

*“The arc of the moral universe is long, but it bends toward Justice.”*

- Rev. Dr. Martin Luther King, Jr.



# LEHIGH VALLEY JUSTICE INSTITUTE

## *Report*

## Mental Health Needs Assessment

Lehigh Valley Middle and High Schools

*November 15, 2022*

# Foreword

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The Lehigh Valley Justice Institute presents this Mental Health Needs Assessment for our local schools to promote public awareness of the magnitude of the issue and the urgent need for all community resources to be brought to bear on a matter which quite literally is the future of our Valley.

LVJI's mission is to research issues related to the criminal justice system here in Lehigh and Northampton counties. In our study of juvenile justice issues, we were interested in finding ways to curtail what has become known as the "School to Prison Pipeline." This refers to the criminalization of behaviors which in an earlier time were dealt with as internal school disciplinary issues. By branding young people as criminals, we set them up for failure and a justice involved life.

LVJI seeks local solutions to our justice related challenges. We do not want to wait for state or local action. One such local solution is the Wellness Center at Liberty High School, in Bethlehem. This groundbreaking initiative by Dr. Harrison Bailey, III, Principal at Liberty, proactively addresses issues before they have the chance to become security problems for the school. None of this is to suggest that we don't need a traditional security function in our schools. National headlines every day demonstrate the need for properly trained security officers who understand the needs of our youth.

While LVJI's focus is on fostering local solutions, we believe that solutions which are developed here in the Lehigh Valley can be a model for communities throughout the nation. The reason is simple – the Lehigh Valley is a microcosm of the nation: We have urban, suburban and rural constituencies. We are the "swing" area of the "swing" state in national elections. If a solution shows results here, it should work in many other communities.

To craft a truly local solution, we need all hands on deck in the Lehigh Valley. In particular, we need the medical community, including local hospitals and practice groups, to provide increased services for our school students. We need educational institutions to train more professionals to provide those services. We hope that this report serves as a call to action. We thank the many organizations who assisted in our study, not just for their assistance, but also for their tireless efforts, every day, to address this crisis.

- **Joseph E. Welsh**  
**Executive Director**



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# Mental Health Needs Assessment

Lehigh Valley Middle and High Schools

*Lehigh Valley Justice Institute  
Tuesday, November 15, 2022*

## Background

### A National Crisis

Children are our nation's future leaders, teachers, doctors, engineers, and social workers. The potential of our nation is only as strong and healthy as we raise our children. We do our best to prepare them for the future, give them the skills and knowledge they need to succeed, break barriers, and protect them from adversity. But right now, our kids are struggling. They need help, and they have been begging for it. Youth in America are weathering an escalating mental health crisis so severe that child healthcare organizations like the American Academy of Pediatrics and the Children's Hospital Association are calling it a "mental health state of emergency."<sup>1</sup>

One in four or five children will have a mental disorder at some point during their lifetimes.<sup>2</sup> This equates to 10 million children nationwide.<sup>3</sup> At some time in their lives, one in three (31.9%) adolescents will have an anxiety disorder, one in seven (14.3%) will have a mood disorder (including depression), one in five (19.6%) will have a behavior disorder (including ADHD), and one in nine (11.4%) will have a substance abuse disorder.<sup>2</sup> A national study by the U.S. Department of Health and Human Services estimates that at any given time, one in thirteen children aged 3-17 (7.8%) have anxiety, one in 23 (4.4%) have depression, and one in fourteen (7.0%) have a behavior disorder.<sup>4</sup> These conditions are often comorbid, meaning they occur together.<sup>2</sup>

The mental health crisis does not start with a clinical diagnosis. Intense but undiagnosed feelings of despondency, hopelessness, worry, and inadequacy in youth are rampant and growing. Internalizing behaviors like anxiety, depression, and suicidal ideation are becoming more prevalent.<sup>5</sup> While one in 23 children have depression, one in seven (15.1%) children aged 12-17 reported experiencing at least one major depressive episode in 2018-2019.<sup>4</sup> This is double the rate in 2009.<sup>6</sup> One in three (36.7%) high school students reported experiencing persistent feelings of sadness and hopelessness, a 41% increase since 2009.<sup>7</sup> Child emergency room visits due to self-harm more than quadrupled (329% increase) between 2007 and 2016.<sup>6</sup>

## ABSTRACT

With depression, anxiety, and other mental health conditions in youth on the rise nationally, the Lehigh Valley Justice Institute seeks to quantify the current mental health situation of Lehigh Valley adolescents.

Using data from the Pennsylvania Youth Survey (PAYS) and Student Assistance Program (SAP), we investigate the prevalence and interrelation of depression symptoms and SAP referrals of the state, Lehigh and Northampton Counties, and some of their school districts.

We spotlight Liberty High School in Bethlehem Area School District, led by principal Dr. Harrison Bailey, which employs a proactive approach to mental health services.

This project aims to add to the current discussion, call attention to the epidemic that permeates every corner of the United States, and advocate for increasing or reorganizing mental health relief efforts.



The COVID-19 pandemic exacerbated these already alarming trends. Rates of anxiety and depression symptoms in youth increased even more dramatically since the pandemic broke out.<sup>8,9</sup> A poll conducted on behalf of the National Alliance of Mental Illness (NAMI) found that 53% of children aged 12-17 felt lonelier and 41% felt more depressed experiencing virtual education during the pandemic.<sup>10</sup> These feelings culminated in surges in child emergency room visits for mental health issues from 2019 to 2020. Visits increased by 24% for those aged 5-11 and by 31% for those aged 12-17.<sup>6</sup> Figure 1 shows these trends.

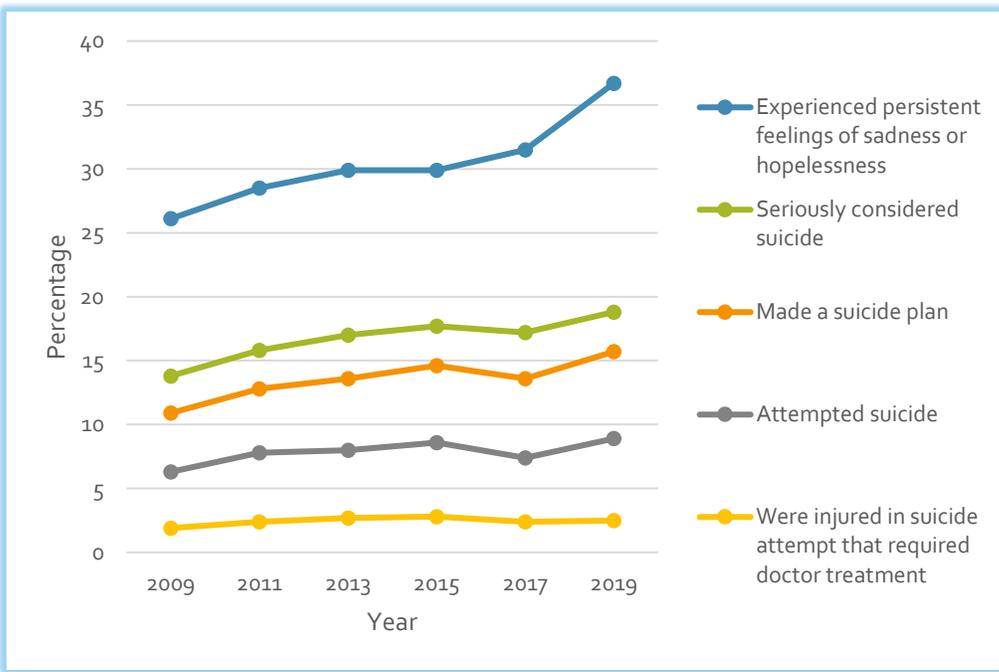


Figure 1: National trends in depression symptoms and suicide rates. Reproduced from the Centers for Disease Control and Prevention’s Youth Risk Behavior Survey Data Summary and Trends Report 2009-2019.<sup>7</sup>

Mental health issues can result in catastrophic, irreversible, and lethal harm to our children and their futures. Mental health issues not only often result in a lower quality of life, but these troubles can also interfere with their academic, social, and personal lives, which may further upset their well-being. In school, students with mental disorders have high rates of truancy and tardiness, are more likely to be suspended or expelled,<sup>11</sup> and are two times more likely to drop out of school.<sup>12</sup> Untreated mental disorders in youth sometimes manifest in disruptive behavior that can result in exclusionary discipline<sup>13</sup> that continues to set back education and feelings of normalcy. The child’s social

network, friendships, and family relationships can be strained,<sup>14,15</sup> further stoking sensations of isolation. Students experiencing depression are associated with tobacco use, physical fights, and sexual recklessness.<sup>16</sup> Youth experiencing psychological distress,<sup>17,18</sup> depression,<sup>19</sup> substance abuse disorders,<sup>20</sup> and behavioral disorders<sup>15</sup> are more likely to get caught up in the juvenile justice system. In fact, seven in ten youths in the juvenile justice system have a mental health condition.<sup>21</sup> The ripple effects from untreated conditions can drastically throw their lives off course in the long term. They are at higher risk for unemployment, substance abuse, arrest, and other mental illnesses,<sup>15</sup> and are less likely to be fully functional members of society once they reach adulthood.<sup>22</sup> These conditions influence child suicide at the most extreme – but these extremes aren’t rare.

Suicide is an epidemic, even more so among young people, and suicide ideation, planning, and attempts have been steadily rising along with other mental health symptoms.<sup>7</sup> Suicide is the second leading cause of death for children aged 10-14.<sup>23</sup> In 2019, 18.8% of high schoolers seriously considered suicide – nearly one in five.<sup>4</sup> One in eleven (8.9%) attempted suicide, a 2.6 percentage point increase since 2009.<sup>7</sup>

Our youth know they are in trouble. Mental Health America (MHA) reports that participation in a voluntary online mental health screening increased by 628% from 2019 to 2020 and culminated in screening nearly 1 million children aged 11-17<sup>6</sup>, but the availability of care is a substantial obstacle to obtaining it. Depression and anxiety - termed *internalizing behaviors* - are harder to detect than truancy, rule-breaking, and acting out - termed *externalizing behaviors*. Students struggling with mental health issues can exhibit a mix of behaviors, but those exhibiting externalizing behaviors are more likely to be intercepted and receive treatment.<sup>24</sup> Due to a dire

therapist shortage and insurance companies restricting coverage,<sup>25</sup> it can take weeks or months before a child is able to see someone in private practice.<sup>26</sup> MHA estimates that around 27.2% of youth experiencing severe depression receive regular support.<sup>27</sup>

## Students and Schools Need Support

Research shows that 70-80% of children who receive mental health services receive them in schools.<sup>6</sup> Anywhere from 9-46% of all school-based health center (SBHC) visits are for mental health concerns.<sup>28,29</sup> School-based mental health (SBMH) services are optimal because students are more receptive to them than other healthcare institutions. SBMH services are easy to access,<sup>6,14,28,30</sup> reduce stigma,<sup>14,30</sup> and increase student trust.<sup>14,28</sup> In fact, students are 21 times more likely to seek mental health treatment in an SBHC than in a community clinic,<sup>31</sup> and students using SBMH services tend to visit more frequently than those using traditional treatment sources.<sup>29,32</sup> Student opinions also indicate that schools are the appropriate place for mental health care. Eighty-one percent of teens trust schools for mental health information, and 70% believe schools should teach about mental health.<sup>10</sup>

SBMH services also lessen barriers to care. In some rural districts, where mental health professionals and clinics are scarce, youth can only get mental health help in schools.<sup>14</sup> Most SBHCs don't require health insurance,<sup>6,14</sup> which means students without insurance (3.7%<sup>33</sup>) and insured students without mental health coverage (8.1%<sup>27</sup>) can access treatment.<sup>34</sup> Furthermore, SBMH services help reduce the accessibility gap between White and racial minority youth. Youth of color are less likely to receive mental health care, but if they do, they are more likely than White youth to receive care in school.<sup>6,34</sup> Putting mental health services in schools can reduce or eliminate many of these barriers to care.

While there is a dearth of methodologically sound studies examining the effectiveness of SBMH services, the ones that exist suggest that services successfully reach and treat students. Researchers found that participation in mental health services can help increase GPA,<sup>35</sup> lessen symptoms of anxiety,<sup>36</sup> and delay or reduce juvenile justice system recidivism<sup>37,38</sup> of youth with mental illness. The impact of mental health services was recently demonstrated by the partnership between

Rockville Centre School District and Northwell Health's Cohen Children's Medical Center in Long Island, New York.<sup>39</sup> After a series of student deaths, the school district teamed up with the hospital in 2020 to connect students to mental health care quickly. Children can speak with professionals, obtain medications, and receive direction to more permanent care solutions in the center. The hospital reported that "the number of mental health visits to the emergency room by students...declined by at least 60% in 2020 compared with the previous year." This came at a time when many other hospitals in the country saw increases in mental health emergency room visits due to the pandemic.

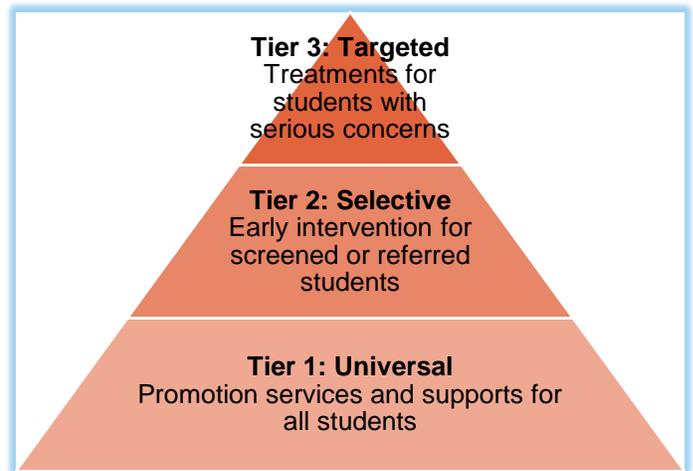


Figure 2: MTSS framework of services. Reproduced from Hoover et al. (2019).<sup>40</sup>

Mental health services are necessary to lower the epidemic rates of youth anxiety, depression, and suicide, but preventing their need is just as important. Child psychologists agree that establishing a multi-tiered system of support (MTSS) framework in schools helps prevent and address youth mental health concerns.<sup>14,40</sup> The MTSS framework has a tiered support structure designed to meet students at varying levels of need. Tier 1 services are prevention-based and available to all students. Tier 2 services are designed for students exhibiting problems, and Tier 3 services are tailored for students showing severe complications. The tiers build on each other, so students in higher tiers still have access to lower-tiered services. Early identification and intervention can prevent students from needing more intensive support. Tier 1 prevention services can reduce stigma and let kids know how and when to get help.<sup>41</sup> Figure 2 visualizes a common MTSS framework.

Despite the epidemic-level child suicide rates and the consensus of psychologists, operational obstacles often prevent SBMH services from being instituted. Half of America's public high schools do not have access to mental health screenings or diagnostic assessments, and four in ten claim that inadequate funding majorly limits mental health program integration efforts.<sup>42,43</sup> Logistical barriers such as staffing shortages and competing responsibilities also affect schools' ability to coordinate services.<sup>42</sup> These disadvantages disproportionately affect rural schools, where funding and staff are increasingly sparse.<sup>43</sup> Additionally, a lack of parent engagement can seriously hamper the implementation of SBMH services.<sup>42</sup>

Partnering with local health agencies can address these barriers by providing funding, staffing, and support.<sup>42</sup> Many institutions and researchers, including the Department of Education, advocate for these partnerships.<sup>13,14,30,44</sup> However, for hospitals, school districts, and communities to know how and when to provide services, there must be detailed information quantifying our students' mental health needs and trends. Research shows that student needs and program success vary among regions,<sup>44</sup> so a granular look at a districts' or individual schools' mental health needs may provide insight on how to structure local partnerships, implement services, and help our children.

## Motivation

The Lehigh Valley Justice Institute (LVJI) is a 501(c)(3) nonprofit applying a data-driven and research-backed approach to address criminal justice issues in the Lehigh Valley. Youth mental health is related to criminal justice through the school-to-prison pipeline, which asserts that harsh school policies involving law enforcement set students on a course for future criminal justice involvement. Students with disabilities or mental illness are much more likely to become entangled in the juvenile justice system,<sup>17,18,19,20</sup> and earlier justice system contact is associated with an increased recidivism risk.<sup>18</sup> Therefore, youth mental health is an unavoidable topic within the criminal justice conversation.

This study aims to assess the mental health landscape of Lehigh Valley middle and high school students, with an in-depth look among school districts to quantify the needs of our children in the Valley's diverse populations.

We begin with a statewide and county-wide comparison view to assess a current baseline to which districts may be examined. We dig deeper with tabular examinations of variables that may relate to mental health problems on a state, county, and district level. We spotlight Liberty high school in Bethlehem Area School District (BASD), which employs an MTSS framework to address their health needs. By examining Liberty's struggles and successes, we ascertain these services' impact on the student body and discuss our findings in a broad context. This study seeks to add to the Lehigh Valley's current dialogue on youth mental health.

## Methodology

Most data came from two sources: the Pennsylvania Youth Survey (PAYS) and the Student Assistance Program (SAP). County population and densities were obtained from [worldpopulationreview.com](http://worldpopulationreview.com).<sup>45</sup> The CDC's Children's Mental Health website provided psychologist, psychiatrist, and social worker rates per 10,000 students for each county.<sup>46</sup> Lehigh Valley public school enrollment numbers were obtained from the Pennsylvania Department of Education (PA DoE).<sup>47</sup>

### PAYS

PAYS is a self-report survey of 6th, 8th, 10th, and 12th grade students in participating school districts, charter schools, and private schools conducted in the fall of odd years. The Pennsylvania Commission on Crime and Delinquency (PCCD) began conducting the PAYS in 1989. School district participation is voluntary and free. The survey may be administered online, on paper, or through a hybrid option of paper and electronic. Students answer questions regarding their thoughts and experiences with drugs and alcohol, bullying, family and community relationships, school perceptions, and social and mental wellness. Once completed, the PCCD provides school districts with a report detailing students' prosocial and antisocial attitudes and behaviors towards those topics. The PCCD also publicly releases county-wide<sup>48</sup> and state-wide<sup>49</sup> PAYS reports on their website. For the 2021 PAYS, the PCCD created a webtool allowing school administrators to investigate survey results in more detail by generating crosstabs - two-way tables that allow for easy examination of the interaction between two survey questions.

<i>District or School</i>	<b>County</b>	<b>Anonymous</b>	<b>2021 PAYS Report</b>	<b>2021 PAYS Webtool Access</b>	<b>SAP data</b>	<b>Therapy data</b>
<i>Bethlehem Area School District (BASD)</i>	Northampton	No	No	Yes	Yes	Yes
<i>Easton Area School District (EASD)</i>	Northampton	No	Yes	No	Yes	N/A
<i>Northampton School District A (NSD A)</i>	Northampton	Yes	Yes	No	Yes	N/A
<i>Catasauqua Area School District (CASD)</i>	Lehigh	No	Yes	No	No	N/A
<i>Whitehall-Coplay School District (WCSD)</i>	Lehigh	No	No	No	Yes	N/A
<i>Charter School A (CS A)</i>	Northampton	Yes	Yes	No	Yes	N/A

Table 1: Summary of local data sources.

We utilized PAYS county and district reports from 2021, and statewide reports dating back to 2005. BASD granted us access to the PAYS webtool and, as such, we were able to conduct an in-depth investigation of correlations between mental health issues, prosocial involvements, and antisocial involvements. This helps identify which factors may aggravate, curb, or be associated with youth mental health issues.

## SAP

Run by the PA DoE, SAP is a school-level team-based process used to identify students experiencing or at risk for academic or mental health problems and remove those learning barriers.<sup>59</sup> Any teacher, school staff member, parent, or student can anonymously refer a student to SAP if they witness problematic or concerning behaviors. Upon receiving a referral, the school's SAP team investigates and directs the student toward appropriate resources if necessary. Resources include counseling, community services, academic supports, and screenings. SAP teams are present in every school, but some are more active than others. PA DoE houses state and county SAP reports dating back to the late 1990s in an online database.

We reached out to the superintendents and CEOs of each participating Lehigh Valley agency for PAYS webtool access, access to their 2021 PAYS reports, and SAP statistics from previous school years. Out of eleven participating districts and six charter schools in Lehigh and Northampton Counties, five school districts and one charter school supplied their data. Some requested

anonymity: anonymous institutions are followed by the letter "A." Table 1 summarizes the data received.

Note that the purpose of this report is not to describe which schools better support their students or have worse problems, or to make ranked comparisons or enrollment recommendations. The goal is to demonstrate needs differences which supports the idea that each school may need a personalized solution.

## The Numbers

### #1. Mental Health of Pennsylvania Youth

**Two in five youth felt depressed most days in 2021; three in ten were at-risk for suicide; one in nine attempted suicide at least once.**

We begin with a current look at Pennsylvania youth's mental health, shown in Figure 2. PAYS reports that 40.1% of Pennsylvanian middle and high school students, equating to two in five, felt depressed or sad most days in 2021. PAYS considers feeling so sad that usual activities are stopped for at least two consecutive weeks indicative of suicide risk, and 31%, or three in ten, students attested to feeling that way. Incredibly, 10.9%, or one in nine, reported attempting suicide at least once in 2021. The PA DoE tallied 944,789 students enrolled in public middle and high schools in the 2021-2022 school year. With 10.9% of these students stating that they attempted suicide, this means 103,000 children tried to kill themselves in 2021.

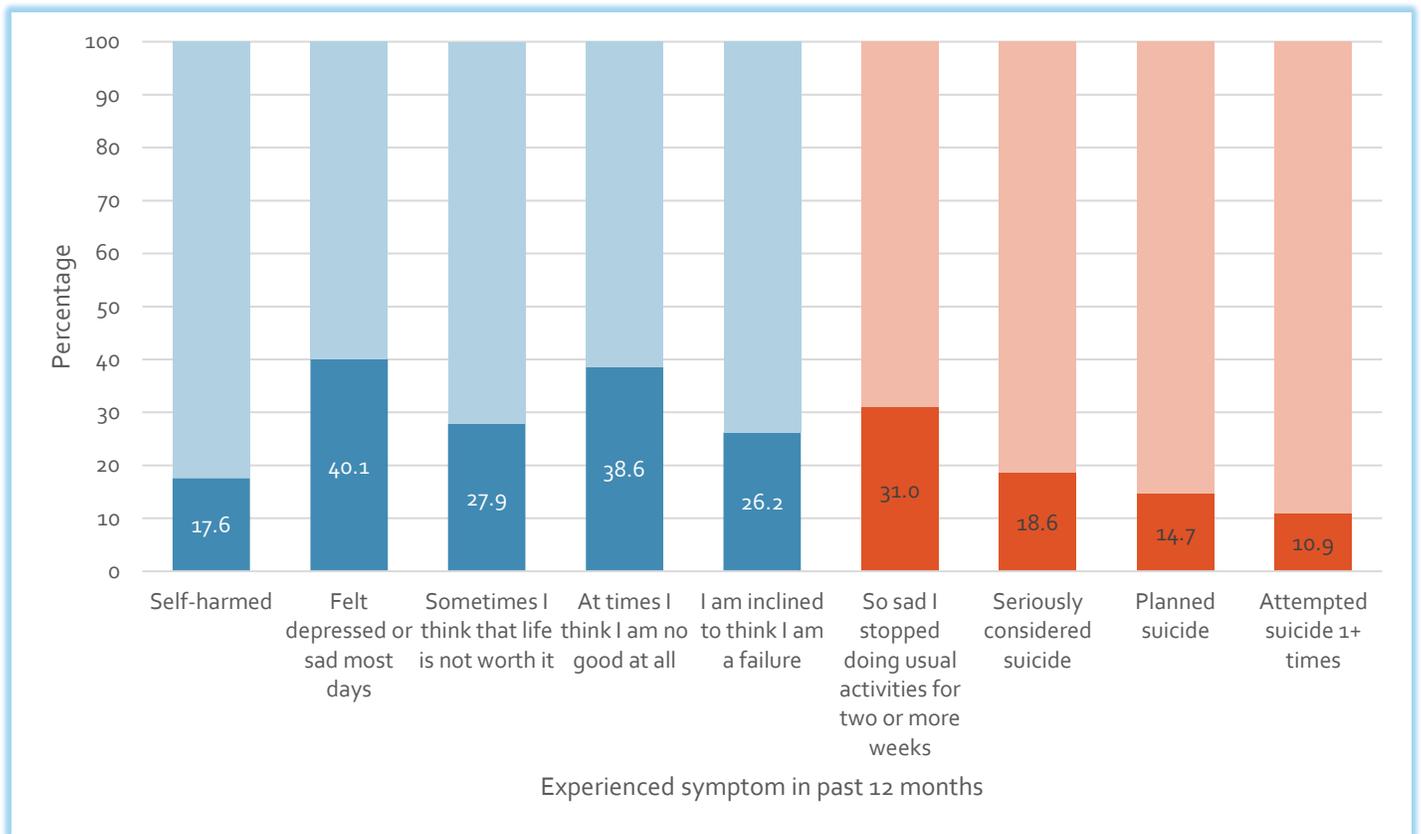


Figure 3: 2021 PAYS statewide mental health symptom rates for the past year. Red bars indicate questions that the PCCD deems are indicative of suicide risk.

It was common for students to disclose thinking negatively about themselves and life. More than one-quarter (27.9%) reported thinking that “life is not worth it.” Large proportions of students reported thinking that “at times they are no good at all” (38.6%) and “I am inclined to think I am a failure” (26.2%). About one in six (17.6%) students attested to harming themselves, which could include cutting, scraping, or burning.

**Statewide feelings of depression and suicide risk are rising.**

Around 2013, more Pennsylvania youth began reporting depression symptoms. Figure 3 shows the rates of youth depression symptoms from 2005 to 2021. In 2015, they spiked to 38.3%, a 21% increase from 2013. These elevated rates persisted into 2021, when they reached the 40.1% record high.

Figure 5 shows that rates of suicide risk increased from 2013 to 2021. As these graphs demonstrate, this unsettling trend is not just a response to the challenges

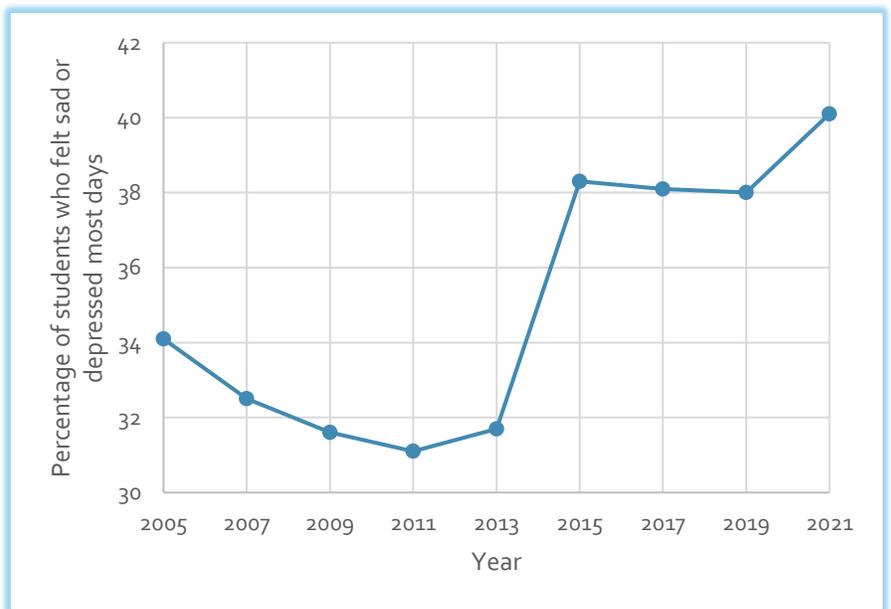


Figure 4: Statewide percentage of students reporting feeling depressed or sad most days in the previous year.

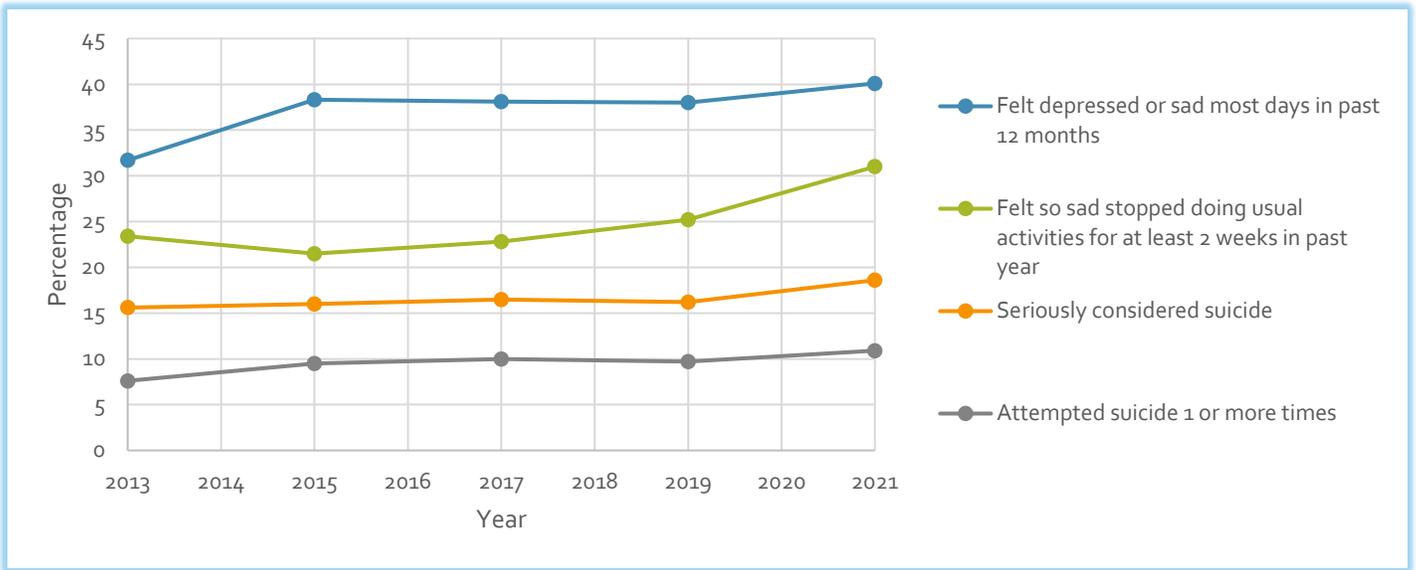


Figure 5: Statewide percentage of students experiencing depression and suicide risk symptoms.

of the COVID-19 pandemic. Upward trends in suicide risk and depression symptoms began around 2013, long before the onset of social distancing, school closures, and remote education. However, 2021 showed the highest increase in suicide risk. Intense feelings of hopelessness increased from 25.2% in 2019 to 31.0% in 2021, a 23.0% increase. In fact, a special COVID-19 Impact PAYS report found that 37.4% of students reported feeling “more anxious, nervous, worried, or angry than usual.”<sup>51</sup>

### Students often fell under the SAP radar during the pandemic.

The Pennsylvania Department of Education (PA DoE) reports that in the 21-22 school year, there were 92,914 SAP referrals made in Pennsylvania, the most in twelve years. Figure 6 shows that SAP referrals had been increasing in frequency since the 13-14 school year. Despite depression symptoms and suicide risk reaching record highs during the pandemic, SAP referrals sharply decreased in the 19-20 and 20-21 school years. This is

likely because virtual school inhibited school personnel from interacting as they normally would with students and witnessing concerning behaviors. With the return to in-person schooling in the 21-22 school year, SAP referrals rose to a pre-pandemic total.

The spike in SAP referrals from 2008 to 2010 can be attributed to the Great Recession. Many families struggled during this time, which strained students academically, physically, emotionally, and mentally.

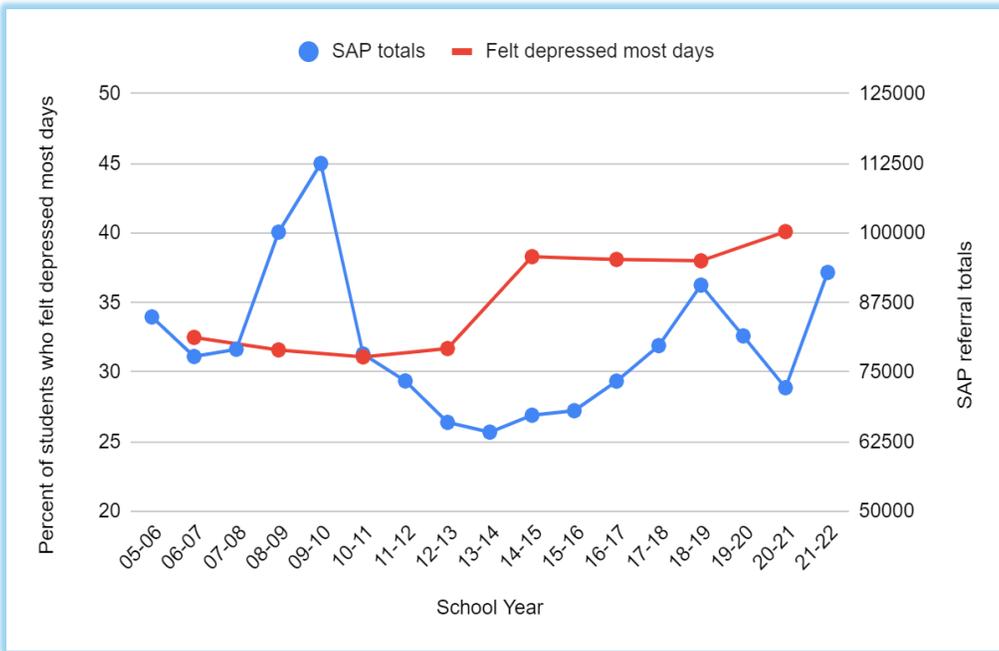


Figure 6: Statewide depression symptom rates with SAP referral totals over time.

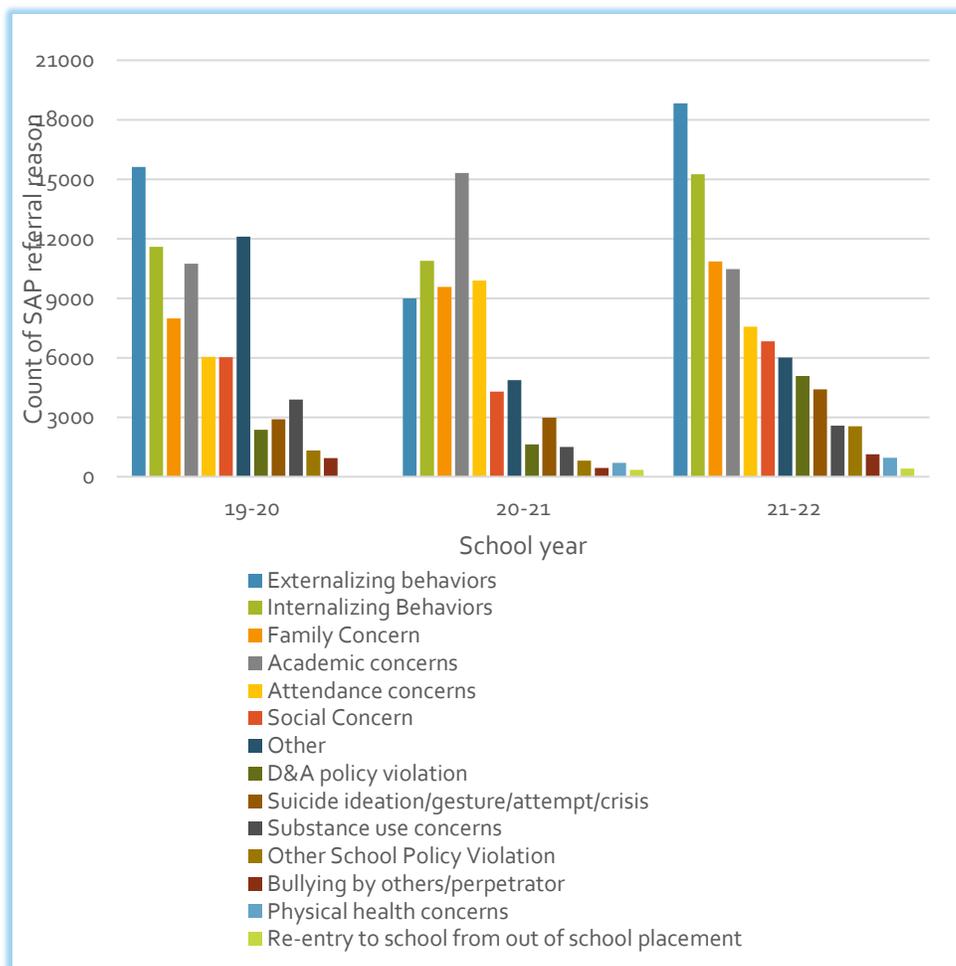
The SAP referrer documents their reasons for referral. Unfortunately, internalizing and externalizing behaviors are combined as “behavioral concerns” prior the 19-20 school year, so Figure 7 examines referral reasons from that year to present. Externalizing behaviors such as impulsivity, aggression, and rule-breaking are the most common referral reason in the 19-20 and 21-22 school years. They surpass internalizing behaviors such as crying and withdrawal, which is in the top three reasons in all listed school years. In the 20-21 school year academic concerns is the most common referral reason. As most students experienced school online in the 20-21 school year, externalizing and internalizing behaviors were more difficult to observe. Academic concerns rose to the primary reason, presumably because grades are easy to monitor and suffered during the pandemic.<sup>52</sup>

Table 2 breaks down referral source by year. One in three referrals come from instructional staff like teachers or non-instructional staff like guidance

counselors who interact the most with children at school. Self-referrals are rare: between 2.5% and 4.5% of SAP referrals are self-referrals.

<b>Incoming Referral Source</b>	<b>18-19</b>	<b>19-20</b>	<b>20-21</b>	<b>21-22</b>
<i>Instructional Staff</i>	36.4%	37.1%	36.1%	33.8%
<i>Non-Instructional Staff</i>	26.9%	27.1%	31.3%	29.8%
<i>Disciplinarian</i>	10.6%	9.4%	5.5%	10.9%
<i>Parent/Guardian</i>	3.7%	5.4%	6.9%	5.6%
<i>Administrative</i>	8.7%	9.2%	10.3%	9.4%
<i>Other</i>	7.6%	6.1%	6.5%	6.4%
<i>Self</i>	4.6%	4.0%	2.6%	3.1%
<i>Peer</i>	1.5%	1.0%	0.5%	0.7%

Table 2: Statewide SAP referral sources by school year.



**Mental health services were consistently the top recommendation from SAP referrals.**

Figure 8 shows that the school services recommended most frequently were school psychologist counseling, follow-ups with a SAP team member, and group interventions. Academic support was common, particularly in 20-21 when grades suffered, and in-person services were limited. The SAP team could also refer students to community resources. Mental and behavioral health screenings and mental health treatment were the top three recommended services in the past four school years, shown in Figure 9.

Figure 7: Statewide SAP referral reasons by year.

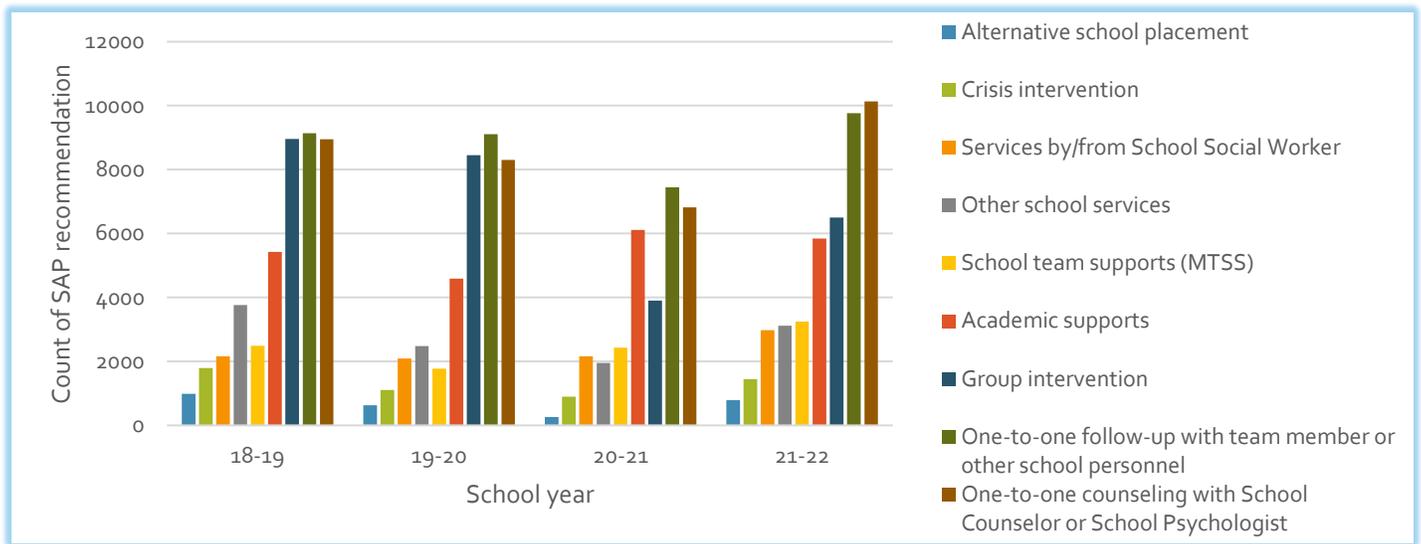


Figure 8: Statewide SAP referral school service recommendation by year.

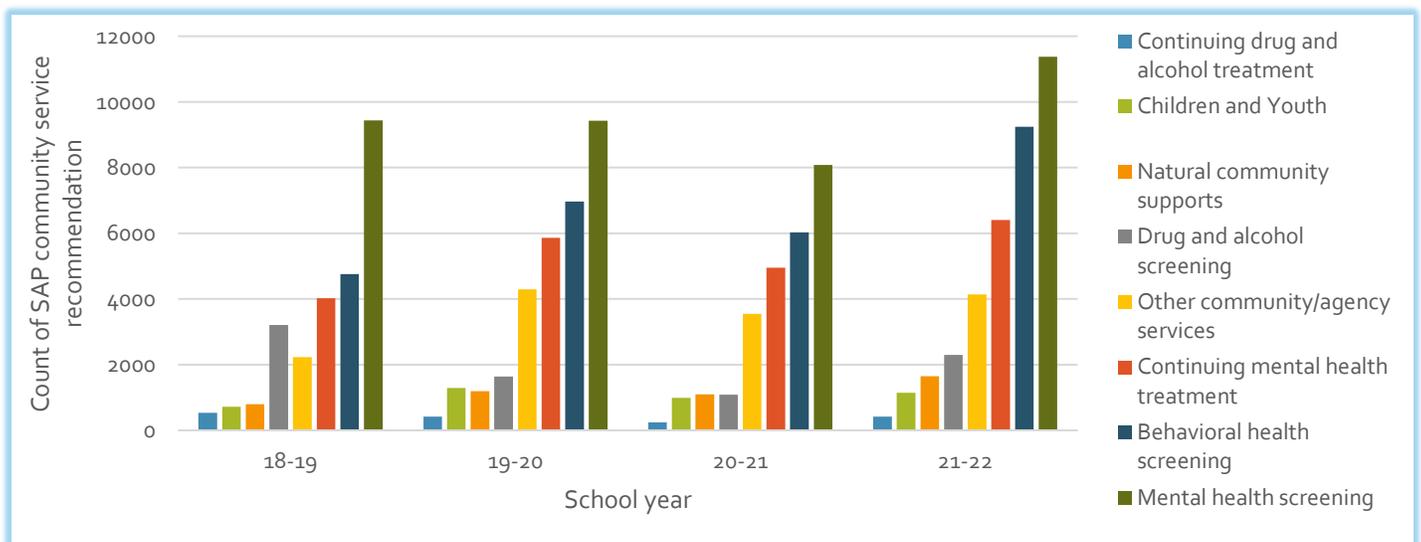


Figure 9: Statewide SAP referral community service recommendation by year.

**Parent participation impeded intervention outcomes the most.**

Figure 10 breaks down the factors that impeded referral outcomes as reported by each school’s SAP team. Parent participation disrupted almost half of SAP cases with an impediment. The second most common reason was transportation to recommended community services, which affected one in eight impeded cases.

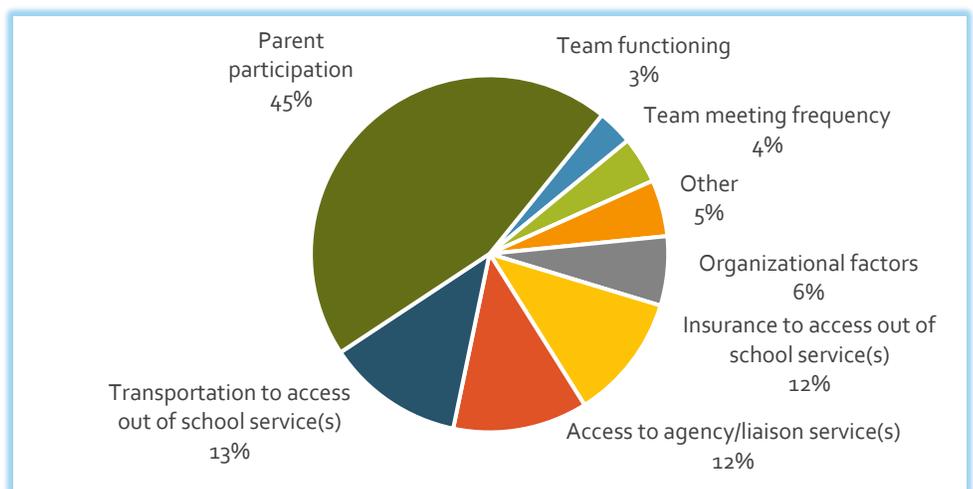


Figure 10: Statewide failed SAP referrals by impediment reason.

**All counties exhibit alarming symptom rates, but they vary in severity and access to care.**

Figure 11 highlights three of the mental health questions posed by the PAYS across Pennsylvania counties. Counties are usually consistent across PAYS mental health questions. For example, Centre, Bucks, and Chester Counties report some of the lowest rates of depression, self-harm, and suicide attempts. On the other hand, Susquehanna, Tioga, and McKean Counties report some of the highest rates.

According to MHA, 39.9% of Pennsylvania youth having a severe major depressive episode receive consistent support; this is the 7th highest rate in the country.<sup>27</sup> However, Pennsylvania has a variety of environments, and not all students have equal access to care. Figure 12 displays the number of psychologists per 10,000 students in each Pennsylvania county in 2015, the most recent data from the CDC. Five counties had no psychologists at all, and they are among the state’s most rural counties by density.

**County SAP referral rates varied but were mildly correlated with social worker rates and depression symptom rates.**

We calculated the 2021 SAP referral rate for each county by dividing the number of middle and high school SAP referrals by the county’s middle and high school enrollment. Figure 13 has the rates. The average county referral rate is

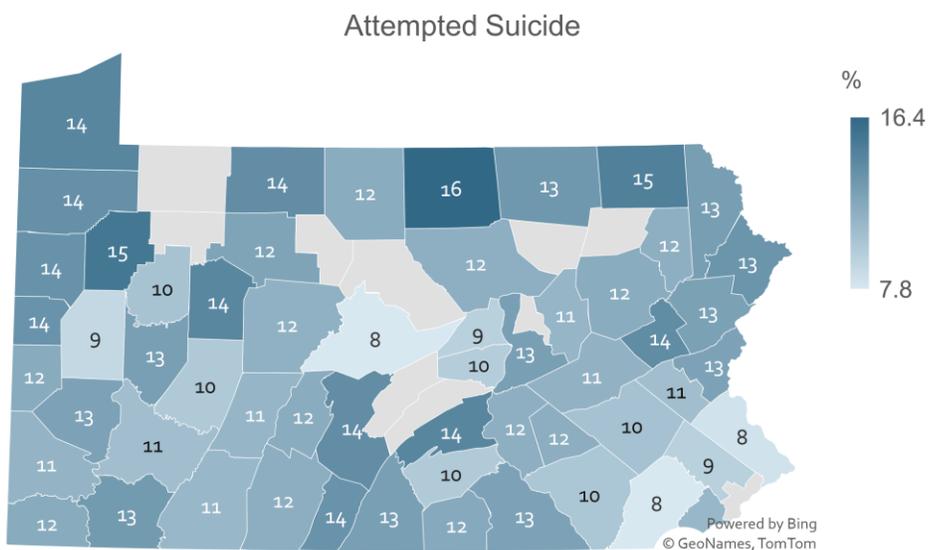
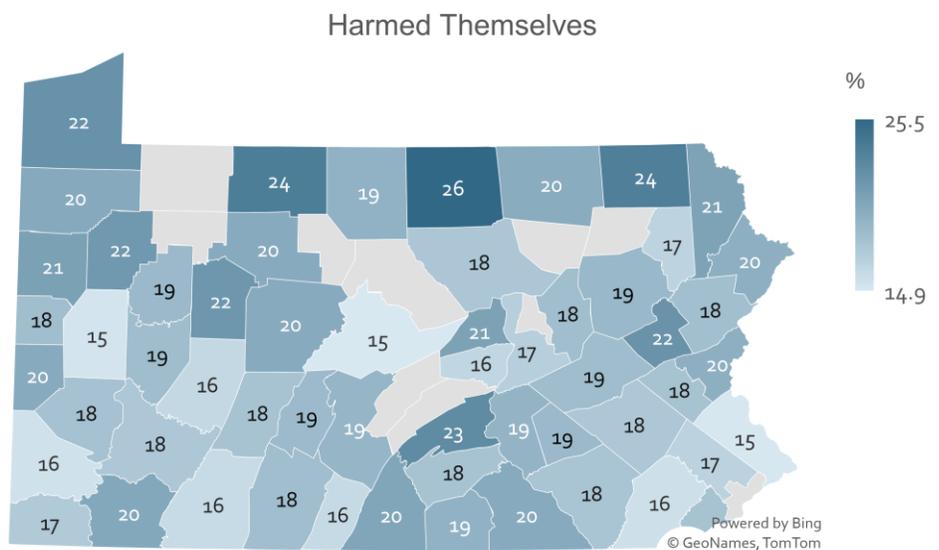
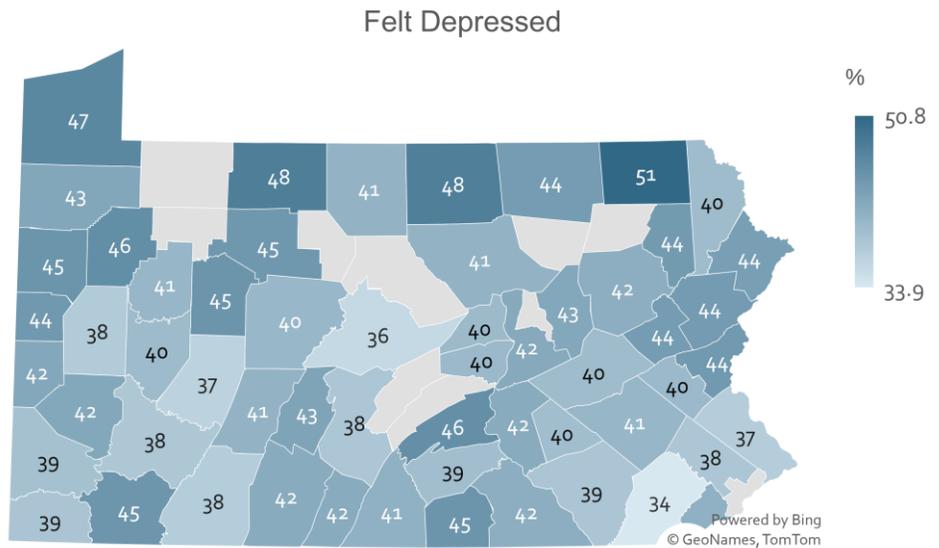


Figure 11: County rates for (a) depression symptoms, (b) self-harm, (c) suicide attempts.

7.9%; Lehigh and Northampton Counties have similar rates (8.0% and 8.7% respectively).

We gathered each county's 2021 PAYS responses to mental health questions and its rate of mental health professionals per 10,000 students to examine correlations with the SAP referral rate. Figure 14 shows eleven correlations between these variables and the SAP referral rate. A correlation close to 1 or -1 indicates a strong relationship; a correlation near 0 indicates a weak relationship. Expectedly, counties' depression symptom rates (in green) correlate mildly with SAP referral rates, with the percentage of students who considered suicide correlating the most with the SAP referral rate (0.34). County density was also mildly correlated with SAP referral rates (0.30), which supports research that rural counties have less access to mental health care. Surprisingly, the social worker rate was moderately negatively correlated with the SAP referral rate, meaning counties with more social workers per 10,000 students had lower SAP referral rates.

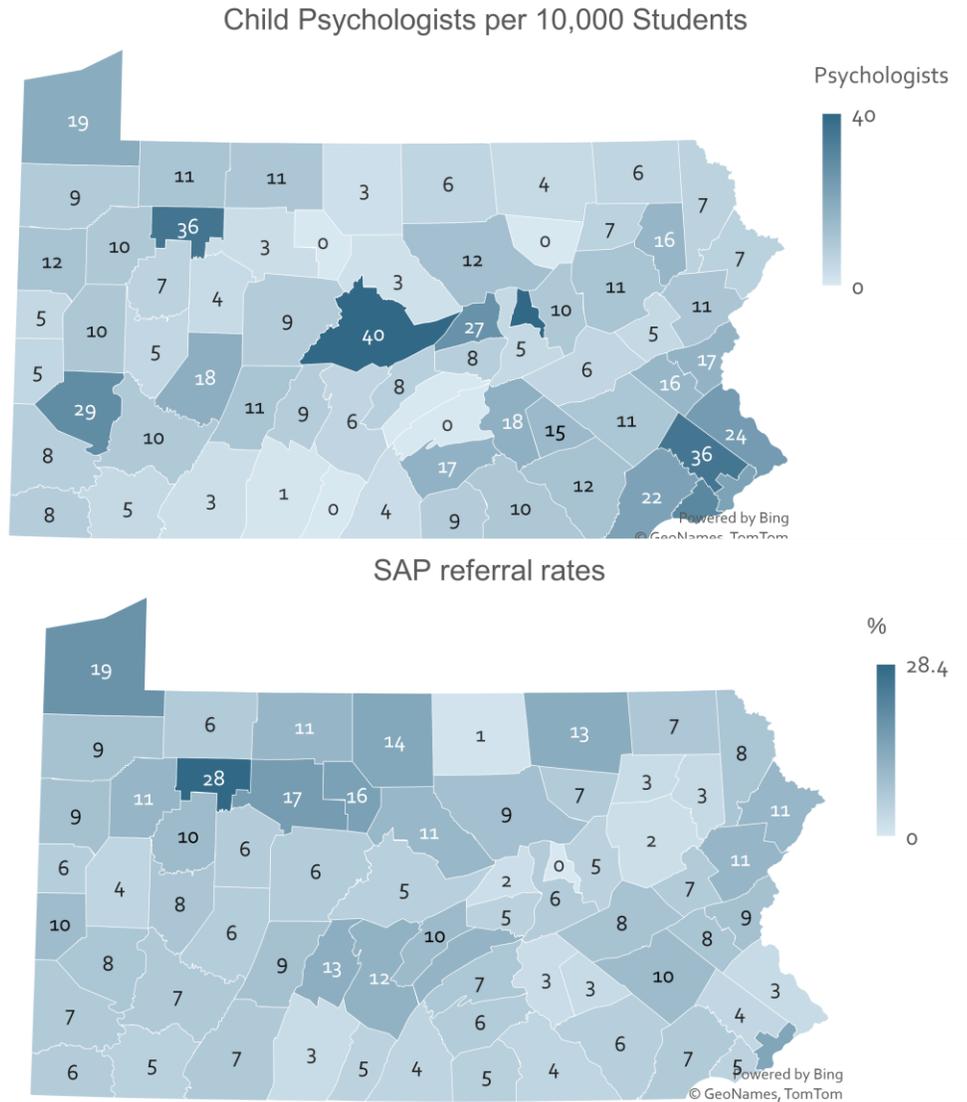


Figure 13: County rates for child psychologists per 10,000 students.

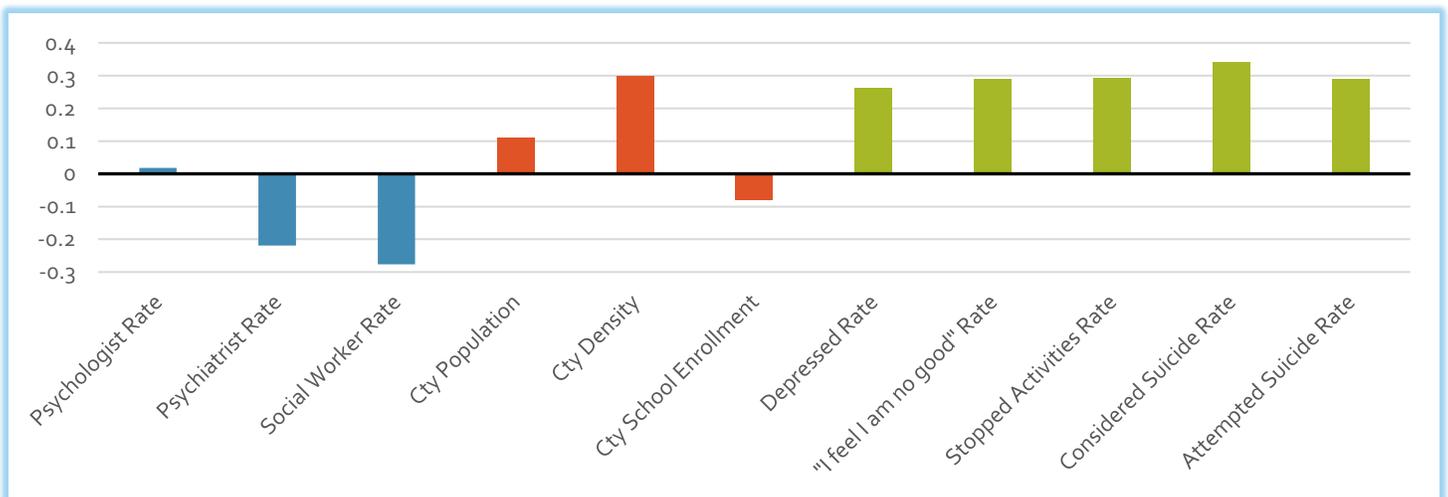


Figure 14: Correlations between county SAP referral rates and other county demographic rates.

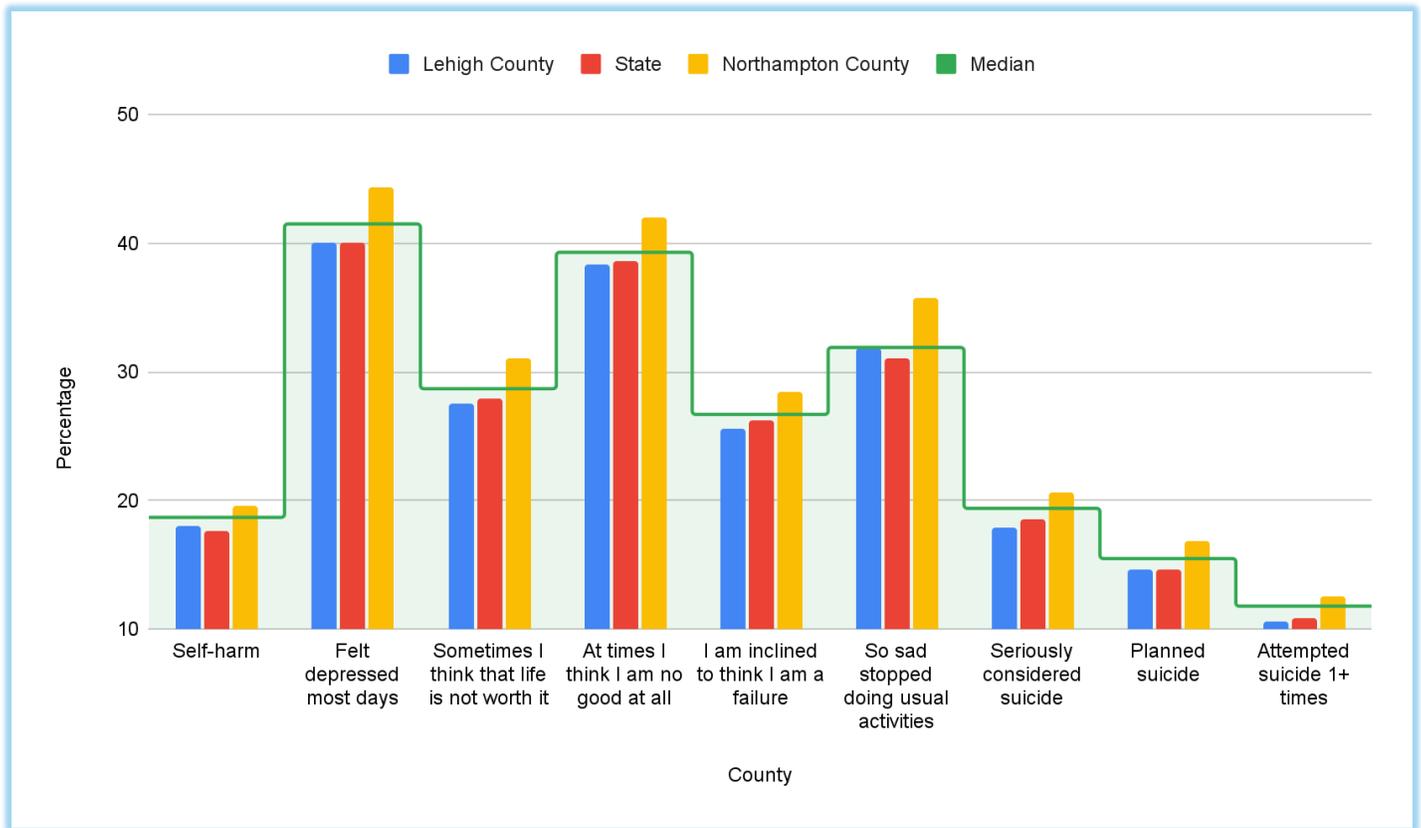


Figure 15: Lehigh County, Northampton County, State, and median rates of mental health concern symptoms.

**Northampton County reports slightly higher depression symptom and suicide risk rates than Lehigh County.**

Lehigh and Northampton Counties report symptom rates close to the state rate, but they differ by question. Figure 15 demonstrates that Northampton County reports higher percentages of afflicted students than Lehigh County in every mental health question. The green median line shows that Northampton County’s symptom rates are in the top half of all Pennsylvania counties, while Lehigh County’s rates are in the bottom half. These differences prompt a closer examination for differences within these counties.

**#2. Mental Health of Youth in Lehigh Valley Schools**

**Most school districts’ depression symptom rates were above the state rate. Some districts had different rates.**

The Lehigh Valley is not spared from the youth mental health crisis. Figure 16 echoes Figure 3 by displaying the percentages of surveyed students in each school or

district who attested to experiencing depression symptoms, suicide ideation, and self-harm. Most agencies had rates that were higher than the state rate. BASD and NSD A were the most consistent with the state rate.

As PAYS is a sample of an entire districts’ middle and high school populations, we calculate fifteen two-proportion confidence intervals to test if rates of “felt depressed most days” are different between each pair of schools and the state. A confidence interval is a range of values in which we are confident the difference lies to some pre-specified level. Table 3 contains the results. Using an 95% confidence level, we find four intervals to be significant (meaning the intervals do not contain 0): EASD and the state, CS A and the state, EASD and BASD, and CS A and BASD. This means that we are 95% confident that those pairs of institutions truly have different depression symptom rates outside of the sample. While interpreting these results, it is important to note that an insignificant confidence interval (one that contains 0) is not evidence that the two rates are the same. Rather, it implies that difference is unproven.

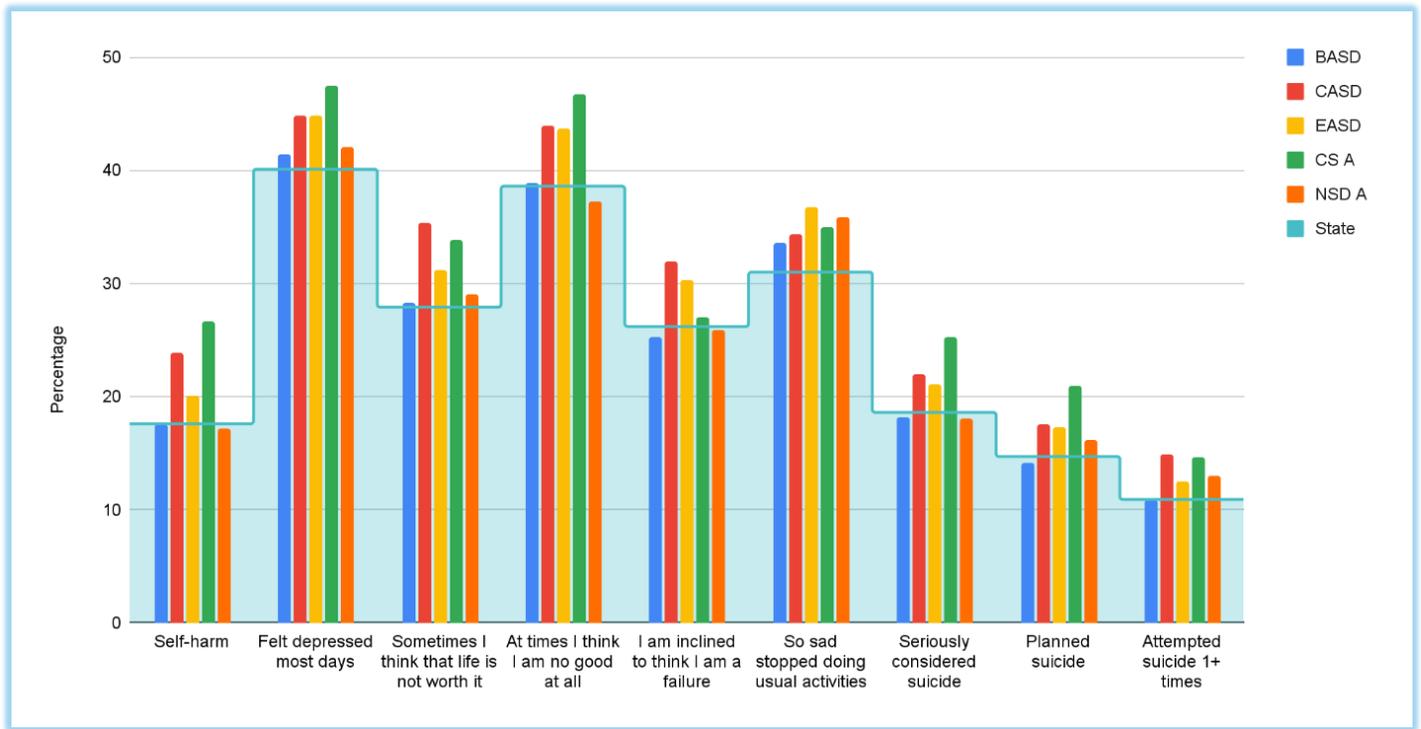


Figure 16: Mental health symptom rates of select Lehigh Valley schools.

		BASD		CASD		EASD		CS A		NSD A		
		%	n	%	n	%	n	%	n	%	n	
		Point Estimate	Margin of Error									
<b>State</b>	%	0.401	0.013	0.018	0.047	0.049	0.047	0.023	0.074	0.052	0.020	0.038
	n	246,081	(-0.005, 0.031)		(-0.002, 0.096)		(0.024, 0.07)		(0.022, 0.126)		(-0.018, 0.058)	
<b>BASD</b>	%	0.414			0.034	0.052	0.034	0.029	0.061	0.055	0.007	0.042
	n	2,995			(-0.018, 0.086)		(0.005, 0.063)		(0.006, 0.116)		(-0.035, 0.049)	
<b>CASD</b>	%	0.448					0.000	0.054	0.027	0.072	-0.027	0.062
	n	401					(-0.054, 0.054)		(-0.045, 0.099)		(-0.089, 0.035)	
<b>EASD</b>	%	0.448							0.027	0.057	-0.027	0.044
	n	1,872							(-0.03, 0.084)		(-0.071, 0.017)	
<b>CS A</b>	%	0.475									-0.054	0.065
	n	349									(-0.119, 0.011)	

Table 3: Results from two-proportion 95% confidence intervals for each institution's rate of "felt depressed most days."

		In the past 12 months, have you felt depressed or sad MOST days, even if you felt OK sometimes?											
		NO!			no			yes			YES!		
		LC	NC	BASD	LC	NC	BASD	LC	NC	BASD	LC	NC	BASD
How many times in the past 30 days have you had beer, wine, or hard liquor?	0 Occasions	94.2	93.8	93.3	90.5	90	92.9	85.5	85	87.7	79.1	75.4	78
	1+ Occasions	5.9	6.2	6.7	9.4	9.9	6.9	14.6	15.2	13	21	24.4	22
	Total	100			100			100			100		

Table 4: Crosstab of depression symptoms and alcohol use in Lehigh County (LC), Northampton County (NC), and BASD.

### Youth mental health is related to other well-being and success factors.

The PAYS webtool allows for the examination between mental health and other variables affecting learning and development. These two-way tables are referred to as “crosstabs.” We chose four relationships between mental health and some of the most important characteristics of student success to highlight in Lehigh County, Northampton County, and BASD in 2021. Students rated their symptoms on a 4-point Likert scale from “NO!”, which is definitely not experiencing the symptom, to “YES!”, which is definitely experiencing the symptom. In some crosstabs, we combined responses together in one or both variables. Crosstabs display the percentages of students from a column response who chose the response in a particular row.

### Alcohol Use

Table 4 shows that the substance use rate of students who reported depressive symptoms was much greater

than students who had a more positive outlook on life. Students who reported feeling depressed were 3.9 times more likely to have had alcohol in the past 30 days in Lehigh County, 3 times more likely in Northampton County, and 3.2 times more likely in BASD.

### Vaping

Table 5 presents the relationship between electronic vapor product use and suicide ideation. Students who seriously considered attempting suicide were 3.9 times more likely to use electronic vapor products in Lehigh County, 3 times more likely in Northampton County, and 3.2 times more likely in BASD.

### Academic Performance

Depressive symptoms also correlate with academic struggle or failure. Characteristics of depression in students may present themselves in school through poor work completion and submission, withdrawal, noncompliance, and frequent absences.<sup>53</sup> On the other hand, academic issues may cause depression and

		Did you ever seriously consider attempting suicide?					
		Yes			No		
		LC	NC	BASD	LC	NC	BASD
How frequently have you used an electronic vapor product such as: E-cigarettes vapes vape pens e-cigars e-hookahs, hookah pens and mods during the past 30 days?	Never	72.5	72.3	76	93	90.9	92.7
	Once or Twice to More than once a day	27.5	27.8	23.9	7.1	9.1	7.4
	Total	100			100		

Table 5: Crosstab of suicide ideation and vaping in Lehigh County (LC), Northampton County (NC), and BASD.

		Sometimes I think that life is not worth it.											
		NO!			no			yes			YES!		
		LC	NC	BASD	LC	NC	BASD	LC	NC	BASD	LC	NC	BASD
Putting them all together, what were your grades like last year?	Mostly A's	56.4	54	57.2	51.1	45.4	47	45.1	43.1	44.8	31.7	38	43.3
	Mostly B's	28.1	28.8	28.1	27.4	30.1	30.4	30	27.9	27	31.4	29.7	31
	Mostly C's	9.8	12.5	11.3	12.8	15.6	15.1	13.9	17.3	18.9	18.3	17.8	16.7
	Mostly D's or Mostly F's	5.7	4.7	3.5	8.7	8.9	7.5	11.1	11.6	9.2	18.6	14.6	8.9
	Total	100			100			100			100		

Table 6: Crosstab of “life is not worth it” and academic performance in Lehigh County (LC), Northampton County (NC), and BASD.

feelings of poor self-worth in students. Regardless of origin, Table 6 shows that the proportion of students who reported having “Mostly D’s or Mostly F’s” was higher among students who also reported thinking “life is not worth it.”

### Bullying

Bullying is an obviously related variable to mental health, as bullying can cause or worsen “feelings of isolation, rejection, exclusion, and despair, as well as depression and anxiety.”<sup>54</sup> PAYS data shows a strong relationship between being bullied and depression and suicidal behaviors. Of students in Pennsylvania who reported feeling so sad that they stopped doing usual activities, 25.8% indicated that they had not been cyberbullied, whereas 61.2% indicated that they had

been cyberbullied. Table 7 shows the relationship between cyberbullying and students inclined to think that they are a failure. In Lehigh County, 35.9% of students most inclined to think they are a failure were cyberbullied as opposed to only 6.2% of students least inclined to think of themselves as failures. Northampton County data indicated 33.9% and 7.9% and BASD data indicated 32.2% and 8.4% respectively.

### SAP referral rates varied by school.

We received SAP referral statistics from four schools and one entire school district. Table 8 summarizes the number of SAP referrals in each school in the 2021-2022 school year. While the districts’ PAYS convey that each institution had similar rates of depression symptoms, the schools had varying rates of SAP referrals by their population.

		All in all, I am inclined to think that I am a failure.											
		NO!			no			yes			YES!		
		LC	NC	BASD	LC	NC	BASD	LC	NC	BASD	LC	NC	BASD
During the past 12 months, have you been bullied through texting and/or social media?	NO!	77.9	77.4	76	49.2	46.3	47	43.3	42.1	43.8	39.6	40	42.4
	no	15.9	14.7	15.6	38.7	38.2	37.9	30.7	33.6	33.2	24.5	26.1	25.4
	yes	4.5	6.2	6.4	9.3	13.2	13	20.3	19.8	18.3	19.4	19.3	17.1
	YES!	1.7	1.7	2	2.8	2.4	2.2	5.7	4.5	4.6	16.5	14.6	15.1
	Total	100			100			100			100		

Table 7: Crosstab of “I think I am a failure” and being cyberbullied in Lehigh County (LC), Northampton County (NC), and BASD.

## Clinical symptom reduction observed in school-based therapy usage.

Pinebrook Family Answers is a community nonprofit that provides behavioral health, re-entry, foster care, and adoption services to vulnerable people in the Lehigh Valley. It is one of several organizations that work with Lehigh Valley school districts to deliver SBMH services. Pinebrook supplies therapists through school-based integrated behavioral health services (IBHS) in EASD, BASD, Allentown, and Bangor Area elementary schools as well as Bangor Area Middle School.<sup>55</sup> While receiving therapy, students complete a monthly questionnaire assessing three areas. First, the survey gauges clinical mental health symptoms as they pertain to the student’s issues. Second, it assesses how mental health symptoms are affecting the student’s functioning and quality of life. Finally, the survey measures the strength of the relationship between the therapist and student, called the therapeutic alliance.

Pinebrook provided us with figures visualizing students’ responses to these three survey areas as they progressed through therapy. Figure 17 shows the improvement of the students between the first month’s assessment and subsequent month’s assessments across all participating schools. All months show positive changes in student responses. For example, students seeing Pinebrook therapists show a 16% improvement in clinical symptoms within the first four months.

	SAP referrals	Student population	Referral Proportion
Liberty HS	723	2,702	26.8%
NSD A HS	95	736	12.9%
WCSD	300	4,138	7.2%
Easton Area HS	179	2,827	6.3%
Easton Area MS	103	1,928	5.3%
CS A grades 7-12	34	762	4.5%

Table 8: SAP referral numbers in 2021-2022.

NSD A provided detailed SAP information. The top referral reasons in their high school were anxiety and depression, peer relationships, and family issues. The top three referral sources were school counselors, teachers, and parents. Liberty reported a similar scale, noting that most referrals came from guidance counselors or teachers, and that self and parent referrals were rare. NSD A recommended mental health screening the most, and further screened 16 students (16.8% of referrals) for suicidal ideation.

That school year, Liberty reported that 411 students were connected to services such as therapy, grief group, and career preparation. By the fourth week of the 22-23 school year, Liberty received 169 referrals, almost double the amount from the previous year at that time.

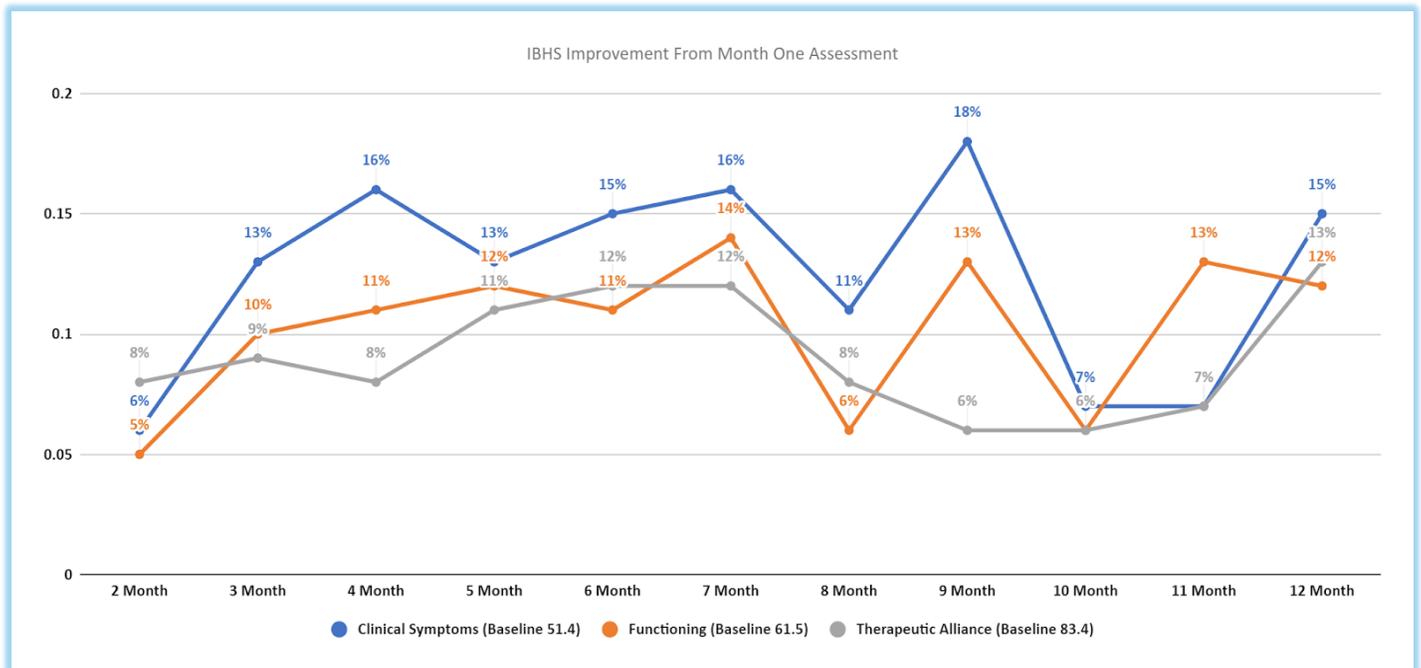


Figure 17: Student self-reported improvement in clinical symptoms, functioning, and therapeutic alliance each month into therapy in every participating school. Graphic from Pinebrook Family Answers.

### #3. Spotlight on Liberty High School

#### Liberty trusts in a proactive rather than a reactive approach to mental health.

Liberty, like many schools in the Lehigh Valley, relies upon SAP and an MTSS framework to deliver support services to students in need, but has recently expanded upon current services per the initiative of Dr. Harrison Bailey, Liberty’s principal and Pennsylvania’s 2021 Secondary Principal of the Year.<sup>56</sup> Dr. Bailey has been laboring towards transforming the mental health of his student body since he realized that despite his teachers’ best efforts, students weren’t learning as they should. Dr. Bailey noticed that many Liberty students were weathering upsetting or traumatic situations in their personal lives that disrupted their learning and behavior in the classroom. Indeed, anywhere between half and two-thirds of children endure traumatic experiences.<sup>13</sup> Dr. Bailey stresses that the basis for addressing trauma is strengthening the school-student relationship by demonstrating that Liberty cares about their well-being. Required mindfulness seminars (given by the Pratyush Foundation) and mindfulness pauses throughout the day remind students that mental health should be taken seriously. These are part of their Tier 1 supports.

An integral part of Dr. Bailey’s mission is the function of Liberty’s Wellness Center. A Communities in Schools agent acts as an “air traffic controller” to connect a SAP-referred student to appropriate services, which often invokes the Wellness Center. The Center is a Tier 2

support - an intermediate step before recommending outside services. It has a calming space where students can destress during the school day, dubbed the “Peace Room,” where Moravian University graduate students offer occupational therapy. Adjacent to the Peace Room are the offices of four Pinebrook therapists who deliver ongoing counseling and therapy.

Through mindfulness education and knowledge of resources, students are encouraged to think about their mental health before they may experience issues. This is a *proactive* approach to caring for mental health. A *reactive* approach intercepts students after they start exhibiting signs for intervention. Dr. Bailey believes that a proactive rather than reactive approach to wellness sets Liberty apart from other Lehigh Valley schools. Proactivity communicates the importance of wellness, which can spur students and teachers into acting before problems become serious. Dr. Bailey hopes that his school’s successes and struggles in implementing this approach can serve as a model across the state.

#### Liberty students’ symptoms show positive improvement after using therapy services.

Liberty’s therapy services through Pinebrook have documented success. Just as in Figure 17, Figure 18 demonstrates that students’ mental health symptoms and everyday functioning improve with continued utilization of the Wellness Center’s therapy services. Working with a therapist for five months showed the greatest improvement in clinical symptoms.

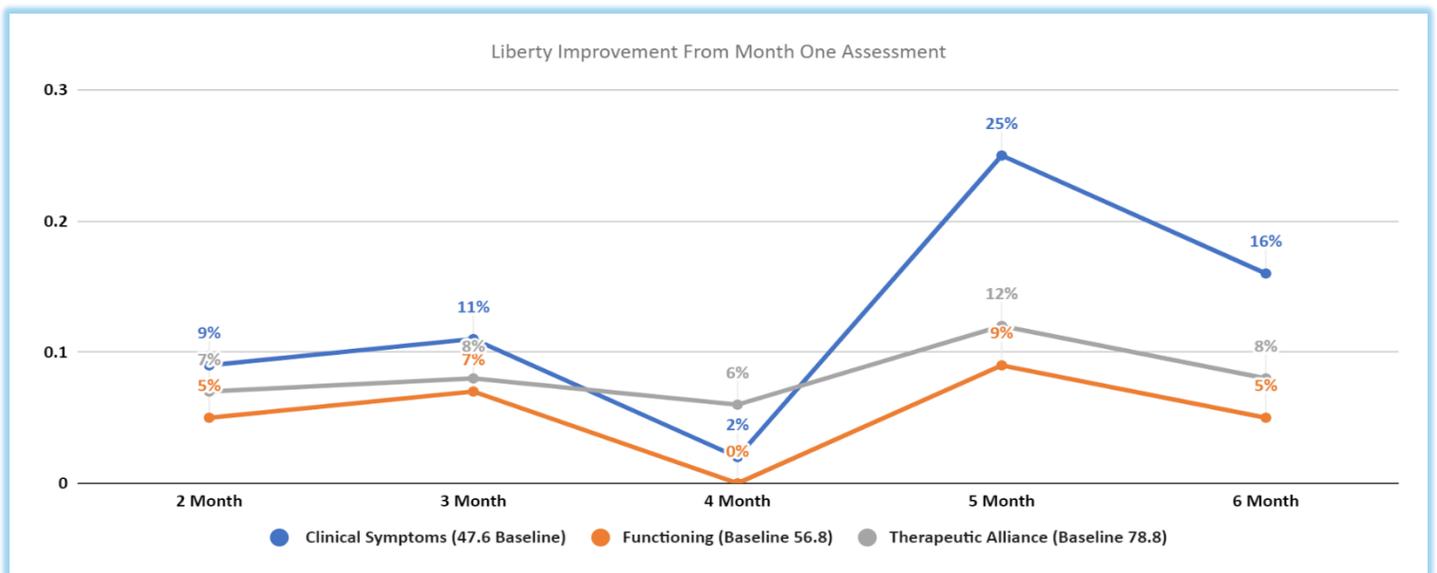


Figure 18: Student self-reported improvement in clinical symptoms, functioning, and therapeutic alliance each month into therapy in Liberty high school. Graphic from Pinebrook Family Answers.

## Discussion

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### **This is a wide look, not an inside look.**

While statewide, countywide, and district-wide depression symptom rates from PAYS and SAP referral rates demonstrate that our children are experiencing sadness and depression that is likely affecting their ability to succeed, this information is surface-level. PAYS and SAP data simply indicate what students are experiencing. Countless other factors feed this issue. This does, however, demonstrate that a comprehensive and foundational understanding of youth mental health requires more research. Acknowledging that this data needs supplementation, the following discussion does not intend to present conclusions or perfect solutions. Data interpretations are subjective and should not be taken as statements of fact. The goal of this study is to contribute to the ongoing discussion surrounding youth mental health and function as a springboard for advocacy.

### **Youth mental health is incredibly complex and expansive.**

Mental health is tightly interwoven with social, personal, and academic factors such as peer and family relationships, home life, traumatic experiences, abuse, food security, poverty, school safety, academic performance, substance use, and the availability of community support. Fortunately, there are many organizations, nonprofits, departments, and medical institutions at national, state, and local levels that are dedicated to confronting these issues. Causal relationships between mental health and these factors, however, is unique to each student. For example, whether mental health struggles cause, are caused by, or simply coincidental with substance abuse varies from student to student. Regardless, the crosstab results suggest that addressing other concerns like substance use and academic failure may involve addressing a mental health concern. A robust understanding of a student's situation, considering possible mental health issues, may help the school prescribe the most appropriate intervention.

### **Lehigh Valley Schools experienced varying SAP referral rates that were not necessarily reflective of PAYS symptom rates.**

SAP referral rates of the examined schools were considerably varied. Liberty's 21-22 SAP rate was a quarter of the school's population, while other schools' rates were half or a fifth of Liberty's. This is counter to PAYS results, which reported that the districts generally have similar depression symptom rates. There are many explanations for this, but the most likely one is that schools employ SAP services differently. Some schools may prioritize SAP for reasons other than mental health and have other systems or services in place to address students' mental health issues. SAP may also be better known or integrated in some schools. Liberty's high referral rate may be attributed to its dedicated staff and principal, considering that the trauma-informed approach is well-known and highly supported throughout the school. As teachers and guidance counselors make the most referrals, teacher bias is also a plausible explanation for differing SAP referral rates. More detailed information about school district SAP referral sources, reasons, and outcomes would better illuminate SAP integration within Lehigh Valley schools.

### **Students may want schools to start the conversation on mental health.**

Self-referrals to SAP were rare. As students reported high rates of depression, anxiety, and suicidal symptoms, this does not mean that students do not want or are not seeking help. It may be that students are not aware of SAP and its resources. They may feel stigmatized for needing mental health services or that SAP resources are inaccessible due to time or transportation constraints. This conjecture is consistent with a countrywide poll conducted by the National Alliance on Mental Illness (NAMI).<sup>10</sup> The poll found that 65% of teens 12-17 are open to talking about mental health issues, but only 48% talk regularly with parents and 22% talk regularly with peers. Still, most students feel schools should be doing more about mental health. Approximately 70% believe schools should teach about mental health and share information about treatment options.

## **BASD’s lower depression symptom rate may indicate that the district’s trauma-informed approach is working.**

BASD had a significantly lower rate of depression symptoms than two other school districts in our analysis. This could be a result of the district’s pioneering and progressive approach to improve the mental wellness of its student body. This started in 2018 when Broughal Middle School instituted “peace corners” in their classrooms and created a special mindfulness area for students experiencing disturbances that interrupt learning.<sup>57</sup> BASD has Pinebrook therapists in two of its elementary schools and is working towards integrating therapists in its other high school, Freedom, in 2022-2023. While no causation can be drawn from the PAYS data, their lower depression symptom rate may be due to the district’s dedicated proactive approach.

## **Continue and broaden research on youth mental health.**

While this study offers an overview of Pennsylvania and Lehigh Valley youth mental health, there are gaps in the picture. Participation in PAYS and other student surveys yields a broad and comparative look at a student body’s mental health, but it does not identify students in need of specific treatments or present empirical evidence of how mental health interacts with other variables. SAP referrals direct individual students to appropriate resources, but students with these troubles sometimes fly under the radar as internalizing behaviors like anxiety and depression can be difficult to detect.<sup>58</sup> Teacher bias, differences in integration, availability of services, and virtual education can result in some at-risk students not being identified<sup>59</sup> or treated, as the evidence-based practices employed in schools tend to focus on students presenting externalizing behaviors.<sup>44</sup> Further, PAYS and SAP do not assess student opinions on mental health, offered services, or interventions, which likely vary from student to student. This information is critical to integrating a successful SBMH service. Some questions this study could not address but are vital to understanding the crisis are:

- why students are experiencing depression and mental health troubles,
- how youth mental health, risk factors, and protective factors influence each other,

- how students feel about the services they receive,
- how well those services are working, and
- how supported students feel at school.

To understand what students are experiencing, universal screenings, surveys, assessments, and research should be performed. Routine mental health screenings provide greater clarity on macro and micro levels. Schoolwide screening allows the school to see what health problems may majorly and minorly plague their students.<sup>60</sup> The school can then informedly invoke or alter services. Individually, screening identifies at-risk children early and allows for intervention before serious problems arise. Screening tools have been shown to better identify students with internalizing behaviors than traditional observation-based identification methods<sup>59</sup> and can address the high levels of untreated depression in our schools. Traditional identification methods such as SAP remain important, as a 2013 study suggests that combining screening tools with traditional identification methods best catches distressed youth.<sup>59</sup>

At present, there is a scarcity of research on how evidence-based practices affect high school students. Most of these practices have been studied with elementary and middle school students. Pinebrook’s progress data serves as an impetus to conduct solid statistical research on the effects of evidence-based practices on high school students. *With this knowledge, we advocate for the continued participation in youth surveys, implementation of routine universal screenings (if not already implemented), and introduction of new research to identify middle and high school students’ current mental health struggles, opinions, and responses to evidence-based interventions.*

It is worthwhile to note the importance of transparency in this research. Not only does transparency build trust with communities, but it also educates parents and other community members about the mental health crisis. This may be a meaningful contribution, as parent participation was a major reason for SAP intervention failure. It may also help students feel heard and supported by the institutions that care for them and encourage them to seek treatment.

## **Integrate, continue, and expand mental health services in schools.**

SAP statistics reinforce what PAYS data confirms: students are in dire need of mental health services. Regardless of why kids are experiencing increased mental and emotional disturbances, we must give them skills to understand how to take care of themselves and when to get help. SBMH services, particularly in an MTSS framework, would best deliver treatment to our children by reducing barriers to care, stigma, and racial inequities. The results from Liberty high school's Tier 2 support with Pinebrook combined with the school's high SAP referral rate suggest that their MTSS framework is reaching students.

SBMH services also ease the stress that the youth mental health crisis has inflicted on teachers. A severe national teacher shortage has overstretched schools, and their teachers are not equipped to deal with the youth mental health epidemic.<sup>30</sup> In fact, 78% of educators experience depression symptoms of their own, 80% attest that burnout is a problem, and 55% say that they are ready to leave the profession earlier than planned.<sup>61</sup> In their 2022 State of Education report, the Pennsylvania School Boards Association found that 99.3% of Pennsylvania districts claim that their staff are burnt out, 68.2% are experiencing resignation and retirement increases, and 62.6% claim that their biggest challenge is staffing shortages.<sup>62</sup> Teachers report that now more than ever, students are depending on them for needs that they cannot provide, including mental health services such as counseling and therapy.<sup>63</sup> Teachers widely support additional professionals in schools: 94% of educators favor more health and behavioral support, and 84% advocate for more counselors and psychologists.<sup>61,64</sup> In Pennsylvania, 85.9% of districts cited social-emotional issues as the most common reason for instructional challenges.<sup>62</sup> By placing afflicted students in the care of mental health professionals, an MTSS framework helps alleviate the weight that teachers have had to shoulder in the wake of off-the-charts mental problems and the critical lack of staff. *Seeing the high rates of mental health concerns coupled with the success of Pinebrook's therapy services, we advocate that schools work to strengthen and expand their current SBMH services.*

## **Foster collaborative partnerships between school districts, community partners, and local health networks.**

Schools face a dizzying number of considerations when integrating mental health services. Feasibility, time and money, staffing, location constraints, deciding which mental health issues to assess and to address, and the types of resources available are all costly pieces to the puzzle.<sup>60</sup> Schools frequently attest that logistical obstacles such as funding, time and location limitations, staffing shortages, and administrator and parent disengagement seriously hamper the integration of supportive services.<sup>40,42,43</sup> Four in ten schools claim that inadequate funding majorly limits mental health efforts, and half of public high schools do not have access to diagnostic assessments or treatment.<sup>43</sup> Rural schools are much more likely to be affected by these constraints.<sup>43</sup>

Schools cannot do this alone.<sup>30</sup> Studies suggest that schools engaged in collaborations with community partners and agencies are more successful in implementing MTSS frameworks and evidence-based practices than unpartnered schools.<sup>42</sup> A system of community partners, health agencies, district administrators, local leaders, and families designed to bring MTSS to schools is termed the Interconnected Systems Framework (ISF) and is majorly supported by researchers, field professionals, and education institutions.<sup>13,28,30,42,44,58,65</sup> ISF integrates mental health services in schools, districts, and across the state. Just like implementing MTSS frameworks and screening, creating an ISF requires intensive and inclusive planning and the willingness of all parties to participate.<sup>13,58</sup> The readiness of ISF stakeholders is crucial for its success,<sup>65</sup> and we hope that the troubling results of this assessment stimulate schools and community partners to come together. *We advise that schools and health agencies build or fortify ISF collaborations to deliver desperately needed MTSS frameworks and screening into schools.*

## **Lehigh Valley schools and community organizations are stepping up to the plate.**

Fortunately, several Lehigh Valley school districts have been partnering with local hospitals and health networks to provide therapy and counseling services.

Parkland School District and Northampton Area School District have expanded their counseling services, implemented mental health education programs, and partnered with St. Luke's University Health Network to provide counselors through their Your Emotional Strength Supported (YESS) program.<sup>66,67</sup> CASD has partnered with Salisbury Behavioral Health to provide SBMH services,<sup>68</sup> and Allentown School District works with Lehigh Valley Health Network and KidsPeace.<sup>67</sup> Communities in Schools is a nonprofit connecting struggling students to resources that serve many school districts including BASD, EASD, WCSD, Allentown, East Penn, and Wilson Area.<sup>69,70</sup> Additionally, plenty of resources exist that detail how to foster collaborative ISF partnerships for schools who have yet to integrate services. The National Center on Safe Supportive Learning Environments (NCSSLE),<sup>71</sup> Center on Positive Behavioral Interventions & Supports (CPBIS)<sup>72</sup>, and Pennsylvania Positive Behavior Support (PPBS)<sup>73</sup> have accessible resources for navigating this process.

### Incentivize child therapy and school psychology careers.

Even if every Lehigh Valley school and school district establishes and bolsters their ISFs, secures funding, and gathers strong stakeholder support, one last barrier remains: finding professionals to staff the locations. America is experiencing a grave shortage of child therapists and school psychologists. For each state, the National Association of School Psychologists (NASP) recommends a school psychologist-to-student ratio of 1:500, but this ratio was 1:1162 nationally in the 2020-2021 school year.<sup>74</sup> Pennsylvania sits at 1:1038.<sup>75</sup> Limited financial resources, retention difficulties, lack of graduate programs, lack of qualified applicants, and lack of workplace diversity contribute to this shortage.<sup>76</sup>

ISFs and MTSS frameworks are useless if there are no available staff. To address this crisis, it is imperative that undergraduate psychology students are incentivized to become child therapists and school psychologists. School psychology requires a master's degree at minimum, which bills tens of thousands of dollars, on top of the hefty price tag for a bachelor's degree. Subsidized loans, loan forgiveness programs, and other financial incentives can attract more students to the field. It is important to prioritize diversity in mental

health professionals as well, as studies report that culturally sensitive therapists are critical to building trust with youth.<sup>34,41</sup> Moreover, school psychologists are often certified to practice in the state where they obtain their degrees, so it is important that enough school psychology programs are offered in every state. Pennsylvania universities have fifteen school psychology programs, the fourth most in the country, and the state still reports an unfavorable ratio.<sup>77</sup> Twenty-three states have three or fewer school psychology graduate programs.<sup>77</sup> To combat this, NASP recommends scaling up outreach and recruitment efforts, continuing research on children's mental health needs, and fostering collaborative partnerships among colleges and universities, school districts, and state education departments.<sup>74</sup> While this is not a local solution, it would be amiss to exclude this essential part of the issue. *We recommend that our local Congresspeople work with Washington toward creating school psychology career incentives.*

### Limitations and Future Work

This project is meant to add to the ongoing conversation between educational, health, and philanthropic entities through an overview of the youth mental health crisis in Pennsylvania and the Lehigh Valley. It is meant to promote deeper investigation into the mental health of our youth to determine how to best provide for them. However, due to the nature of the relevant data and production constraints, this project faced limitations.

We generously received PAYS and SAP data from five school districts and one charter school. Data from more Lehigh Valley public, charter, and private schools would reinforce our understanding of youth mental health in the Lehigh Valley. Further, the SAP data received from schools were inconsistent and incomplete. More detailed referral source, recommendation, and outcome information would yield a better understanding of the efficacy of SAP.

As reviewed in the Discussion section, PAYS and SAP data alone are not sufficient to present a comprehensive picture of youth mental health. PAYS is a self-report study of students, and results may be skewed by their knowledge of the inquired topics. Additionally, PAYS only contains ten questions on mental health (mostly

regarding depression) and suicide risk, which are not encompassing of mental health conditions and symptoms. On the other hand, SAP is referral-based, which means the data is subject to observation bias. While these data are illuminative, they are not extensive, and more research is needed to soundly quantify the youth mental health landscape.

The ideal objective for this study would have been to conduct original data collection. Self-report surveys of students in several Lehigh Valley schools would quantify their current mental states, thoughts, and opinions on how their school is supporting them. Rigorous statistical evaluations of SBMH services would investigate and measure their success to a statistically significant level. As discussed previously, we believe future research in these areas is imperative to ensure the prosperity of SBMH services, as this data would reveal if current efforts were effective. This objective was unfeasible with the current operational constraints and goal of the project. Again, we urge institutions with access and resources to undertake this initiative.

## Conclusion

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The COVID-19 pandemic stimulated a national conversation about youth mental health, but the truth is that youth mental health has been in an escalating crisis for over a decade. More students than ever are enduring mental health concerns that are more than just feeling sad. In 2021, around 40% of Pennsylvania middle and high school students felt depressed, 31% were at-risk for suicide, and 11% attempted suicide at least once. Our schools in the Lehigh Valley are no different. Local PAYS and SAP data show that Lehigh Valley students need help and are utilizing available services, but not all afflicted students are intercepted. The constraints of virtual education, availability of resources, and staffing shortages resulted in many distressed students slipping through the cracks in SAP.

Mental health issues can wreak havoc on children's development, including their academics, social lives, relationships, substance usage, and physical health. These problems are likely to persist into adulthood and stymie their prosperity. The juvenile justice system intercepts many students suffering from mental health problems, which can trap them in a cycle of criminality.

This crisis is taking a toll on teachers as well, who are overburdened and unable to meet students' intensive needs, affecting their ability to deliver quality education.

Implementing, broadening, and promoting SBMH services are necessary to combat this emergency. BASD's Liberty High School is a notable example of these strategies supporting the student body and reducing the number of students requiring intensive care. Through Dr. Bailey's leadership in establishing a proactive style to mental health care, Liberty grew into a more supportive and connected community. Indeed, Liberty reported the highest SAP referral rate by far, but BASD had the lowest depression symptom rate among the covered school districts.

The mental health crisis is far too complex for this study to fully grasp the scope of it. Additional research efforts are necessary to break open this problem, but schools, particularly rural schools, cannot do it alone. Supplying resources, researching issues, and incentivizing school psychology positions requires collaboration among our local health and humanitarian institutions. While many Lehigh Valley schools are already participating in these collaborations, the high rates of depressive symptoms and suicide coupled with the initial positive results of Pinebrook's therapy services bolster the case for strengthening existing partnerships.

This is not an issue that can wait any longer. We need to hear our children's voices. We need to listen and show them that we believe their experiences are important. We need to give them the support they need not only to thrive but to survive.

## Contributors

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This report was authored by Victoria Wrigley, M.S., data scientist and researcher for LVJI, and Batool Salloum, intern for LVJI. Ms. Wrigley and Ms. Salloum created all graphics except when noted. This report was completed at the direction of Mr. Joseph Welsh, executive director of LVJI. LVJI thanks Ezrin Homonoff, M.Ed., for their guidance, thoughtful edits, and contributions. LVJI further thanks Dr. Bailey, Liberty's therapists, the superintendents of participating schools, the Center for Humanistic Change, and Pinebrook Family Answers for their generosity and support.

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