

MENTAL HEALTH

**The Coronavirus Pandemic's Impact on Middle School Students' Mental Health**

A Doctoral Capstone Project

Submitted to the School of Graduate Studies and Research

Department of Education

In Partial Fulfillment of the

Requirements for the Degree of

Doctor of Education

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August 2023

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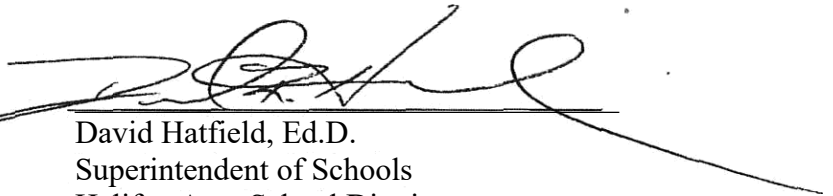
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**Dedication**

For all the children who suffer in silence: may the light shed by the coronavirus pandemic lift the stigma from mental health and embolden the silent to seek help.

### **Acknowledgements**

I would like to thank my late parents who instilled in me the desire to do what is right and to trust in my talents. I have a debt of gratitude to all my teachers, and especially the late Mr. Earl Rader who encouraged me to “swing his birches,” Mr. William Pensyl who demanded of me an “Evan Williams answer,” the late Professor Theodore Kornweibel who allowed me to pursue my interests and insisted upon directing me, the late Professor William Whyte Watt who impressed upon me the fact that something can be both true and great independent of anyone’s personal opinion, the late Professor John Condit who insisted upon humility above all things, and Professor Bernard Freed who taught me the breadth of a principal’s responsibilities.

Over the years I have been blessed to have many, many devoted professionals as colleagues, and it is upon the shoulders of those giants that I have stood.

Certainly, without the cooperation of my wife Sue this, and all my academic accomplishments, would have been impossible. I owe her, my sons, my daughter-in-law, and grandchildren many thanks for their tolerance and understanding.

I must thank Professor Sylvia Braidic for her help, and Dr. Timothy Foley and Dr. David Hatfield for their kind assistance and support.

Finally, I am eternally indebted to the Reverend Godfred Effisah who admonished me to ever trust in the Lord.

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### **Abstract**

This study was begun to understand the coronavirus pandemic's impact upon middle school student mental health. Educators had academic measures with which to measure learning loss; however, there was no test to measure the pandemic's effect upon student mental health. Through analysis of the Pennsylvania Youth Survey, PAYS, a student self-reporting tool, and guidance counselor interviews, the researcher hypothesized that the coronavirus pandemic's impact upon student mental health could be ascertained, as well as a strategy for remediating that impact. The researcher sought to answer what mental health challenges were revealed through PAYS, how those challenges correlated to the guidance counselors' observations, what the sources of student mental health challenges were, and how schools and school personnel could confront those challenges. Through a mixed-methods approach, this study analyzed PAYS data from three middle schools in northern Dauphin County for mental health trends leading up to and during the pandemic. Through in-depth interviews with the school guidance counselors, this study assessed the conditions students reported, student reporting integrity, the conditions that guidance counselors observed, and the possible strategies to combat the mental health impact of the pandemic. The researcher concluded that the coronavirus pandemic had a significant impact upon student mental health, producing anxiety and depression resulting in increased suicidal ideations, and increased instances of self-harm.

## **Chapter I**

### **Introduction**

In late 2019 neither the United States nor the world was prepared for the emergence of the coronavirus that caused COVID-19. The genesis of the coronavirus is disputed. It was traced by some to an animal in a Chinese outdoor market. Others claimed it came from a Chinese research laboratory and was transmitted when a researcher contracted the virus and entered the local population. Regardless, owing to the respiratory virus' highly infectious nature, travelers transmitted the virus around the world rapidly. Although the threat of the virus was known in upper echelons almost immediately, initially no serious efforts were made to limit transmission. Consequently, as reports of rapid infection came in from around the globe, Americans were caught unprepared.

### **Background**

In March of 2020, the coronavirus pandemic necessitated that public school districts respond rapidly, and online education became an alternative as schools were closed. Some schools and districts were better prepared than others. At the start of the 2020-2021 school year, school districts imposed regimens to monitor infection and returned to in-person education requiring masking for students and teachers, Kindergarten through twelfth grade. Depending upon community spread of infections and reported cases, schools were shut down and returned to virtual instruction for months, in some cases. When the pandemic appeared to wane in the summer of 2021, hope abounded that students would be able to return to schools unmasked.

These hopes were dashed first by the rise of the delta variant of the coronavirus in the fall of 2021, and then the omicron variant in the winter of 2021-2022. Despite the

infection rates, throughout that time fierce debates arose targeting masks and parents' rights, specifically the right to demand their children be unmasked in school. In the spring of 2022, rates of infection and community spread finally dropped away to the point that most mask mandates were lifted.

The conditions which disrupted in-person schooling took their toll upon students' mental health. The hasty transition to virtual education, the pushback against lockdowns, the pushback against masks, and disinformation circulating about the coronavirus and its vaccines all weighed heavily upon students. Through a mixed-methods approach, this study will utilize information on middle school student mental health through analysis of the Pennsylvania Youth Survey, PAYS, results and guidance counselor interviews in the three middle schools in the school districts of northern Dauphin County: Halifax Area Middle School, Millersburg Area Middle School, and Upper Dauphin Area Middle School.

### **Focus of the Study**

At the onset of the pandemic, the uncertain virulence of the coronavirus engendered lockdowns nationwide and in Pennsylvania. Uncertainty was indeed the theme of the time and continued as the pandemic ran its course. The pandemic, and its impact, was and is unprecedented. Educators expected to have a measurable learning loss amongst students, and most schools and districts were already preparing through federal grants to fight learning loss through targeted remediation. However, the pandemic also had an insidious effect upon student mental health. Mental health was and is harder to assess than academic performance for any number of reasons. In this case, examining middle school students in early adolescence, this study assessed student self-reporting,

the accuracy of student self-reporting, and the observations and opinions of guidance counselors to understand the mental health impact of the pandemic.

Through a mixed-methods approach, this study analyzed PAYS data from three middle schools in northern Dauphin County for mental health trends leading up to and during the pandemic; specifically, PAYS results from the years 2019 and 2021. Through in-depth interviews with the school guidance counselors, this study assessed the conditions students reported, the integrity of student reporting, the conditions reported as guidance counselors observed them, and the possible strategies to combat the mental health impact of the pandemic.

### **Research Questions**

1. What mental health challenges did the PAYS surveys reveal?
2. How did the mental health challenges revealed by the PAYS survey correlate to the observations of guidance counselors?
3. As PAYS survey data and guidance counselors observations reveal, what were the pandemic induced sources of middle school students' mental health challenges?
4. How can the schools and school personnel confront these challenges?

For question number one, PAYS survey reports for the three middle schools were collected. Survey reports were analyzed using descriptive and inferential statistics. This was possible as the PAYS grade report details specific responses for all items, some of which were in a Likert-like scale. For questions two through four, school guidance counselors were interviewed. Question three required renewed scrutiny of PAYS survey data, particularly the data which directly reported pandemic effects, and question four

was guided by the relationships revealed through statistical analysis and is also speculative, dependent upon the guidance counselors' opinions.

### **Expected Outcomes**

This study shed light on the effect of the pandemic upon middle school students' mental health, and the directions school personnel may take to ameliorate the pandemic's impact. As the schools have students for a third of the day, schools may make a significant contribution to remediating the effects of the pandemic.

### **Fiscal Implications**

A criticism often leveled at schools is that they tend to throw money at problems indiscriminately. This study may identify the areas of need and strategies to address that need. The pandemic has affected student performance as well as mental health: for some students the two may be linked. A Brookings Institute study indicated that the most effective intervention for math and reading achievement deficits in younger students, and middle schoolers, is tutoring. Tutoring is expensive; however, each school district should invest in time in-school and after-school to tutor individual students.

Undoubtedly, some of these areas of need can be addressed through faculty in-service training. In-service training is already part of the schools' and districts' expenses. This study may find a focus for in-service training. If all three school districts can agree upon that training focus, the districts can address those needs both collectively and individually.

Training specific to improving rural school districts' instruction is available through Marzano Research. The districts can schedule a joint opening in-service to set the focus and deliver preliminary training including practicum. Teachers would have access



to a training website and email and ZOOM support. A session for administrators outlining teacher assessment and coaching practices would follow at the first possible administrative meeting. As the districts all have in-service on Columbus Day, the districts can schedule a second joint in-service for collective reporting-out on preliminary progress and an advanced training session. Once again, teachers would have website access and email and ZOOM support.

Training specific to instruction will be expensive if it comes from a trainer such as Marzano Research. An estimate from Marzano and a previous intermediate unit-wide initiative may afford a clue. Learning Focused Schools charged the district \$150 per professional in 2023 dollars, which included publications. The three districts employ 281 teachers and administrators, and at \$150 each the cost would be \$42,150. Marzano estimated three trainers in-person would be required. If the first in-service was followed directly by an administrator training, this would lessen the cost. Follow-up presentations, ZOOM trainings for groups, and email and FaceTime contact for individual administrators and teachers would be provided for a base cost of \$75,000 to \$80,000.

Training specific to mental health and suicide prevention is free to community partners through Wellspan-Philhaven. This training would need to be staggered and delivered to individuals or small groups, including all staff. The only charge would be for substitute teachers and the greatest challenge would be getting substitutes. Given the numbers of teachers, each district's expense would vary; however, given the number of teachers thirty-five substitute days would be required. The average substitute cost is \$175 per day or \$6125 for the three districts.

All school personnel must be aware of students' mental health needs and to watch for warning signs. However, there needs to be enough personnel to respond to perceived needs, and those personnel are guidance counselors, social workers, and psychologists. Unfortunately, given the difficulty in keeping and retaining a single full-time psychologist for each district, the districts will have to look to maintain and increase the number of guidance counselors and social workers.

As a cost estimate, given average salary and benefit costs, each district would need to employ an additional guidance counselor for a cost of \$120,000 per district. An additional social worker could probably be shared or additional time purchased through a counseling service. This expense would be \$40,000 to \$100,000.

The aggregate cost for each district for these new personnel would be less than \$165,000 a year. If the intervention is effective and requires six years, the intervention would cost \$990,000 per district. As the student population rose or fell, greater expenditure could be required; however, over time the newly hired employees could be absorbed into the bargaining units, thereby moderating the cost. Nonetheless, the price would be worth paying for an effective intervention. Undoubtedly, state and federal aid could rise, depending upon political will.

### **Summary**

Some of the great challenges of the coming years in education will be identifying the effects of the coronavirus pandemic and then moderating and possibly ameliorating those effects. We have standardized tests to illuminate academic deficits, but we have no such instruments to pinpoint the damage done to students' mental health. This study will endeavor to identify the observable mental health challenges of middle school students in

northern Dauphin County and propose some strategies to treat those affected and also improve service to all students.

## Chapter II

### Review of the Literature

Late in 2019, a novel coronavirus was identified as the cause of several deaths in China. Like wildfire, the coronavirus spread around the globe, reaching the United States in late 2019, and spreading throughout the country during the first months of 2020. In March of 2020, the coronavirus pandemic necessitated public school districts respond rapidly, and schools were closed, forcing almost all schools to rely upon online instruction. At the start of the 2020-2021 school year, some school districts imposed regimens to monitor infection and returned to in-person education requiring masking for students and teachers, Kindergarten through twelfth grade.

When the pandemic appeared to wane in the summer of 2021, hope abounded that students would be able to return to schools unmasked. These hopes were dashed first by the rise of the delta variant of the coronavirus in the fall of 2021 and then the omicron variant in the winter of 2021-2022. In the spring of 2022, rates of infection and community spread finally dropped away to the point that most mask mandates were lifted. However, from the summer of 2021 through to the spring of 2022, in school district and school after school, fierce debates arose targeting masks and parents' rights, specifically the right to demand their children be unmasked in school.

The conditions which disrupted in-person schooling, the hasty transition to virtual education, the pushback against closures, the pushback against masks, misinformation circulating about the coronavirus and its vaccines, led to a landscape in public schooling rife with new challenges in mental health. Through a mixed-methods approach, this study utilized information on middle school student mental health through analysis of the

Pennsylvania Youth Survey (PAYS) results and guidance counselor interviews in the three middle schools in the school districts of northern Dauphin County: Halifax Area Middle School, Millersburg Area Middle School, and Upper Dauphin Area Middle School.

### **The Evolution of the Middle School**

In the late nineteenth century in concert with new compulsory education laws, education scholars began an effort to influence restructuring of elementary and secondary education. The National Education Association's Committee of Ten advocated elementary schools be limited to grades one through six, and secondary schools be grades seven through twelve. Partial impetus for the change was to introduce subjects of increased rigor such as Latin and higher mathematics to able students. Grades seven and eight were considered "introductory" high school grades or "intermediate" schools, "junior" high schools were grades seven through nine, and "junior-senior" high schools were grades seven through twelve. These schools appeared, dependent upon the preference of local school boards and state guidance (StateUniversity, 2022).

Throughout the first half of the twentieth century, types of junior high schools flourished with grade alignment depending upon enrollment and community preference. In addition to introducing students to higher level academics, these new schools helped reduce overcrowding in elementary schools and reduce dropout rates, giving academic students greater access to content and vocationally minded students access to commercial, domestic, and vocational instruction. By 1960, eighty percent of the nation's early adolescents attended a junior high school (StateUniversity, 2022).

The middle school concept grew out of criticisms of junior high schools; chiefly, that they tended to follow the lead of high schools in curricula, grading systems, large class sizes, schedules, regimentation, and impersonal climate. Ultimately, junior high schools were faulted for not meeting the needs of early adolescents. As ninth grade required the application of the Carnegie unit system for graduation requirements and possible college matriculation, most high schools were restructured as grades nine through twelve buildings. The goals of what became middle level education were to provide a gentle transition between elementary school and high school which recognized the importance of school climate and student development in the delicate years of the onset of puberty (StateUniversity, 2022).

The first mention of a grades six through eight middle school appeared in the literature in 1950, followed by mention of a grades five through eight middle school in 1965. The first book on the middle school concept was written by Donald Eichorn, a Pennsylvania school district superintendent, who envisioned a grades six through eight middle school with the following emphasis:

The book attempted to apply Piaget's theories regarding early adolescent development in designing a suitable educational program. For example, Eichorn proposed that middle schools offer frequent opportunities for active learning and interaction with peers. He suggested eliminating activities that might embarrass late maturers or place them at a competitive disadvantage (e.g., interscholastic athletics and prom queen contests) and replacing them with less competitive activities that welcome and affirm all students regardless of their current level of physical or cognitive development (intramural athletics and physical education

programs and flexible self-selected projects that allow all students to pursue personal interests and develop further interests while making frequent use of a well-equipped resource center). He proposed flexible scheduling to allow for extended learning opportunities and flexible groupings of middle school students for instruction (e.g., by current cognitive functioning or interests) rather than just by chronological age or grade level. He called for a curriculum that featured frequent use of interdisciplinary thematic units that reflected the interrelated nature of different content areas and that balanced traditional academic subjects with cultural studies, physical education, fine arts, and practical arts. (State University, 2022, p. 2)

A scan of middle school grade configurations in Pennsylvania yields any number of various designs – grades five through eight, grades six through eight, and grades seven and eight (Pennsylvania Department of Education, 2022b). Most grade configurations appear to have been selected in part because of the influence of scholarship, like Eichorn’s work, and then tempered by local need. Again, when surveying programmatic choices, many of Eichorn’s concepts were incorporated into Pennsylvania middle schools; however, those concepts were selectively picked and chosen, particularly in school districts having a lesser tax base, according to cost. The only programs consistently seen throughout Pennsylvania middle schools are those mandated or financed by the state or federal government, like Student Assistance Programs and Title I Reading or Math.

According to Paul S. George, middle school grade configuration was a convenient way to conform to racial desegregation after *Brown v. the Board of Education of Topeka*,

Kansas (Gershon, 2017). Creating a middle school, whether grades five or six through eight, allowed districts to form a new, integrated school, while maintaining elementary schools segregated by geography, hence by race. Programmatic concerns did not surface until the publication of *A Nation at Risk*, and the resulting focus on academic achievement. George felt that real concern for early adolescents particularly did not evolve until the 80's and 90's and is marked by the team approach. Also, in the 90's out of concern that educators know their students well, the practice of "looping" evolved, having teams of teachers move through the grade levels with the same cohort of students (Gershon, 2017).

Out of concern for the development of early adolescents, and in some cases, concern for specific communities and taxpayers, the middle school developed and morphed over time. Regardless of structure, middle schools were and are transitional schools bridging the developmental gap between childhood and adolescence. Fortunately, middle school grouping allowed educators to focus on the needs of the age group of students. Unfortunately, that grouping tended to magnify the needs of that group of students, needs that were perceived to be going unmet.

### **Critiques of Middle Schools**

The California Department of Education published the first global critique of middle schools, Fenwick's *Caught in the Middle*, in 1987. In the forward, Bill Honig, California Superintendent of Public Instruction, declared that the middle school must accommodate its students' maturation while meeting the academic demands for high school preparation and do so in a manner nurturing the students' self-esteem, and that middle schools needed to connect with students, so students assimilated the schools'



goals and purposes to bolster students' self-esteem. Although any number of scholarly works addressing middle level education cite the importance of educators' cognizance of student development, this foregrounding of "self-esteem" was noteworthy.

Fenwick (1987) reiterated all the arguments that middle schools were to be a transitional bridge between the nurturing education of elementary school and the impersonal factory, the high school. Middle school was to provide students with the room to grow and experiment; however, Fenwick also pointed directly toward middle schools second purpose – to prepare students for high school academics; hence, "...knowledge and skills essential for success in secondary and post-secondary curricula should receive priority attention in all middle grade courses" (p. 23).

Fenwick (1987) noted that academic success was abetted through assimilation of ideals; namely, "hard work, responsibility, honesty, cooperation, self-discipline, freedom, the appreciation of human diversity, and the importance of education itself" (p. 33). This character education should be a common goal shared by teachers, administrators, students' parents, and the whole community.

The report also advocated for a strong counseling program dependent upon parents in addition to students, teachers, and counselors. Parent involvement was necessary to help guide students toward their best alternatives and courses in life. Every student should have access to high level academic programs; however, harm can result from ability grouping.

Presciently, the report recommended better English instruction to benefit diverse students, English Language Learners, and minorities. Also, the report stated that "at-risk" students, those not connected with school's goals and purposes, were possible dropouts,

and “the search for autonomy and independence annually leads a frightening number of youths to disengage from home and school by the end of the middle grade years...”

(Fenwick, 1987, p. 78).

An argument can be made that these minority and at-risk students, and many others, who do not honor a school’s goals and purposes, who do not fit in high-pressure academics, and who are searching for autonomy and independence, were and are precisely those students who become generally disaffected; hence are those students with mental health concerns.

### **The Evolution of the Emphasis on Mental Health**

At about the same time that educators were rethinking the structure of elementary and secondary schools, they also began to realize that students needed to be seen as individuals and that some of the elements of student lives left to the home had to be addressed in schools; namely, health, vocational education, recreation, and mental hygiene. The concern for mental health arose from societal factors like compulsory education, child labor laws, immigration and the resulting concern for the social order, urbanization, and public health, in accord with the advancements in psychology, sociology, and education (Flaherty & Osher, 2002).

As early as the late nineteenth century, manifested in schools were the following: higher enrollment of students, many of whom who were not ready to learn; concomitant rise in discipline problems for teachers; the cultural distance between school staff and students; and the resulting societal deficit in terms of public health and social control from the inability to educate these students. In a nutshell, these are some of the problems persisting to today – students not ready to learn and the attendant discipline problems, the

necessity of teachers to be able to understand their students' cultures, and the problems of the undereducated, including dropouts (Flaherty & Osher, 2002).

### **The Rise of Educational Specialists**

Social workers, reformers and educators have fallen into two camps – fix the school and fix the student. The fixes to schools describe the evolution of grade arrangements, schedules, grouping, and instruction; whereas, the earliest fixes to students were the introduction of mental health services addressing academic and behavioral problems among students. These two strands met in the form of the earliest types of special education – nongraded and special classes. These special classes were often places to house students with behavioral problems. As early as 1910, William Henry Maxwell, New York City's Superintendent of Schools advocated for special classes for the mentally retarded, or what was then called mentally retarded (Flaherty & Osher, 2002).

Most of the varied reforms the Progressive Era advocated never came to fruition in all corners of the country for some simple reasons: disparity in school finances particularly during and after the Great Depression; segregation; community intransigence, rejecting change; and teacher intransigence, refusing to modify instruction. However, the realization that school was for all children and student motivation and learning readiness were seminal, did survive, and grew (Flaherty & Osher, 2002).

In the early twentieth century and ever since, the established ancillary school professions were instituted and codified in law, in certain cases. School nurses appeared first in New York City – the Public School Code of 1949, still the law in Pennsylvania, mandated a nurse for every 1500 students (Levin, 2015). The school psychologist, first

appearing in 1915, is now found in almost every district that can find one to hire. Special Education requires a psychologist – a student cannot have a required Individualized Education Plan, IEP, without a psychologist’s evaluation. School counselors, guidance counselors, appeared in the early 1900s, and, although employing them is not mandatory, it is almost impossible to find a school without one. Social workers came out of the earliest reforms and are found in many school districts, although there is no mandate for their employment (Flaherty & Osher, 2002).

### **The Development of Special Education**

Today, there is a mandate for special education for needy students of all differing identifications. Teachers of special education have become a part of every faculty and their numbers have expanded. In the early part of the twentieth century, those classified as “mentally retarded” were the first to receive special education, usually a combination of one-on-one and small group instruction. In the late 50s and 60s, behavior disorders became the major field of training (Flaherty & Osher, 2002). Pennsylvania today recognizes seven teacher certifications for special education, though three have sunset, as follows: Special Education, PK-8, sunset 12/31/21; Special Education, 7-12, sunset 12/31/21; Special Education, PK-12; Hearing Impaired, K-12; Mentally and Physically Handicapped, K-12, sunset 8/31/03; Speech and Language Impaired, PK-12; and Visually Impaired, PK-12 (Pennsylvania Department of Education, 2022a). The Individuals with Disabilities Education Act, IDEA, specifies fourteen identified categories of special needs students. Three of the current certificates address limited special populations. Special Education PK-12 supplies the bulk of teachers, and these teachers are divided into uncertified specialties to teach eight different identifications, the

vaguest being Other Health Impairment, OHI (Center for Parent Information and Resources, 2022).

Therefore, it appears as if the concern for mental health grew out of a desire for behavior control which originally attributed misbehavior to mental deficiency.

### **The Development of Mental Health Support**

Prior to and shortly after World War II, those with mental issues were typically removed from the community and institutionalized. The Commonwealth of Pennsylvania maintained a system of state hospitals which were mental institutions, the oldest being Harrisburg State Hospital, established 1845 (“Pennsylvania State Hospitals,” 2022). In the post-World War II era, concern for the mentally ill grew nationally, resulting in the Community Mental Health Centers Act of 1963. Preventing mental health problems was central to the act; hence, schools were seen as places to institute initial screening and diagnosis. This “evolution” was consistent with the rising social conscience movement of the 1960s, known as the War on Poverty and its various legislation which included funding for programs like Head Start. The genesis of these community programs helped give rise to school-based programs. Additionally, these community and then school-based programs were to help keep children with problems in their community and school, not institutions (Flaherty & Osher, 2002).

In 1992, the United States Congress passed the Comprehensive Mental Health Services for Children and their Families Program, specifically designed to promote community and school organizations to support mental health. These “systems of care” organized local public and private organizations to act in concert as “teams” to service needy children’s physical, emotional, social, educational, and family needs. These teams

included social workers, mental health workers, child welfare agents, juvenile justice, vocational rehabilitation, substance abuse, and others (Flaherty & Osher, 2002).

### **Mental Health Support in Pennsylvania**

Before the U.S. Congress acted, in 1984 the Pennsylvania Department of Health's Office of Drug and Alcohol Programs allocated grant funding to support a "pilot Student Assistance Program(s), SAP, throughout the Commonwealth under the auspices of the Pennsylvania Department of Education" (Commonwealth SAP Interagency Committee, 2004, p. 1). Initially four school districts sent teams to be trained to aid and support students identified as having problems such as poor grades, substance abuse, depression, absenteeism, withdraw behaviors, suicidal ideation, and discipline problems. Teams were composed of an administrator, teacher volunteers, the school nurse, and a psychologist, if the district had one. The program was a success, and the participants afforded the program particularly high ratings, so much so that the program expanded the following year to include twenty-one additional schools.

In 1985-1986, the Pennsylvania Masonic Foundation for the Prevention of Drug and Alcohol Abuse Among Children volunteered to support the program, and the Masons have underwritten elementary and secondary SAP training programs, the Commonwealth's SAP Network, and local SAP programs. At the outset, SAP was for secondary schools exclusively; however, it was expanded to include elementary schools beginning in 1990 (Commonwealth SAP Interagency Committee, 2004).

### **Early Adolescents**

Marshall and Newman (2012) address at length the nature of early adolescent students, middle school students. These students are in a transition from childhood,

elementary school, to late adolescence-early youth, high school. By their nature, they vary widely. Middle school students show a wide range of talent. Middle-school-age students are in a transition from concrete thinking to abstract thinking. These early adolescents are intensely curious but have little tolerance for work in depth. Early adolescents prefer to be kept busy and involved; hence, middle school students prefer to interact with their peers in schoolwork. Early adolescents are preoccupied with identity formation and are emotionally fragile. Early adolescents are always observant of adults, inquisitive about adults, but often challenge adults in many ways. Middle school students are often altruistic, yet many quickly wonder “what’s in it for me.” Nonetheless, middle school students are often concerned about others. Middle school students are trying to develop their own moral judgments instead of relying upon adults; however, middle school students still rely on their parents and fall back upon their parents’ moral views. Middle school students are greatly in need of affirmation from adults but will reject adult opinions if those opinions do not affirm their own. Middle school students are the prey of their own development – their maturity varies widely, bodily changes and growth vary widely, sexual awareness and sexual maturity underlie many of their actions, and they need physical activity, but their performances can be greatly skewed by lack of motor control.

It is a simplification to say only that the human brain is complex; however, it is not a simplification to state that early adolescents behave the way they do because their brains are in critical stages of development. Their brains are prepared for action! But their brains have not yet developed the mechanisms to screen for misjudgment (Marshall & Newman, 2012). Do all kids misfire? At times; however,

the overwhelming majority of teens, something like 80 percent, get through this difficult period without running away, without hurting themselves, without serious accidents, and without alienating most of humanity. It's not a smooth, uneventful journey, but most teens (and parents) survive the experience without permanent damage. (Marshall & Newman, 2012, p. 15)

There is so much going on in middle school students' minds, yet most of them turn out fine, even those who experience trauma. This is perhaps because so much of early adolescence is devoted to changing and evolving identity.

Puberty floods the body with hormones – it is a biological event: adolescence is a developmental event in which children transition to adulthood. Puberty happens like clockwork, but adolescence runs on its own clock:

We often think of puberty as the onset of adolescence as there is some obvious overlap, but some children reach puberty by age ten while others don't until age fifteen. Whereas puberty lasts about two years, adolescence is generally thought to begin at about age twelve or thirteen and extend into the mid-twenties.

(Marshall & Newman, 2012, p. 21)

Identity formation takes place during adolescence, and middle school children are just entering this developmental period. According to the psychologist Erik Erikson the “conflicting forces at this stage are *identity* (defining who we are) versus *identity diffusion* (failure to develop a clear sense of identity)” (Marshall & Newman, 2012, p. 23). Middle school children struggle to define who they are, who they want to be, what groups to belong to, how they wish to dress, and what they believe. In short, this stage is



a crucible for the young in which they attempt to blend various aspects to form a whole, as they begin to think in abstracts and choose moral paths.

Through this process, individuals form their self images. This new self often has evolved attitudes and behaviors that conflict with parental values and expectations. Unfortunately, early adolescents who take a divergent path from their parents are at greater risk for adopting risky behaviors, such as smoking, drugs, sex, and, in our present day, excessive and obsessive use of electronic media. Also, early adolescents as a group are extremely susceptible to interpersonal harassment, a legal term, rendered in the vernacular as “bullying.”

### **Bullying in Schools**

Bullying research and prevention scholarship begins with the work of the late Norwegian/Swedish scholar, Daniel Olweus. Olweus defined bullying as “a subset of aggressive behavior characterized by repetition and an imbalance of power” (Smith and Brain, 2000, p. 1). The aggressor targets a victim repetitively. The victim cannot readily defend himself or herself for one or more reasons – the victim may be outnumbered, physically weaker or smaller, or less “psychologically resilient” (Smith & Brain, 2000). Victims tend to be fearful of reporting they are being bullied; thereby recognizing their status and weakness, which often results in low self-esteem and depression. This helplessness indicates an obligation upon witnesses to report the bullying and defend their fellows.

Dealing with bullying is not easy. Olweus himself developed an anti-bullying program which is effective in that it requires the school instituting the program to recognize bullying occurs, the program makes reporting bullying easier, and the program

makes it easier to mobilize the school community to reduce bullying; however, the Olweus program is recognized as only being fifty percent, 50%, effective, because “power relationships are ubiquitous in human groups” (Smith & Brain, 2002, p. 2). Unfortunately, there too many individuals who consider exercising power over others to be exhilarating and profitable; therefore, bully-victim relationships are normative as they can be expected in any established social group common to most members of a human society, and endemic to schools. This is so verifiable, that bullying can be expected to occur in some degree in every school. Recognizing bullying will occur is key to reducing it.

### **Mental Health Disorders in Early Adolescents**

Although most middle school students manage to find their way through the various impediments they meet along their developmental paths, some do not. Hazen et al. (2010) report that twelve percent, 12%, of children and adolescents suffer from a serious psychiatric disorder which impairs their functioning, fourteen percent, 14%, report suicidal ideations, and seven percent, 7%, have attempted suicide. Suicide is the third leading cause of death in this age group (p. 1). Reisz (2013) noted mental health problems occur at a higher rate in children of unequal socioeconomic status. Particularly, chronic low socioeconomic status and declines in socioeconomic status predict mental health problem in children.

The problem of treatment is compounded by the difficulty in recognizing genuine psychiatric concerns, although most early adolescents find a way to resolve their difficulties without treatment. Even professionals have a tough time distinguishing healthy and normal internal conflicts from those conflicts with psychiatric concerns.

Early adolescents' lives revolve around two concrete places, home and school, and one dynamic area, their social lives. If a psychiatric problem arises, it will manifest itself in the home, at school, or in the child's social life (Hazen et al., 2010).

The most frequently treated mental health problems for early adolescents are anxiety, depression, attention-deficit hyperactivity disorder, obsessive-compulsive disorder, substance abuse, mood disorders, conduct disorders, or psychotic disorders. The symptoms of these problems may surface at home, at school, or in the child's social life. Depending upon who notices the aberrant behavior, an investigation of the source begins. If it happens at home or at school, the first mental health professional contacted, or aware of the behavior, is the child's pediatrician. Although pediatricians are not psychiatrists, they are often the gatekeepers who will initially prescribe medication and then refer the child and parents to a child and adolescent psychiatrist. For those children whose parents do not have medical insurance, they may be identified at school by a referral to the school's student assistance team. If the student and parents agree, the student may be referred to a counselor. If the student has an Individualized Education Plan, the student may be eligible for medical benefits which may cover referral to a child and adolescent psychiatrist (Hazen et al., 2010).

Perhaps the unluckiest group of children find their way to treatment through the judicial system, most commonly for adolescents who are substance abusers or who have conduct disorders; however, adolescents that run afoul of the law through the commission of crimes as diverse as petty larceny and assault often are sentenced to probation and make their way to treatment through county probation. Adjudication may involve ordered

drug treatment, therapy, and drug testing; it may involve psychiatric evaluation and follow-up treatment through counseling (Hazen et al., 2010).

Colizzi et al. (2020) state that the early intervention is necessary to mitigate and relieve the impact of mental health problems. Unfortunately, systems are still evolving to diagnose and treat early adolescent mental health problems. First, the mental health profession is still centered upon adults: any parent in need of a child and adolescent psychiatrist has confronted this deficit. This is problematic because of the importance of early childhood development and its impact on long term academic, social, emotional, and behavioral trends into adulthood. Also, “most mental disorders have their peak of incidence during the transition from childhood to young adulthood” (p. 2).

Ultimately, a blend of services from among various sources dependent upon the child and the problem targeting mental health and behavior, physical or sexual health, and alcohol or other drugs use customized through a team approach appears to be the best practice in identification, evaluation, and delivery. Depending upon the identified behavior or problem, the type of service as well as the service provider and the funding source may be customized to the individual case. The best system would be accessible, professional yet compassionate of early adolescents, delivered through a team approach focused upon early intervention and evidence-based treatment, and sustainable within the local community, state, and national network (Colizzi et al., 2020).

### **School-Based Mental Health**

The passage of Section 504 of the Rehabilitation Act of 1973, Section 504, followed by the Individuals with Disabilities Education Act in 1975, IDEA, obligated schools to provide services to the disabled including those with serious emotional

disturbances. Section 504 mandated a free and appropriate public education, FAPE, for those with disabilities, including those with “physical or mental impairment that substantially limits one or more major life activities,” and that those students should “receive supports” (Hoover & Bostic, 2020, p. 38).

Shortly after the turn of the twenty-first century, the Surgeon General recognized teachers as “frontline” mental health workers, because their work with children allowed them to observe, identify, and address student mental health - teachers were well positioned to observe “emerging or persisting” struggles among these children: “Although teachers are not mental health clinicians, much of the education they provide students relates to skills to manage stress, . . ., problem solve, work with staff and students, and manage daily adversities and frustrations” (Hoover & Bostic, 2020, p. 38). Therefore, embedding mental health supports in schools may lead to positive social, emotional, behavioral, and academic results.

Although both the federal and state governments have invested in school-based mental health supports and services, truly comprehensive systems are lacking, for typical reasons. First, public schools are influenced by divergent and disparate interests that are not data driven. Despite evidence that school-based mental health is effective, these divergent interests make it hard to sustain local funding. Second, traditional mental health and education systems operated separately; families, parents and children, have often been averse to the stigma associated with school-based mental health, and attitudes toward mental illness. Third, mental health systems do not always integrate well with schools, including the monetary reimbursement for those services, and the availability school district to school district varies widely. Last, renewed interest in school-based

mental health often rises in the wake of a calamity, like incidents of gun violence. Unfortunately, interest shifts to the next dramatic event before much is accomplished. Therefore, the kind of concerted services and funding necessary to sustain a consistent model beyond what the federal and state government subsidize is lacking (Hoover & Bostic, 2020).

Nonetheless, Hoover and Bostic (2020) state that schools do enhance both access to and quality of mental health supports for students; whereas the current community system only services the neediest, often the adjudicated. Supporting and improving student mental health is a service very much aligned to the missions of public schools, which seek to improve student learning and cultivate life-long learners.

Atkins et al. (2010) opine that "education and mental health integration will be advanced when the goal of mental health includes effective schooling and the goal of effective schools includes the healthy functioning of students" ( p. 1). The researchers propose a goal of integrating mental health services into the school environment, so it seamlessly meshes with delivery of all that schools provide, which is notably idealistic. They note that most schools deliver or accommodate a fair amount of mental health delivery, most usually delivered through "pull-out" service. More effective delivery systems integrating social and emotional learning with academic, physical education, arts education, and vocational education are needed.

Atkins et al. (2010) believes this new school environment would be grounded upon better instruction contingent upon professional development and administrative support, effective cooperative learning strategies strengthening students' interactional skills, and peer-aligned learning and behavioral targets. The intent is to "optimize,

augment, and enhance the goals of education” instead of creating a new layer of goals enforced by yet another class of professionals (Atkins et al., 2010, p. 4). Ultimately, the program must be focused, simple, and applicable to all students in the whole school community, lest the new program become diffuse, spreading out excessively in too many areas, and having no results to measure. Also, the program must enjoy parent support; however, how this can be achieved is unstated.

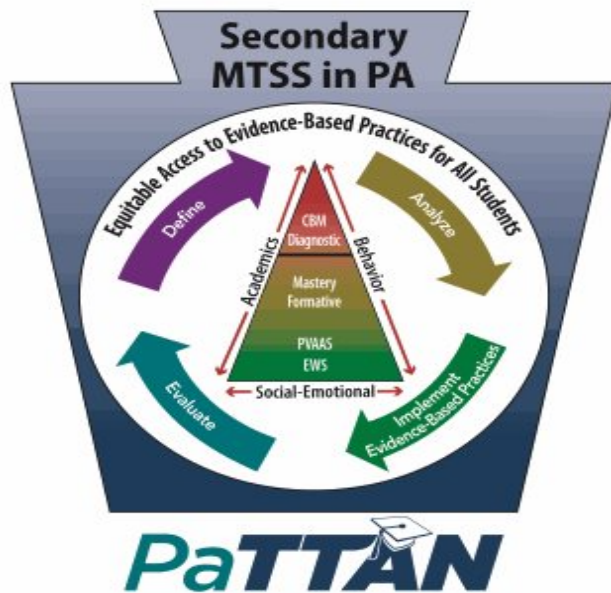
Ultimately, both Hoover and Bostic (2020) and Jimenez (2020) propose that mental health be treated in schools in tiers, in the manner of the Multi-Tiered Systems of Supports, MTSS. The Multi-Tiered Systems of Supports grew out of the previous Response to Intervention and Instruction Model which itself was an outgrowth of Response to Intervention, which dates in Pennsylvania to 2006.

According to Hoover and Bostic (2020), national mental health performance standards foreground comprehensive school mental health systems, CSMHS, which manifest in tiers in concert with MTSS, as follows: Tier One, universal mental health promotion and prevention for all students; Tier Two, selective mental health services for students at risk for impairing mental health conditions; and Tier Three, onsite mental health treatment for students impeded by mental health conditions. The Pennsylvania Training and Technical Assistance Network, PATTAN, uses the following graphic, Figure 1, to represent MTSS. The important part of this flow chart is the triangle in the center – tiers escalate from the base, which is Tier One supports for all students; Tier Two is supports for a smaller group, less than twenty percent, 20%; and Tier Three intensive supports are for an even smaller group, less than five percent, 5%. As one moves up the triangle, the intensity of support grows. This system of supports applies to

academics, behavior, and social and emotional learning; hence, the system applies to mental health (Pennsylvania Training and Technical Assistance Network, 2022).

**Figure 1**

*Secondary Multi-Tiered Systems of Supports in Pennsylvania*



*Note.* Adapted from *Secondary MTSS in PA* infographic, by Pennsylvania Training and Technical Assistance Network, 2023 (<https://www.pattan.net/Publications/Secondary-MTSS-in-PA>).

Hoover and Bostic (2020) cite examples of Tier One universal mental health instruction like the Good Behavior Game, which is a twenty-minute daily classroom activity which instructs students how to work effectively cooperatively. This game, and others, promote social and emotional competence. Tier Two interventions, secondary interventions, target students identified as experiencing mild distress or being at risk, and



these consist of small group activities lead by a counselor, individual coaching and mentoring sessions, and classroom-based teacher supports, like homework checks. Tier Three supports are individualized treatments to address a mental health concern in those students already exhibiting the behavior and concomitant functional impairment.

MTSS relies upon universal screening which takes place throughout the day, class to class, teacher to teacher, and encompasses evaluation of students' academic, behavioral, and social and emotional performances. Hoover and Bostic (2020) state that federal and state governments should actively fund and support universal adoption of MTSS. The key components supported by Hoover and Bostic (2020) include: incorporating indicators of student mental health into school and district performance ratings, requiring teacher education programs to include mental health literacy, requiring K-12 mental health curricula, allowing mental health/social and emotional learning, SEL, financing using Titles I and IV funds, and expanding federal grants to state and local agencies to support mental health awareness and promotion in schools. School-based mental health is not a panacea or a replacement for community services; it is a complementary service increasing the likelihood that children's mental health needs will be met. Also, mental health concerns are more likely to be recognized in the school setting. Students with identifiable concerns would then be referred to the school's Student Assistance Team, which would then offer the student and parents services.

### **Mental Health and the Coronavirus Pandemic**

The coronavirus pandemic was officially recognized in the United States in March of 2020 and continues to some degree to this day. The disease raged for months due to variants of the original virus. Schools in Pennsylvania were closed for in-person

learning the second week of March, specifically March 13, 2020. In the coming months public school districts struggled to purchase electronic devices for online instruction. Many public school districts did not manage to supply all their students with electronic devices until the fall of the next school year, 2020-2021. Many Pennsylvania school districts resumed in-person instruction in the fall of 2020 under strict guidelines, both for masking to avoid infection and for coronavirus infections numbers which would trigger additional temporary closures. The subject of masking students became a flashpoint with a vocal minority of parents and community members openly protesting masking. At the state level, there were protests against masking, pandemic restrictions, and the governor's authority. Many city schools did not return to in-person instruction until the 2021 – 2022 school year.

This upheaval took its toll upon children. In the fall of 2021, Pew Trusts published a brief by Vestal (2021) which reported that after two months of school in 2021, the nation's school children and their teachers were already exhausted. Vestal states, "The grief, anxiety and depression children have experienced during the pandemic is welling over into classrooms and hallways, resulting in crying and disruptive behavior in many younger kids and increased violence and bullying among adolescents" (p. 1). The Centers for Disease Control and Prevention reported a thirty-one percent, 31%, increase in suspected suicide attempts in comparison to 2020. In October of 2021, the American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry, and the Children's Hospital Association assessed the decline in child and adolescent health as a national emergency. Medical groups stated that adding to the social isolation and family upheaval of the pandemic, over 140,000 children, predominantly

those of color, lost a primary or secondary adult caregiver. The only positive to arise from the pandemic as of the fall of 2021 is that it lowered the stigma around mental health (Vestal, 2021, p. 2).

According to Nearchou et al. (2020) findings from multiple studies indicate the coronavirus pandemic has had an impact on early adolescents' mental health, particularly depression and anxiety. The coronavirus pandemic was also associated with obsessive-compulsive disorder, psychological distress, and behavioral difficulties; "specifically, emotional reactions..., such as stress, fear, and concern..." were noted (p. 15).

Walters et al. (2021) studied a group of 309 students in a northeastern Pennsylvania middle school and found notable differences before and after the pandemic's onset as follows: seventeen percent, 17%, presented a significant increase in depression; fourteen percent, 14%, exhibited a rise in impulsiveness; and eleven percent, 11%, experienced a significant rise in bullying victimization (p. 283). Although the pandemic impacted a small percentage of students, its effects were significant. The authors recommended these students speak with parents, teachers, and school staff and discuss their problems, noting a study of the influence of this counseling would be a valuable topic for further study.

Poole et al. (2021) wrote that the pandemic has given new emphasis to the problem of hunger in America, that twenty-five percent, 25%, of American families do not have reliable food supplies. Despite efforts of the federal government to limit "food insecurity," children of color and those living in poverty are at risk for physical, cognitive, and emotional harm due to the lack of adequate nutrition. School closures, hybrid learning, and suspended out-of-school programs all denied children food sources

previously relied upon, exposing a flaw in the delivery system. Subsequently, many schools packed weekly food supplies for drive-by delivery to needy students. In some rural communities, teachers organized delivery for those without transportation. The federal government created the Pandemic Electronic Benefits Transfer program, P-EBT, which did provide equivalent funding to free and reduced lunch programs. This program fed three million during the early closures; however, it covered weekday meals, not weekend and holidays. The various increases in the Supplemental Nutritional Assistance Program, the Coronavirus Aid, Relief, and Economic Security Act stimulus checks, and charitable food networks have been helpful; however, once again, these supplements covered weekday meals, and not days when school wasn't in session. The various unassociated attempts to feed children on weekends and holidays may have been effective in part, but there is not much data to indicate those programs, usually "backpack" programs giving children backpacks or bags of food for weekends, success or failure. Nonetheless, there is some data to indicate participation in these supplemental weekend programs has been inadequate. Ultimately, the pandemic has exposed the need for a long-term federal approach which gets children access to food seven days a week.

Asbury et al. (2021) investigated the impact of the coronavirus pandemic upon special needs children and their families. The researchers expected the impact to be significant as this population was already subject to known stressors. Children with special needs and their families are devoted to routine – closures and hybrid learning exploded those routines, creating new realities with no preparation. One would expect a mental health crisis and the study of 241 parents or caregivers found just that. The data indicated that more parents than children experienced the effects; the data came from

parents' anecdotal reports. Information was coded and fell into six thematic categories: worry, loss, mood, emotions and behavior, knowing what is going on, and overwhelmed with an additional category of little or positive impact (p. 1776).

Worry indicated anxiety specific to special needs families, including worry for their children's food preferences, meeting their children's needs, and who would care for the children if the parent(s) were to die of the virus. Loss was manifest as loss of routine, loss of support network, loss of specialist input, and loss of income for some. Responses indicated that loss was felt acutely in special needs families, because the effort to care for special needs children was greater. Moods, emotions, and behavior indicated low mood, acting out, and behavior changes. Unfortunately, some of the manifestations of acting out and behaviors, violence and destructive behavior, led to police involvement. Knowing what is going on was seminal to some parents' responses, particularly for children with low understanding who could not comprehend the changes. Better understanding was associated with better outcomes. Overwhelmed was the response of many parents overcome by their new responsibilities, including meeting all their children's needs without support or respite. Not surprisingly, minimal or positive impact was expressed by parents with higher functioning children who had difficulty with school. Special needs families, both parents and children, experienced greater stress and significant mental health challenges resulting from the coronavirus pandemic (Asbury et al., 2021).

Abidelli and Suemen (2020) surveyed parents and children through social media. Parents reported the following: forty-one- and one-half percent, 41.5%, of their children gained weight, thirty-four and two-tenths percent, 34.2%, slept more, and sixty-nine and three-tenths percent, 69.3%, spent more time online. The children reported a positive

quality of life, particularly for those who slept more; whereas physical and emotional well-being, self-esteem, family, and school suffered for those who spent more time online. Parents who felt their mental health impacted negatively by lockdown and who were fearful of the pandemic were found to have overall lower emotional well-being and family and friends scores. Overall, though most children self-reported higher quality of life, it was not reflected in their parents' responses (pp. 1-2). Though this is contradictory, it is an example of the disparity between children's experience and that of their parents, and is owing to the parents' role, carrying the brunt of responsibility for the family, even when circumstances are beyond their control.

Lee et al. (2021) researchers from the University of Michigan, studied the coronavirus pandemic's impact on parenting activities and the transition to home-based education. As they note, the immediate dislocation caused by the pandemic, movement to online and home schooling, social disconnection, and economic hardship put considerable stress upon parents and children. The researchers surveyed 405 parents, over sixty-eight percent, 68.7%, were female and eighty percent, 80% had partners. Twenty-four percent, 24%, had a change in employment due to the pandemic. Seventy-eight percent, 78%, were educating their children at home due to the pandemic. Forty percent, 40%, reported anxiety and depression, and parents reported that more than a third had seen behavior changes in their children (p. 3). Results show that parents were engaged in much more childcare activities than pre-pandemic – under different circumstances this could be positive. Parents played games more often, they watched more TV, they played with toys, they went on walks, read books, showed affection, and ate meals together: all these activities scored increases of more than fifty percent, 50% (p. 5). Nonetheless,

parents reported high levels of daily disruptions. The needier parents were extremely stressed by the lack of school meals for their children. The depression and stress made educating children more difficult. The researchers concluded that parents and children needed more mental health services and recommended utilizing telehealth.

Jansen et al. (2020) studied the coronavirus' impact on parent and child daily activities, comparing what parents and their children were doing to a two-week pre-pandemic period. The comparison revealed that both parents and children were frustrated by the lack of social contact, irritated with other family members, and worried about the health of others. Adolescents struggled with boredom; whereas parents did not. Parents worried more about the coronavirus. Due to social distancing, online contact with friends was helpful for both parents and children. Parents were heartened by the increased family contact and meal times; whereas children reported listening to music and isolation as beneficial. Parents and children experiencing emotional problems varied household to household which indicated that generally most families adapted, but some did not. The researchers found positive affect sustained – there was a “we’re all in this together” effect. However, parents who worried more tended to be more critical of their children; whereas parents showing a positive affect were more supportive. Generally, adolescents thought their mothers were more critical than fathers; however, this observation was present pre-pandemic. “Intolerance to uncertainty,” coping with unspecified change, produced a universal negative affect in both parents and adolescents, pre-pandemic and during the pandemic; regardless, this “foreboding” did not influence parental interactions. The researchers found that parents more so than adolescents experienced an increase negative affect during the pandemic; however, positive parenting behaviors, such as

warmth, did not change. Income, having COVID-19 symptoms, helping children with school, working from home, going to work, and working with COVID-19 patients did not explain this increase in parental negative affect. Therefore, as a “one size fits all” approach would be insufficient, the researchers recommend that government and mental health professionals work to find easier ways for all family members to maintain more online contact including entertainment and coping strategies – in this way individuals can find their own individual accommodation in the experience of the next health crisis.

Given that obesity was a risk factor for adults contracting the coronavirus and that a significant number of parents reported their children gained weight, Abawi et al. (2020) studied obese children to see if they experienced heightened anxiety of contracting the virus. Utilizing telephone interviews, the researchers studied obese Dutch children not identified with severe intellectual or behavioral disabilities as they felt their experiences would be representative. Thirty-two percent, 32 %, of the children studied displayed anxiety; the most common theme was worry they would contract the disease because of their obesity (pp. 3-4). Therefore, the researchers concluded that healthcare professionals should consider this heightened anxiety and its behavioral consequences. Addressing this anxiety may lessen the negative impact on the psychological wellbeing and lifestyle behaviors of these children.

At the onset of the pandemic in addition to masking, one recommended strategy for avoiding infection was, and is “social distancing” – maintaining six feet of space between individuals. The researchers Oosterhoff et al. (2020) studied adolescents’ motivation to comply with social distancing and the impact on mental and social health. The study sample was 683 adolescents recruited through social media. Almost all, over



ninety-eight percent, 98.1%, complied. The subjects reported a myriad of reasons to social distance; however, the most common theme was recognition of a social responsibility and not wanting others to get sick, although twenty-one percent, 21%, indicated personally not wanting to get sick (p. 179). Engaging in socially responsible behavior was associated with greater disinfecting and less hoarding behavior shortly after the coronavirus was declared a national emergency. Motivation to engage in social distancing also correlated to mental and social health during the onset of the pandemic. Adolescents social distancing to avoid personal infection reported greater anxiety but also a feeling of doing their part. Youth who complied to avoid social judgment reported higher anxiety, and those who complied because of peer pressure reported greater depression. Of note is that the researchers did not find evidence that control, either by parents or the government, was associated negatively with mental or social health. Overall, researchers judged that social distancing can be difficult for some adolescents, depending upon their reason for doing so; specifically, whether those adolescents have been given what they consider a reasonable justification for social distancing. Parents, educators, and the government may help by engaging adolescents in dialogue, explaining reasons for social distancing, and providing alternatives, while nevertheless urging compliance. Ultimately, teens' motivations for complying may be related to individual differences and specific motivations.

Another unfortunate result of the pandemic closures was an increase in child abuse. Researchers from the University of Kentucky conducted a study on their database of child abuse identified by medical coding immediately prior to the pandemic and during the first six months of the pandemic indicated 579 encounters for children less than

eighteen years of age; however, those 579 encounters occurred with 469 children.

Statistical analysis indicated that child abuse and mistreatment increased in the first six months of the pandemic, particularly for twelve-year-old children (Salt et al., 2021, p. 4). The researchers used health visit data giving them an estimate of cases requiring medical care. As they note, most cases of abuse are of neglect, which may not require medical care, making the increase in in-patient hospitalization even more alarming and suggesting an inordinate increase in abuse factors coincident with the financial and social upheaval of the pandemic. Also, despite state requirements for mandated reporting, “non-professional” individuals are unlikely to report child abuse. Therefore, the researchers opine that in times of social isolation when in-person contact with professionals is limited, two options arise: first, because of the need for professional oversight, technological outreach must be considered for the at-risk population, and, second, improved community-based contacts, for young children, and virtual school-based contacts, for those of age, must be instituted to screen, identify, and report abuse. Sadly, the study also validated the predictions by Interpol and similar international organizations of increased child sexual abuse. Thirty percent, 30%, of “the child abuse and neglect cases were coded as suspected or confirmed sexual assault” (p. 6). Unfortunately, yet again, the researchers conclude that their work indicates the “magnitude of the effect is immense” (p. 6). Needless to say, the researchers recommend further study, with an eye towards courses to prevent child abuse.

**Effects of the COVID-19 Pandemic**

The 2022 Kids Count Data Book (Annie E. Casey Foundation, 2023) provides a wealth of pre-pandemic and pandemic statistics. According to the data book the following were observed prior to the pandemic:

1. 25% of parents of children ages 6-17 said their child had been bullied the previous year.
2. 20% of “kids” struggle to make friends.
3. 35% of parents of children ages 6-17 expressed some anxiety about their neighborhood’s safety.
4. 33% of families could not always afford meals.
5. 25% of parents said they had no one to turn to for parenting advice.
6. 33% said they were only doing “somewhat” well at parenting or not very well, thus adding to household anxiety.
7. In 2016, 2553 children ages 10 to 19 died by suicide according to the United States Centers for Disease Control and Prevention, CDC. (p. 3)

The coronavirus exacerbated the awful effects already evident. COVID-19 impacted vital social activities; for adolescents schools and activities stopped. One month into the pandemic, researchers found that parents reported a third, 33%, of their children were “fussier and more defiant,” and more than a quarter, 26%, were anxious. Nationwide, there was a twenty five percent, 25%, increase, 9.4% to 11.8%, in children with anxiety and depression as diagnosed by a doctor or other healthcare provider – in Pennsylvania the increase was higher, 27.5%, 10.2% to 13% (Annie E. Casey Foundation, 2020, pp. 6-7). To ameliorate this situation, the foundation recommends policymakers make the

following changes. Policy makers must begin by prioritizing kids' basic needs – relieve poverty, raise the parents' financial standing, make sure kids are fed, and have stable, safe housing. Next, those responsible must make sure kids have access to mental health care if they need it by making sure all children have health insurance, all schools have psychologists, social workers, and nurses and that the ratio for guidance counselors be reduced to 250:1. Finally, policy makers must improve experiential mental healthcare which is tailored to what kids actually experience, like counseling on reactions to violence in the community and in the home.

Chiesa et al. (2021) reviewed research from various databases specifically to investigate the impact of being home bound – of social distancing and lockdown measures. Fifty-one articles were distilled, all pertaining to the first wave of the coronavirus. Half of the studies documented the impact of closures on mental health. Although quarantine, isolation, and closure seem effective to control the virus' spread, on short notice these measures produced both alarm and anxiety. The common mental health issues include anxiety, depression, and post-traumatic stress disorder. In children, the aged, and healthcare workers there appears a link between quarantine and isolation and post-traumatic stress disorder. Although travel restrictions have always been relied upon to stifle pandemics, there is little overwhelming evidence they work, and so, too, there appears to be no correlation between school closures and infection control. School closures had adverse effects upon child nutrition, loss of learning, and socialization, and closures did not seem to control transmission to grandparents. Furthermore, quarantine was linked to depression, anxiety, and stress.

In the wake of closures and social distancing, Magson et al. (2020) sought to study the effect of isolation upon adolescents to judge risk and protective factors. Those possible risk and protective factors were age, sex, disruptions to schooling, COVID-19 related distress, family conflict, media exposure, social connection, and compliance with COVID-19 restrictions. The researchers found the same negative mental health impact others had found; namely, increases in depression and anxiety, and lower life satisfaction. Girls experienced greater mental health decline than boys due to internalizing problems and their greater reliance upon social networks for support. Adolescents were not overly concerned with the impact upon their educations, which is inconsistent with previous studies. Predictably, they were more upset by their lack of social interactions. Also, there was a higher incidence of depression amongst those who had difficulties with online learning, like technology problems, inability to ask the teacher questions, and motivation: these difficulties can be resolved if online learning continues.

Those adolescents who did become more anxious, were generally found to avoid media exposure, and those who reported few problems were those who complied faithfully with government directions. This is like other studies which found that adolescents taking precautions to avoid infection, like masking, exhibited lower levels of anxiety and depression (Magson et al., 2020). The study found that closures had a greater effect upon anxiety and depression than fear of the virus; therefore, finding better ways for adolescents to cope with changes to their immediate environment is important. Helping adolescents, girls in particular, maintain their social networks seems especially important and should be an emphasis for parents and educators. Early detection of mental health problems like emotional distress, precursors to serious conditions, should be

monitored both at home and at school. Also, positive home and school environments lessen levels of stress in adolescents, even when they are separated from their peers. Irrespective of all the researchers found, the researchers stressed that the coronavirus pandemic was such an odd event and such a recent event that this study is hardly conclusive; however, the study does demonstrate a decline in adolescents' mental health throughout the pandemic, especially among girls. The researchers felt more longitudinal research is needed.

### **Recommended Changes in Mental Healthcare Delivery**

A group of scholars from universities around the globe collaborated to make recommendations for changes that may improve mental health care (Moreno et al., 2020). Despite the differences around the world, all systems have attempted to change to accommodate the demands of COVID-19. As these scholars note, the fact that the world today is so connected made every society a prey to the virus; however, that interconnectedness creates a structure to troubleshoot failings in the system and circulate new best practices. The researchers note that most surveys of the general public indicate increased symptoms of depression, anxiety, and stress as a result of COVID-19 and its "psychosocial stressors;" routine disruption, fear of illness, and the fear of economic effects. Also,

...phobic anxiety, panic buying, and binge-watching television, which has been associated with mood disturbances, sleep disturbances, fatigability, and impairment in self-regulation, have been reported, and social media exposure has been associated with increased odds of anxiety, and combined depression and anxiety. (pp. 813-814).

Numbers of adolescents calling helplines complaining of anxiety increased. As alcohol sales increased, so, too, increased the potential for physical and sexual abuse of the young.

The researchers believe the coronavirus pandemic provides an opportunity for improving both the scope and cost basis for mental healthcare. The researchers relate that of signal importance is the necessity to include persons representing the populations most severely impacted, and this would include mental health workers. Teachers should also be included. Healthcare workers, teachers, food service personnel, bus drivers, tradesmen and others servicing society's infrastructure have reported the negative consequences of the stress from fear of exposure, fear of self-infection, and fear of infecting their families. In healthcare workers, these symptoms were more common in women than men, and in nurses than doctors. Risk factors included a lack of social support, poor coping strategies, and a lack of disaster training. Notably, "moral injury results when people are forced to take action – or are unable to take action – that violates their moral code when they are exposed to trauma for which they are unprepared" (Moreno et al., 2020, p. 815). These circumstances are similar to what is seen in military conflict and resulted in decisions to utilize shrinking resources in such a way that more deaths may have occurred than in normal circumstances.

Therefore, Moreno et al. (2020) recommend the following changes they feel may be sustainable. Those needing mental health services, in this case parents and children, need to be prepared and ready to take the necessary steps to get well. One avenue is the expansion of telemedicine. The greatest barrier to comprehensive telehealth is the technology and training required to use it. The researchers recommend that the needy

should be involved in the development of new mental healthcare systems, because “co-production protocols” work, and because there has been criticism of the gender, racial, and ethnic disparities in treatment during the pandemic (p. 817). Unfortunately, the homeless have great difficulty accessing telehealth. If the homeless can get online, it is probably in a public place, hence hardly private. The researchers felt schools and community resources should renew and improve mental health screening – this is particularly important for those in acute distress. Of course, Moreno et al. (2020) state available technological tools, including smart phone apps, should be developed, tested, and routinely improved and that in this “new world” for mental health services, the availability, use, and effectiveness should continually be evaluated for improvement, especially including those generally neglected like the healthcare workers themselves, frontline workers, the special needs population, genders, and racial and ethnic groups.

Federal data documents the need in schools – seventy percent, 70%, of schools at all levels reported an increase in the number of children seeking services, and seventy-six percent, 76%, of faculty and staff have voiced concerns about depression, anxiety, and trauma in students (Meckler, 2022). Most schools are struggling to meet the need. However, most schools have school-based mental health services, over half offer teacher training in helping students with their social and emotional well-being, and seventy percent, 70%, have a social and emotional learning program in place.

Through the states, many schools have also made accommodations for attendance for “mental health days” – twelve states have legislation on the books and as of April 10, 2022, action is pending in five others (Styx, 2022, pp. 1-2). Recognizing and attempting to ameliorate the effects of the pandemic, schools have listened to what teachers, parents,



and students are saying. Although “school” has always had an inherent element of stress, the pandemic has served to foreground it. That said, the criteria of what constitutes a need for a mental health day is extraordinarily subjective. Just having a big test should not be an immediate and singular consideration. Parents need to know their children and be able to talk to them and recognize genuine need. Mental health days should be focused on rest, not opportunities to cram in wellness activities. Also, mental health days are opportunities for fun activities differing from the normal routine, and not the opportunity to stare at a computer screen, a tablet, or a smart phone. Finally, these days are opportunities for parents to have in-depth conversations with their children, find out when they feel best, and doing so parents can help their children find ways to recover their good feelings in times of stress.

### **Summary**

The middle school was created and improved specifically to benefit the development of early adolescents, to give them an easier transition from the nurturing environment of childhood in elementary school to the emphatic focus of high school upon academics and vocation. As schooling has evolved and society has evolved, so too has concern for students’ health and well-being, including mental health. Originally, student mental health problems, particularly those manifest in inability to learn or discipline, were thought to be indicators of mental retardation. The rise of specialists gave schools tools to deal with individual differences which eventually gave rise to special education. In the early twentieth century, students, and people generally, with mental problems were removed from the school and community setting. As time progressed, so did the manner and method of treatment, evolving into the concept of

education in the least restrictive environment and in the home school as much as possible. As education takes place in the home school as much as possible, mental health services increasingly are available in the home school. The closures, social isolation, and interminable nature of the coronavirus pandemic; starting in late 2019 it is still with us; led to anxiety, depression, and behavior changes in students, their teachers, and their parents. Efforts have been ongoing to understand the effects of the coronavirus pandemic; hence, the methodology of this study will be to examine the results of the Pennsylvania Youth Survey in three middle schools in northern Dauphin County before and after the pandemic, analyze that data, and discuss mental health conditions before and after the pandemic's onset with the guidance counselors of those middle schools. That analysis will hopefully lead to a discussion of how mental health programs can be improved in those schools, including possible sharing of services given the schools close proximity.

### **Chapter III**

#### **Methodology**

Middle schools originated as an alternative to junior high schools that were perceived to perpetuate the high school focus solely upon content. Middle school was intended to provide early adolescents undergoing puberty with a school climate conducive to students' development which recognized the importance of students' self-esteem (StateUniversity, 2022). Fenwick (1987) foregrounded the need to teach middle school students ideals which have been incorporated into character education programs. Given the middle school focus upon early adolescent child development, identity formation, and the travails of puberty, student mental health has arisen as a significant concern. Indeed, even before the onset of the coronavirus pandemic, student mental health was a significant concern in middle school and in high school students (Commonwealth SAP Interagency Committee, 2004).

As evidenced in the literature review, government attempts to control the coronavirus' spread exacerbated depression and anxiety in both students and parents. Understandably, neither the national nor state government had any experience dealing with a respiratory virus that was highly transmissible. This led to school and business closures. In Pennsylvania, when schools reopened most followed an infection protocol to control spread which led to quarantines and closures, usually extending vacations. Most school districts developed an online component. Online education was not as effective as in-person schooling. Having students at home increased parents' financial, personal, and mental health challenges (Abidelli & Sueman, 2020).

When students returned to school for the 2021-2022 school year, Vestal (2021) reported widespread incidence of behaviors associated with anxiety and depression appearing in schools. Many students lost parents or caregivers, and Vestal noted that the pandemic's only positive effect was that it obviated the stigma associated with mental health. As has been done since 1989, in 2021, Pennsylvania schools administered the Pennsylvania Youth Survey, PAYS, a biennial survey of students in sixth, eighth, tenth, and twelfth grades. The survey addressed alcohol, tobacco, and drug use; antisocial behavior; community and school climate and safety, social and emotional health; and systemic, risk, and protective factors. The fall 2021 survey included a series of questions specific to the time of the coronavirus pandemic and to online schooling.

### **Purpose**

In the wake of the various measures taken to reduce the spread of the coronavirus; including school closures, masking, and social distancing; the return to in-person schooling brought new concerns. There was an immediate concern for learning loss as it occurred in the only similar modern-era event, school closures due to flood damage in New Orleans after Hurricane Katrina (Hill, 2020). However, educators, parents, and the students themselves recognized that the coronavirus pandemic affected the whole community, which was beset by greater mental health challenges, specifically increased anxiety and behaviors associated with depression.

Schools employ measures to assess academic performance and level, including curriculum-based and standardized assessments. The purpose of this study is to assess the impact of the coronavirus pandemic upon the mental health of middle school students in the three middle schools in northern Dauphin County, Pennsylvania.

The measures used to assess mental health are a quantitative analysis of the responses to the PAYS, and a qualitative analysis of interviews based on surveys with the guidance counselors of the three middle schools.

### **Research Questions**

The research questions for this mixed-methods study are as follows:

1. What mental health challenges does the PAYS survey reveal?
2. How do the mental health challenges revealed by the PAYS survey correlate to the observations of guidance counselors?
3. As PAYS survey data and guidance counselors' observations reveal, what are the pandemic induced sources of middle school students' mental health challenges?
4. How can the schools and school personnel confront these challenges?

For question number one, PAYS survey reports for the three middle schools were collected. Survey reports were analyzed using descriptive and inferential statistics. This was possible as the PAYS grade report details specific responses for all items, some of which are in a Likert-like scale. To assign numerical values to the possible responses for statistical analysis, the most desirable responses were assigned the highest value. In the case of several of the PAYS survey items, frequency and percentage were the measures used. For question two, school guidance counselors' interview transcripts were analyzed for common themes and then compared to the PAYS survey data. Question three required renewed scrutiny of PAYS survey data along with the guidance counselors' experiences, particularly the data which directly reports pandemic effects. Question four is guided by the relationships revealed through statistical and qualitative analysis and is also

speculative, dependent upon the guidance counselors' and educators' opinions. This analysis will shed light on interventions which will help to improve student mental health.

### **Setting and Participants**

This study is composed of a quantitative analysis of PAYS data for sixth and eighth grade students in the years 2019 and 2021 and the qualitative analysis of guidance counselor interviews in the three middle schools in northern Dauphin County – Halifax Area Middle School, Millersburg Area Middle School, and Upper Dauphin Area Middle School. The three school districts; Halifax Area, Millersburg Area, and Upper Dauphin Area; are very similar demographically. Their school populations are overwhelmingly white, families are of average middle income, and the local employers consist of light industries, retail, farming, and the local school districts. Many members of all three communities; professionals, skilled tradesmen, technologists, and office and clerical workers; commute to the county seat and state capital, Harrisburg (Upper Dauphin Area School District, 2023; United States Census Bureau, 2023).

All three school district communities were greatly impacted by the Great Recession, 2008 – 2012, and by the coronavirus pandemic which began in 2020 and continues. In the Great Recession, local light industries, such as machine shops in Millersburg, window and door manufacturing in Upper Dauphin Area, and plastics manufacturing in Halifax, all suffered layoffs, as all three local school districts suffered furloughs. In the case of most local school districts, this was a correction, as two school districts had continued to replace employees as their student populations declined (Upper Dauphin Area School District, 2023, United States Census Bureau, 2023). After the

abrupt downturn engendered by the coronavirus' onset, by the fall of 2020 hiring in all the local light industries escalated, to the point where there were too few workers for the open jobs, leading to starting wage increases of as much as thirty percent, 30%, in the light industries. Unfortunately for the local school districts, many classified staff were lost to the higher wage jobs in light industries, retail, and fast food (Upper Dauphin Area School District, 2023).

The populations of the districts as of the most recent census were as follows: Halifax Area, 7603; Millersburg Area, 6718; and Upper Dauphin Area, 9755 (Pennsylvania Department of Education, 2022b). 2020-2021 school district populations were Halifax Area, 874; Millersburg Area, 726; and Upper Dauphin Area, 1041. Middle school populations were 279 at Halifax Area, 177 at Millersburg Area, and 303 at Upper Dauphin Area (Pennsylvania Department of Education, 2023).

Total population of the area has remained stable over time; however, school district student populations have dropped because of increases in cyber charter school enrollment, particularly at the onset of the pandemic, and a unique move-in population. Millersburg Area still feels the cyber charter exodus most pronouncedly, losing over nine percent, 9.31%, of its student population to cyber charter schools (Potutschnig, 2023); whereas both Halifax and Upper Dauphin Area have managed to reclaim most of the students driven into cyber charter schools at the pandemic's onset. In the Upper Dauphin Area over the course of the last thirty years the school district has lost twenty-nine percent, 29%, of its student population, because Amish families have relocated to the district, buying many of the local farms (Upper Dauphin Area School District, 2023). As

of the last census, there were almost 1700 Upper Dauphin Area residents ages five through seventeen – only 980 of those residents attended the public schools.

Halifax Area Middle School, grades five through eight, has a population of 279 students. Prior to the district's closure of the Enders-Fisherville Elementary School, grades Kindergarten – two, in June of 2019, the middle school grade span was six through eight. Millersburg Area Middle School, grades six through eight, has 177 students. Upper Dauphin Area Middle School, grades five through eight, has a population of 303 students (Pennsylvania Department of Education, 2023). During the six to nine years all these northern Dauphin County children have been in school, and in their lifetimes, their communities have undergone significant changes. Only the basic rural bucolic character of the area has remained unchanged.

PAYS survey data was secured from the superintendents of the northern Dauphin County school districts. PAYS survey data is anonymous; hence, no informed consent is required. The researcher solicited and obtained informed consent from the middle school guidance counselors.

### **Research Plan**

As noted in the literature review, one of the aims of the middle school was addressing what was referred to as “mental hygiene.” The concern for mental health was engendered by societal evolution through the development of compulsory education, public health, and advancements in the social sciences beginning in the early twentieth century. The concern for mental health continues to the present and is evident in school-based programs like the Pennsylvania Student Assistance Program, SAP, the proliferation of the Multi-Tiered Systems of Support, MTSS, and the ubiquity of school guidance



programs at all levels of schooling. Nonetheless, as noted by Hoover and Bostic (2020), comprehensive systems of mental health support are lacking in public schools because of the divergent interests driving public education having no data-driven basis, because mental health and educational systems have traditionally operated separately, because mental health systems do not always financially integrate well with schools, and because concern for school-based mental health is often unfortunately linked to emergencies. The coronavirus pandemic was just such an emergency.

History revealed few clues as to what would result from the pandemic and its related effects except learning loss, as evidenced in the aftermath of school destruction in New Orleans from Hurricane Katrina. According to many researchers, children returning to school for the 2021-2022 school year exhibited widespread anxiety and depression, suicidal ideation, and increased bullying among adolescents. Repeatedly, in study after study, researchers noted increases in depression, anxiety, and victimization. As noted by Vestal (2021) and seminal to this study, the only positive effect of the pandemic was to reduce the stigma associated with mental health and its treatment.

Spurred by comments from local educators, guidance counselors, and administrators, this study was conceived to clarify the impact of the pandemic upon students and to identify strategies educators could pursue to ameliorate that impact. To assess the impact of the coronavirus pandemic upon the mental health of the students in the three northern Dauphin County middle schools as students returned to school in 2021 for the school year, the researcher obtained the Pennsylvania Youth Survey results, PAYS, for the three middle schools for analysis.

PAYS solicited responses from sixth, eighth, tenth, and twelfth graders: this research is focused upon the sixth and eighth graders. The PAYS documents also include responses from previous years, so for the purpose of this study the focus is upon the responses for sixth and eighth graders for the pre-pandemic year 2019 and the fall of 2021 in the pandemic's wake, with particular attention to the responses of sixth graders in 2019 and eighth graders in 2021 as these students form a similar cohort. Due to the facts that PAYS is anonymous, that survey numbers vary from 2019 to 2021, and that school populations change from year to year, it is reasonable to say these students form a similar cohort, but not the same cohort.

The survey items selected to shed light upon the pandemic's effects describe student commitment to school, neighborhood attachment, family dynamics, respect for the moral order including religiosity or church attendance, bullying, depressive symptoms including suicidal ideation, suicide attempts, self-harm, and amount of sleep. Also, the 2021 administration of the survey included specific questions about the impact of COVID-19 and students' responses to online learning. These items were analyzed quantitatively. Many are framed using a Likert-like scale which was converted into a mathematical model to calculate descriptive and inferential statistics, and other items were evaluated according to frequency and percentage.

The PAYS survey is anonymous and as such often reveals information that students did not divulge to their peers, parents, teachers, counselors, or administrators. However, the PAYS survey only reflects the condition of all students: it is statistically significant to a five percent, 5%, confidence level, because some students' surveys were discounted because those students have given misleading responses identified by

strategically placed questions to validate answers, some students declined to participate, and some students happened to be absent for all or part of the survey administration.

Therefore, this study also includes qualitative data obtained through interviews of the guidance counselors in the three middle schools to validate and clarify the quantitative data from PAYS. The guidance counselors have particular insights because they were the adults to whom the students often came with their troubles. Guidance counselors were interviewed, the interviews were guided by survey questions, the interviews were recorded on an iPhone, the interview responses were rendered in transcripts by having the iPhone recording transcribed directly through Microsoft Word and then edited and compared to the recording, and transcripts were analyzed for common themes.

The research will most probably indicate a need for a more unified approach to mental health in the schools. Although the schools all have SAP teams, MTSS plans, and guidance counselors and social workers, it is most probable that any coherent plan will include a combination of faculty and staff training to increase mental health awareness and additional professional personnel trained to address student mental health.

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

### **Research Design**

This research study followed a mixed-methods approach, a type of research study combining both quantitative and qualitative data (Mertler, 2019). Quantitative data was obtained from the fall 2021 administration results of the Pennsylvania Youth Survey, PAYS, in the Halifax Area, Millersburg Area, and Upper Dauphin Area School Districts. Qualitative data was obtained through a structured survey and interviews of the guidance

counselors in the districts' middle schools. The PAYS data was derived from the survey administered anonymously. The survey questions asked of the guidance counselors aimed to give their impressions to clarify and enlarge understanding of the student data.

This research design application was submitted to the Institutional Review Board on July 26, 2022. On September 1, 2022, the researcher received a letter requesting changes to the survey letter and the application. On September 2, 2022, the corrected application was resubmitted, and the researcher received approval to proceed on September 8, 2022. The approval letter can be found in the appendix (Appendix A).

### **Methods and Data Collection**

Data collection took place according to the following timeline memorialized in Table 1. The PAYS data was collected and analyzed and that analysis yielded data groupings related to mental health and specific mental health data to be explored. The initial reading and analysis evinced little difference in substance abuse data over the years. In northern Dauphin County among early adolescents hard drug and prescription drug abuse is extremely low. The drugs of choice are alcohol and nicotine, including vaping nicotine, and none of those abusive practices showed any marked increases. As the literature review identified anxiety, depression, and violence particularly, the PAYS data was examined in the areas of “School Domain Risk Factor – Low Commitment to School,” “Respect for the Moral Order” including “religiosity” or church attendance, internet and social media bullying, attacking others, “Neighborhood Attachment,” “Mental Health Concern and Suicide Risk” including sleep and grief, “COVID-19 Impacts,” and “Remote Learning Experiences and Perceptions.”

**Table 1**

*Data Collection Timeline*

<b>Research Questions</b>	<b>Types of Data to Collect</b>	<b>Data Sources</b>	<b>Timeline for Collecting Data</b>
What mental health challenges do the PAYS surveys reveal?	Quantitative	Data will be collected from the Pennsylvania Youth Survey results from 2021 for the sixth and eighth grade students in the Halifax, Millersburg, and Upper Dauphin Area Middle Schools.	By December 5, 2022 – secure all data reports. Read and analyze data reports and scrutinize those items particular to mental health. February 15, 2023, using the Statistical Program for the Social Sciences, SPSS, run an analysis.
How do the mental health challenges revealed by the PAYS survey correlate to the observations of guidance counselors?	Qualitative	Using data from the quantitative analysis, compare that data to the qualitative analysis of guidance counselor observations from interviews.	In the February 9-28, 2023, interview the schools’ guidance counselors. Analyze interview data for themes. Compare themes to statistics.
As PAYS survey data and guidance counselors observations reveal, what are the pandemic induced sources of middle school students’ mental health challenges?	Quantitative	The results of the analysis shall indicate areas of concern and also eliminate those areas not statistically significant.	In March 1 – 27, 2023 analyze, using qualitative and quantitative data pinpoint sources of students’ mental health challenges.
How can the schools and school personnel confront these challenges?	Qualitative	The results of the analysis will be compared to information found in the literature review to suggest courses of action.	In April 1 – 15, 2023, the results of the analysis will be compared to information found in the literature review. Results will be shared with the superintendents, principals, and guidance counselors for their comments and recommendations.

Many of the PAYS survey questions asked respondents to classify their response according to degrees; hence, these questions were analyzed mathematically for

descriptive and inferential statistics as they are framed in a Likert-like scale. For example, the first item in “School Domain Risk Factor – Low Commitment to School” was the following question: “How important do you think the things that you are learning in school are going to be for your later life?” The possible answers were as follows: “Very Important, Quite Important, Fairly Important, Slightly Important, and Not at All Important.” The results are documented in Table 2, 3, 4, and 5.

As the most desirable answer was “Very Important,” that answer was assigned a value of five, 5. The other answers were then assigned descending values, as follows: “Quite Important,” four, 4, “Fairly Important,” three, 3, “Slightly Important,” two, 2, and “Not at All Important,” one, 1. The researcher then constructed a frequency table for each school and all students. To arrive at descriptive statistics, in the case of the sample table which follows the number of responses was multiplied by the value noted above; hence, the formula would be “nRating.” The resulting numbers were added and then divided by the number of respondents to calculate the arithmetic mean.

Table 2 documents the Halifax Area Middle School results. A significant drop in mean score occurred from 2019 to 2021 in both grades. Also, a significant drop occurred in the similar cohort of respondents, those respondents who were sixth grade students in 2019 and those who were respondents in eighth grade in 2021. As there is no accounting for students moving into the school district or those moving out in the PAYS data, we must only assume that the groups are similar, not alike. However, there is a significant difference in the means of the two groups. Also, the 2019 sixth grade respondents’ mode was “Very Important;” whereas the 2021 eighth grade respondents’ distribution is bimodal, split between “Very Important” and “Fairly Important.”

**Table 2**

*School Domain Risk Factor – Low Commitment to School - “How important do you think the things that you are learning in school are going to be for your later life?”*

	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Very Important	5	38 (190)	18 (90)	20 (100)	17 (85)	38 (190)	17 (85)
Quite Important	4	12 (48)	19 (76)	15 (60)	15 (60)	12 (48)	15 (60)
Fairly Important	3	12 (36)	15 (45)	14 (42)	17 (51)	12 (36)	17 (51)
Slightly Important	2	3 (6)	9 (18)	2 (4)	12 (24)	3 (6)	12 (24)
Not at all	1	0	3 (3)	2 (2)	3 (3)	0	3 (3)
Total - N		65 (280)	64 (232)	53 (208)	65 (223)	65 (280)	65 (223)
Mean		4.3	3.63	3.92	3.43	4.3	3.43

*Note.* The abbreviation HAMS is Halifax Area Middle School.

Table 3 documents the results for respondents in grades six and eight for the years 2019 and 2021 at the Millersburg Area Middle School. The results show a significant difference between sixth grade and eighth grade means; however, that difference is present in 2019, 2021, and in the cohort. The majority of the sixth grade respondents considered school either “very” or “quite” important, which is reflected in the means and the modes. Eighth grade respondents’ means indicate they viewed school as only “fairly important;” however, the 2021 mode is “slightly important.” The cohort modes then show a decline over two years from the sixth grade high of “fairly important” to the eighth grade low of “slightly important.”

**Table 3**

*School Domain Risk Factor – Low Commitment to School - “How important do you think the things that you are learning in school are going to be for your later life?”*

Response	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Very Important	5	17 (85)	10 (50)	16 (80)	10 (50)	17 (85)	10 (50)
Quite Important	4	12 (48)	13 (52)	9 (36)	7 (28)	12 (48)	7 (28)
Fairly Important	3	7 (21)	17 (51)	11 (33)	15 (45)	7 (21)	15 (45)
Slightly Important	2	5 (10)	10 (20)	5 (10)	17 (34)	5 (10)	17 (34)
Not at all	1	0	2 (2)	1 (1)	5 (5)	0	5 (5)
Total		41 (164)	62 (175)	42 (160)	54 (162)	41 (164)	54 (162)
Mean		4	2.82	3.81	3	4	3

*Note.* The abbreviation MAMS is Millersburg Area Middle School.

Table 4 documents the results for respondents in grades six and eight for the years 2019 and 2021 at the Upper Dauphin Area Middle School. Between sixth grade respondent groups, there is a significant decline in the means from 2019 to 2021 and in the size of the mode, although the majority of students still consider schooling important. Eighth grade respondents means also show a decline; however, the decline of the mode is more striking, from “very important” to “fairly important.” In the 2019-2021 cohort, there is both a significant decline in means and in mode, although the size of the mode is much smaller and the numbers reflect a more normal distribution.



**Table 4**

*School Domain Risk Factor – Low Commitment to School - “How important do you think the things that you are learning in school are going to be for your later life?”*

	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Very Important	5	55 (275)	26 (130)	23 (115)	6 (30)	55 (275)	6 (30)
Quite Important	4	8 (32)	18 (72)	10 (40)	19 (76)	8 (32)	19 (76)
Fairly Important	3	6 (18)	22 (66)	16 (48)	23 (69)	6 (18)	23 (69)
Slightly Important	2	4 (8)	9 (18)	10 (20)	12 (24)	4 (8)	12 (24)
Not at all	1	1 (1)	5 (5)	6 (6)	3 (3)	1 (1)	3 (3)
Total		74 (334)	80 (291)	65 (229)	63 (202)	74 (334)	63 (202)
Mean		4.51	3.64	3.5	3.2	4.51	3.2

*Note.* The abbreviation UDAMS is Upper Dauphin Area Middle School.

Table 5 documents the results for all northern Dauphin County sixth and eighth grade respondents. For all respondents in northern Dauphin County middle schools the mean response value for sixth graders in 2019 was 4.32, between “Very Important, and Quite Important,” indicating it is reasonable to infer that those students placed a high value upon their schooling’s future importance. The impact of the coronavirus pandemic can be inferred from the .59 decline in mean and size of the mode from 2019 to 2021 for sixth graders. Among eighth grade respondents there is a less significant decline in mean; however, the distribution of scores is more normal in 2021. Of importance are the values and difference for the cohort noted, the class of 2025 cohort: many of the sixth graders of 2019 grew into the eighth graders of 2021, and the mean value for schooling importance declined from a very high 4.32 to 3.24, a judgment to the low side of “Quite Important

and Fairly Important.” An argument can certainly be made that this significant decline can be attributed to maturation, which is reasonable; however, this is a judgment to reserve for the next chapter.

**Table 5**

*School Domain Risk Factor – Low Commitment to School - “How important do you think the things that you are learning in school are going to be for your later life?”*

Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6 2019	Grade 8 2021
		Grade 6 n (nRating)	Grade 8 n (nRating)	Grade 6 n(nRating)	Grade 8 n (nRating)		
Very Important	5	110 (550)	54 (270)	59 (295)	33 (165)	110 (550)	33 (165)
Quite Important	4	32 (128)	50 (200)	34 (136)	41 (164)	32 (128)	41 (164)
Fairly Important	3	25 (75)	54 (162)	41 (123)	55 (165)	25 (75)	55 (165)
Slightly Important	2	12 (24)	28 (56)	17 (34)	41 (82)	12 (24)	41 (82)
Not at all	1	1 (1)	10 (10)	9 (9)	11 (11)	1 (1)	11 (11)
Total		180 (778)	196 (698)	160 (597)	181 (587)	180 (778)	181 (587)
Mean		4.32	3.56	3.73	3.24	4.32	3.24

Many of the questions referring to suicidal ideation, self-harm, and the impact of COVID-19 were “Yes/No” questions. For these items, the responses are quantified as percentages. For example, a table of those items, Table 6, is displayed as follows: the 2021 PAYS survey included a series of questions specific to COVID-19. Respondents were asked to “select all of the following that you experienced.” These were the responses, numbered:

1. I or someone in my family was sick with COVID-19 or COVID-19 symptoms.
2. A family member or friend close to me died from COVID-19.

3. One or more people living in my home lost their job.
4. I felt more anxious, nervous, worried, or angry than usual.
5. I felt more relaxed, comfortable, or rested than usual.
6. People in my home were arguing or physically fighting more than usual.
7. My family ate more meals together than usual.
8. My family shared more quality time together than usual (such as playing games, exercising, talking, watching movies/tv).
9. I learned a new hobby or skill (such as cooking, crafts, gardening, physical activities, outdoor activities, puzzles, new language).
10. I played more online games with others than usual.

Table 6 reflects some grim realities. First, over sixty percent of sixth and eighth grade students, 61.3% and 63.2% respectively, in the three middle schools either contracted the virus or a member of their family did. Second, slightly more than eleven percent, 11.3%, of sixth graders and about ten percent, 9.8%, of eighth graders suffered a death in their family or immediate circle. More than a quarter of the students responding in each grade, 27.5 % in sixth grade and 29.9% in eighth grade, reported greater feelings of anxiety, nervousness, worry, and anger.

Conversely, respondents reported some impressions that would be considered positive. About eighteen percent of respondents, 18.3% in sixth grade and 17.8% reported they felt more relaxed, comfortable, or rested than before. Although more than nine percent, 9.9% in sixth grade and 9.2% in eighth grade, reported more arguing in their households, a quarter or more of the respondents, 27.5% of sixth graders and 24.7% of eighth graders, reported eating more family meals together and over forty percent, 42.2%

of sixth graders and 42.5% of eighth graders, reported spending more quality time together with their families. Also, around half of respondents, 50.7% of sixth graders and 46.5% of eighth graders, reported learning a new skill.

**Table 6**

*COVID – 19 Impacts*

Response	HAMS		MAMS		UDAMS		Total	
	6	8	6	8	6	8	6	8
	%	%	%	%	%	%	%	%
1. Ill	66%	60%	54.1%	67.3%	61.8%	62.9%	61.3%	63.2%
2. Death	12%	10%	2.7%	9.6%	16.4%	9.7%	11.3%	9.8%
3. Job loss	4%	6.7%	10.8%	3.8%	14.5%	9.7%	9.9%	6.9%
4. Feelings	26%	26.7%	35.1%	26.9%	23.6%	35.5%	27.5%	29.9%
5. Relaxed	12%	18.3%	13.5%	13.5%	27.3%	21%	18.3%	17.8%
6. More	8%	6.7%	10.8%	5.8%	10.9%	14.5%	9.9%	9.2%
7. Meals	24%	26.7%	24.3%	25%	32.7%	22.6%	27.5%	24.7%
8. Together	44%	41.7%	45.9	44.2%	38.2%	41.9%	42.2%	42.5%
9. New	50%	41.7%	45.9%	40.4%	54.5%	56.5%	50.7%	46.5%
10. Online	42%	45%	43.2%	46.2%	49.1%	46.8%	45.1%	46%

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

Like the inferences gained from statistical analysis of the items in a Likert-like scale, from the percentages we can make certain inferences as well. The purpose of the guidance counselor interviews is to clarify and enlarge upon these inferences. Hence, after obtaining permission through the school district and building leadership, the guidance counselors were contacted and informed consent was secured.

The guidance counselors were given the interview questions in advance – the interview questions are appended (Appendix B). Interviews were then scheduled and conducted as scheduled. The interviews were recorded on an iPhone. The interview responses were

rendered in transcripts by having the iPhone recording transcribed directly through Microsoft Word and then edited and compared to the recording. Thereafter, the interviews were qualitatively analyzed for themes utilizing the coding regimen described by Saldana (2013). Like the PAYS survey items, the structured interview questions focused upon anxiety, depression, violence including self-harm, bullying, problems at home, attitudes toward school, and attitudes toward online learning. The guidance counselors did not have hard numbers available. Their responses were based upon their experiences with students.

As noted, at minimum the researcher expects that additional training in mental health will be required of the professional and classified staffs of the school districts. This type of training will probably be achievable without greatly increased costs for the training itself; however, expenses will be incurred in finding ways to make time for the employees to train. This will undoubtedly require the use of substitute teachers, substitute paraprofessionals, and other classified staff substitutes which are already in short supply. As to needs for professional staff, the literature review indicated that what students need most is the listening ear of a caring trained professional, meaning a guidance counselor or social worker. Although the districts do employ guidance counselors and social workers, more may be needed. These professionals could conceivably be shared, as the districts already share some services and staff.

### **Validity**

As noted in Mertler (2019), the quality of action research depends upon its rigor, and rigor is dependent upon accuracy and reliability, which are determined through the researcher's efforts to assess bias to assure the research does not parrot the researcher's

intent (144). First, PAYS offered the researcher a repeated cycle of assessments of most of the items surveyed. Due to the extensive mathematical analysis employed in this study, the researcher limited the analysis to 2019 and 2021 – pre-pandemic and pandemic, since the pandemic was not extinguished by the fall of 2021. The exceptions to the repeated cycle were as follows: previous PAYS surveys did not include a question on the impact of COVID-19 or a question about online learning.

Second, to ensure engagement and persistent observation, the middle school guidance counselors were given the opportunity to review the interview transcripts and were also given the opportunity to offer feedback reflecting upon what they had said in the interview. The middle school principals were also given the opportunity to review the preliminary data and the interview transcripts.

Third, to demonstrate experience with the process, the researcher noted his experience in action research, having conducted a study on elementary school student writing in 2007 when the researcher was a student in the Bucknell University program leading to the Pennsylvania Letter of Eligibility. Also, the researcher conducted an action research study as part of the selection process for middle school mathematics textbooks in 2009 - 2010 when the researcher was employed as the Assistant Superintendent of the Waynesboro Area School District. Finally, the researcher has the advice and direction of two seasoned school superintendents; David Hatfield, Ed.D., of the Halifax Area School District, the researcher's external advisor, and David Foley, Ed.D., of the Knoch School District, who is also the professor in charge of the researcher's study.

Triangulation of the data was achieved through multiple data sources, both quantitative data from the PAYS survey, qualitative data from the guidance counselor

interviews, member checking through guidance counselor reviews of their interview transcripts, and reflections of the middle school principals involved. The member checking and reflections qualified as significant debriefing.

### **Limitations**

PAYS is an anonymous survey, and it is not disaggregated by race or gender; therefore, the researcher cannot make any assumptions regarding effects particular to gender or race. As noted previously, PAYS items concerning COVID-19 effects and online learning have no precursor in previous surveys – that data stands alone.

The PAYS survey is also reflective of the condition of the students in the three school districts. Not all students participated in the survey – it was elective, and some students were absent for the whole or part of the survey. That stated, the confidence interval for the total number of survey items and total number of surveys was high. Also, PAYS included five validity checks so only honest surveys are counted.

All of the educators, guidance counselors and principals, have continuous experience with the coronavirus pandemic having been employed in education throughout; however, one of the guidance counselors is new to her position as are two of the principals. Nevertheless, those “new” individuals experienced the effects of the pandemic in their previous positions, and their viewpoints are balanced by individuals in their schools in complementary positions.

Finally, although the researcher has considerable experience in education, the researcher was only a consultant at the time of the pandemic to the present. Nonetheless, the researcher has had considerable contact with those involved, and, like all of them, has had the experience of living through the coronavirus pandemic.

## Summary

At the onset of the coronavirus pandemic, school closures were widely employed to stem virus transmission. Those closures persisted throughout the 2020-2021 school year, dependent upon infection rates. It was almost uniformly recognized that learning loss would occur and engender the need for remediation. However, no one expected the impact upon children's and parents' mental health arising from the upheavals of the coronavirus pandemic, including the rapid transition to online learning, the subsequent school re-openings and closures, and the debates over masking.

This mixed-methods research study, through a quantitative examination of PAYS data and a qualitative examination of the impressions of middle school guidance counselors' interview data, determined the mental health challenges confronting the sixth and eighth grade students of the three middle schools in northern Dauphin County; Halifax Area Middle School, Millersburg Area Middle School, and Upper Dauphin Area Middle School; the correlation between the anonymous PAYS data and the observations of the middle school guidance counselors; and the pandemic induced sources of the middle school students' mental health challenges. This research study concluded with an analysis and recommendations for the school districts to confront student mental health challenges.

The data analysis in the next chapter indicated the areas of correlation suggesting strategies to help students understand the resulting effects of the coronavirus pandemic. Along with in-school remediation, the strategies constituted a path forward for the schools and the districts.



## **Chapter Four**

### **Data Analysis and Results**

The impetus behind this study was diagnostic. Upon the upheaval in public life, and specifically education, a wide swath of interest arose to discern just what effects the coronavirus pandemic had upon individuals, communities, and society in general. In the case of education, it was accepted that learning loss had occurred, and subsequent studies attempted to evaluate the depth and breadth of that learning loss, which has been measured with some certitude through standardized and curriculum-based assessments. As schools returned to full-time in-person status, unfortunately it became evident that there had occurred a considerable increase in mental health symptoms, particularly depression and anxiety. There were no standardized tests to assess mental health effects; however, the Pennsylvania Youth Survey, PAYS, for the fall of 2021 included survey items that sought to assess the pandemic's impact. Throughout the 2021-2022 school year, students beset school guidance counselors continually with troubles indicating increased depression and anxiety. Hence, this study was developed to identify what happened during the coronavirus pandemic and as it subsided, and to recommend a course of action to decrease and treat the pandemic's mental health effects.

#### **Data Analysis**

For this mixed-methods study, quantitative data was assembled from the results of PAYS administered in the fall of 2021 at the three middle schools in northern Dauphin County; Halifax Area, Millersburg Area, and Upper Dauphin Area Middle Schools; and qualitative data was analyzed from the interviews of the three middle school guidance counselors. As many educators and counselors had remarked at length about the mental

health effects of the pandemic dislocation, the PAYS analysis focused on those items possibly impacting student mental health. The interview questions asked of guidance counselors reflect that same focus on mental health.

PAYS results were solicited from the superintendents of the three school districts. The narrative reports were then analyzed, and the data reports were printed and collated. The PAYS narrative reports called out concerns for student mental health; however, the researcher's interest was in the strength of the data and its progression from pre-pandemic to pandemic periods. The researcher hypothesized that more could be learned from the examination statistically of the student responses, particularly of the student respondents who had been sixth graders during the 2019 administration of the survey and had become, at least in part, respondents as eighth graders during the 2021 survey administration. PAYS included questions that framed answers in Likert-like scales that could be assigned numerical values and then analyzed using descriptive and inferential statistics. PAYS also included questions that were answered with simple positive/negative responses, and these were assessed for the strength of the response indicated by frequency.

After obtaining consent from their supervisors, the three middle school guidance counselors' consent was obtained to proceed with their inclusion in the study. Given the counselors' workload and time constraints, the counselors were given the survey questions in advance. The counselors were consulted for interview scheduling, interviews were scheduled, and completed. The interviews were recorded on the researcher's personal iPhone SE. The interviews were then transcribed directly from the phone into Microsoft Word installed on a 2017 build 21.5" iMac running Ventura 13.3.1(a). The

transcriptions were edited to correct mistakes common when a computer program tries to mimic the nuances of the human voice. The corrected transcripts were then emailed to the guidance counselors for their feedback. Subsequently, summaries of the three interviews were emailed to the guidance counselors, school principals, and the district superintendents for their feedback.

The guidance counselors' interview responses were analyzed according to the regimen documented by Saldana (2013). The interview responses were printed with wide margins for notetaking. The first analytical reading produced an underlined text. The second analytical reading produced an annotated text. The notations indicated the strength or lack thereof in response to the item queried which Saldana characterizes as "Magnitude Coding," under "Grammatical Methods" (59). The questions themselves reflected what the researcher wished to investigate. Similarities and differences among the schools were noted.

### **Limitations**

This mixed-methods study is limited to the effects of the coronavirus pandemic upon middle school students' mental health. Throughout the analysis, the researcher noted various effects possibly associated with the pandemic which could have earlier antecedents and other causes. These will be discussed further in Chapter Five. It is worth reiterating that PAYS is not disaggregated demographically. Chapter Two, Review of the Literature, indicated some possible pandemic effects particular to adolescent females. This study, neither of quantitative nor qualitative data, addressed gender. PAYS included items to judge respondents' veracity; however, PAYS does not measure respondents' ability to make distinctions required to answer questions requiring response on the Likert-

like scale. Undoubtedly, high school seniors who have taken the survey three times have a better idea of how to respond to the Likert-like scale most truthfully.

## **Results**

Data was analyzed according to the study's research questions. The study sought to answer the four research questions, as follows:

1. What mental health challenges do the PAYS surveys reveal?
2. How do the mental health challenges revealed by the PAYS survey correlate to the observations of guidance counselors?
3. As PAYS survey data and guidance counselors observations reveal, what are the pandemic induced sources of middle school students' mental health challenges?
4. How can the schools and school personnel confront these challenges?

For question number one, PAYS reports for the three middle schools were collected. Survey reports were analyzed using descriptive and inferential statistics. This was possible as the PAYS grade report details specific responses for all items, some of which are in a Likert-like scale. For questions two through four, school guidance counselors were interviewed. Question three required renewed scrutiny of PAYS survey data, particularly the data which directly reported pandemic effects, and question four was guided by the relationships revealed through statistical analysis and was also speculative, dependent upon the guidance counselors' opinions.

Question one was "what mental health challenges do the PAYS surveys reveal?"

A reading of the PAYS reports identified the items to analyze, the most obvious being items concerning depressive symptoms, suicide risk and self-harm, and COVID impact.

Of the other items, those related to hard drug and prescription drug use were insignificant in the populations. Among the populations, the drugs of choice were nicotine, ingested through smoking or vaping, and alcohol. Again, among the middle school populations this drug use was not significant. The items that may have impacted self-worth and could be reflective of respondent mental health were commitment to school, respect for the moral order and religiosity or church attendance, bullying particularly through texts or social media, neighborhood attachment, and family conflict. Given that all students were originally thrust into virtual schooling when schools were closed at the pandemic's onset, attendant upon covid impact is a group of questions regarding online learning.

There were four items devoted to depressive symptoms:

1. In the past twelve months, have you felt sad or depressed most days, even if you felt OK sometimes?
2. Sometimes I think that life is not worth it.
3. At times I think I am no good at all.
4. All in all, I am inclined to think that I am a failure.

Students were to respond either with the emphatic negative, NO!, the negative, no, the affirmative, yes, or the emphatic affirmative, YES! (25). These Likert-like items may be scored as follows: as the most desirable response would be the emphatic negative, that was assigned four points. Therefore, the items have the following point scale: NO! = 4, no = 3, yes = 2, and YES! = 1. Frequency tables for these items are appended (Appendix C). Table 7 indicates the mean response for each question. Although there is some variation, means are all positive.

**Table 7**

*Depressive Symptoms Mean Values by Question*

SADNESS						
School	2019		2021		Grade 6 2019	Grade 8 2021
	Grade 6	Grade 8	Grade 6	Grade 8		
HAMS	3.15	2.98	3	3.27	3.15	3.27
MAMS	2.81	2.66	3.07	2.71	2.81	2.71
UDAMS	2.9	2.49	2.93	2.82	2.9	2.82
ALL	2.98	2.7	3	2.95	2.98	2.95

LIFE						
School	2019		2021		Grade 6 2019	Grade 8 2021
	Grade 6	Grade 8	Grade 6	Grade 8		
HAMS	3.43	3.26	3.2	3.57	3.43	3.57
MAMS	3.32	2.88	3.36	3.19	3.32	3.19
UDAMS	3.28	2.85	3.21	3.03	3.28	3.03
ALL	3.35	3.03	3.14	3.27	3.35	3.27

NO GOOD						
School	2019		2021		Grade 6 2019	Grade 8 2021
	Grade 6	Grade 8	Grade 6	Grade 8		
HAMS	3.11	2.89	2.96	3.4	3.11	3.4
MAMS	2.87	2.65	3.12	2.91	2.87	2.91
UDAMS	2.92	2.68	2.87	2.85	2.92	2.85
ALL	2.98	2.74	2.97	3.06	2.98	3.06

FAILURE						
School	2019		2021		Grade 6 2019	Grade 8 2021
	Grade 6	Grade 8	Grade 6	Grade 8		
HAMS	3.42	3.03	3.2	3.59	3.42	3.59
MAMS	3.32	3.04	3.37	3.07	3.32	3.07
UDAMS	3.27	3.01	3.1	3.16	3.27	3.16
ALL	3.34	3.04	3.2	3.29	3.34	3.29

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper

Dauphin Area Middle School. The abbreviations used for the questions are as follows: SADNESS, In the past twelve months, have you felt sad or depressed most days, even if you felt OK sometimes? LIFE, Sometimes I think that life is not worth it; NO GOOD, At times I think I am no good at all; and FAILURE, All in all, I am inclined to think that I am a failure.

As reflected in Table 8, the fact that all means are positive does not mean that there is no significant population with depressive symptoms. Table 8 shows the percentage and number of the total of all respondents by grade level total who responded in the negative, exhibiting symptoms of depression, and the numbers are alarming.

**Table 8**

*Percentage, Number and Total of Negative Respondents by Year and Grade Level*

Question	2019		2021	
	Grade 6	Grade 8	Grade 6	Grade 8
SADNESS	33% (59/176)	42% (84/198)	31.6% (49/155)	35% (62/177)
LIFE	18.75% (23/176)	34.7% (68/196)	26.6% (41/154)	21.35% (38/178)
NO GOOD	32.77% (58/177)	44.72% (89/199)	35.9% (56/156)	32.02% (57/178)
FAILURE	15.82% (28/177)	30.93% (60/194)	25.32% (39/154)	18.54% (33/178)

*Note.* The abbreviations used for the questions are as follows: SADNESS, In the past twelve months, have you felt sad or depressed most days, even if you felt OK sometimes? LIFE, Sometimes I think that life is not worth it; NO GOOD, At times I think I am no good at all; and FAILURE, All in all, I am inclined to think that I am a failure.

The information in Tables 7 and 8 indicates that depressive symptoms were present in middle school students in all schools in significant numbers both before and

after the pandemic and that a significant number of students expressed negative responses; therefore, they were exhibiting depressive symptoms.

PAYS included six items addressing suicide risk, as follows:

1. Did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?
2. Did you ever seriously consider attempting suicide?
3. Did you make a plan about how you would attempt suicide?
4. How many times did you actually attempt suicide?
5. If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?
6. How many times in the past 12 months have you done anything to harm yourself (such as cutting, scraping, burning) as a way to relieve difficult feelings or to communicate emotions that may be difficult to express verbally?

(pp. 48-49)

Table 9 summarizes the number of respondents who demonstrated continued sadness, the number of respondents who contemplated suicide, and the number of respondents who planned suicide. Middle school populations were 279 at Halifax Area, 177 at Millersburg Area, and 303 at Upper Dauphin Area. PAYS was only administered to sixth and eighth graders meaning the actual numbers of students exhibiting both depressive symptoms and suicidal ideations were higher. The total northern Dauphin County 2021 middle school population was 759: the sixth and eighth grade total was 463. Of those students, a maximum number of 417 responded. In the fall of 2021, 89 felt sadness or hopelessness, 51 contemplated suicide, and 41 planned suicide. Like



symptoms of depression, suicidal ideations were present in the both the 2019 and 2021 student populations. In small middle schools in rural settings, these numbers are remarkable.

**Table 9**

*Summary of Items 1-3*

Question	2019		2021	
	Grade 6	Grade 8	Grade 6	Grade 8
Sadness	16.6% (20/120)	27.5% (41/149)	25.8% (39/151)	27.7% (50/180)
Considered	10.16% (13/128)	21.38% (31/145)	15.44% (23/149)	15.6% (28/180)
Planned	9.37% (12/128)	18.62% (27/145)	12.75% (19/149)	12.22% (22/180)

*Note.* Abbreviations refer to questions as follows: “Hopeless” is “Did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?” “Considered” is “Did you ever seriously consider attempting suicide?” “Planned” is “Did you make a plan about how you would attempt suicide?”

Table 10 documents question number four, “How many times did you actually attempt suicide?” Again, in the small rural communities studied herein, the numbers were remarkable. Perhaps most alarming was the number of respondents who made repeated attempts. From pre-pandemic 2019 to 2021, the number of individuals attempting suicide six or more times doubled. Within the similar cohort, sixth graders in 2019 becoming eighth graders in 2021, there was a similar increase. Tragically, one Millersburg Area student succeeded in her attempt in 2021. Also, though some may view the percentages as low, no educator or parent would consider the percentages and numbers anything less than shocking.

**Table 10**

*Number of Suicide Attempts*

Number	All Respondents			
	2019 Grade 6	Grade 8	2021 Grade 6	Grade 8
0	116	130	135	168
1	5	5	8	3
2 or 3	5	10	3	6
4 or 5	0	1	1	1
6 or more	1	2	4	2
Total	127	148	151	180
% attempted	8.66%	12.16%	10.60%	6.60%

*Note.* % attempted refers to the number of individuals that attempted suicide, not the number of attempts.

Table 11 documents the numbers of suicide attempts resulting in the need for medical attention, a measure of the serious nature of the attempts.

**Table 11**

*Number of Attempts Resulting in Injury Requiring Medical Intervention*

	All Respondents				Cohort	
	2019 Grade 6	Grade 8	2021 Grade 6	Grade 8	Grade 6	Grade 8
No attempt	96	113	101	144	96	144
Yes	3	6	2	5	3	5
No	27	29	46	27	27	27

*Note.* A “Yes” response indicates the need for medical attention from a doctor or nurse.

Perhaps the most telling statistic in terms of numbers is the increase in self-harm after the onset of the pandemic and the number of respondents indicating an escalating frequency of self-harm. Table 12 shows the frequency of self-harm. The number of sixth graders harming themselves more than doubled from 2019 to 2021. The number of eighth graders from 2019 to 2021 declined somewhat; however, multiple instances increased. Finally, the increase in the number of attempts in the Grade 6, 2019 – Grade 8, 2021 cohort is dramatic, from 11 total attempts to 28, including fifteen respondents who reported multiple instances.

**Table 12**

*Instances of Self-Harm; Cutting, Scraping, Burning*

Number	All Respondents				Cohort	
	2019 Grade 6	Grade 8	2021 Grade 6	Grade 8	Grade 6	Grade 8
0	120	117	120	147	120	147
1 or 2	9	20	14	11	9	11
3 to 5	2	3	5	7	2	7
6 to 9	0	3	3	1	0	1
10 to 19	0	2	0	4	0	4
20 to 39	0	0	3	3	0	3
40 or more	0	6	1	2	0	2

*Note.* Under “Number,” a zero indicates the number of individuals who did not harm themselves; whereas the increasing numbers indicate the number of times the respondents harmed themselves.

Finally, PAYS framed the questions specific to the effects of COVID-19 in the following format, eliciting positive and negative, Yes/NO, answers.

1. I or someone in my family was sick with COVID-19 or COVID-19 symptoms.
2. A family member or friend close to me died from COVID-19.
3. One or more people living in my home lost their job.
4. I felt more anxious, nervous, worried, or angry than usual.
5. I felt more relaxed, comfortable, or rested than usual.
6. People in my home were arguing or physically fighting more than usual.
7. My family ate more meals together than usual.
8. My family shared more quality time together than usual (such as playing games, exercising, talking, watching movies/tv).
9. I learned a new hobby or skill (such as cooking, crafts, gardening, physical activities, outdoor activities, puzzles, new language).
10. I played more online games with others than usual. (51)

As noted in Chapter Three, Table 6, over sixty percent of sixth and eighth grade students, 61.3% and 63.2% respectively, in the three middle schools either contracted the coronavirus or a member of their family did. Slightly more than eleven percent, 11.3%, of sixth graders and about ten percent, 9.8%, of eighth graders suffered a death in their family or immediate circle. More than a quarter of the students responding in each grade, 27.5 % in sixth grade and 29.9% in eighth grade, reported greater feelings of anxiety, nervousness, worry, and anger.

Conversely, respondents reported some impressions that would be considered positive. About eighteen percent of respondents, 18.3% in sixth grade and 17.8% reported they felt more relaxed, comfortable, or rested than before. Although more than nine percent, 9.9% in sixth grade and 9.2% in eighth grade, reported more arguing in their

households, a quarter or more of the respondents, 27.5% of sixth graders and 24.7% of eighth graders, reported eating more family meals together and over forty percent, 42.2% of sixth graders and 42.5% of eighth graders, reported spending more quality time together with their families. Also, around half of respondents, 50.7% of sixth graders and 46.5% of eighth graders, reported learning a new skill. Given the nature of the pandemic, its closures and restrictions, almost half of respondents in both grades reported playing more online games – 45.1% for sixth graders and 46% for eighth graders.

The increased amount of time online undoubtedly had an impact upon students, although no PAYS questions measured the aggregate effect. However, given that so much pandemic instruction was delivered online, PAYS did pose questions about online learning, including its quality. Toward the end of the 2021 PAYS questionnaire, respondents were asked to answer “No!,” an emphatic no, “no,” “yes,” and “Yes!,” an emphatic yes, to this question: “My learning improved when my classes were taught online due to COVID-19.” Table 13 memorializes the results for all respondents. The mode being 3 for sixth graders, 33 respondents, and 4 for eighth graders, 52 respondents, and the frequency of negative responses being 63 for sixth graders and 73 for eighth graders, indicated that a great majority of respondents recognized the failings of online learning; however, there was a minority that showed a preference for online learning and a small group that preferred it. Undoubtedly, the lack of teacher preparedness for online education exacerbated by the hasty response to the coronavirus which engendered school closings somewhat explains respondents’ disdain for online learning; however, what explains the preference? There were no PAYS items to fully explain these results.

**Table 13**

*My Learning Improved Online*

<b>Response</b>	<b>Rating</b>	<b>All Respondents</b>	
		<b>Grade 6</b>	<b>Grade 8</b>
		<b>n (nRating)</b>	<b>n (nRating)</b>
No!	4	30 (120)	52 (208)
no	3	33 (99)	21 (63)
yes	2	13 (26)	13 (26)
Yes!	1	3 (3)	8 (8)
<b>Total</b>		<b>79 (248)</b>	<b>94 (305)</b>
<b>Mean</b>		<b>3.14</b>	<b>3.27</b>

*Note.* A comparison of all means indicated that most students knew their learning did not improve online.

The review of the PAYS items addressing depressive symptoms, suicide risk and self-harm, and COVID impact indicate that the mental health effects most closely related specifically to the coronavirus pandemic were increased anxiety and the number of suicide attempts and instances of self-harm.

The second research question was “how do mental health challenges revealed by PAYS correlate to the observations of the guidance counselors?” To reiterate in part, the guidance counselors were interviewed, interview questions are appended, the interviews transcribed, and then analyzed in part according to the process memorialized by Saldana (2013). The interview responses were printed with wide margins for notetaking. The first analytical reading produced an underlined text. The second analytical reading produced an annotated text. The notations indicated the strength or lack thereof in response to the item queried which Saldana characterizes as “Magnitude Coding, under “Grammatical Methods” (59).

Two of the three guidance counselors reported increases in student self-harm. The third stated that there was no increase; however, neither did it decrease. All noted a significant increase in reports of depression; one indicated it more than doubled. Two of the three reported increases in students reporting suicidal ideations; one noted the district changed its policies in response to the increase and a student suicide. The third guidance counselor again reported a static condition – there were reports of suicidal ideations, but no more than previously seen. All counselors reported cyberbullying as a problem, with two noting significant increases. All counselors also noted an increase of in-school bullying.

None of the guidance counselors reported increases in either in-school or out-of-school violent attacks. The school which had experienced a student suicide reported an increase in grieving behavior and grief counseling; however, the other two schools did not report any increases. This is worth noting because the PAYS questions on the effects of COVID-19 asked how many students had experienced the death of a household member or someone with whom they were close, and the responses were 11.3% of all sixth graders and 9.8% of eighth graders.

Student attitudes toward school varied; however, one counselor stated that many students were happy to return to in-person schooling. All three reported students were happy to see their peers in-person. When schools first returned on a limited basis during the 2020-2021 school year, all the counselors agreed that there was heightened anxiety specific to the coronavirus transmission. Finally, all three noted that they had students who in the face of academic or social difficulties will advocate for cyber schooling to solve their problems. Having experienced online education, some students resorted to

withdrawing to cyber schooling as an option, although they knew they would not learn as much as they would in school. The counselors saw it as an escape for those in trouble, and two of the counselors noted that this sentiment was symptomatic of a lack of coping skills. The counselors characterized this as an increased social anxiety.

Therefore, congruent to the PAYS indicators of increased anxiety and self-harm, the guidance counselors also reported the same conditions. It is worthwhile to note that the magnitude of the guidance counselors' responses, which were emphatic, do not match the magnitude or lack thereof documented in PAYS, which indicated depressive symptoms and suicidal ideations as being an ongoing condition.

The third research question asked, "as PAYS data and guidance counselors observations reveal, what are the pandemic induced sources of middle school students' mental health challenges?" Certainly fear of contracting the coronavirus, passing it to other persons in one's household, and the incidence of household deaths were causes of anxiety given the numbers of students and immediate household members who contracted the disease and the number who unfortunately died. Additionally, all the guidance counselors indicated increased cyber bullying, in-school bullying, and students stating the option of withdrawing into cyber schooling.

Examining PAYS items regarding "Commitment to School," the importance of school to later life as memorialized in Tables 2-5 in Chapter Three, do not indicate dissatisfaction with school as significant. Sixth graders from all schools felt school was important to later life, and the distribution of their scores was skewed positively. Eighth graders showed a significant drop in that feeling; however, they still saw school as important, and the distribution of their scores bore more resemblance to the normal curve.



Therefore, the drop in eighth grade scores may be attributable to the eighth graders' school experience, having become cynical, or realistic with age.

An examination of the items assessing moral order (Appendix E) indicated little amiss. Most respondents understand stealing, lying, cheating in school, and violence are all wrong. One item identified that may have had significance was religiosity, church attendance (Appendix F). Although there was variation, church attendance markedly declined; however, it might be irresponsible to consider this as many traditional denominational churches turned to online services during the pandemic, which could account for the decline.

As noted in Chapter Three, Table 6, over forty percent of all respondents reported spending more quality time with their families. The guidance counselors noted this factor as being positive in most cases but problematic given what they knew about some of those families. Most respondents reported there was little negative insulting behaviors in their immediate families and that their families did not engage in serious arguments. None of the groups of respondents showed a marked lack of neighborhood attachment. Except for a dour minority, respondents showed satisfaction with their living conditions.

A minority of students in all three schools reported that they sometimes hated being in school. Unfortunately, as PAYS does not disaggregate by gender, we have no idea whether these were disaffected boys or girls. Also, there was a minority of students that felt school was not interesting or worth the effort. A further examination of the tables on depressive symptoms and suicide and self-harm indicated that there was again a minority of individuals expressing negative feelings. Those who attempted suicide and engaged in self-harm notwithstanding, there appeared a consistent minority expressing

these negative feelings. Finally, the group that experienced bullying was a static group, mostly, with one exception: the number of students who felt bullied at home doubled between 2019 and 2021, perhaps a corollary to spending more time at home.

Unfortunately, neither PAYS nor the guidance counselors reported that these troubled students might be the same population.

Therefore, given the focus of this research study, the identified pandemic induced source of mental health challenges is survey-measured heightened anxiety confirmed by guidance counselors' observations. As a high percentage of survey respondents experienced coronavirus infection, and some deaths, in their households, this trauma undoubtedly influenced this heightened anxiety. Incidence of self-harm also rose in intensity, measured by the number of respondents who engaged in multiple suicide attempts.

The fourth research question was "how can the schools and school personnel confront these challenges?" Given that bullying and cyber-bullying, depressive symptoms, suicidal ideations, and instances of self-harm were evident in the population prior to the pandemic and that the pandemic appears to have dramatically increased anxiety in the population, the reasonable strategy to address these challenges would be increased awareness about mental health through mandatory redundant educational strategies and trainings presented to the whole student body and all staff and faculty. Awareness in the communities should be promoted through social media, district websites, and yearly mailings. As the pandemic has reduced the stigma associated with mental health, schools and communities need to claim the advantage and promote good mental health and dealing with depression and anxiety.

Undoubtedly, the three districts should examine staffing. The state staffing recommendation is one guidance counselor for every 250 students, and it would be wise for the districts to follow this guideline, if not seek to employ additional counselors. It is worthwhile to note, that guidance counselors at all levels are often responsible for administering the state's standardized high stakes tests – the Pennsylvania State System of Assessments, PSSA, and the subject area Keystone Tests. These tests require about a month, twenty school days, of guidance counselors' attention, days not devoted to counseling students. If possible, and it may not be, there should be some mechanism in place to give students access to counselors during testing.

The districts also maintain social workers. Each district should have at least one social worker, and it would be reasonable to expect the districts to employ and share at least one more social worker; however, two may be preferable. Finally, given the magnitude of respondents self-reporting suicidal ideations including planning and attempting suicide, it would be ideal if the districts through the guidance counselors had the opportunity to offer psychological and psychiatric referrals to those students who needed and requested referrals and whose parents were agreeable. Although there is access to counseling through the school's Student Assistance Teams, having more ready access to psychologists and psychiatrists may be beneficial.

### **Triangulation**

Triangulation of data was achieved through the following process: the research study utilized two primary sources of data – the PAYS data and the guidance counselors' interviews. The guidance counselors' interviews validated and clarified the PAYS data. The PAYS data in turn validated and provided additional understanding of the guidance

counselors' interviews. Member checking occurred through transcription of the interviews. The transcripts were then emailed to the three guidance counselors for their review. All three attested to the accuracy of their transcripts. The researcher then synthesized a summary sheet, including preliminary findings, and sent that to the guidance counselors, their middle school principals, and the three district superintendents; thereby completing the process of member checking and triangulation.

### **Discussion**

As noted, the PAYS data was solicited from the school district's superintendents. The PAYS profiles of the three districts provided information; however, of particular interest were the data report numbers catalogued in the documents titled *All Questions by Grade Report*. The data from the most pertinent questions were then recorded in Microsoft Excel in the form of tables by school and collectively, as needed. Those items in a Likert-like scale were then assigned values to compute descriptive statistics.

Notably, Likert-like scale data were always positive. Also, data from positive/negative questions was also positive, except for online learning. There were minorities answering all items negatively which possibly indicated those individuals experienced mental duress, including severe symptoms of depression and anxiety resulting in suicidal ideations and repeated suicide attempts in the worst cases.

The guidance counselors' interviews were analyzed, and the results compared to the PAYS data. Perhaps because of their sensitive nature and the direct connection to their students, the guidance counselors' impressions were emphatic. However, given the severity of the conditions represented by the negative responses, the strength of the guidance professionals' reactions is understandable.

The coronavirus pandemic created heightened anxiety amongst the middle school populations, having an impact upon students' mental health. However, as will be discussed in the next chapter, the data analysis revealed additional factors that may be influencing middle school students' mental health.

### **Summary**

Again, the purpose of the study was to assess the impact of the coronavirus pandemic upon middle school students' mental health in the three small middle schools of northern Dauphin County. Originally, the researcher had supposed that the pandemic had had a noticeable effect on numerous negative behaviors and exaggerated those behaviors. However, PAYS results indicated increased anxiety among the population and increased instances of self-harm, particularly among the respondents in the Grade 6, 2019 – Grade 8, 2021 cohort. The middle school guidance counselors' interviews indicated significant increases in anxiety and the magnitude of that anxiety. PAYS results did not indicate great increases in many symptoms of depression or some suicidal ideations; however, PAYS results indicated a significant minority having negative feelings. This research study could not identify if the respondents of those groups were the same individuals or not. Ultimately, the study identified the pandemic induced source of mental health challenges as the survey-measured heightened anxiety confirmed by guidance counselors' observations. That heightened anxiety probably exacerbated student responses to bullying, cyber-bullying, depressive symptoms, and suicidal ideations, and this may have driven the increase in self-harm.

In the final chapter, the researcher will present a series of conclusions resultant from the study, a discussion of the limitations of the study, and several recommendations

for future research. As was the case, and is the case, with studies of this kind, its focus was to answer its research questions. Throughout that process several additional questions arose concerning relationships within the data which were unclear to the researcher but could certainly provide fertile and important directions for future study.

## **Chapter Five**

### **Conclusions and Recommendations**

The impetus for this research was to understand the effects the coronavirus pandemic had upon the mental health of middle school students in the three middle schools of northern Dauphin County. The researcher utilized the results of the 2021 Pennsylvania Youth Survey, PAYS, and interviews with the middle school guidance counselors verified through member checking; then summarized those three interviews and distributed that summary to the guidance counselors, the middle school principals, and the school district superintendents. All agreed with the summary.

As noted, the impact of the pandemic upon students' academic skills was quantifiable through curriculum-based assessments and standardized tests. The impact upon students' mental health was less discernable. Through analysis of PAYS, a student self-reporting tool, and guidance counselor interviews, the researcher hypothesized that an assessment of the coronavirus pandemic's impact upon student mental health could be ascertained, as well as a strategy for remediating that impact.

Given the necessity of anonymity for this study, the conclusions drawn were general. PAYS data was anonymous, and neither race nor gender were disaggregated in PAYS data. Likewise, in interviewing the guidance counselors, the researcher did not request names of students, race, or gender. Overall, the guidance counselors' impressions were validated through PAYS data and vice versa. However, it is worthwhile to note that the guidance counselors' impressions were more emphatic because of the intensity of the reports they received. This explained the minor disparity between some of the guidance counselors' reports and students' self-reports.

The research did determine that the coronavirus pandemic had an effect upon middle school students' mental health. Data noted in Chapter Three and Four taken from Table 6 indicated that 61.3% of sixth graders and 63.2% of eighth graders either fell ill with COVID-19 or a member of their immediate family contracted the virus. Moreover, 11.3% of sixth graders and 9.8% of eighth graders experienced a death in their immediate family or circle of acquaintances. These shocks to impressionable minds were reflected in increased anxiety experienced by 27.5% of sixth graders and 29.9% of eighth graders. The guidance counselors reported that students stated they worried about catching the virus and about bringing it home to their family members.

Although depressive symptoms were prevalent in middle school students in 2019 and 2021 in fairly equal proportions, as noted in Chapter Four in Tables 8 and 9, Table 9 also indicated a significant increase of symptoms among the students in the 2019 – 2021 cohort who were sixth graders in 2019 and then eighth graders in 2021. In that group chronic sadness increased both in numbers, 20 in 2019 and 50 in 2021, and percentage, 16.6% in 2019 and 27.7% in 2021. The numbers considering and planning suicide also increased significantly: those who considered suicide in 2019 numbered 13 or 10.16% which grew to 28 in number, 15.6% in 2021, and those who planned suicide in 2019 numbered 12 or 9.37% which grew to 22 in number, 12.22% in 2021. The number of individuals who reported multiple suicide attempts also increased in the 2019 – 2021 cohort, as did the number of attempts requiring medical intervention.

As noted in Chapter Four, Table 12, the most alarming numbers revealed through PAYS data were the numbers of students engaging in self-harm and repeated suicide attempts, six or more. The number of instances of self-harm increased dramatically both



in number and frequency. This may have reflected the intensity of emotion the guidance counselors witnessed. Also, among the members of the 2019 – 2021 cohort, the number of individuals harming themselves increased from 11 in 2019 to 28 in 2021. Therefore, although the total population of respondents reporting experiencing depressive symptoms both in 2019 and 2021 was similar, the marked effect upon the 2019 – 2021 cohort indicated the impact of the coronavirus pandemic.

The guidance counselors' impressions testified to this conclusion. Although they did not cite numbers, the counselors indicated the increase in self-harm, the increase in depressive symptoms, and the increase in suicidal ideations reported to them.

Undoubtedly, the guidance counselors were also dramatically moved because these were students they knew well: to a casual observer reading the percentages, the impacts may have seemed slight; however, to the guidance counselors these were numbers of real students they saw daily.

To reiterate, these are general conclusions supported by survey responses and the impressions of guidance counselors. No matter how much students trust their counselors, adults in school, it is doubtful that students report everything to the adults. This was easily reflected in the number of students whose suicide attempts resulted in needed medical attention. Over the course of time, the guidance counselors only knew of one suicide attempt for certain – the one that succeeded.

Certainly, the coronavirus pandemic aggravated depressive symptoms and spurred increased suicidal ideations among the respondents. However, it must be noted that students experienced symptoms of depression and suicidal ideations before the pandemic. Once again, this research study focused upon the effects of the pandemic; however, there

were other causes of early adolescent malaise. Although most students showed a commitment to school, gave their best efforts, valued learning, found schoolwork meaningful and interesting, and enjoyed school, there was a persistent minority that took the opposite view. Of note was that among the 2019 - 2021 cohort of respondents the number responding negatively increased significantly over the years, and there is no evidence tying this directly to the pandemic. It is possible that the increase could be due to maturation, the cynicism that comes with age, the increased perception of academic failure, or the reality of actual academic failure attributable to the increasing difficulty of academics.

The guidance counselors indicated an increase in bullying; however, the numbers did not dramatically increase as noted in Table 14. Table 14 summarizes the locations of bullying and the instances. However, there were more individuals reporting bullying as evinced in the difference of the 2019 and 2021 totals.

**Table 14**

*Answers to the question, “Where were you bullied?”*

Response	All Respondents				Cohort	
	2019		2021		Grade 6	Grade 8
	Grade 6 n, %	Grade 8 n, %	Grade 6 n, %	Grade 8 n, %	2019 n, %	2021 n, %
I was not bullied	86, 60.1%	83, 44.4%	105, 61.4%	130, 63.4%	86, 60.1%	130, 63.4%
On school property	37, 25.9%	64, 34.2%	32, 18.7%	39, 19%	37, 25.9%	39, 19%
At a school event	2, 1.4%	10, 5.3%	3, 1.7%	2, .97%	2, 1.4%	2, .97%
Going to or from	4, 2.8%	9, 4.8%	6, 3.5%	7, 3.4%	4, 2.8%	7, 3.4%
In the community	6, 4.2%	13, 6.9%	8, 4.7%	10, 4.9%	6, 4.2%	10, 4.9%
At home	8, 5.6%	8, 4.3%	17, 9.9%	17, 8.3%	8, 5.6%	17, 8.3%
Total	143	187	171	205	143	205

*Note.* This table is for all respondents. Appendix D represents the tables for the three schools and for all respondents. n is equal to the number of respondents, and % is the percentage of the total.

The guidance counselors also reported more students complaining about cyber bullying. Although the numbers shown in Table 15 for all respondents indicated no increase in percentage, the numbers indicate a significant number of victims; hence, a significant number of possible complaints.

**Table 15**

*Instances of Cyber Bullying*

	Rating	All Respondents				Cohort	
		2019 Grade 6	Grade 8	2021 Grade 6	Grade 8	Grade 6 2019	Grade 8 2021
<b>Response</b>		n	n	n	n	n	n
No!	4	89	80	86	104	89	104
no	3	22	37	35	44	22	44
yes	2	19	30	22	25	19	25
Yes!	1	5	10	11	8	5	8
Total		135	157	154	181	135	181
n/Total		24/135	40/157	33/154	33/181	24/135	33/181
Percent yes		17.80%	25.50%	21.40%	18.23%	17.80%	18.23%

*Note.* The question posed was, “during the past twelve months, have you been bullied through texting and/or social media?” This table is for all respondents. Appendix D represents the tables for the three schools and for all respondents.

<sup>a</sup> In “All Respondents,” Percent yes is the percentage of the total respondents responding positively to the question.

Again, it was noted there was a significant minority having negative experiences, and neither the PAYS data nor the guidance counselors' interviews could possibly indicate any overlap in these groups.

As noted in Appendix E, the pandemic had no effect upon the PAYS criteria for moral order. Student respondents overwhelmingly understood that stealing, lying, cheating, and violence were wrong; however, in all categories there was a small minority who approved, if slightly. The pandemic also had a negligible effect upon church attendance, noted in Appendix H, which had been declining for years; however, it was noted that mainline churches took worship online due to safety concerns, whereas many evangelical churches held in-person services throughout the pandemic.

Appendix G documented respondents' neighborhood attachment, which was also unchanged by the pandemic. Most respondents were satisfied with their circumstances; however, there was again a minority who were not. Appendix H displayed the number of respondents who experienced family conflict, and there was also no marked increase in those experiencing distress like yelling or arguing. However, there were significant minorities who experienced family problems. To recur to Table 14, there was an increase in bullying reported at home both from 2019 to 2021 and within the cohort, which may be attributable to the quality of the home life. However, this increase could also be attributable to respondents spending more time at home. Although more time at home with family may have had positive effects for some students, the guidance counselors had expressed reservations and indicated that there were some homes of suspect quality. Salt et al. (2021) corroborated the guidance counselors' impressions that abuse and mistreatment increased.

Whether it be bullying or academic failure, the guidance counselors all noted that when faced with adversity students showed an increased inclination to escape into online schooling. Because of the pandemic necessitated retreat into online schooling, the guidance counselors indicated that students found withdrawing from school into a cyber school or their districts’ online programs more acceptable, despite the fact that they knew they learned less online. Table 16 reflects this.

**Table 16**

*Question: My learning improved when classes were taught online due to COVID-19.*

Response	Rating	All Respondents	
		Grade 6 n (nRating)	Grade 8 n (nRating)
No!	4	30 (120)	52 (208)
no	3	33 (99)	21 (63)
yes	2	13 (26)	13 (26)
Yes!	1	3 (3)	8 (8)
Total		79 (248)	94 (305)
Mean		3.14	3.27

*Note.* This question applies only to 2021.

Again, there was a minority that preferred schooling online for what the guidance counselors characterized as frivolous reasons. Students expressed that they didn’t want to get out of bed, or get dressed, or that they wanted to go online just because they could do so. The students’ escape did not produce increased achievement or learning. Data noted in Chapter Three, Table 6 documented that during the pandemic almost fifty percent of all students spent more time online playing online games. Undoubtedly, the fact that during the pandemic parents saw their children online so much more made online education a more acceptable alternative, even though the guidance counselors all

expressed that parents knew their children would not learn as well online. Guidance counselors expressed that many parents bowed to their children’s demands to go to online schooling simply to stop their children’s complaining.

Ultimately, this research study found that in all the middle schools among all the respondents there was a persistent minority; one of the guidance counselors called them the “negative” minority. These students thought they were failures, were depressed, expressed suicidal ideations, disliked their homelives, experienced distress in the home, and many sought to escape into an alternative they plainly knew was not good for them. Unfortunately, this research study cannot answer the question of who these students were. Because of the anonymity of the study, it is impossible to determine if this minority is the same group with similar characteristics or individuals distributed among the populations. Another negative trait some of these individuals may share is sleep deprivation. Table 17 documents the amount of sleep respondents self-reported. There is a significant minority that may be sleep deprived which could aggravate depressive symptoms.

**Table 17**

*Amount of Sleep Nightly*

	All Respondents				Cohort	
	2019 Grade 6	Grade 8	2021 Grade 6	Grade 8	Grade 6 2019	Grade 8 2021
<b>Hours per night</b>						
<4	7	15	7	15	7	15
5	5	13	6	15	5	15
6	7	22	13	26	7	26
7	21	33	19	42	21	42
8	43	46	54	62	43	62
9	33	13	37	16	33	16
10+	10	7	11	4	10	4
Total	126	149	145	180	126	180
Percentage 6 or less	15%	33.56%	17.93%	31.11%	15%	31.10%

Recurring to Chapter Two, Review of the Literature, the researcher must note that this minority observed having depressive symptoms and suicidal ideations was described by Hazen et al. (2010) who noted that 12% of children and adolescents suffer from a psychiatric malady impairing their function, 14% have suicidal ideations, and 7% attempted suicide (p.1). Reisz (2013) noted that low socioeconomic status can aggravate these conditions. For the three school districts in 2020, census poverty among five-to-seventeen-year-old children was 8.9% for Halifax Area, 13.66% for Millersburg Area, and 13.68% for Upper Dauphin Area (PDE, June 17, 2023). Given these data and numbers, one may be disposed to consider the mental duress evinced in the northern Dauphin County middle school students to be normal; however, to those who know these young people, this type of conclusion is unacceptable and fails to recognize the students' needs.

### **Fiscal Implications**

The pandemic and subsequent reporting have removed some of the stigma of mental illness; therefore, the three middle schools and the three districts need to seize the opportunity to take measures to improve mental health awareness and educate students, staff, faculty, and the community to the importance of good mental health. This should be done through social media, print media, district websites, and outreach. Also, all three districts have access to the same Student Assistance Program providers, intermediate unit resources, online trainings, and in-service time which can be used to provide ongoing redundant training. There is no reason not to do so. The cost of services should be minimal. Students and teachers already have time built into their schedules; however, support staff do not. There would be a cost for substitute staff to free regular employees

to train. Hopefully, the districts will start the new year with enough substitutes on their rosters. It would not be unreasonable to require each district to devote twenty days of substitute time which would allow substitutes to rotate through district buildings to spell regular employees. The cost estimate would be \$4000 per district.

As noted previously, the shocking size of the number of students needing intervention must engender action from the school districts. Undoubtedly, the most effective way to counsel students is to have more adults available to do so. Kamenetz (2022) refers to this as “healing by listening” (288). The redundant mental health training will serve to make more adults able counselors; however, there is no substitute for trained guidance counselors. Given the districts’ average salaries and benefits costs, if each district were to hire an additional counselor the cost would be an estimated \$140,000 with benefits. Also, all three districts have social workers, but two districts share a social worker. Having three discrete social workers and an additional shared social worker would be helpful. Depending upon how this was contracted, the cost would be \$150,000. All the districts already budget training, and they already budget substitutes. Personnel additions would be the biggest upfront expenses; however, these could easily be one-time costs as all three districts’ enrollments are contracting, so the districts may be able to pay for these additional personnel over time through attrition, as teachers retire and are not replaced. Although it is highly unlikely that the three districts could come to agreement to share some administrators, the districts may be able to save money by employing one curriculum director for the three districts.



**Limitations**

It cannot be overstated that this research is a study of the coronavirus pandemic's effect upon middle school student mental health. In the course of the data analysis, the researcher found that depressive symptoms and suicidal ideations had been present in these middle school populations for years. As the researcher was a superintendent from almost the beginning of the Pennsylvania Youth Survey, PAYS, the researcher had access to the earliest data, and the researcher noted that from the start of the survey there has been a concern for cyber bullying. Cyber bullying takes place online. When the researcher was an assistant principal and principal before PAYS in the early part of the twenty-first century, reports came to the office of cyber bullying through an early form of social media – Myspace. After the advent of PAYS, there is a steady escalation of reports of cyber bullying through social media and increases in depressive symptoms and suicidal ideations. This research study did not seek to investigate the link between social media and mental health. Concomitant to the rise of social media is its platform, the cellular phone, which has evolved into a handheld computer, the power of which cannot be understated. This study did not seek to investigate the link between cellular phone usage and mental health.

Due to the anonymity employed in the study, the researcher could not investigate any of the pandemic's effects particular to race or gender. Also, anonymity made it impossible to determine if the members of the minorities showing mental health effects were the same individuals. As the study was limited to PAYS, the researcher did not investigate some of the possible effects noted in the guidance counselor's interviews,

such as the effect upon additional family dynamics, the effect of the pandemic upon siblings, and effects upon student resilience.

The researcher did not attempt to determine the effect of the backlash against masking, although all the guidance counselors witnessed it as did the researcher. There were no PAYS questions specifically about parents or other adults' attitudes toward masking, and the impact of those attitudes upon students. However, it was witnessed by all that there was an extremely vocal minority that refused to wear masks, put signs on their lawns, showed up at school board meetings, intimidated school board members, and sought to demonize masking. An unfortunate byproduct of this was the alienation of that vocal minority from the majority of the school community, including the students. Given the measures the schools took which teachers and students followed only to have their actions vilified by some, the resulting animosity is understandable.

### **Future Research**

Over time there will be an increasing amount of research devoted to the coronavirus pandemic, its impact upon student academics, its impact upon mental health, and remediation strategies meant to ameliorate the academic effects and mental health effects of extended school closures. Kamenetz (2022) refers to this period as a "stolen year," which is the title of her book. Approximately 45% of Northern Dauphin County middle school students spent more time online. Kamenetz notes that the effect of increased screen time may aggravate symptoms in those predisposed to anxiety and depression and that "screen use after dark can disrupt sleep, and poor sleep can contribute to mental health problems" (273). The effect of this screen time must be studied.

Undoubtedly, there must be future research devoted to the effect of the cellular telephone on mental health and the effect of social media upon mental health.

Unfortunately, these genies have escaped the bottle. Nonetheless, research may unveil ways to limit or sanitize cellular telephone use and remove the fangs of social media. There seems to be a bipartisan political consensus coalescing around the necessity to regulate social media; however, as of this writing no one has answered the question, “How?” satisfactorily.

There must also be research attendant upon the publicizing and education about mental health to continually reduce the stigma surrounding it. It is common knowledge that the junior United States Senator from Pennsylvania, John Fetterman, voluntarily committed himself to Walter Reed National Military Medical Center for treatment of depression and underwent that treatment for six weeks. Senator Fetterman received considerable support from colleagues across the political spectrum; however, some partisans chose to attack him on specious grounds, mostly having to do with him being paid for not working. This type of shallow reaction should become moribund, and the foregrounding of the importance of mental health treatment will hopefully lead to greater acceptance of sick leave for that treatment.

Increased awareness of mental health’s importance should engender a push to train more mental health professionals as well as raising awareness among the general population. Kamenetz noted that “in 2019 there were just 8300 practicing child and adolescent psychiatrists in the United States for an estimated fifteen million children and adolescents who could have used their help” (276).

There must be greater research analyzing and defining resilience and how it may be promoted among students. Students need to be more involved in their own development; however, it was the general belief of the guidance counselors that students needed adults to guide them. The counselors felt that the main reason cyber schools and online schooling generally produced poorer results was because students in middle school were unable to self-regulate.

Finally, there must be greater study of the effectiveness of online learning. For older, self-directed learners, rigorous online learning works; however, children are generally not self-directed. There must be increased scrutiny of cyber schooling and school district online programs to gauge both achievement and mental health effects.

### **Summary**

This research study showed that the coronavirus pandemic had a demonstrated effect upon student mental health. As the middle school was originally organized to better serve early adolescents' social and emotional development as well as academics, this study indicated the necessity for greater emphasis upon mental health. Good mental health must be taught in an age-appropriate fashion to students. They must be aware of the symptoms of depression and be willing to approach the adults in their lives with their feelings and concerns. Students, staff, teachers, and administrators must receive ongoing redundant training in mental health to foreground its importance. This emphasis and training are possible in all the school districts of northern Dauphin County. Early adolescence is a time of change, and puberty can be confounding and confusing for many students. Schools can help to cushion the blows through education and assuring that caring personnel are in place who daily interact with students.

Although this research study did not address the effects of social media and the cellular telephone, the two have a decided effect upon the lives of early adolescents. The school district and personnel must offer understanding to counterbalance the malignant influences channeled through the cellular telephones from social media, particularly hypercritical views of body image and personal taste. Schools and personnel must also promote personal interactions between students and students and adults, without electronic devices. Too often electronic devices, cellular telephones particularly, have replaced personal interaction, conversation.

Schools and districts must reach out to the community and promote mental health awareness, for students and adults alike. Schools and districts must reach out to parents through school events, social media, websites, and mailings to improve not only mental health awareness but also trust. Parents and families must recognize that schools intend to help and will work with parents to help children succeed. An important component of this is promoting parents' understanding that their children's teachers and principals have no magical powers of cognition – they don't know everything a child does every day, they don't see every interaction children have with each other, and there are many things they do not know unless the children or their parents tell them.

All reasonable people must do what they can to honor the views of others; however, during the coronavirus pandemic the actions of a vocal minority opposed to masking and other strategies to combat the virus harmed community unity, cheapening the actions of the schools to limit the spread of the coronavirus and keep students and their families healthy and keep students in school. The actions of that minority need to be portrayed for what they were. Probably, that vocal minority will not change; therefore,

the majority must find a way to move on and respect the better angels of human nature, agreeing to politely disagree.

As horrible as the pandemic was in its toll of sickness, death, and effects on mental health, it is incumbent upon those who have passed through its crucible to learn from the experience and to do better. Schools, districts, communities, states, and the nation can regroup. The greatest task is to raise awareness and educate, and this is within our power.

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**Appendices**

## Appendix A

## Institutional Review Board Approval



Institutional Review Board  
250 University Avenue  
California, PA 15419  
[instreviewboard@calu.edu](mailto:instreviewboard@calu.edu)  
Melissa Sovak, Ph.D.

Dear Evan,

Please consider this email as official notification that your proposal titled “The Coronavirus Pandemic's Impact on Middle School Students' Mental Health” (Proposal #PW22-009) has been approved by the Pennsylvania Western University Institutional Review Board as submitted.

The effective date of approval is 09/08/2022 and the expiration date is 09/07/2023. 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 09/07/2023, you must file additional information to be considered for continuing review. Please contact [instreviewboard@calu.edu](mailto:instreviewboard@calu.edu)



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

**Regards,**

**Melissa Sovak, PhD.  
Chair, Institutional Review Board**

## Appendix B

### Guidance Counselor Survey

All these questions pertain to the 21-22 school year. Most follow-ups request the counselor compare 21-22 to the pre-pandemic year. Please remember to speak generally and avoid specific cases.

1. How many students did you, teachers, or administrators identify as risks for self-harm? Or were already harming themselves?
  - a. How do these numbers compare to the pre-pandemic year?
2. How many students were identified, self-identified or spotted by adults, as being depressed?
  - a. How do these numbers compare to the pre-pandemic year?
3. How many students were identified as having suicidal ideations?
  - a. How do these numbers compare to the pre-pandemic year?
4. How many students reported bullying out of school?
  - a. How do these numbers compare to the pre-pandemic year?
5. How many students reported bullying in school?
  - a. How do these numbers compare to the pre-pandemic year?
6. How many students reported getting attacked at school? In the community?
  - a. How do these numbers compare to the pre-pandemic year?
7. How many students reported attacking another person in school? Or in the community?
  - a. How do these numbers compare to the pre-pandemic year?
8. How many students reported problems at home?
  - a. How do these numbers compare to the pre-pandemic year?
9. How many students required grief counseling?
  - a. How do these numbers compare to the pre-pandemic year?
10. How many students expressed dissatisfaction with school?
  - a. How do these numbers compare to the pre-pandemic year?

11. How many students expressed worrisome thoughts specifically tied to COVID 19?
  - a. How do these numbers compare to the pre-pandemic year?
12. How many students reported they preferred online learning?
  - a. How do these numbers compare to the pre-pandemic year?
  - b. Generally, what were their reasons?

**Appendix C**

**Depressive Symptoms Statistics Tables**

**Table C1.**

*Have you felt depressed or sad most days?*

	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	32 (128)	30 (120)	23 (92)	34 (136)	32 (128)	34 (136)
no	3	16 (48)	16 (48)	12 (36)	15 (45)	16 (48)	15 (45)
yes	2	12 (24)	9 (18)	11 (22)	11 (22)	12 (24)	11 (22)
Yes!	1	5 (5)	11 (11)	6 (6)	3 (3)	5 (5)	3 (3)
Total		65 (205)	66 (197)	52 (156)	63 (206)	65 (205)	63 (206)
Mean		3.15	2.98	3	3.27	3.15	3.27

	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	14 (56)	17 (68)	17 (68)	20 (80)	14 (56)	20 (80)
no	3	8 (24)	12 (36)	12 (36)	9 (27)	8 (24)	9 (27)
yes	2	9 (18)	8 (16)	10 (20)	11 (22)	9 (18)	11 (22)
Yes!	1	6 (6)	13 (13)	2 (2)	12 (12)	6 (6)	12 (12)
Total		37 (104)	50 (133)	41 (126)	52 (141)	37 (104)	52 (141)
Mean		2.81	2.66	3.07	2.71	2.81	2.71

	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	27 (108)	26 (104)	26 (104)	21 (84)	27 (108)	21 (84)
no	3	20 (60)	13 (39)	16 (48)	16 (48)	20 (60)	16 (48)
yes	2	20 (40)	18 (36)	10 (20)	18 (36)	20 (40)	18 (36)
Yes!	1	7 (7)	25 (25)	10 (10)	7 (7)	7 (7)	7 (7)
Total		74 (215)	82 (204)	62 (182)	62 (175)	74 (215)	62 (175)
Mean		2.9	2.49	2.93	2.82	2.9	2.82

	Rating	All Respondents				Cohort	
		2019		2021		Grade 6 2019	Grade 8 2021
<b>Response</b>		Grade 6 n (nRating)	Grade 8 n (nRating)	Grade 6 n(nRating)	Grade 8 n (nRating)	n(nRating)	n(nRating)
No!	4	73 (292)	73 (292)	66 (264)	75 (300)	73 (292)	75 (300)
no	3	44 (132)	41 (123)	40 (120)	40 (120)	44 (132)	40 (120)
yes	2	41 (82)	35 (70)	31 (62)	40 (80)	41 (82)	40 (80)
Yes!	1	18 (18)	49 (49)	18 (18)	22 (22)	18 (18)	22 (22)
Total		176 (524)	198 (534)	155 (464)	177 (522)	176 (524)	177
Mean		2.98	2.7	3	2.95	2.98	2.95
% yes, Yes!		33%	42%	31.60%	35%	33%	35%

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

<sup>a</sup> In “All Respondents,” %yes, Yes! is the percentage of the total respondents responding positively to the question.

**Table C2.**

*Sometimes I think that life is not worth it.*

Response	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	40 (160)	40 (160)	31 (124)	45 (180)	40 (160)	45 (180)
no	3	15 (45)	8 (24)	5 (15)	11 (33)	15 (45)	11 (33)
yes	2	8 (16)	11 (22)	9 (18)	5 (10)	8 (16)	5 (10)
Yes!	1	2 (2)	6 (6)	6 (6)	2 (2)	2 (2)	2 (2)
Total		65 (223)	65 (212)	51 (163)	63 (225)	65 (223)	63 (225)
Mean		3.43	3.26	3.2	3.57	3.43	3.57

Response	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	23 (92)	22 (88)	25 (100)	27 (108)	23 (92)	27 (108)
no	3	7 (21)	10 (30)	10 (30)	14 (42)	7 (21)	14 (42)
yes	2	4 (8)	10 (20)	4 (8)	7 (14)	4 (8)	7 (14)
Yes!	1	3 (3)	9 (9)	3 (3)	5 (5)	3 (3)	5 (5)
Total		37 (123)	51 (147)	42 (141)	53 (169)	37 (123)	53 (169)
Mean		3.32	2.88	3.36	3.19	3.32	3.19

Response	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	42 (168)	37 (141)	28 (112)	26 (104)	42 (168)	26 (104)
no	3	16 (48)	11 (33)	14 (52)	17 (51)	16 (48)	17 (51)
yes	2	11 (22)	22 (44)	13 (26)	14 (28)	11 (22)	14 (28)
Yes!	1	5 (5)	10 (10)	6 (6)	5 (5)	5 (5)	5 (5)
Total		74 (243)	80 (228)	61 (196)	62 (188)	74 (243)	62 (188)
Mean		3.28	2.85	3.21	3.03	3.28	3.03

Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	105 (420)	99 (396)	84 (336)	98 (392)	105 (420)	98 (392)
no	3	38 (114)	29 (87)	29 (87)	42 (126)	38 (114)	42 (126)
yes	2	23 (46)	43 (86)	26 (52)	26 (52)	23 (46)	26 (52)
Yes!	1	10 (10)	25 (25)	15 (15)	12 (12)	10 (10)	12 (12)
Total		176 (590)	196 (594)	154 (490)	178 (582)	176 (590)	178 (582)
Mean		3.35	3.03	3.14	3.27	3.35	3.27
% yes, Yes!		18.75%	34.70%	26.60%	21.35%	18.75%	21.35%

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

<sup>a</sup> In “All Respondents,” %yes, Yes! is the percentage of the total respondents responding positively to the question.

**Table C3.**

*At times, I think I am no good at all.*

Response	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	31 (124)	32 (128)	25 (100)	39 (156)	31 (124)	39 (156)
no	3	15 (45)	7 (21)	7 (21)	12 (36)	15 (45)	12 (36)
yes	2	14 (28)	15 (30)	13 (26)	10 (20)	14 (28)	10 (20)
Yes!	1	5 (5)	12 (12)	7 (7)	2 (2)	5 (5)	2 (2)
Total		65 (202)	66 (191)	52 (154)	63 (214)	65 (202)	63 (214)
Mean		3.11	2.89	2.96	3.4	3.11	3.4

Response	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	16 (64)	16 (64)	22 (88)	24 (96)	16 (64)	24 (96)
no	3	7 (21)	13 (39)	9 (27)	9 (27)	7 (21)	9 (27)
yes	2	9 (18)	10 (20)	5 (10)	11 (22)	9 (18)	11 (22)
Yes!	1	6 (6)	12 (12)	6 (6)	9 (9)	6 (6)	9 (9)
Total		38 (109)	51 (135)	42 (131)	53 (154)	38 (109)	53 (154)
Mean		2.87	2.65	3.12	2.91	2.87	2.91

Response	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	25 (100)	30 (120)	26 (104)	21 (84)	25 (100)	21 (84)
no	3	25 (75)	12 (36)	11 (33)	16 (48)	25 (75)	16 (48)
yes	2	17 (34)	24 (48)	16 (32)	20 (40)	17 (34)	20 (40)
Yes!	1	7 (7)	16 (16)	9 (9)	5 (5)	7 (7)	5 (5)
Total		74 (216)	82 (220)	62 (178)	62 (177)	74 (216)	62 (177)
Mean		2.92	2.68	2.87	2.85	2.92	2.85



Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	72 (288)	78 (312)	73 (292)	84 (336)	72 (288)	84 (336)
no	3	47 (141)	32 (96)	27 (81)	37 (111)	47 (141)	37 (111)
yes	2	40 (80)	49 (98)	34 (68)	41 (82)	40 (80)	41 (82)
Yes!	1	18 (18)	40 (40)	22 (22)	16 (16)	18 (18)	16 (16)
Total		177 (527)	199 (546)	156 (463)	178 (545)	177 (527)	178 (545)
Mean		2.98	2.74	2.97	3.06	2.98	3.06
% yes, Yes!		32.77%	44.72%	35.90%	32.02%	32.77%	32.02%

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

<sup>a</sup> In “All Respondents,” %yes, Yes! is the percentage of the total respondents responding positively to the question.

**Table C4.**

*All in all, I am inclined to think I am a failure.*

Response	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	40 (160)	35 (140)	30 (120)	44 (176)	40 (160)	44 (176)
no	3	18 (52)	9 (27)	5 (15)	14 (42)	18 (52)	14 (42)
yes	2	6 (12)	11 (22)	12 (24)	3 (6)	6 (12)	3 (6)
Yes!	1	2 (2)	11 (11)	4 (4)	2 (2)	2 (2)	2 (2)
Total		66 (226)	66 (200)	51 (163)	63 (226)	66 (226)	63 (226)
Mean		3.42	3.03	3.2	3.59	3.42	3.59

Response	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	24 (96)	24 (96)	23 (92)	27 (108)	24 (96)	27 (108)
no	3	6 (18)	11 (33)	11 (33)	11 (33)	6 (18)	11 (33)
yes	2	4 (8)	10 (20)	6 (12)	7 (14)	4 (8)	7 (14)
Yes!	1	4 (4)	6 (6)	1 (1)	8 (8)	4 (4)	8 (8)
Total		38 (126)	51 (155)	41 (138)	53 (163)	38 (126)	53 (163)
Mean		3.32	3.04	3.37	3.07	3.32	3.07

Response	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	37 (148)	36 (144)	30 (120)	28 (112)	37 (148)	28 (112)
no	3	24 (72)	19 (57)	16 (48)	21 (63)	24 (72)	21 (63)
yes	2	7 (14)	13 (34)	8 (16)	8 (16)	7 (14)	8 (16)
Yes!	1	5 (5)	9 (9)	8 (8)	5 (5)	5 (5)	5 (5)
Total		73 (239)	81 (244)	62 (192)	62 (196)	73 (239)	62 (196)
Mean		3.27	3.01	3.1	3.16	3.27	3.16

	Rating	All Respondents				Cohort	
		2019		2021		Grade 6 2019	Grade 8 2021
<b>Response</b>		Grade 6 n (nRating)	Grade 8 n (nRating)	Grade 6 n(nRating)	Grade 8 n (nRating)	n(nRating)	n(nRating)
No!	4	101 (404)	95 (380)	83 (332)	99 (396)	101 (404)	99 (396)
no	3	48 (142)	39 (116)	32 (96)	46 (138)	48 (142)	46 (138)
yes	2	17 (34)	34 (68)	26 (52)	18 (36)	17 (34)	18 (36)
Yes!	1	11 (11)	26 (26)	13 (13)	15 (15)	11 (11)	15 (15)
Total		177 (591)	194 (590)	154 (493)	178 (585)	177 (591)	178 (585)
Mean		3.34	3.04	3.2	3.29	3.34	3.29
% yes, Yes!		15.82%	30.93%	25.32%	18.54%	15.82%	18.54%

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

<sup>a</sup> In “All Respondents,” %yes, Yes! is the percentage of the total respondents responding positively to the question.

**Appendix D**

**Bullying Statistics Tables**

**Table D1**

**Internet and Social Media Bullying**

	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	46 (184)	38 (152)	37 (148)	40 (160)	46 (184)	40 (160)
no	3	6 (18)	16 (48)	6 (18)	12 (36)	6 (18)	12 (36)
yes	2	9 (18)	10 (20)	5 (10)	9 (18)	9 (18)	9 (18)
Yes!	1	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)
Total		64 (223)	67 (223)	51 (179)	64 (217)	64 (223)	64 (217)
Mean		3.48	3.33	3.51	3.39	3.48	3.39

	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	14 (56)	19 (76)	21 (84)	31 (124)	14 (56)	31 (124)
no	3	4 (12)	8 (24)	11 (33)	15 (45)	4 (12)	15 (45)
yes	2	4 (8)	8 (16)	5 (10)	6 (12)	4 (8)	6 (12)
Yes!	1	1 (1)	0	2 (2)	1 (1)	1 (1)	1 (1)
Total		23 (77)	35 (116)	39 (129)	53 (182)	23 (77)	53 (182)
Mean		3.35	3.31	3.31	3.43	3.35	3.43

	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	29 (116)	23 (92)	28 (112)	33 (132)	29 (116)	33 (132)
no	3	12 (36)	13 (39)	18 (54)	17 (51)	12 (36)	17 (51)
yes	2	6 (12)	12 (24)	12 (24)	10 (20)	6 (12)	10 (20)
Yes!	1	1 (1)	7 (7)	6 (6)	4 (4)	1 (1)	4 (4)
Total		48 (165)	55 (162)	64 (196)	64 (207)	48 (165)	64 (207)
Mean		3.44	2.94	3.06	3.23	3.44	3.23

	Rating	All Respondents				Cohort	
		2019		2021		Grade 6 2019	Grade 8 2021
<b>Response</b>		Grade 6 n (nRating)	Grade 8 n (nRating)	Grade 6 n(nRating)	Grade 8 n (nRating)	n(nRating)	n(nRating)
No!	4	89 (356)	80 (320)	86 (344)	104 (416)	89 (356)	104 (416)
no	3	22 (66)	37 (111)	35 (105)	44 (132)	22 (66)	44 (132)
yes	2	19 (38)	30 (60)	22 (44)	25 (50)	19 (38)	25 (50)
Yes!	1	5 (5)	10 (10)	11 (11)	8 (8)	5 (5)	8 (8)
Total		135 (465)	157 (501)	154 (504)	181 (606)	135 (465)	181 (606)
Mean		3.44	3.19	3.27	3.35	3.44	3.35

*Note.* The question asked was as follows: “During the last 12 months, have you been bullied through texting and social media?” The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

**Table D2.**

**Where were you bullied?**

Response	HAMS				Cohort	
	2019		2021		Grade 6	Grade 8
	Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
	n, %	n, %	n, %	n, %	n, %	n, %
I was not bullied.	37, 54%	36, 43%	31, 56.4%	44, 55.7%	37, 54%	44, 55.7%
On school property	22, 32%	28, 33.7%	15, 27.3%	18, 22.8%	22, 32%	18, 22.8%
At a school event	0	5, 4%	2, 3.6%	2, 2.5%	0	2, 2.5%
Going to or from	1, 1.4%	5, 4%	0	3, 3.8%	1, 1.4%	3, 3.8%
In the community	4, 5.9%	3, 3.6%	2, 3.6%	5, 6.3%	4, 5.9%	5, 6.3%
At home	4, 5.9%	6, 7.2%	5, 9.1%	7, 8.8%	4, 5.9%	7, 8.8%
Total	68	83	55	79	68	79

Response	MAMS				Cohort	
	2019		2021		Grade 6	Grade 8
	Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
	n, %	n, %	n, %	n, %	n, %	n, %
I was not bullied.	13, 52%	23, 56%	30, 68.2%	44, 80%	13, 52%	44, 80%
On school property	6, 24%	10, 24.4%	5, 11.4%	7, 12.7%	6, 24%	7, 12.7%
At a school event	1, 4%	1, 2.4%	1, 2.3%	0	1, 4%	0
Going to or from	0	1, 2.4%	4.60%	0	0	0
In the community	2, 8%	2, 4.9%	0	1, 1.8%	2, 8%	1, 1.8%
At home	3, 12%	4, 9.8%	6, 13.6%	3, 5.4%	3, 12%	3, 5.4%
Total	25	41	44	55	25	55

Response	UDAMS				Cohort	
	2019		2021		Grade 6	Grade 8
	Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
	n, %	n, %	n, %	n, %	n, %	n, %
I was not bullied.	36, 72%	24, 33.8%	44, 61.1%	42, 59.1	36, 72%	42, 59.1%
On school property	9, 18%	26, 36.6%	12, 16.7%	14, 19.7	9, 18%	14, 19.7%
At a school event	1, 2%	4, 5.6%	0	0	1, 2%	0
Going to or from	3, 6%	3, 4.2%	4, 5.6%	4, 5.6%	3, 6%	4, 5.6%
In the community	0	8, 11.3%	6, 8.3%	4, 5.6%	0	4, 5.6%
At home	1, 2%	6, 8.4%	6, 8.3%	7, 9.9%	1, 2%	7, 9.9%
Total	50	71	72	71	50	71

Response	All Respondents				Cohort	
	2019		2021		Grade 6	Grade 8
	Grade 6 n, %	Grade 8 n, %	Grade 6 n, %	Grade 8 n, %	2019 n, %	2021 n, %
I was not bullied.	86, 60.1%	83, 44.4%	105, 61.4%	130, 63.4%	86, 60.1%	130, 63.4%
On school property	37, 25.9%	64, 34.2%	32, 18.7%	39, 19%	37, 25.9%	39, 19%
At a school event	2, 1.4%	10, 5.3%	3, 1.7%	2, .97%	2, 1.4%	2, .97%
Going to or from	4, 2.8%	9, 4.8%	6, 3.5%	7, 3.4%	4, 2.8%	7, 3.4%
In the community	6, 4.2%	13, 6.9%	8, 4.7%	10, 4.9%	6, 4.2%	10, 4.9%
At home	8, 5.6%	8, 4.3%	17, 9.9%	17, 8.3%	8, 5.6%	17, 8.3%
Total	143	187	171	205	143	205

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

**Appendix E**

**Moral Order Statistics Tables**

**Table E1.**

*I think it is okay to take something without asking as long as you get away with it.*

	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	52 (208)	45 (180)	41 (164)	49 (196)	52 (208)	49 (196)
no	3	6 (18)	19 (57)	8 (24)	10 (30)	6 (18)	10 (30)
yes	2	0	2 (4)	1 (2)	0	0	0
Yes!	1	0	0	0	0	0	0
Total		58 (226)	49 (241)	50 (190)	59 (226)	58 (226)	59 (226)
Mean		3.89	3.77	3.8	3.83	3.89	3.83

	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	30 (120)	30 (120)	30 (120)	32 (128)	30 (120)	49 (196)
no	3	6 (18)	18 (54)	8 (24)	18 (54)	6 (18)	10 (30)
yes	2	0	1 (2)	1 (2)	1 (2)	0	0
Yes!	1	0	0	0	0	0	0
Total		36 (138)	49 (176)	39 (146)	51 (184)	36 (138)	59 (226)
Mean		3.83	3.59	3.74	3.61	3.83	3.83

	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	65 (260)	61 (244)	47 (188)	42 (168)	65 (260)	42 (168)
no	3	7 (21)	20 (60)	11 (33)	17 (51)	7 (21)	17 (51)
yes	2	1 (2)	2 (4)	2 (4)	2 (4)	1 (2)	2 (4)
Yes!	1	0	0	1 (1)	0	0	0
Total		73 (283)	83 (308)	61 (226)	61 (223)	73 (283)	61 (223)
Mean		3.88	3.71	3.7	3.66	3.88	3.66



Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	147 (588)	136 (544)	118 (472)	123 (492)	147 (588)	123 (492)
no	3	19 (57)	57 (171)	27 (81)	45 (135)	19 (57)	45 (135)
yes	2	1 (2)	5 (10)	4 (2)	3 (6)	1 (2)	3 (6)
Yes!	1	0	0	1 (1)	0	0	0
Total		167 (647)	198 (725)	150 (556)	171 (627)	167 (647)	171 (627)
Mean		3.87	3.66	3.71	3.67	3.87	3.67

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

**Table E2.**

**It is alright to beat people up if they start the fight.**

Response	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	35 (140)	26 (104)	26 (104)	35 (140)	35 (140)	35 (140)
no	3	13 (39)	15 (45)	17 (51)	12 (36)	13 (39)	12 (36)
yes	2	5 (10)	14 (28)	6 (12)	9 (18)	5 (10)	9 (18)
Yes!	1	4 (4)	11 (11)	1 (1)	2 (2)	4 (4)	2 (2)
Total		57 (193)	66 (188)	50 (168)	58 (196)	57 (193)	58 (196)
Mean		3.39	2.85	3.36	3.38	3.39	3.38

Response	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	17 (68)	14 (56)	23 (92)	11 (44)	17 (68)	11 (44)
no	3	10 (30)	14 (42)	9 (27)	21 (63)	10 (30)	21 (63)
yes	2	5 (10)	11 (22)	4 (8)	14 (28)	5 (10)	14 (28)
Yes!	1	2 (2)	9 (9)	3 (3)	4 (4)	2 (2)	4 (4)
Total		34 (110)	48 (129)	39 (130)	50 (139)	34 (110)	50 (139)
Mean		3.23	2.69	3.33	2.78	3.23	2.78

Response	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	43 (172)	17 (68)	23 (92)	27 (108)	43 (172)	27 (108)
no	3	17 (51)	28 (84)	17 (51)	13 (39)	17 (51)	13 (39)
yes	2	10 (20)	26 (52)	12 (24)	15 (30)	10 (20)	15 (30)
Yes!	1	3 (3)	12 (12)	9 (9)	6 (6)	3 (3)	6 (6)
Total		73 (246)	83 (216)	61 (176)	61 (183)	73 (246)	61 (183)
Mean		3.37	2.6	2.88	3	3.37	3

Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	95 (380)	57 (228)	72 (288)	73 (292)	95 (380)	73 (292)
no	3	40 (120)	57 (171)	43 (129)	46 (138)	40 (120)	46 (138)
yes	2	20 (40)	51 (102)	22 (44)	38 (76)	20 (40)	38 (76)
Yes!	1	9 (9)	32 (32)	13 (13)	12 (12)	9 (9)	12 (12)
Total		164 (549)	197 (533)	150 (474)	169 (518)	164 (549)	169 (518)
Mean		3.35	2.71	3.16	3.06	3.35	3.06

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

**Table E3.**

*I think sometimes it's OK to cheat at school.*

Response	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	47 (188)	34 (136)	39 (156)	44 (176)	47 (188)	44 (176)
no	3	10 (30)	19 (57)	10 (30)	15 (45)	10 (30)	15 (45)
yes	2	1 (2)	11 (22)	1 (2)	0	1 (2)	0
Yes!	1	0	1 (2)	0	0	0	0
Total		58 (220)	65 (217)	50 (188)	59 (221)	58 (220)	59 (221)
Mean		3.79	3.34	3.76	3.75	3.79	3.75

Response	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	26 (104)	24 (96)	31 (124)	26 (109)	26 (104)	26 (109)
no	3	8 (24)	18 (54)	8 (24)	19 (57)	8 (24)	19 (57)
yes	2	1 (2)	7 (14)	0	6 (12)	1 (2)	6 (12)
Yes!	1	0	0	0	0	0	0
Total		35 (130)	49 (164)	39 (148)	51 (178)	35 (130)	51 (178)
Mean		3.71	3.35	3.79	3.49	3.71	3.49

Response	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	51 (204)	43 (172)	34 (136)	37 (148)	51 (204)	37 (148)
no	3	15 (45)	29 (87)	21 (63)	15 (45)	15 (45)	15 (45)
yes	2	3 (6)	10 (20)	5 (10)	9 (18)	3 (6)	9 (18)
Yes!	1	0	0	1 (1)	0	0	0
Total		69 (255)	82 (279)	61 (210)	61 (211)	69 (255)	61 (211)
Mean		3.7	3.4	3.44	3.46	3.7	3.46

Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6 2019	Grade 8 2021
		Grade 6	Grade 8	Grade 6	Grade 8		
n (nRating)	n (nRating)	n (nRating)	n (nRating)	n (nRating)	n(nRating)	n(nRating)	
No!	4	124 (496)	101(404)	104 (416)	107 (428)	124 (496)	107 (428)
no	3	33 (99)	66 (198)	39 (116)	49 (147)	33 (99)	49 (147)
yes	2	5 (10)	28 (56)	6 (12)	15 (30)	5 (10)	15 (30)
Yes!	1	0	1 (1)	1 (1)	0	0	0
Total		162 (605)	196 (659)	150 (545)	171 (605)	162 (605)	171 (605)
Mean		3.73	3.36	3.63	3.54	3.73	3.54

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

**Table E4.**

*It is important to be honest with your parents, even if they become upset or you get punished.*

Response	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Yes!	4	34 (136)	18 (72)	22 (88)	17 (68)	34 (136)	17 (68)
yes	3	12 (36)	21 (63)	10 (30)	19 (57)	12 (36)	19 (57)
no	2	2 (4)	7 (14)	2 (4)	4 (8)	2 (4)	4 (8)
No!	1	10 (10)	19 (19)	16 (16)	19 (19)	10 (10)	19 (19)
Total		58 (186)	65 (168)	50 (138)	59 (152)	58 (186)	59 (152)
Mean		3.21	2.58	2.76	2.58	3.21	2.58

Response	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Yes!	4	20 (80)	20 (80)	22 (88)	18 (72)	20 (80)	18 (72)
yes	3	8 (24)	21 (63)	13 (39)	17 (51)	8 (24)	17 (51)
no	2	1 (2)	2 (4)	0	4 (8)	1 (2)	4 (8)
No!	1	3 (3)	5 (5)	4 (4)	9 (9)	3 (3)	9 (9)
Total		32 (111)	48 (152)	39 (131)	48 (140)	32 (111)	48 (140)
Mean		3.47	3.17	3.36	2.97	3.47	2.97

Response	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Yes!	4	45 (180)	42 (168)	30 (120)	33 (132)	45 (180)	33 (132)
yes	3	13 (39)	35 (105)	14 (42)	15 (45)	13 (39)	15 (45)
no	2	3 (6)	2 (4)	6 (12)	6 (12)	3 (6)	6 (12)
No!	1	9 (9)	3 (3)	10 (10)	7 (7)	9 (9)	7 (7)
Total		70 (234)	82 (280)	60 (184)	61 (196)	70 (234)	61 (196)
Mean		3.34	3.41	3.07	3.21	3.34	3.21

Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Yes!	4	99 (396)	80 (320)	74 (296)	68 (272)	99 (396)	68 (272)
yes	3	33 (99)	77 (231)	37 (111)	51 (153)	33 (99)	51 (153)
no	2	6 (12)	11 (22)	8 (16)	14 (28)	6 (12)	14 (28)
No!	1	22 (22)	27 (27)	30 (30)	35 (35)	22 (22)	35 (35)
Total		160	195 (600)	149 (453)	168 (488)	160	168 (488)
Mean		3.31	3.08	3.04	2.9	3.31	2.9

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

**Appendix F**

**Religiosity Statistics Table**

*How often do you attend religious services or activities?*

Response	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Weekly, plus	4	26 (104)	32 (128)	15 (60)	19 (76)	26 (104)	19 (76)
1-2 a month	3	10 (30)	9 (27)	7 (21)	9 (27)	10 (30)	9 (27)
Rarely	2	15 (30)	11 (22)	11 (22)	17 (34)	15 (30)	17 (34)
Never	1	11 (11)	13 (13)	18 (18)	17 (17)	11 (11)	17 (17)
Total		62 (175)	65 (190)	51 (121)	62 (154)	62 (175)	62 (154)
Mean		2.82	2.92	2.37	2.48	2.82	2.48

Response	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Weekly, plus	4	13 (52)	19 (76)	7 (28)	15 (60)	13 (52)	15 (60)
1-2 a month	3	7 (21)	8 (24)	5 (15)	6 (18)	7 (21)	6 (18)
Rarely	2	7 (14)	12 (24)	17 (34)	15 (30)	7 (14)	15 (30)
Never	1	8 (8)	12 (12)	11 (11)	17 (17)	8 (8)	17 (17)
Total		35 (95)	51 (136)	40 (88)	53 (125)	35 (95)	53 (125)
Mean		2.71	2.67	2.2	2.36	2.71	2.36

Response	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Weekly, plus	4	15 (60)	29 (116)	19 (76)	16 (64)	15 (60)	16 (64)
1-2 a month	3	9 (27)	7 (21)	8 (24)	5 (15)	9 (27)	5 (15)
Rarely	2	17 (34)	32 (64)	18 (36)	24 (48)	17 (34)	24 (48)
Never	1	28 (28)	14 (14)	16 (16)	17 (17)	28 (28)	17 (17)
Total		69 (149)	82 (215)	61 (152)	62 (144)	69 (149)	62 (144)
Mean		2.16	2.62	2.49	2.32	2.16	2.32



Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Weekly, plus	4	54 (216)	80 (320)	41(164)	50 (200)	54 (216)	50 (200)
1-2 a month	3	26 (78)	24 (72)	20 (60)	20 (60)	26 (78)	20 (60)
Rarely	2	39 (78)	55 (110)	46 (92)	56 (112)	39 (78)	56 (112)
Never	1	47 (47)	39 (39)	45 (45)	51 (51)	47 (47)	51 (51)
Total		166 (419)	198 (541)	152 (361)	177 (423)	166 (419)	177 (423)
Mean		2.52	2.73	2.37	2.39	2.52	2.39

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

**Appendix G**

**Neighborhood Attachment Tables**

**Table G1.**

*I like my neighborhood.*

	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Yes!	4	25 (100)	18 (72)	24 (96)	20 (80)	25 (100)	20 (80)
yes	3	23 (69)	32 (96)	19 (57)	32 (96)	23 (69)	32 (96)
no	2	10 (20)	7 (14)	4 (8)	10 (20)	10 (20)	10 (20)
No!	1	3 (3)	7 (7)	5 (5)	2 (2)	3 (3)	2 (2)
Total		61 (192)	64 (199)	52 (166)	64 (198)	61 (192)	64 (198)
Mean		3.15	3.11	3.19	3.09	3.15	3.09

	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Yes!	4	11 (44)	15 (60)	14 (56)	16 (64)	11 (44)	16 (64)
yes	3	17 (51)	28 (54)	18 (54)	26 (78)	17 (51)	26 (78)
no	2	4 (8)	4 (8)	4 (8)	7 (14)	4 (8)	7 (14)
No!	1	5 (5)	4 (4)	1 (1)	4 (4)	5 (5)	4 (4)
Total		37 (108)	37 (126)	37 (119)	53 (160)	37 (108)	53 (160)
Mean		2.92	2.47	3.21	3.02	2.92	3.02

	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Yes!	4	31 (124)	24 (96)	31 (124)	16 (64)	31 (124)	16 (64)
yes	3	35 (105)	34 (102)	15 (45)	31 (93)	35 (105)	31 (93)
no	2	6 (12)	15 (30)	6 (12)	11 (22)	6 (12)	11 (22)
No!	1	0	4 (4)	6 (6)	3 (3)	0	3 (3)
Total		72 (241)	77 (232)	58 (181)	61 (182)	72 (241)	61 (182)
Mean		3.35	3.01	3.22	2.98	3.35	2.98

Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
Yes!	4	67 (268)	56 (224)	69 (276)	52 (208)	67 (268)	52 (208)
yes	3	75 (225)	94 (282)	52 (156)	89 (267)	75 (225)	89 (267)
no	2	20 (40)	26 (52)	14 (28)	28 (56)	20 (40)	28 (56)
No!	1	8 (8)	15 (15)	12 (12)	9 (9)	8 (8)	9 (9)
Total		170 (521)	191 (573)	147 (472)	178 (540)	170 (521)	178 (540)
Mean		3.06	3	3.21	3.03	3.06	3.03

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

**Table G2.**

*I'd like to get out of my neighborhood.*

Response	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	29 (116)	25 (100)	29 (116)	27 (108)	29 (116)	27 (108)
no	3	15 (45)	24 (72)	12 (36)	26 (78)	15 (45)	26 (78)
yes	2	7 (14)	8 (16)	8 (16)	9 (18)	7 (14)	9 (18)
Yes!	1	7 (7)	7 (7)	2 (2)	2 (2)	7 (7)	2 (2)
Total		58 (182)	63 (195)	51 (170)	64 (206)	58 (182)	64 (206)
Mean		3.14	3.09	3.33	3.22	3.14	3.22

Response	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	13 (52)	14 (56)	17 (68)	24 (96)	13 (52)	24 (96)
no	3	14 (42)	23 (69)	12 (36)	19 (57)	14 (42)	19 (57)
yes	2	7 (14)	9 (18)	4 (8)	6 (12)	7 (14)	6 (12)
Yes!	1	3 (3)	6 (6)	3 (3)	4 (4)	3 (3)	4 (4)
Total		37 (111)	52 (149)	36 (115)	53 (169)	37 (111)	53 (169)
Mean		3	2.86	3.19	3.19	3	3.19

Response	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	30 (120)	30 (120)	29 (116)	23 (92)	30 (120)	23 (92)
no	3	27 (81)	19 (57)	14 (42)	21 (63)	27 (81)	21 (63)
yes	2	10 (20)	17 (34)	7 (14)	13 (26)	10 (20)	13 (26)
Yes!	1	5 (5)	11 (11)	8 (8)	4 (4)	5 (5)	4 (4)
Total		72 (226)	77 (222)	58 (180)	61 (185)	72 (226)	61 (185)
Mean		3.14	2.88	3.1	3.03	3.14	3.03

Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	72 (288)	69 (276)	75 (300)	74 (296)	72 (288)	74 (296)
no	3	56 (168)	66 (198)	38 (114)	66 (193)	56 (168)	66 (193)
yes	2	24 (48)	34 (68)	19 (38)	28 (56)	24 (48)	28 (56)
Yes!	1	15 (15)	24 (24)	13 (13)	10 (10)	15 (15)	10 (10)
Total		167 (519)	193 (566)	145 (465)	178 (555)	167 (519)	178 (555)
Mean		3.11	2.93	3.21	3.12	3.11	3.12

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

**Appendix H**

**Family Conflict Statistics Tables**

**Table H1.**

*People in my family have serious arguments.*

	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	36 (144)	27 (108)	31 (124)	34 (136)	36 (144)	34 (136)
no	3	15 (45)	21 (63)	13 (39)	23 (69)	15 (45)	23 (69)
yes	2	2 (4)	9 (18)	6 (12)	5 (10)	2 (4)	5 (10)
Yes!	1	4 (4)	7 (7)	0	2 (2)	4 (4)	2 (2)
Total		57 (197)	64 (196)	50 (175)	64 (217)	57 (197)	64 (217)
Mean		3.46	3.06	3.5	3.39	3.46	3.39

	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	13 (52)	25 (100)	16 (64)	21 (84)	13 (52)	21 (84)
no	3	16 (48)	12 (36)	18 (54)	21 (63)	16 (48)	21 (63)
yes	2	7 (14)	6 (12)	4 (8)	10 (20)	7 (14)	10 (20)
Yes!	1	2 (2)	8 (8)	1 (1)	1 (1)	2 (2)	1 (1)
Total		38 (116)	51 (156)	39 (127)	53 (168)	38 (116)	53 (168)
Mean		3.05	3.06	3.26	3.17	3.05	3.17

	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
<b>Response</b>		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	22 (88)	23 (92)	17 (68)	30 (120)	22 (88)	30 (120)
no	3	35 (105)	25 (75)	25 (75)	19 (57)	35 (105)	19 (57)
yes	2	9 (18)	18 (36)	12 (24)	9 (18)	9 (18)	9 (18)
Yes!	1	4 (4)	9 (9)	6 (6)	4 (4)	4 (4)	4 (4)
Total		68 (215)	75 (212)	60 (173)	62 (199)	68 (215)	62 (199)
Mean		3.16	2.83	2.88	3.21	3.16	3.21

Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	71 (284)	75 (300)	64 (256)	85 (340)	71 (284)	85 (340)
no	3	66 (198)	58 (174)	56 (168)	63 (189)	66 (198)	63 (189)
yes	2	18 (36)	33 (66)	22 (44)	24 (48)	18 (36)	24 (48)
Yes!	1	15 (15)	24 (24)	7 (7)	7 (7)	15 (15)	7 (7)
Total		170 (533)	190 (564)	149 (475)	179 (584)	170 (533)	179 (584)
Mean		3.13	2.96	3.19	3.26	3.13	3.26

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

**Table H2.**

*People in my family often insult or yell at each other.*

Response	Rating	HAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	25 (100)	21 (84)	18 (72)	30 (120)	25 (100)	30 (120)
no	3	23 (69)	21 (63)	22 (66)	21 (63)	23 (69)	21 (63)
yes	2	6 (12)	10 (20)	9 (18)	10 (20)	6 (12)	10 (20)
Yes!	1	3 (3)	11 (11)	1 (1)	2 (2)	3 (3)	2 (2)
Total		57 (184)	63 (178)	50 (157)	63 (205)	57 (184)	63 (205)
Mean		3.23	2.82	3.14	3.25	3.23	3.25

Response	Rating	MAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	11 (44)	14 (56)	18 (72)	18 (72)	11 (44)	18 (72)
no	3	16 (48)	20 (60)	14 (42)	26 (78)	16 (48)	26 (78)
yes	2	7 (14)	9 (18)	5 (10)	4 (8)	7 (14)	4 (8)
Yes!	1	4 (4)	8 (8)	2 (2)	5 (5)	4 (4)	5 (5)
Total		38 (110)	51 (142)	39 (126)	53 (163)	38 (110)	53 (163)
Mean		2.89	2.78	3.23	3.07	2.89	3.07

Response	Rating	UDAMS				Cohort	
		2019		2021		Grade 6	Grade 8
		Grade 6	Grade 8	Grade 6	Grade 8	2019	2021
		n (nRating)	n (nRating)	n(nRating)	n (nRating)	n(nRating)	n(nRating)
No!	4	17 (68)	21 (84)	19 (76)	20 (80)	17 (68)	20 (80)
no	3	33 (99)	32 (96)	22 (66)	23 (69)	33 (99)	23 (69)
yes	2	13 (26)	13 (26)	9 (18)	18 (36)	13 (26)	18 (36)
Yes!	1	6 (6)	12 (12)	9 (9)	2 (2)	6 (6)	2 (2)
Total		69 (199)	78 (218)	60 (169)	63 (187)	69 (199)	63 (187)
Mean		2.88	2.78	2.82	2.96	2.88	2.96



Response	Rating	All Respondents				Cohort	
		2019		2021		Grade 6 2019	Grade 8 2021
		Grade 6	Grade 8	Grade 6	Grade 8		
n (nRating)	n (nRating)	n (nRating)	n (nRating)	n (nRating)	n(nRating)	n(nRating)	
No!	4	53 (212)	56 (224)	55 (220)	68 (272)	53 (212)	68 (272)
no	3	72 (216)	73 (219)	58 (174)	70 (210)	72 (216)	70 (210)
yes	2	26 (52)	32 (64)	23 (46)	32 (64)	26 (52)	32 (64)
Yes!	1	13 (13)	31 (31)	12 (12)	9 (9)	13 (13)	9 (9)
Total		164 (493)	192 (538)	148 (452)	179 (560)	164 (493)	179 (560)
Mean		3	2.8	3.05	3.13	3	3.13

*Note.* The abbreviations used for the schools are as follows: HAMS is Halifax Area Middle School, MAMS is Millersburg Area Middle School, and UDAMS is Upper Dauphin Area Middle School.

