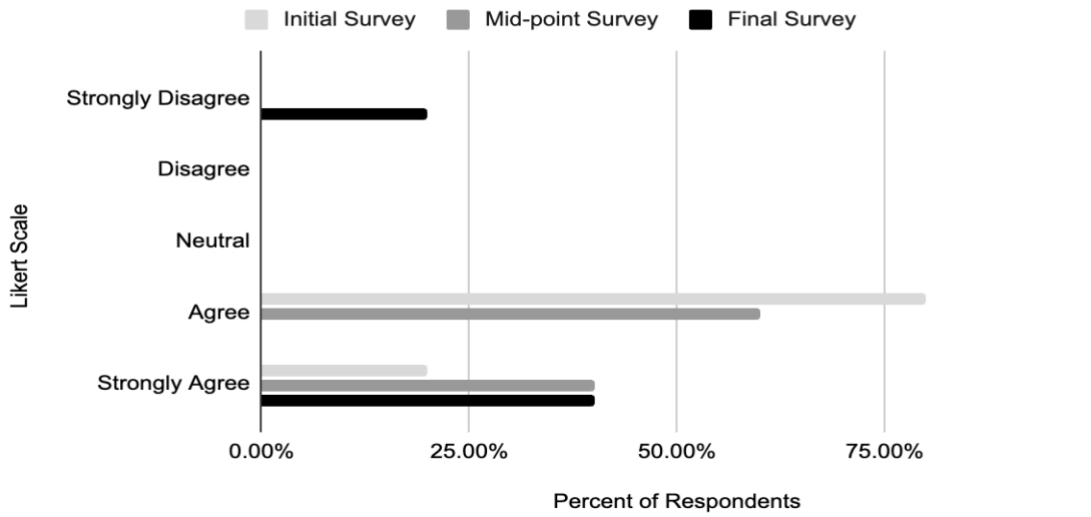


Figure 20

Mentoring Teacher Perception Data: Students Feel

Mentoring: Students feel safe in my classroom.

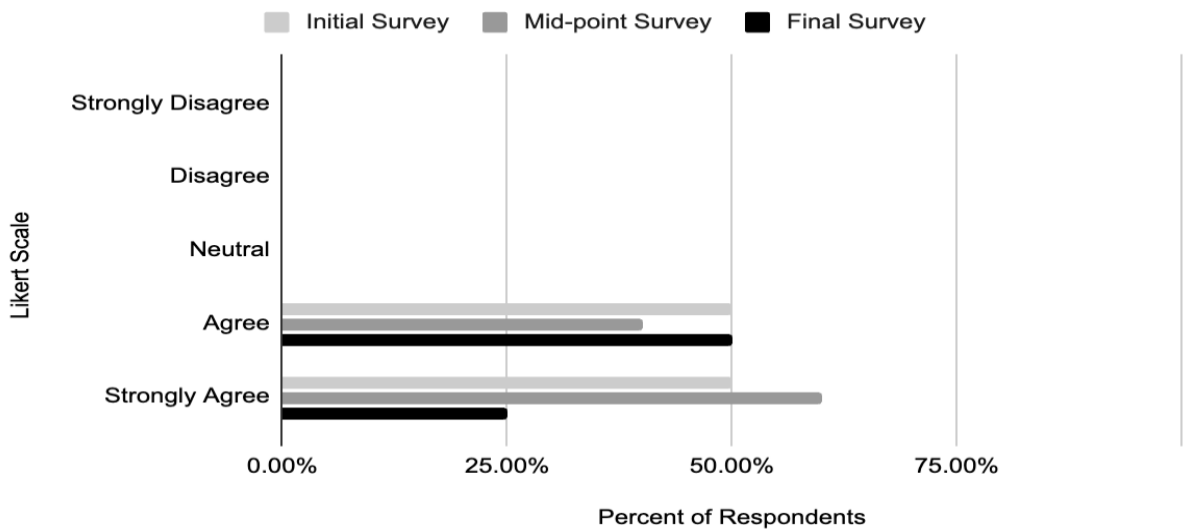


Figure 21

Mentoring Teacher Perception Data: Attend School Regularly

Mentoring: Students in my class attend school regularly.

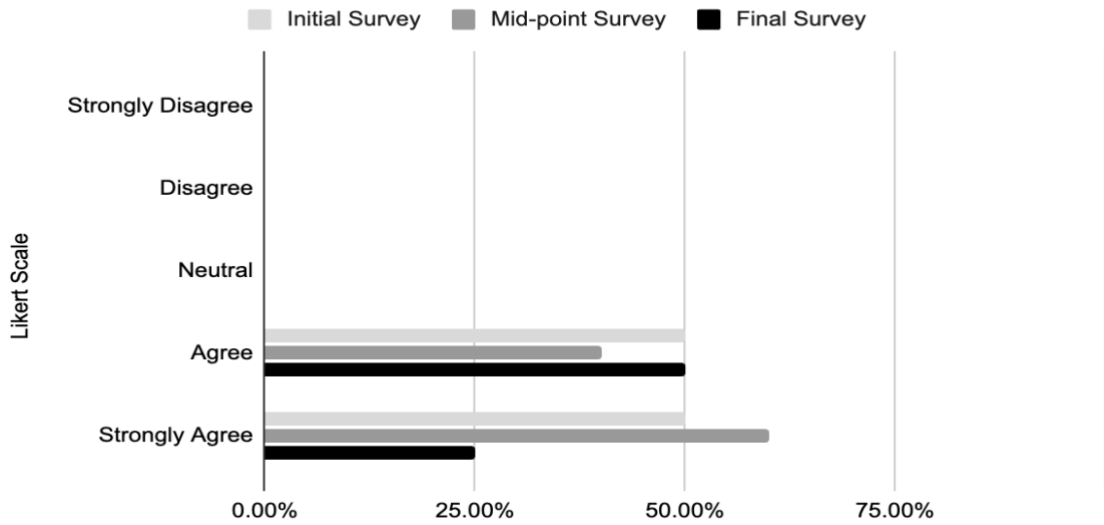


Figure 22

Mentoring Teacher Perception Survey: Rash Reactions

Mentoring: Students in my class do not react quickly or rashly when provoked.

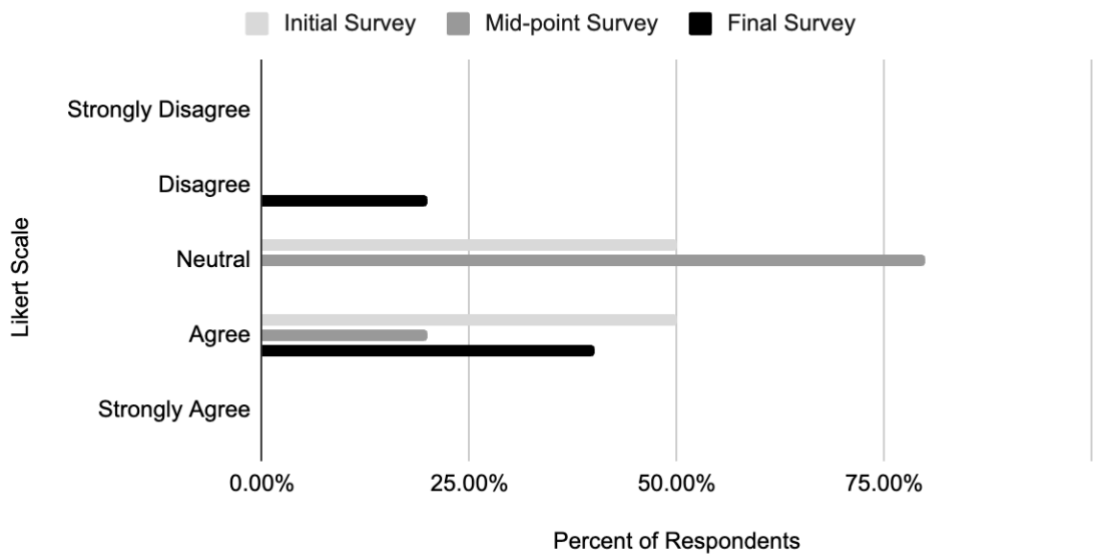


Figure 23

Mentoring Teacher Perception Survey: Students' Arguments

Mentoring: Students in my class get in arguments with each other when they don't agree.

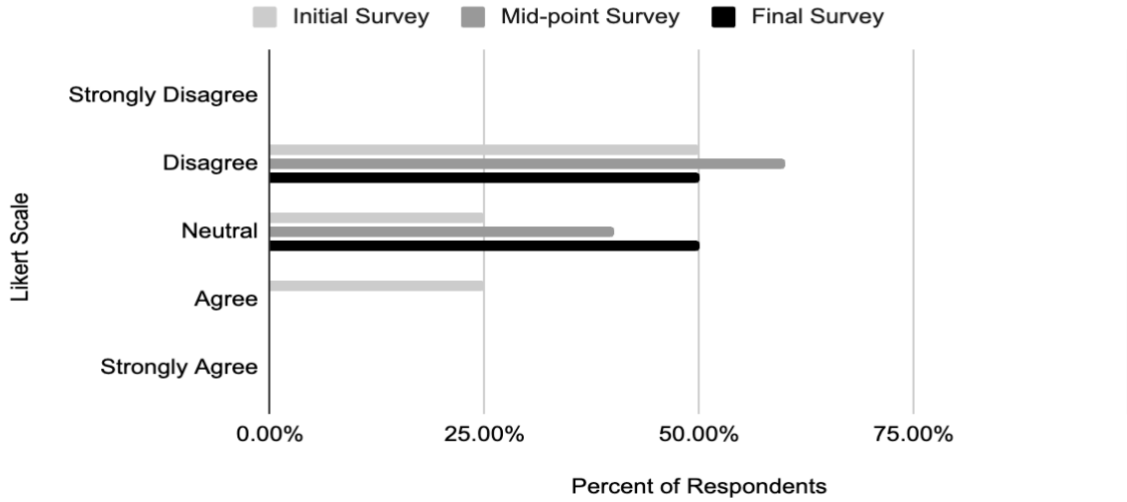
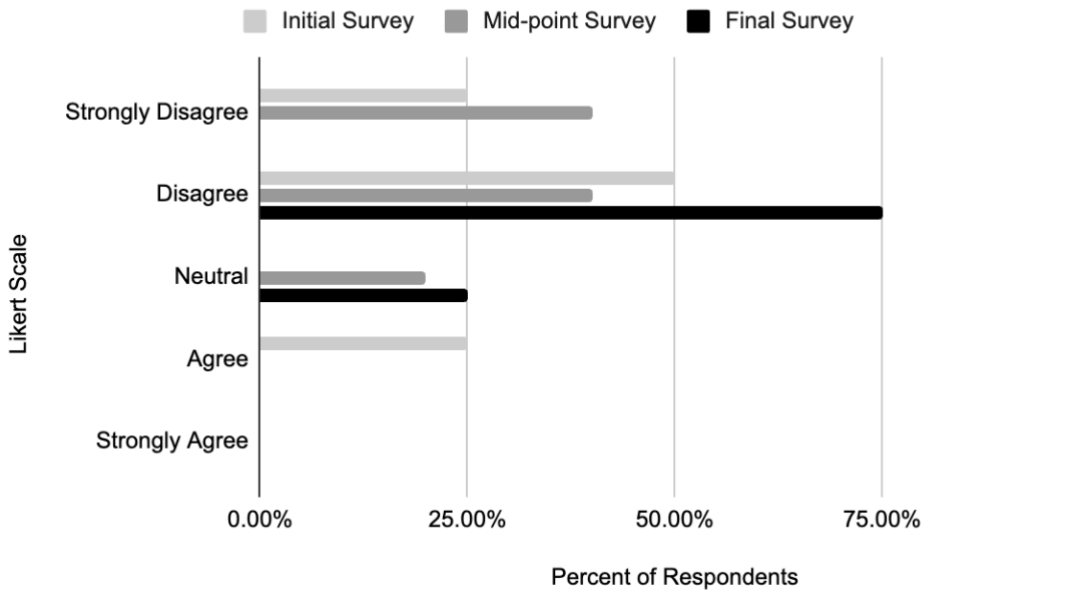


Figure 24

Mentoring Teacher Perception Survey: Students Look Out for Selves

Mentoring: Students in my class only look out for themselves.



Summary of the Relationship Between Teacher Perceptions of School Climate and Mentoring or Therapy Dog Interventions

Multiple themes were present in the teacher perceptions of school climate data for mentoring and therapy dog interventions. Many questions resulted in data that did not change from initial survey responses in September to the end results in April. These responses indicated that students did not feel threatened or bullied, felt safe in school, and overall treated each other and their teacher with respect, which can be attributed to a positive school culture for students participating in mentoring and therapy dog interventions. Teachers also indicated that students have friends, with 100% agreeing or strongly agreeing with the statement. Teachers reported that students in both mentoring and therapy dog interventions attended school regularly. This data is supported by the quantitative data in Figure 7 and Figure 8, which shows a 93% attendance rate for all fifth and sixth-grade students at Penns Valley Elementary and Intermediate School and a 94% attendance rate in both the therapy dog and mentoring intervention groups.

While the majority of data for Mentoring and Therapy Dog interventions showed a positive relationship, there was some indication that students did not get along well or would react quickly when provoked, as evidenced by the teacher's perception of the school culture survey. They also argued with each other at times, but again, this was not prevalent. The data, although not as positive as the student perception of school culture data or the trend in office discipline referrals and threat and risk assessments, did not depict a negative overall relationship between the intervention and teacher perceptions of school climate.

Discussion

Analyzing school climate data from student perspectives, teacher perspectives, and quantitative data related to student behavior trends at Penns Valley Elementary and Intermediate School created an overarching theme of positive school climate. In all the data analyzed, there were insignificant differences in the extent of the positive relationship between the therapy dog and mentoring interventions and school climate. However, both showed strong positive relationships, making the case that trauma-informed interventions positively impact student and teacher perceptions of school climate.

Office Discipline Referral data for the 2021-2022 school year through the 2023-2024 school year was collected and analyzed. The percentage of Office Discipline Referrals from the 2022-2024 school year to the 2023-2024 school year with its implementation of trauma-informed interventions was 53%. The decrease for each type of intervention, mentoring or therapy dog, was similar. An analysis of the number of independent students contributing to the Office Discipline Referrals was also analyzed. It was determined that two students, one included in each intervention, contributed to approximately half of the referrals that were made. In addition to the class-wide trauma-informed interventions, both of these students had behavior intervention plans in place. This is an important factor considering the significant decrease in office discipline referrals that exists from the 2022-2023 school year to the 2023-2024 school year. It indicates that if data from the two aforementioned students had been removed, the number of office discipline referrals would have decreased even more significantly. It is also important to note that these students contributed the majority of office discipline

referrals despite specific and individualized behavior plans targeted to reduce identified behaviors. This indicates that a less targeted and individualized intervention, such as mentoring or therapy dog, was not appropriate to the needs of these students as a standalone intervention and would likely not have shown positive rates of improvement for the behaviors of these two individuals.

Threat Assessment Data from the 2021-2022, 2022-2023, and 2023-2024 school years was analyzed. Threat and risk assessments were conducted when students posed a threat to themselves or others, thereby indicating a negative perception of school culture. Risk assessment data was analyzed for the 2022-2023 school year and the 2023-2024 school year. During the implementation of therapy dog and mentoring interventions, which occurred from September 2023 through April 2024, threat assessments at Penns Valley Elementary and Intermediate School for fifth and sixth-grade students decreased by 75%. Risk Assessments completed between September 2023 and April 2024 decreased by 30%. While not a significant decrease in mentoring versus therapy dog interventions, the overall decrease was significant and shows a strong positive relationship between the interventions and improved student perceptions of school climate through a 75% decrease in threat assessments and a 30% decrease in risk assessments.

Attendance data was the only data set that showed little change, positive or negative, from data collected during the research study to previous years. For example, the attendance rate from the 2022-2023 school year to the 2023-2024 school year increased by .5%. Attendance at Penns Valley Elementary and Intermediate School for

fifth and sixth-grade students has remained high, at approximately 93%, between the 2020-2021 and 2023-2024 school years.

Student data from a School Culture and Climate Survey historically given by Penns Valley Area School District four times yearly also showed a positive relationship between trauma-informed interventions and student perception of school climate. The areas that increased most significantly were student perceptions that they liked school, had good friends, and felt safe. While not by a large interval, student perceptions of school climate of the students participating in the therapy dog intervention were higher in the feeling of being safe and that the principal cares for them. At the same time, mentoring was higher in the feeling of being recognized for good work and respected by peers. The data overall indicated a positive relationship in both mentoring and therapy dog interventions toward students' perceptions of school climate, as over 90% of students responded positively to questions about safety, respect, and care.

The survey assessing teacher perceptions of school climate was analyzed separately for mentoring and therapy dog intervention groups. While small variances in the data existed from one intervention to the other, the trends in the data were similar. Overall, the common themes across the student perceptions of school climate data and the teacher perceptions of school climate data suggested that both the mentoring and therapy dog interventions were effective in fostering a safe and respectful classroom environment, as teacher perception data indicated that all participating teachers agreed or strongly agreed that students felt safe and were respectful. Students generally felt safe, respected their teachers and peers, and attended school regularly. The teacher perception data related to the attendance rate was supported by quantitative attendance data, which

revealed a 93% attendance rate for students who participated in the mentoring and therapy dog programs. There were minor issues with conflicts and mean behaviors, but these were not predominant. The therapy dog intervention appeared slightly more effective in minimizing conflicts and promoting a caring atmosphere, but not to a level that proved a more significant relationship between one intervention and school climate over the other.

Summary

Since the COVID-19 pandemic of 2020, the need for increasing mental health support in public school systems has become evident. This research study examined the effects of two trauma-informed interventions, mentoring and therapy dogs, on student and teacher perceptions of school climate. The data reflected a positive relationship between the two interventions and perceptions of school climate across multiple quantitative and qualitative data sources. The data presented showed decreases in threat assessments, risk assessments, and office discipline referrals in classrooms participating in trauma-informed interventions for the 2023-2024 school year. In some cases, the percentages were significant, with decreases in behavior referrals of over 53%.

Chapter IV has provided a detailed analysis of the findings related to school climate and the implementation of two trauma-informed interventions. This analysis has reviewed the data from a combined look at trauma-informed interventions implemented as well as parsed the data into each separate intervention. In Chapter V, conclusions will be offered regarding the implementation of mentoring and therapy dog interventions in public school classrooms. The information in Chapter V will explore the limitations of the study and use insight from the analysis of data and reflection on limitations for

recommend actions toward further research of trauma-informed interventions in the public school system.

Chapter V

Conclusions and Recommendations

This research project was designed to understand the relationship between two specific trauma-informed interventions and student and teacher perceptions of school climate. The need for this research exists because public school districts are increasingly considering the mental health needs of their students to help them grow academically. It is therefore important to determine if academic experiences focusing on supporting mental health needs will help strengthen a positive school climate. This mixed-methods study analyzed a variety of data to examine the effect of trauma-informed interventions in fifth and sixth-grade classrooms in terms of student perceptions of school climate. It also examined teacher perceptions of school climate at multiple points throughout the implementation of two trauma-informed interventions included in the study. This chapter includes a summary of the results of the research study as well as conclusions related to each research question listed below.

Research Questions

1. What is the relationship between students' perceptions of school climate and the presence of a class-wide therapy dog as measured by student behavioral office referrals, Penns Valley Area School District's Threat and Risk Assessments, school attendance, and the Penns Valley Area School District School Culture Survey during the 2023-2024 school year?
2. What is the relationship between students' perceptions of school climate and the use of a class-wide teacher-student mentoring program as measured by behavior, Penns Valley Area School District's Threat and

Risk Assessments, school attendance, and Penns Valley Area School District School Culture and Climate survey during the 2023-2024 school year?

3. What is the relationship between teacher perceptions of school climate and the use of a class-wide therapy dog as measured by a teacher perception survey?
4. What is the relationship between teacher perceptions of school climate and the use of a class-wide teacher-student mentoring program as measured by a teacher perception survey?

Conclusions

Research Question 1

The first research question explored the relationship between a classroom therapy dog and student perceptions of school climate. The analysis for this question included qualitative and quantitative data on attendance, behavior, threat assessments, risk assessments, and student perception surveys. The data collected spanned the school years 2021-2022 through 2023-2024 for fifth and sixth-grade students at the Penns Valley Elementary and Intermediate School.

According to data analysis, there was a positive effect between the implementation of a therapy dog as a trauma-informed classroom intervention and student perceptions of school climate. Quantitative data supported this claim across several measures. The first measure, office discipline referrals, showed a 53% decrease overall in office discipline referrals from the 2022-2023 school year. Of the office discipline referrals that were made, only 18 of them were by students participating in the

therapy dog intervention. These 18 referrals account for 41% of the total number of office discipline referrals collected. The data showed that not only was the number of office discipline referrals reduced by over half in the 2023-2024 school year with the implementation of trauma-informed interventions but students who participated in the therapy dog intervention accounted for less than half of the 53% of students referred to the school office for behavioral infractions occurring in the classroom.

Threat assessment data also supported the conclusion that there is a positive relationship between therapy dog interventions and positive student perceptions of school climate. There was a 75% decrease in the number of threat assessments performed for fifth and sixth-grade students at the Penns Valley Elementary and Intermediate School from the 2022-2023 school year to the 2023-2024 school year. The threat assessments that were performed were for students participating in the therapy dog intervention but the aggregate number of assessments were significantly decreased from the previous school year, where implementation of a therapy dog intervention was not in place. Threat assessments are performed when a student makes a statement or action that infers harm to another individual. The decrease in threat assessments with the use of a therapy dog intervention can be interpreted as improved peer relationships for students participating in the intervention.

Risk assessment data was also collected for the study. Similar to threat assessments in terms of the intent of harm, risk assessments are performed when a student uses words or actions to show an intent to harm oneself. While not as significant of a decrease as threat assessments, risk assessments did decrease by 30% from the 2022-2023 school year to the 2023-2024 school year. Further dissection of this data showed

that 60% of the risk assessments completed for the 2023-2024 school year were by students who participated in the therapy dog intervention.

The 30% decrease in overall risk assessments, as well as the data which showed that over half of those risk assessments belonged to students participating in the therapy dog intervention, support the conclusion that the therapy dog interventions had a positive impact on student perceptions of school culture. This is especially true for feelings of safety and belonging, which are identified on the risk assessment screener as safety factors that decrease the likelihood of follow-through of self-harm ideations.

Attendance data collected from the 2020-2021 school year through the 2023-2024 school year did not affect school climate based on the therapy dog intervention. An intervening variable is student attendance at Penns Valley Elementary and Intermediate School for fifth and sixth-grade students was above the state average in all collected years and over a 90% average for all collected years. The difference between attendance for students participating in the therapy dog intervention and the mentoring intervention compared with previous years was statistically insignificant.

Students at the Penns Valley Elementary and Intermediate School complete the district-created School Culture and Climate Survey four surveys quarterly each year. The School Culture and Climate survey has been administered for over 12 years with minimal changes to answer stems and question prompts. Therefore, there was a multitude of data available for use when analyzing trends in school climate and making conclusions regarding the effect of therapy dogs on student perceptions of school climate. The data collected for the 2023-2024 school year was compared with data from the 2021-2022 school year and the 2022-2023 school year (See Figure 9). The data showed positive

increases in student perception of school climate as measured by questions related to student safety at school, a sense of belonging when at school, feelings of being cared about by staff, feelings of being recognized for good work, having good friends, feeling respected at school, and liking school. Furthermore, students who participated in the therapy dog intervention had more positive results than those students participating in the mentoring intervention in the following areas: Feelings of safety, feeling cared about by their principal and having good friends (See Figure 10). The survey questions related to the feelings of safety and having good friends could be attributed to the discussions students had with peers and the class teacher during therapy dog sessions, given the discussion topics utilized by teachers. While topics varied from group to group, teachers centered the discussion around building knowledge about classmates and finding commonalities among them.

Research Question 2

The second research question used the same data sources as Research Question 1, which were attendance, office discipline referral, threat assessment, risk assessment, and School Culture and Climate survey data. However, the second research question focused on the effects of the mentoring intervention on student perceptions of school climate in place of the therapy dog intervention data. The trauma-informed mentoring intervention, which followed a structured format and was tailored to individual student needs, was implemented one-on-one between the trained mentor and the student. Mentors followed a structured procedure for the intervention, which varied only in discussion follow-up based on student responses. As in question one, office discipline referral, threat assessment, risk assessment, attendance, and student perception survey data were

analyzed to determine the effect of the mentoring intervention on student perceptions of school climate.

As previously stated for Research Question 1, office discipline referrals for fifth and sixth-grade students at Penns Valley Intermediate School decreased 53% from the 2022-2023 school year to the 2023-2024 school year. All students represented in this data participated in either the therapy dog or mentoring dog intervention. Therefore, it can be concluded that the introduction of the trauma-informed interventions of therapy dogs and mentoring positively affected student behavior. Specifically, students participating in a mentoring intervention accounted for 56% of the students contributing to the office discipline referrals for fifth and sixth-grade students in the 2023-2024 school year. While this percentage is not as low as students with office discipline referrals who participated in the therapy dog intervention, the overall significant drop in referrals showed that a positive relationship existed between the mentoring intervention and positive school climate when viewed through the lens of student behavior.

Threat assessments also significantly decreased, a 75% drop, with the implementation of the trauma-informed interventions of therapy dog and mentoring during the 2023-2024 school year. Students participating in a mentoring intervention contributed to zero threat assessments in the 2023-2024 school year. Mentoring is structured around students having one-on-one support from an adult that they have built a trusting relationship with through relationship-building during the mentoring process. This study concludes that students who participated in mentoring every other week for a 20-minute session were provided with a needed outlet to discuss peer relationship issues

such as disagreements and friendship controversies and brainstorm non-threatening solutions to potential issues, decreasing the need for threat assessments.

Risk assessments also decreased from the 2022-2023 school year to the 2023-2024 school year, a 30% decrease from the previous year. Students who participated in the mentoring intervention accounted for 40% of the risk assessments completed for fifth and sixth-grade students at Penns Valley Elementary and Intermediate School during the 2023-2024 school year. It is important to note that while the teachers who provide mentoring interventions are trained in trauma-informed care for students each school year, they are not certified counselors. Mentors have the opportunity to provide students with a safe space to discuss feelings but are not trained to counsel students regarding self-harming behavior. The number of risk assessments decreased for students participating in a mentoring intervention, exclusive of therapy dog interventions. This showed that protective factors such as a feeling of belonging at school and having adults who care about you were likely being met for these students. This conclusion is further demonstrated by the student school climate and culture survey data discussed in the following paragraph.

The overall positive increases in data for the student school climate and culture survey were present in all categories except “My principal cares about me.” While there was positive growth in this area for students participating in the therapy dog intervention, the mentoring intervention did not show growth in this area. While mentoring is focused on a one-to-one relationship between a mentor and student. The therapy dog intervention involved discussions with a whole class of students, creating an environment allowing multiple perspectives.

Questions in several participating classrooms focused on caring adults in students' lives. This could be an intervening variable in the data. However, several other questions showed a higher increase for students participating in the mentoring intervention than in the therapy dog intervention. These categories included a feeling of belonging in school, a feeling that the teacher cares about them, recognition for good work, and a feeling of being respected by peers. The positive increase in the feeling that a teacher cared about the student showed that teachers who participated as mentors could create a trusting and caring relationship with the students they mentored, which contributed to an overall positive relationship between mentoring and student perceptions of school climate. The positive increase in students being recognized for good work also showed that mentors effectively supported students academically during mentoring sessions. Mentors reviewed test scores, quizzes, overall grades, and academic information with students every other week and then set goals for future progress. This support allowed space for the recognition of not only what students did well but also the growth they made academically over the implementation of the mentoring intervention.

Historically, at Penns Valley Area School District, student responses about feeling recognized for good work have fallen below percentages in other areas. The district has had a goal in place for the last three years to support growth in this area. Mentoring of fifth and sixth-grade students at Penns Valley Elementary and Intermediate School supported progress toward this goal for the 2023-2024 school year. Although Research Question 2 specifically focused on these areas and the fact that they were higher for students who participated in a mentoring intervention than students who participated in a therapy dog intervention, it must be recognized that the combined data

for mentoring and therapy dog interventions showed positive increases in all survey questions except “my principal cares about me,” which was higher than the previous years by 1.5% for therapy dog intervention students but not mentoring intervention students, which dropped from the previous year in this category by 4%.

Research Question 3

Research Question 3 explored the relationship between a therapy dog intervention and teacher perceptions of school climate. The teacher participant survey asked similar questions to those of the school climate and culture survey data collected from Penns Valley Area School District. Data was collected separately for those teachers with students who participated in the therapy dog intervention and those who participated in the mentoring intervention.

The teacher perception of school climate survey data was overall positive for all questions asked and analyzed. Several of the questions did not show a variance in responses from the initial survey given to teacher participants in September and the final survey given to the same group of participants in April. The analysis of these questions showed that teachers did not perceive students to feel bullied or threatened throughout the school year. Teacher perceptions also indicated that students felt safe in school, and they had a high rate of attendance. Both of these areas were also supported by the student perception of school climate and culture survey results. Although supported across multiple measures and positive indicators for school climate at Penns Valley Elementary and Intermediate School, the fact that results did not vary during the implementation of the therapy dog and the mentoring interventions diminishes their relevance when

considering the relationship of the interventions to teacher perceptions of school climate.

Several survey questions showed positive increases from the initial survey given at the start of the therapy dog intervention in September 2023 to the final survey given at the conclusion of the therapy dog intervention in April 2024. These questions were related to students' respect for each other, students' respect for the teacher, and students' overall feeling of safety in the classroom. The data regarding increases in student safety correlates with the positive student perceptions of school climate survey results which indicate that students also feel safe in the classroom. The teacher perception of school climate data, which indicated that students respected each other and the teacher, was also consistent with the student perceptions of school climate data for students who participated in the therapy dog intervention, which indicated that they felt respected by peers and by their teacher. Based on data specific to respect and safety, the addition of a therapy dog intervention had a positive effect on teacher perceptions of school climate.

Several questions were asked in the teacher perceptions of school climate survey, which had slightly negative results from the initial survey in September 2023 to the final survey in April 2024. The questions that had a slightly negative trend indicated that students reacted quickly when provoked, students argued when they disagreed, and students only looked out for themselves. It must be noted that although a negative trend, all initial survey responses in these categories were positive. For the final survey, one participant for each question answered negatively. Although negative, few responses were responsible for the decline. Overall, survey results in these areas moved from a slight positive to a strong positive relationship, as evidenced by the growth in the

majority of teacher perceptions of school climate questions from the initial therapy dog implementation to the final survey.

Research Question 4

The relationship between school climate and a mentoring intervention in Research Question 4 through analysis of Teacher Perception of School Climate questions. The questions that asked if teachers felt that students were bullied, if students felt safe in school, and if students attended school regularly were all positive from the initial survey given in September 2023 at the beginning of the implementation of mentoring to the final survey given in April of 2024 at the end of the implementation of the mentoring intervention. The lack of a positive or negative change in data over the course of the implementation of the mentoring intervention shows a lack of evidence that attendance, safety in school, and the perception that students are bullied in school were affected by a mentoring intervention.

Two questions on the Teacher Perception of School Climate survey increased in positive results from the initial survey in September 2023 to the final survey in April 2024. These questions asked if students treated each other with respect and if they felt safe in the classroom. The positive results on the survey questions regarding students feeling safe in the classroom and students treating each other with respect led to the conclusion that mentoring had a positive impact on teacher perceptions of student safety and respect. The teacher perception data regarding students treating each other with respect and feeling safe in school was supported by student perception data, which also indicated a positive increase from the initial to the final survey. Therefore, a positive

relationship could be formed between mentoring and teacher perception of school climate in terms of safety and respect.

Three questions, whether students were provoked easily, whether they treated the teacher with respect, and whether they argued when they disagreed, were asked on the teacher perception survey. Data showed a negative relationship between mentoring and school climate by presenting a 20% increase in teachers who felt that students were provoked easily and argued when they disagreed. For the question that asked if students treated the teacher with respect, 20% of teachers moved from the “strongly agree” category to the “agree” category from the initial to the final survey. The decrease in teacher perceptions of student respect is unexpected because the student perception was that they were treated with respect by teachers and peers, as evidenced by data related to feeling respected on the School Climate and Culture Survey. Yet, teacher perception results indicated a lack of respect for their teacher. Despite the negative relationship determined by the 20% decrease in data that was indicated by these questions, overall results of the teacher perception of school culture data show positive relationships between a mentoring intervention and school climate.

Application of Conclusions

The mentoring and therapy dog interventions contributed to positive relationships between teacher perceptions of school climate and student perceptions of school climate. Analysis of the data separated by mentoring and therapy dog intervention groups showed strengths in different areas, such as respect for teachers in therapy dog data and feelings of safety in the classroom in mentoring data. Both interventions positively affected school climate. While other trauma-informed interventions exist and may be beneficial

for students, therapy dog and mentoring interventions were shown to create positive increases in student perception of school climate data and teacher perception of school climate data to be effective in increasing school climate for fifth and sixth-grade students at Penns Valley Elementary and Intermediate School during the 2023-2024 school year.

Given the effectiveness of therapy dog and mentoring interventions, the continuation of both interventions for the 2024-2025 school year and into future years if possible is recommended. Both interventions had merits due to positive growth in student perceptions of school climate and teacher perceptions of school climate data, and therefore, it would be beneficial to create a schedule that allowed for therapy dog and mentoring interventions to occur simultaneously for students. While the therapy dog intervention provided a space for students to learn about each other and bond as a class, the mentoring intervention gave students space to discuss personal topics privately while also receiving academic guidance and support. The implementation of both types of support would give students the most opportunity for a sense of belonging and feeling that they are cared for at school. Ultimately, the co-implementation of these interventions could achieve an even greater effect on positive perceptions of school climate by both students and teachers.

While both interventions were successful overall, the data clearly showed that some participants and students were more positively affected than others. In order to effectively implement both interventions, the district should schedule meetings with interested participants and students to determine what parts of each intervention worked well for them and areas that could be improved. Based on this information, the district

could further refine procedures for each intervention and schedule training sessions for future participants.

For example, during the implementation of the therapy dog intervention, one classroom invited students to enter topics for discussion each session and then chose the discussion topic randomly from the jar of topics. In contrast, another therapy dog classroom chose topics through a teacher-directed method based on needs that the teacher saw as potential social issues during instructional time. It would be beneficial to determine how each teacher viewed their process for determining topics, as well as if students preferred the idea of one method over the other. Teachers in the mentoring group also handled the makeup of absences differently. Each teacher had unique methods for making up missed sessions and ensuring all students had access to mentoring. Some methods included make-up sessions during study hall time, while others would pull students from lunch or pull two students who needed make-up sessions at one time. It would be advantageous to determine which method most effectively allowed all students to meet with mentors on time.

For this research study, the mentoring and therapy dog interventions were limited to fifth and sixth-grade students at Penns Valley Elementary and Intermediate School. Given the positive relationship between the researched interventions and school climate, the district could consider expanding the interventions to the kindergarten through fourth-grade classrooms at Penns Valley Elementary and Intermediate School. This would, however, create the need for careful planning of mentoring and therapy dog resources to account for the increased number of students participating in the interventions. If protocols for lower grade levels were implemented and exhibited positive results, the

district could move the implementation of therapy dog and mentoring interventions to other buildings and grade levels. It must be taken into consideration that the appropriateness of each intervention and the procedure for implementation that would be most beneficial for students would vary depending on grade level and student needs, such as a Kindergarten protocol for a mentoring intervention versus a sixth-grade protocol for a mentoring intervention. The amount of time spent in the mentoring lesson would need to decrease for the kindergarten protocol, as the attention span of a kindergarten student is shorter than that of a sixth-grade student. The topics discussed and questions asked would also need to be considered for these age groups as relationships with peers and academic expectations greatly differ.

Mentoring is an intervention that can be easily applied with training and very few resources. However, a therapy dog and handler must be available consistently to implement a therapy dog intervention. Schools could consider multiple options for ensuring the presence of a therapy dog. The most cost-effective option is to find a local therapy dog handler willing to donate time to the school. While this requires flexibility on the school district's part to schedule around the handler's availability and provide alternative schedules for make-up sessions, it ultimately can be successful, as demonstrated in this research study.

Limitations

There were several limitations to this research study that must be considered when reviewing the analysis of results and implications for future use of the therapy dog and mentoring interventions. First, the size of the participant group was small. Although data was inclusive of all fifth and sixth-grade students in the district, there were still less

than 200 students contributing to office discipline referral, threat assessment, risk assessment, attendance, and school climate and culture survey data. These numbers are typical of fifth and sixth-grade class sizes over the past several years, and therefore, data was able to be compared with previous years. However, the methodology of this study did not lend itself to a large sample of students in each intervention group.

The number of participants was also a limitation of this study. Each grade level of fifth and sixth-grade students was separated into five homerooms. Although all staff members who worked with fifth and sixth-grade teachers were invited to fill out the teacher perception surveys, only those teachers with homerooms chose to do so, limiting the responses to 10 participants. When independently analyzing the mentoring and therapy dog intervention data, this number was split in half. Five participants in a group allowed for a large shift in results when one participant's responses. A small group of participants also allowed for specific classroom characteristics, such as a higher number of new teachers with less structure, to potentially affect the data as well. In future research, it would be beneficial to have a larger sample size of students and participants so that data is not easily skewed and more accurately reflects the findings of all participants.

In addition to sample size, variance in historical data was a limitation when analyzing trends over time. The COVID-19 pandemic of 2020 caused attendance and behavior data to be skewed for at least a two-year period. Students were sent home for school closures in March of 2020 and sporadically during the 2020-2021 school year. At that time, online synchronous learning was occurring at Penns Valley Area School District. Students were considered present in school if they participated online, and

therefore, attendance was at the highest rate it had been in years. This same issue occurred with office discipline referrals. The 2019-2020 school year ended in March for in-person learning. There were a large number of students attending school online in the 2020-2021 school year. Therefore, office discipline referrals were far below the historically average numbers for those school years. Comparison of data could not really accurately reflect a trend unless it started in the 2021-2022 school year. This allowed for only three years of data to analyze trends and draw conclusions. Although not due to the COVID-19 pandemic of 2020, risk assessment data was not tracked at Penns Valley Area School District until the 2021-2022 school year. Therefore, only a two-year sample of data could be analyzed. This made drawing conclusions about the effect of the mentoring and therapy dog interventions less definitive.

Finally, although the mentoring intervention followed a specifically timed and structured format, the therapy dog intervention had less structure. Each teacher managed the intervention differently within the provided guidelines, which may have affected the intervention results for each group. Moving forward, as suggested above in protocol changes to attendance and discussion topics, more guidance and structure should be added to this intervention to ensure that all students have access to an effective intervention.

Recommendations for Future Research

With the ongoing and increasing concerns over mental health for students and staff in public education, the conclusion of positive relationships from the implementation of mentoring and therapy dog interventions highlighted the need for further exploration of trauma-informed interventions that can help support these growing

needs and foster a positive school climate for students and staff. The mentoring and therapy dog interventions positively affected student and teacher perceptions of school climate as determined by survey results, attendance records, office discipline referral reports, threat assessments, and risk assessment records. The fact that all these areas were positively impacted shows the benefits of structured, systematic implementation of these interventions.

It would be beneficial to continue the research of therapy dog and mentoring interventions with a larger sample size. If researched in a nearby district of similar size and demographics, there would be similar data for comparison and a more reliable pool for determining effectiveness. If the interventions positively affect student and teacher perception of school climate, more urban and suburban districts with diverse demographics should be studied.

Furthermore, it is important to consider the wide range of interventions available to school districts. Prior to the adoption of specific interventions, research should explore the effects of each intervention on factors that contribute to student and teacher perceptions of school climate. Mentoring is time-consuming in human resources that would be difficult to acquire for many school districts. Therapy dogs with handlers who volunteer time and have consistent schedules can be difficult to find. Research of various trauma-informed interventions would create a more diverse pool of options for districts so that they can implement interventions that work well in their districts and effectively support their students.

Summary

This research study has explored the relationship between the trauma-informed interventions of therapy dogs and mentoring and student and teacher perceptions of school climate. Its aim was to address the increasing mental health needs in public education and determine if the systematic implementation of intervention strategies could positively support these needs. The findings indicate that there is a positive relationship between therapy dog and mentoring interventions and the perceptions of a positive school climate among students and teachers.

These findings have significant implications for school districts that are struggling to support the growing mental health and behavioral needs of students in terms of cost-effective interventions that can be implemented without the purchase of materials or the addition of staff. However, it is important to acknowledge the limitations of this study, such as a small sample size and shallow depth of historical data for which to analyze trends, which suggest caution when generalizing these conclusions.

Further research could build on these findings by duplicating the study in school districts with similar demographics at first, and then expanding into a more diverse setting and population within school districts. The research should also explore the relationship of other trauma-informed interventions and perceptions of school climate to allow for a larger pool of effective options that can be chosen based on specific district needs and accessibility to resources. Ultimately, this research contributes to the ongoing discourse of services and supports in public education that will help to meet the growing needs of the student population, offering a foundation for future inquiries and practical applications in trauma-informed interventions.

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APPENDICES

Appendix A

IRB Approval



Institutional Review Board
250 University Avenue
California, PA 15419
instreviewboard@calu.edu
Melissa Sovak, Ph.D.

Dear Shannon Reeder,

Please consider this email as official notification that your proposal titled "Improving Perceptions of School Climate with Trauma-informed, School-based Interventions in an Intermediate School Setting" (Proposal #PW23-019) has been approved by the Pennsylvania Western University Institutional Review Board as submitted.

The effective date of approval is 08/25/2023 and the expiration date is 08/24/2024. 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 08/24/2024, you must file additional information to be considered for continuing review. Please contact instreviewboard@calu.edu

Please notify the Board when data collection is complete.

Regards,

Melissa Sovak, PhD.
Chair, Institutional Review Board

Appendix B

Student Perception Survey

This questionnaire is designed to help us better understand if student perceptions of school climate are affected by a mentoring program or therapy dog intervention. Your answers are confidential and anonymous. You are not obligated to complete the survey and can stop the survey at any time. By submitting this survey, you are consenting to be a part of the research study.

Demographics

1. What is your grade?
 - Fifth
 - Sixth

2. What intervention program is being utilized with your students?
 - Therapy Dog
 - Mentoring Program

Survey Questions

Please answer each question on a scale from 1 to 5, 1 being “strongly disagree” and 5 strongly agree..”

	Strong Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
1. Students in my class often feel threatened.					
2. Students in my class are often bullied because of certain characteristics (for example race, religion, weight, sexual orientation)					
3. Students feel safe in my classroom.					
4. My students treat me with respect.					
5. My students treat each other with respect.					
6. Students in my class care about each other.					
7. Students in my class have friends.					

8. Students in my class don't get along well with each other.					
9. Students in my class only look out for themselves.					
10. Students in my class do not react quickly or rashly when provoked.					
10. Students in my class get in arguments with each other when they don't agree.					
11. Students in my class say mean things to other students.					
12. Students in my class like to make fun of each other.					
13. Students in my class attend school regularly.					

Appendix C

Therapy Dog Letter

August 31, 2023

Dear Penns Valley Intermediate Families,

We are excited to share with you that a new “staff” member will be joining us this fall. We will be welcoming Blaize to our school as a Certified Therapy Dog. Blaize is a patient and sweet Golden Retriever who loves everyone he meets! He has been serving as a therapy dog for five months and is well-loved in his therapy dog role at Lock Haven University. He will be joining us a couple times each month as we pilot the implementation of this type of program in our district. Once we are established, our hope is to expand Blaize’s presence into the other buildings as well. Below, we have listed some benefits of therapy dogs in schools and addressed potential concerns.

What are the benefits of therapy dogs in schools?

Evidence indicates that benefits include:

- Cognitive- companionship with a dog stimulates memory, problem-solving and game playing.
- Social- a dog provides a positive mutual topic for discussion, encourages responsibility, wellbeing, and focused interaction with others.
- Emotional- school dogs improve self-esteem, acceptance from others and lifts mood, often provoking laughter and fun.
- Dogs can also teach compassion and respect for other living things as well as relieving anxiety.
- Physical- interaction with a furry friend reduces blood pressure, provides tactile stimulation, assists with pain management, gives motivation to move, walk and stimulates the senses.
- Reading- reading to dogs has been proven to help children develop literacy skills and build confidence, through both the calming effect the dog’s presence has on children as well as the fact that a dog will listen to children read without being judgmental or critical. This comforting environment helps to nurture children’s enthusiasm for reading and provides them with the confidence to read aloud.

Some challenges to consider:

- My child is allergic to dogs -
It is understandable that some of you may be concerned about possible allergic reactions to a dog in the building. However, Blaize has been and will be subjected

to thorough cleanliness and grooming standards as part of the requirements of his certifying organization, Alliance of Therapy Dogs (ATD). He will also only be allowed in situations with pupils who voluntarily wish to work with him. He will work with students in one on one or small group capacities, in specified areas, so the possible spread of dander is limited throughout the building. If you would like to request that your student does not work with Blaize, please contact the main office and let us know so that we can make the appropriate accommodations.

- *My child is scared of dogs -*

Some children may have had upsetting experiences and thus have a fear of dogs (or other animals). Blaize will only be in contact with children that want to work with him. He has been observed and certified by an ATD trainer/observer to remain calm and be gentle around children, adults, and individuals with disabilities. He is constantly supervised by his handler and is under her control in all therapy settings. Experience and research has shown that with proper guidance and handling, children can learn to overcome their fear of animals and grow in respect and appreciation for them. If for any reason you would like to opt your student out of the therapy dog program, please contact the school and we will add them to our no contact list.

- *Does this therapy dog have the appropriate vaccinations?*

The district has a copy of Blaize's vaccinations. A local veterinarian will have reviewed

the vaccinations prior to his starting and verified that Blaize is up to date on all necessary vaccinations.

We hope you will join us in welcoming Blaize to the Penns Valley Elementary/Intermediate School. If you have any concerns regarding his presence around your child, please email me at sreeder@pennsvalley.org.

Thank you,

Shannon Reeder
PVEI Principal
814-422-2002
sreeder@pennsvalley.org

Appendix D

Penns Valley Area School District's Student School Culture and Climate Survey

Students rate each item on a scale from 1 to 5, 1 being “never” and 5 being “always.”

	Never	Rarely	Some- times	Often	Always
	1	2	3	4	5
1. I feel I belong in this school.					
2. I am safe at school.					
3. My teacher cares about me.					
4. My principal cares about me.					
5. I have good friends at school.					
6. I like this school.					
7. Students treat each other well.					
8. I am recognized for good work.					