

Health Risk Behaviors at Pierce Middle School: Results from the MYHS

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Executive Summary

The current report provides detailed results of Pierce Middle School's (PMS) 2022 administration of the Massachusetts Youth Health Survey (MYHS). The MYHS is a well-regarded assessment of youth health risk behaviors and perceptions of social norms that has been administered to 6-12th grade youth across Massachusetts since 2006. The current report summarizes results from 540 PMS students who completed the MYHS survey in April of 2022 and compares patterns of health risk behaviors and perceptions of social norms among PMS students in 2022 to patterns found among students statewide and PMS students in 2019.

Throughout the report, the reader will see we use the term, "significant." This term is reserved solely for use when a finding is *statistically meaningful*. In other words, we only use the term "significant" to describe results that have undergone statistical testing, and the result suggests that there is a statistically significant difference.

In all, findings suggest that PMS students engage in health risk behaviors at similar rates or lower rates than students statewide. There were several positive results suggesting that PMS students in 2022 were using cigarettes and electronic vaping products at a lower rate than students statewide. In addition, PMS students demonstrated positive social norms. When compared to students statewide, PMS students were less likely to think that most kids their age use alcohol, marijuana, electronic vaping products, and illegal drugs.

However, there were also several results that suggest significant increases in rates of health risk behaviors between 2019 and 2022. In particular, rates of bullying, depressive symptoms, and self-injury as well as marijuana use have increased significantly since 2019.

- In 2022, 35.2% of PMS students reported being bullied in the past 12 months compared to 26.3% of PMS students in 2019
- In 2022, 16.0% of PMS students reported being electronically bullied in the past 12 months compared to 8.3% of PMS students in 2019
- In 2022, 23.8% of PMS students experienced depressive symptoms in the past year, compared to 15.5% of PMS students in 2019
- In 2022, 22.0% of PMS students reported engaging in self-injurious behaviors, compared to 15.8% of PMS students in 2019
- In 2022, 2.6% of students used marijuana in the past 30 days compared to 0.5% in 2019

In all, the results of the 2022 administration of the MYHS at PMS reveal several promising findings as well as areas to target for future improvement.

Introduction

Pierce Middle School (PMS), in conjunction with Milton Coalition, administered the Massachusetts Youth Health Survey (MYHS) in April of 2022. A total of 540 6th-8th grade students completed the survey¹. The MYHS monitors a variety of health-risk behaviors among adolescents including alcohol, drug, and tobacco use, drug and alcohol-related risk behaviors, and bullying.

The current report compares the results from PMS's 2022 MYHS to 1) PMS's 2019 administration of the MYHS and 2) the 2019 Massachusetts sample of 2,536 6th-8th grade students. Results are reported overall and by gender. Although all data points are reported in the tables at the end of the report, the report text focuses on highlighting significant findings that emerged when PMS students were compared with the 2019 PMS sample and the Massachusetts sample and calling attention to notable patterns observed among subgroups of students within PMS. Technical Note 1 describes how statistically meaningful differences between the Massachusetts and PMS samples were calculated.

Sample Description

In the following report, data from the PMS 2022 administration of the MYHS are compared to two data sets: 1) PMS 2019 administration of the MYHS and 2) 2019 Massachusetts administration of the MYHS.

Pierce Middle School 2022 Participants

In 2022, 540 students completed the MYHS at PMS. Most students were 12 to 14 years old. Approximately 38.0% of students were in 6th grade, 34.9% of students were in 7th grade, and 27.3% were in 8th grade. Approximately equal numbers of male (47.9%) and female (48.1%) students completed the survey, and a smaller number of transgender male (1.4%), transgender female (0.4%), and non-binary (2.2%) students completed the survey. Nearly sixty-four percent of participants identified themselves as White, 10.4% identified as Black or African American, 9.1% identified as Asian American, 9.1% identified as two or more races, 4.5% identified as other, and 3.7% identified as Caribbean Islander (Haiti, Puerto Rico). Most students identified themselves as non-Hispanic or Latinx (86.9%), and 6.3% of participants identified as Hispanic or Latinx. Additionally, 89.1% of participants reported that they participated in an organized activity in the past week.

¹ The state of Massachusetts excludes data from students who complete less than 15% of the survey. PMS received 594 surveys, however 54 students were excluded because they completed less than 15% of the survey.

Pierce Middle School 2019 Participants

In March of 2019, 291 6th grade students and 263 8th grade students completed the MYHS at Pierce. The Pierce students who completed the MYHS were 54% female and 45% male. The remaining 1% of students identified as "Other" gender. Seventy percent of participants were White, 11% were Black or African American, 7% were Asian American, and the remaining 12% were multiracial. In addition, 7.5% of Pierce students identified as Hispanic. The majority of students reported doing well academically, with 86% reporting that they received mostly A's or B's in their academic coursework.

Massachusetts Middle School 2019 Participants

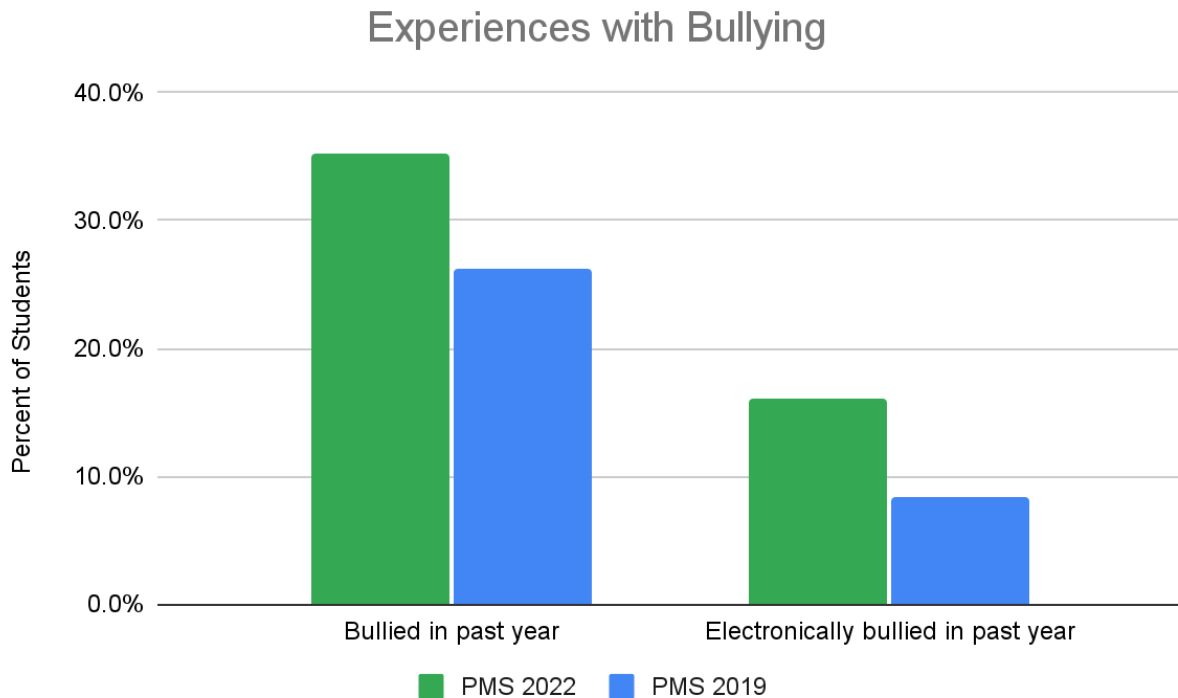
In 2019, 2,536 middle school students across the state of Massachusetts participated in the Massachusetts Youth Health Survey (MYHS). Fifty-one percent of participants identified as female and 49% identified as male. Approximately equal numbers of sixth, seventh, and eighth graders participated in the 2019 MYHS. Most participants identified as White (59.6%), 20.5% identified as Hispanic or Latino, 9.1% identified as Black or African American, 6.3% identified as other or multiple ethnicities, and 4.5% identified as Asian American. Further information about the MYHS administration and results can be found through the [Massachusetts Department of Public Health](#).

Violence and Bullying

For most items related to bullying, 2022 PMS students endorsed experiencing or participating in bullying at similar rates as 2019 Massachusetts students. However, PMS students in 2022 reported experiencing or participating in bullying at higher rates than PMS students in 2019. Specifically, PMS 2022 students endorsed the following items at a meaningfully higher rate than PMS 2019 students:

- In 2022, 35.2% of PMS students reported being bullied in the past 12 months compared to 26.3% of PMS students in 2019

- In 2022, 16.0% of PMS students reported being electronically bullied in the past 12 months compared to 8.3% of PMS students in 2019



- In 2022, 3.7% of PMS reported electronically bullying other students in the past 12 months compared to 1.1% of PMS students in 2019

Overall, male and female PMS 2022 students reported that they experienced bullying and engaged in cyberbullying at similar rates. However, male students were significantly more likely to report bullying other students in the past 12 months than female students.

- 32.0% of both male and female PMS students reported being bullied in the past 12 months
- 12.3% of male students and 16.0% of female PMS students reported being bullied electronically in the past 12 months
- 5.7% of male students and 2.2% of female PMS students reported electronically bullying another student in the past 12 months
- 8.0% of male students and 2.7% of female PMS students reported bullying someone in the past 12 months

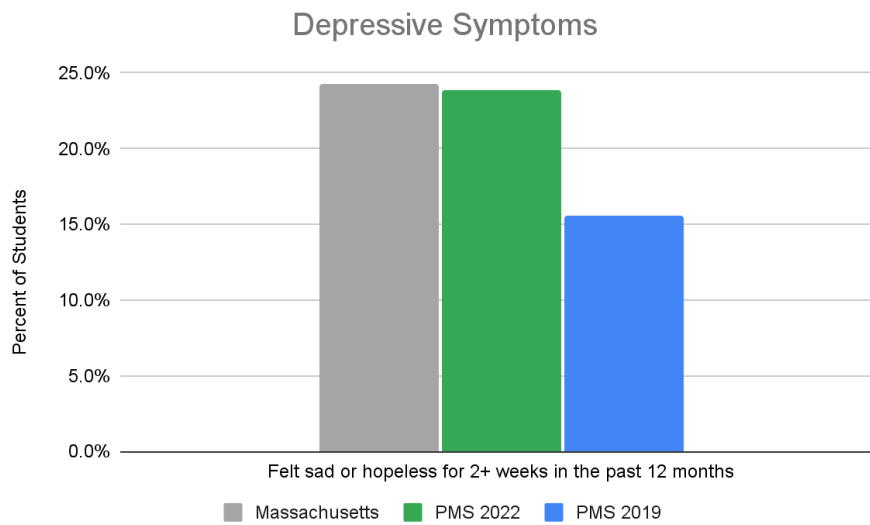
Dating Violence

In 2022, 0.6% of PMS students reported threatening to hurt someone they were dating or going out with compared with 1.3% of Massachusetts students. Within PMS, male (0.9%) and female (0.0%) students also reported similar rates of engaging in dating violence.

Mental Health

Depressive Symptoms

In 2022, PMS students (23.8%) reported feeling sad or hopeless for two plus weeks in the past year at the same rate as Massachusetts students (24.3%) students. However, there was an increase in students' reports of depressive symptoms between the PMS 2019 and 2022 surveys. In 2022, 23.8% of PMS students experienced depressive symptoms in the past year, compared to 15.5% of PMS students in 2019.



Statewide female students tend to report more depressive symptoms than male students. These trends are mirrored within PMS with 25.9% of female PMS students and 17.2% of male PMS students reporting that they experienced depressive symptoms in the past year. However, when compared with statewide trends, the rate of depressive symptoms among PMS females (25.9%) is lower than the rate among females statewide (31.3%).

Suicidal and Self-Injury Behaviors

A similar number of students at the state level (11.3%) reported considering suicide in the past year compared with PMS students in 2022 (9.5%). Rates of suicidal ideation at PMS in 2022 were not significantly different from rates of suicidal ideation at PMS in 2019 (7.1%).

The number of students who engaged in self-injurious behaviors across Massachusetts (21.0%) was similar to the number of PMS 2022 students who engaged in self-injurious behaviors (22.0%). From 2019 to 2022, there was a significant increase in the number of PMS students who engaged in self-injurious behaviors:

- In 2019, 15.8% of PMS students reported engaging in self-injurious behaviors, compared to 22.0% of PMS students in 2022

Drug and Alcohol Use

Cigarette Use

The percentage of PMS students who reported ever having smoked a cigarette did not significantly change from 2019 (1.8%) to 2022 (1.2%). However, significantly fewer PMS students in 2022 ever smoked a cigarette than Massachusetts students:

- In 2019, 5.2% of Massachusetts students reported ever smoking a cigarette
- In 2022, 1.2% of PMS students reported ever smoking a cigarette
- Lifetime cigar use was significantly lower among PMS 2022 students (1.4%) than among Massachusetts students (3.4%)

Electronic Vape Products

Significantly fewer PMS students (2.4%) reported ever using a vape product than Massachusetts students (14.7%).

Among PMS students who used vape products in the past 30 days, 100% of females used disposable vape products while males tended to use pre-filled pods and tanks.

Sources of Tobacco

PMS students who smoked cigarettes or used vape products were asked to identify where they obtained the cigarettes or vape products. Most students reported that they bought tobacco products from a vape shop (75%). Students also reported they gave someone else money to buy tobacco products (37.5%) or obtained tobacco products from friends (37.5%). Students frequently purchased tobacco products online (25.0%), bought them from other states (12.5%), or got them from a family member (12.5%).

Flavor of Tobacco

In 2022, PMS students who smoked cigarettes or used vape products were asked to identify the flavors they used. Half of PMS students who smoked a cigarette or used vape products in the past 30 days reported using fruit or candy-flavored tobacco. The next most frequent flavor was "other" (25.0%), followed by mint (12.5%), clove or spice (12.5%), and unflavored (12.5%).

Alcohol Use

The number of 2022 PMS students (9.3%) who reported ever consuming alcohol was lower than Massachusetts students (13.6%). There was not a significant change in the number of PMS students who reported ever consuming alcohol from 2019 (6.9%) to 2022 (9.3%).

Similar numbers of PMS students and Massachusetts students reported having five or more drinks of alcohol in a row within a couple of hours in the past 30 days (i.e., binge drinking). The percent of PMS students who reported binge drinking in the past 30 days did not change significantly between 2019 (2.2%) and 2022 (1.1%).

-0.9% of Massachusetts students reported binge drinking in the past 30 days

-1.1% of PMS 2022 students reported binge drinking in the past 30 days

-2.2% of PMS 2019 students reported binge drinking in the past 30 days

In 2022, PMS added a question asking students about their age when they had their first drink of alcohol. In response to this question, 6.3% of PMS students reported they had their first drink of alcohol before age 13. Significantly more male PMS students (8.4%) reported having a drink before the age of 13 than female PMS students (3.3%).

Marijuana Use

In 2022, PMS students reported ever using marijuana at a lower rate than students statewide. There was not a significant change in the number of PMS students who reported using marijuana between 2019 and 2022.

-7.0% of Massachusetts students reported ever using marijuana

-3.7% of PMS 2022 students reported ever using marijuana

-2.0% of PMS 2019 students reported ever using marijuana

Similar numbers of PMS 2022 students and Massachusetts students reported using marijuana in the past 30 days. From 2019 to 2022, there was a significant increase in the number of PMS students who used marijuana in the past 30 days.

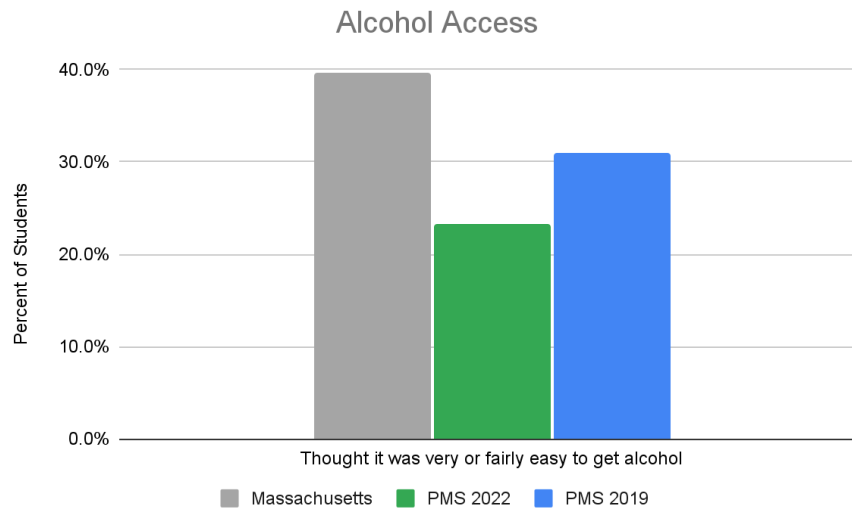
-3.0% of Massachusetts students used marijuana in the past 30 days

-2.6% of PMS 2022 students used marijuana in the past 30 days

-0.5% of PMS 2019 students used marijuana in the past 30 days

Alcohol and Marijuana Access and Characteristics of Use

Compared to Massachusetts students, significantly fewer PMS 2022 students said that they thought it was “very” or “fairly easy” to get alcohol. The percentage of PMS students who thought it was “very” or “fairly easy” to get alcohol also significantly decreased from 2019 (31.0%) to 2022 (23.3%).



Among PMS students who consumed any alcohol in their lifetime, one-third reported they got alcohol at home. Twenty percent got alcohol at parties, 17.1% got it through friends, 11.4% got someone else to buy alcohol for them, 10.8% bought it from a supermarket or convenience store, 2.9% bought it from bars, clubs, or restaurants, and 0% bought it from a liquor or package store.

Significantly fewer PMS 2022 students (4.0%) said that they thought marijuana was “very easy” or “fairly easy” to get than Massachusetts students (16.0%). There was not a change in the number of PMS students who thought marijuana was “easy” or “fairly easy” to get from 2019 (5.1%) to 2022 (4.0%). PMS female (2.9%) and male (3.9%) students reported marijuana was “easy” or “fairly easy” to get at an equal rate.

Among PMS students who used marijuana in the past 30 days, the most frequent way they obtained marijuana was at parties (41.7%). Twenty-five percent of students reported buying marijuana from someone else and 25.0% reported getting marijuana with permission from a parent or family member of age. Twenty-five percent of students also reported getting marijuana from a friend, or getting it some other way (25.0%). A smaller percentage of PMS students took marijuana from somewhere without permission (16.7%), bought marijuana from a store (8.3%), or got marijuana without permission from a parent or family member (8.3%).

Of PMS students who used marijuana in the past 30 days, 50.0% reported that they smoked a cigar or blunt. One-third of students smoked marijuana in a joint, pipe, bong, or dab and one-third vaped marijuana. A smaller number of PMS students reported drinking marijuana (16.7%), using marijuana in some other way (16.7%), and eating marijuana in food (8.3%).

Prescription Drug and Other Substance Use

Similar numbers of PMS students (4.8%) and Massachusetts (3.6%) students reported taking prescription drugs that were not their own. Within PMS, male and female students reported taking prescription drugs, narcotics, or steroids that weren't their own at a similar rate.

Perceptions of Disapproval of Alcohol/Drug Use by Parents and Peers

From 2019 to 2022, similar numbers of PMS students reported that their parents would think it is “wrong” or “very wrong” if they used alcohol, tobacco, or marijuana. Male and female PMS students did not differ in their perceptions of how wrong their parents would think it is for them to use substances.

-In 2022, 98.5% of PMS students said their parents would think it is "wrong" or "very wrong" if they drank alcohol nearly every day, compared to 96.7% in 2019

-In 2022, 99.0% of PMS students said their parents would think it is "wrong" or "very wrong" if they smoked tobacco, compared to 97.6% in 2019

-In 2022, 98.8% of PMS students said their parents would think it is "wrong" or "very wrong" if they used marijuana, compared to 98.0% in 2019

There was a significant increase from 2019 to 2022 in the number of PMS students who reported that their peers would think it is "wrong" or "very wrong" if they used alcohol, tobacco, or marijuana. Male and female PMS students did not differ in their perceptions of how wrong their peers would think it is for them to use substances.

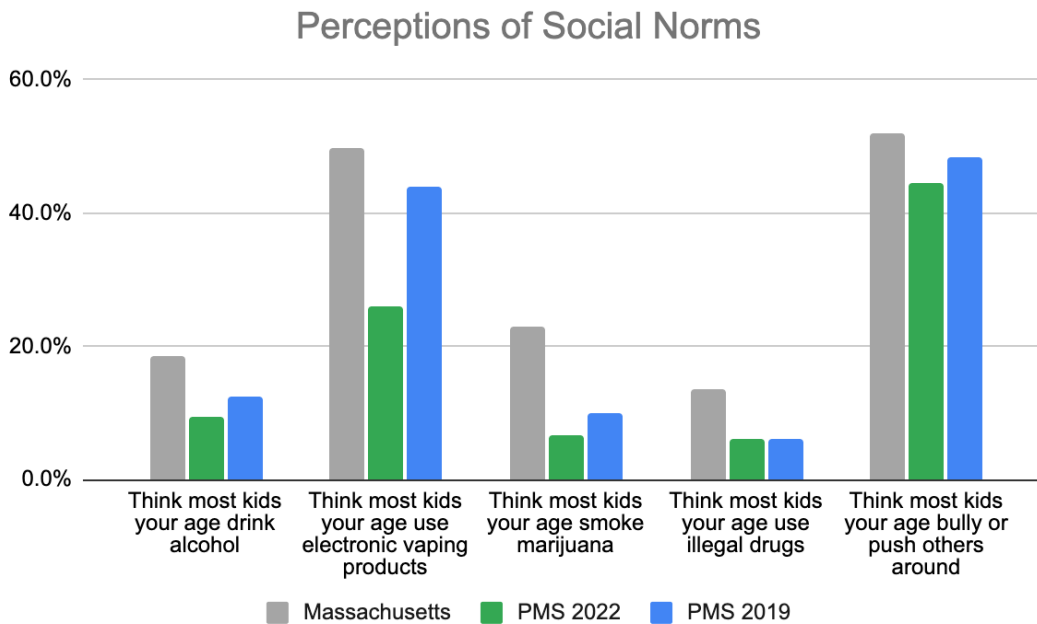
-In 2022, 97.7% of PMS students said their peers would think it is "wrong" or "very wrong" if they drank alcohol nearly every day, compared to 90.0% in 2019

-In 2022, 98.7% of PMS students said their peers would think it is "wrong" or "very wrong" if they smoked tobacco, compared to 92.4% in 2019

-In 2022, 98.7% of PMS students said their peers would think it is "wrong" or "very wrong" if they used marijuana, compared to 89.8% in 2019

Perceptions of Social Norms

Significantly fewer PMS students than Massachusetts students thought most kids their age use substances (e.g., alcohol, electronic vaping products, marijuana, illegal drugs) or bully other kids. Compared to 2019, PMS students in 2022 reported they thought most kids drank alcohol, smoked marijuana, used illegal drugs, or bullied other kids at similar rates. However, there was a significant decrease from 2019 to 2022 in the percentage of PMS students who thought most kids their age used electronic vape products.



Significantly more female than male students at PMS said that they thought most kids their age use electronic vaping products or bully other kids.

- 31.7% of females and 20.5% of males believe most kids their age use electronic vaping products
- 48.2% of females and 36.6% of males believe most kids their age bully or push other kids around

Substance-Related Risk Behaviors

Similar numbers of Massachusetts students and PMS students rode with a driver who had been drinking alcohol in the last 30 days. There was not a significant change in the number of PMS students who rode with a driver who had been drinking alcohol in the last 30 days.

-9.8% of Massachusetts students rode with a driver who had been drinking alcohol in the last 30 days.

-9.5% of PMS students in 2022 rode with a driver who had been drinking alcohol in the last 30 days

-7.4% of PMS students in 2019 rode with a driver who had been drinking alcohol in the last 30 days

Significantly fewer PMS students (3.7%) reported riding with a driver who had been smoking marijuana than Massachusetts students (6.3%). Similar numbers of PMS students in 2022 (3.7%) and in 2019 (2.2%) rode with a driver who had been smoking marijuana.

Additional Analyses

The team at PMS and Milton Coalition was interested in examining the relationship between participation in organized activities and certain risk behaviors. A series of four logistic regression models were used to examine the relationship between participation in organized activities and bullying, and alcohol, cigarette, marijuana, and prescription drug use. Each model accounted for the effects of gender, race/ethnicity, and grade in school - this allows us to narrow in on the effects of organized activity participation while parsing out the effects of other demographic factors that may be related to certain risk behaviors. In all, we found that participation in organized activities did not significantly predict whether students had been bullied in the past year or if they had ever used alcohol, cigarettes, marijuana, or prescription drugs.

Students were asked very broadly about whether they had participated in organized activities in the past 30 days. Asking students more specifically about what types of activities they engage in and how frequently may produce different results. For example, in MiltonHigh School, we examined the link between sports participation specifically and health risk

behaviors. Using a similar logistic regression model approach, we found that students who participated in sports reported higher rates of alcohol, marijuana, and electronic vape product use than students who did not participate in sports.

Tables

Table 1. MYHS PMS 2022 Sample Description

		<i>n</i>	%
Grade			
	6th grade	203	37.7
	7th grade	188	34.9
	8th grade	147	27.3
Age			
	11 years old or younger	40	7.4
	12 years old	198	36.8
	13 years old	192	35.7
	14 years old	104	19.3
	15 years old	2	0.4
	18 years old or older	2	0.4
Gender			
	Male	239	47.9
	Female	240	48.1
	Transgender male	7	1.4
	Transgender female	2	0.4
	Non-binary	11	2.2
Ethnicity			
	Hispanic or Latinx	34	6.3
	Not Hispanic or Latinx	469	86.9
Race			
	Asian	49	9.1
	Black or African American	56	10.4
	Caribbean Islands (Haiti, Puerto Rico, etc.)	20	3.7
	White	342	63.7
	Two or more races	46	8.6
	Other	24	4.5

Table 2. MYHS Results in Massachusetts 2019, PMS 2022, and PMS 2019

	Mass 2019	PMS 2022	PMS 2019	PMS 2022 vs. Mass 2022	PMS 2022 vs. PMS 2019
Experiences with Bullying					
Have you been bullied in the past year?	35.3	35.2	26.3		*
Have you been electronically bullied (through e-mail, chat rooms, instant messaging, websites, or texting) in the past 12 months?	15.2	16.0	8.3		*
Have you bullied or pushed someone around in the past 12 months?	6.7	5.3	3.6		
Have you used text, email or social networking sites to make fun of, threaten, or insult another kid in the past 12 months?	4.4	3.7	1.1		*
Dating Violence					
In the past 12 months, did you threaten to hurt, physically hurt, or try to hurt a date or someone you were going out with?	1.3	0.6			
Mental Health					
Have you felt sad or hopeless for 2+ weeks in the past 12 months?	24.3	23.8	15.5		*
Suicidal Behaviors					
Have you considered suicide in the past 12 months?	11.3	9.5	7.1		
Self Injury Behaviors					
Have you injured yourself intentionally without wanting to die in the past 12 months?	21.0	22.0	15.8		*
Who do you turn to for help when feeling sad or hopeless?					
Talked to someone about problems in the past 12 months		51.3			
An adult family member		37.1			
A school psychologist, school counselor, or school nurse		18.6			

	Mass 2019	PMS 2022	PMS 2019	PMS 2022 vs. Mass 2022	PMS 2022 vs. PMS 2019
A teacher or some other adult at school not mentioned in previous choice		7.6			
A psychologist, therapist, counselor, doctor, or nurse (not in school)		15.8			
Some other adult in the community (not in school)		8.2			
A friend or non-adult family member (sibling, cousin, etc.)		34.7			
Tobacco use					
Have you ever smoked cigarettes?	5.2	1.2	1.8	*	
During the past 30 days, did you smoke part or all of a cigarette?		1.2			
Have you ever tried smoking cigars, cigarillos, or little cigars, even one or two puffs?	3.4	1.4		*	
Sources of tobacco products among students who smoked a cigarette or used a vape product in past 30 days					
I bought them at a convenience store		12.5			
I bought them from a vape shop		75.0			
I bought them from another state		12.5			
I gave someone else money to buy them for me		37.5			
I got them from friend(s)		37.5			
I got them from a family member		12.5			
I got them online		25.0			
I got them some other way		12.5			
Flavor of tobacco used among students who smoked a cigarette or vape product in last 30 days (students could select more than one flavor)					
fruit or candy flavored tobacco		50.0			
mint tobacco		12.5			
clove or spice tobacco		12.5			
other flavor tobacco		25.0			
not sure what flavor		12.5			

	Mass 2019	PMS 2022	PMS 2019	PMS 2022 vs. Mass 2022	PMS 2022 vs. PMS 2019
no flavored tobacco		12.5			
Alcohol Use					
Have you consumed any alcohol ever?	13.6	9.3	6.9	*	
During the past 30 days, have you had a drink of alcohol?	4.4	3.4	5.6		
During the past 30 days, have you had 5 or more drinks of alcohol in a row, that is, within a couple of hours?	0.9	1.1	2.2		
Had first drink before age 13		6.3			
Alcohol Access					
Do you think it's very or fairly easy to get alcohol?	39.6	23.3	31.0	*	*
Sources of alcohol (among students who consumed any alcohol ever)					
I buy it from a supermarket or a convenience store		10.8			
I buy it from a liquor store or package store		0.0			
I buy it from bars or clubs or restaurants		2.9			
I have someone else buy it for me		11.4			
I get it through my friends		17.1			
I get at home		33.3			
I get it at parties		20.0			
Substance-Related Risk Behaviors					
Rode with a driver who had been drinking alcohol in last 30 days	9.8	9.5	7.4		
Rode with a driver who had been smoking marijuana in last 30 days	6.3	3.7	2.2	*	
Marijuana Use					
Have you ever used marijuana?	7.0	3.7	2.0	*	
Have you smoked marijuana in the last 30 days?	3.0	2.6	0.5		*
First tried marijuana before age 13		0.7			
Do you think it's "very" or "fairly easy" to get marijuana?	16.0	4.0	5.1	*	

	Mass 2019	PMS 2022	PMS 2019	PMS 2022 vs. Mass 2022	PMS 2022 vs. PMS 2019
Sources of marijuana (among youth who ever used marijuana)					
Bought marijuana from a store		8.3			
Bought marijuana from someone else		25.0			
Got marijuana with permission from parent or family member over age 21		25.0			
Got marijuana without permission from parent or family member		8.3			
Took marijuana from other place without permission		16.7			
Got marijuana from friends		25.0			
Got marijuana at parties		41.7			
Got marijuana some other way		25.0			
Type of marijuana used					
Smoked marijuana in cigar or blunt		50.0			
Smoked marijuana in joint pipe bong or dab		33.3			
Ate marijuana in food		8.3			
Drank marijuana		16.7			
Vaped marijuana		33.3			
Used marijuana in some other way		16.7			
Prescription Drug Use					
Ever taken prescription drugs that weren't your own?	3.6	4.8			
Ever used narcotics that weren't your own?		1.3			
Ever used ritalin or adderall that wasn't your own?		1.3			
Ever used steroids that weren't your own?		0.9			
Ever used other prescription drugs that weren't your own?		2.2			

	Mass 2019	PMS 2022	PMS 2019	PMS 2022 vs. Mass 2022	PMS 2022 vs. PMS 2019
Other Substance Use					
During your lifetime, have you used inhalants to get high (Using inhalants includes sniffing glue, breathing the contents of aerosol spray cans, or inhaling any paints or sprays)?		3.9			
During the past 30 days, have you used inhalants?		2.2			
Vape use					
Ever tried a vape product?	14.7	2.4		*	
Have you used electronic vaping products in the past 30 days?		1.7			
Type of vape product used					
Used disposable vape products		42.9			
Used prefilled pods		57.1			
Used vape with a tank		42.9			
Used other type of vape		14.3			
Don't know what type of vape		0.0			
Perceptions of Social Norms					
Do you think most kids your age drink alcohol?	18.6	9.5	12.5	*	
Do you think most kids your age use electronic vaping products?	49.7	26.0	43.9	*	*
Do you think most kids your age smoke marijuana?	23.0	6.8	10.0	*	
Do you think most kids your age use illegal drugs?	13.6	6.2	6.2	*	
Do you think most kids your age bully or push others around?	51.9	44.5	48.3	*	
Other Health Behaviors and Outcomes					
Experienced symptoms of a concussion in past 12 months (among those who played on a team)	18.5	14.6		*	

	Mass 2019	PMS 2022	PMS 2019	PMS 2022 vs. Mass 2022	PMS 2022 vs. PMS 2019
Being removed from play after symptoms of a sports-related concussion (among those who played on a team, past 12 months)	49.1	21.6		*	
Eating fruit 2+ times yesterday	52.5	27.2		*	
Eating vegetables 3+ times yesterday	18.6	30.3		*	
Eating fruit 2+ AND vegetables 3+ times yesterday	13.0	30.0		*	
Being physically active for 60 minutes, 5+ days per week	48.6	59.2		*	
Being physically active for 20+ minutes, 3+ times per week	73.6	78.1		*	
Uses computer during week for video games or purposes other than schoolwork		93.5			
Sleeping 8+ hours on an average school night	55.9	49.3		*	
Saw a dentist in the past 12 months	91.5	66.3		*	
Had a cavity in the past 12 months	22.2	20.8			
Took part in organized activities in the past week	68.4	89.1		*	
Perceptions of Risk (% of students who perceive risk as "moderate" or "great")					
Risk if have five or more drinks of alcohol once or twice a week?	76.2	68.5		*	
Risk if smoke tobacco?		83.6			
Risk if use vape products once or twice a week?		80.0			
Risk if smoke marijuana once or twice a week?		77.5			
Risk if use prescription drugs that are not prescribed to them?		87.9			
Risk if use inhalants?		76.6			
Parental Disapproval					
My parents would think it is "wrong" or "very wrong" if I drank alcohol nearly everyday		98.5	96.7		

	Mass 2019	PMS 2022	PMS 2019	PMS 2022 vs. Mass 2022	PMS 2022 vs. PMS 2019
My parents would think it is "wrong" or "very wrong" if I smoked tobacco		99.0	97.6		
My parents would think it is "wrong" or "very wrong" if I used marijuana		98.8	98.0		
My parents would think it is "wrong" or "very wrong" if I used vape products		99.0			
My parents would think it is "wrong" or "very wrong" if I used prescription drugs not prescribed to me		98.8	96.7		
Peer Disapproval					
My peers would think it is "wrong" or "very wrong" if I drank alcohol nearly everyday		97.7	90.0		*
My peers would think it is "wrong" or "very wrong" if I smoked tobacco		98.7	92.4		*
My peers would think it is "wrong" or "very wrong" if I used marijuana		98.7	89.8		*
My peers would think it is "wrong" or "very wrong" if I used vape products		98.2			
My peers would think it is "wrong" or "very wrong" if I used prescription drugs not prescribed to me		98.7	93.0		
Home Environment					
Does anyone who lives with you currently use tobacco (including vape products, cigarettes, cigars, smokeless tobacco)?	28.2	10.1		*	
Does anyone who lives with you now use marijuana?		4.6			
Went to bed hungry at least once in the past month because there was not enough food in the home		24.0			
Feeling their neighborhood was safe from crime	91.4	97.6		*	
Usually slept at parent's home		98.5			
Exposure to violence					

	Mass 2019	PMS 2022	PMS 2019	PMS 2022 vs. Mass 2022	PMS 2022 vs. PMS 2019
You were physically hurt by someone in your family	9.4	9.8			
You witnessed violence in your family	10.1	5.7		*	
Protective Relationships					
I feel safe when I am with my family/caregiver(s)		99.3			
I feel that I belong at my school		95.9			
During the past 12 months, have your parent(s) or guardian(s) talked to you about the potential negative consequences of using marijuana?		53.2			
Vehicle safety					
Never or rarely wear seatbelt	5.3	4.3			

Table 3. Select MYHS Results in Massachusetts 2019 and PMS 2022 by Gender

	PMS 2022 Males	PMS 2022 Females	MA 2019 Males	MA 2019 Females
Experiences with Bullying				
Have you been bullied in the past year?	32.3	32.0	30.9	39.6
Have you been electronically bullied (through e-mail, chat rooms, instant messaging, websites, or texting) in the past 12 months?	12.3	16.0	12.0	18.0
Have you bullied or pushed someone around in the past 12 months?	8.0	2.7	8.2	4.7
Have you used text, email or social networking sites to make fun of, threaten, or insult another kid in the past 12 months?	5.7	2.2	5.0	3.9
Dating Violence				
In the past 12 months, did you threaten to hurt, physically hurt, or try to hurt a date or someone you were going out with?	0.9	0.0		
Mental Health				
Have you felt sad or hopeless for 2+ weeks in the past 12 months?	17.2	25.9	17.0	31.3
Suicidal Behaviors				
Have you considered suicide in the past 12 months?	5.4	9.6	7.5	15.3
Self Injury Behaviors				
Have you injured yourself intentionally without wanting to die in the past 12 months?	20.9	17.3	17.5	24.4
Tobacco use				
Have you ever smoked cigarettes?	1.6	0.5	4.5	5.8
During the past 30 days, did you smoke part or all of a cigarette?	1.6	0.5		

	PMS 2022 Males	PMS 2022 Females	MA 2019 Males	MA 2019 Females
Have you ever tried smoking cigars, cigarillos, or little cigars, even one or two puffs?	2.2	0.5	2.9	3.7
Sources of tobacco products among students who smoked a cigarette or used a vape product in past 30 days				
I bought them at a convenience store	0.0	0.0		
I bought them from a vape shop	80.0	50.0		
I bought them from another state	0.0	0.0		
I gave someone else money to buy them for me	40.0	0.0		
I got them from friend(s)	20.0	50.0		
I got them from a family member	0.0	0.0		
I got them online	20.0	0.0		
I got them some other way	0.0	0.0		
Flavor of tobacco used among students who smoked a cigarette or vape product in last 30 days (students could select more than one flavor)				
fruit or candy flavored tobacco	60.0	0.0		
mint tobacco	0.0	0.0		
clove or spice tobacco	20.0	0.0		
other flavor tobacco	40.0	0.0		
not sure what flavor	0.0	50.0		
no flavored tobacco	20.0	0.0		
Alcohol Use				
Have you consumed any alcohol ever?	11.1	6.0	13.5	13.7
During the past 30 days, have you had a drink of alcohol?	2.3	3.4	3.8	4.9
During the past 30 days, have you had 5 or more drinks of alcohol in a row, that is, within a couple of hours?	0.9	1.0		
Had first drink before age 13	8.4	3.3		
Alcohol Access				
Do you think it's very or fairly easy to get alcohol?	23.5	21.8	39.2	39.9
Sources of alcohol (among students who consumed any alcohol ever)				
I buy it from a supermarket or a convenience store	9.1	18.2		

	PMS 2022 Males	PMS 2022 Females	MA 2019 Males	MA 2019 Females
I buy it from a liquor store or package store	0.0	0.0		
I buy it from bars or clubs or restaurants	4.5	0.0		
I have someone else buy it for me	4.5	18.2		
I get it through my friends	13.6	18.2		
I get at home	13.6	36.4		
I get it at parties	13.6	18.2		
Substance-Related Risk Behaviors				
Rode with a driver who had been drinking alcohol in last 30 days	9.9	7.7	7.4	12.1
Rode with a driver who had been smoking marijuana in last 30 days	3.9	2.5	4.9	7.3
Marijuana Use				
Have you ever used marijuana?	3.9	3.0	6.5	7.3
Have you smoked marijuana in the last 30 days?	3.4	2.0	2.8	3.0
First tried marijuana before age 13	0.8	0.0		
Do you think it's "very" or "fairly easy" to get marijuana?	3.9	2.9	16.1	15.4
Sources of marijuana (among youth who ever used marijuana)				
Bought marijuana from a store	0.0	0.0		
Bought marijuana from someone else	14.3	25.0		
Got marijuana with permission from parent or family member over age 21	28.6	25.0		
Got marijuana without permission from parent family member	0.0	0.0		
Took marijuana from other place without permission	14.3	25.0		
Got marijuana from friends	14.3	25.0		
Got marijuana at parties	42.9	25.0		
Got marijuana some other way	42.9	0.0		
Type of marijuana used				
Smoked marijuana in cigar or blunt	42.9	50.0		
Smoked marijuana in joint pipe bong or dab	28.6	25.0		
Ate marijuana in food	14.3	0.0		
Drank marijuana	28.6	0.0		

	PMS 2022 Males	PMS 2022 Females	MA 2019 Males	MA 2019 Females
Vaped marijuana	42.9	0.0		
Used marijuana in some other way	14.3	25.0		
Prescription Drug Use				
Ever taken prescription drugs that weren't your own?	5.6	3.5	2.7	4.0
Ever used narcotics that weren't your own?	1.3	0.8		
Ever used ritalin or adderall that wasn't your own?	0.8	0.8		
Ever used steroids that weren't your own?	0.8	0.4		
Ever used other prescription drugs that weren't your own?	2.5	1.3		
Other Substance Use				
During your lifetime, have you used inhalants to get high (Using inhalants includes sniffing glue, breathing the contents of aerosol spray cans, or inhaling any paints or sprays)?	2.5	4.5		
During the past 30 days, have you used inhalants?	2.9	1.0		
Vape use				
Ever tried a vape product?	2.7	1.6	13.0	15.9
Have you used electronic vaping products in the past 30 days?	2.2	1.1		
Type of vape product used				
Used disposable vape products	0.0	100.0		
Used prefilled pods	75.0	0.0		
Used vape with a tank	50.0	0.0		
Used other type of vape	25.0	0.0		
Don't know what type of vape	0.0	0.0		
Perceptions of Social Norms				
Do you think most kids your age drink alcohol?	7.6	12.2	13.7	23.2
Do you think most kids your age use electronic vaping products?	20.5	31.7	41.4	57.1

	PMS 2022 Males	PMS 2022 Females	MA 2019 Males	MA 2019 Females
Do you think most kids your age smoke marijuana?	5.8	8.3	18.7	26.6
Do you think most kids your age use illegal drugs?	5.4	7.3	9.9	16.6
Do you think most kids your age bully or push others around?	36.6	48.2	45.0	58.1
Perceptions of Risk (% of students who perceive risk as "moderate" or "great")				
Risk if have five or more drinks of alcohol once or twice a week?	65.1	71.4	74.5	78.4
Risk if smoke tobacco?	79.6	87.4		
Risk if use vape products once or twice a week?	76.0	83.4		
Risk if smoke marijuana once or twice a week?	73.2	81.6		
Risk if use prescription drugs that are not prescribed to them?	86.0	90.2		
Risk if use inhalants?	76.1	75.9		
Parental Disapproval				
My parents would think it is "wrong" or "very wrong" if I drank alcohol nearly everyday	98.3	98.9		
My parents would think it is "wrong" or "very wrong" if I smoked tobacco	99.4	98.9		
My parents would think it is "wrong" or "very wrong" if I used marijuana	99.4	98.9		
My parents would think it is "wrong" or "very wrong" if I used vape products	99.4	98.8		
My parents would think it is "wrong" or "very wrong" if I used prescription drugs not prescribed to me	98.9	98.9		
Peer Disapproval				
My peers would think it is "wrong" or "very wrong" if I drank alcohol nearly everyday	97.1	98.2		
My peers would think it is "wrong" or "very wrong" if I smoked tobacco	98.8	98.8		
My peers would think it is "wrong" or "very wrong" if I used marijuana	98.8	98.2		

	PMS 2022 Males	PMS 2022 Females	MA 2019 Males	MA 2019 Females
My peers would think it is "wrong" or "very wrong" if I used vape products	98.2	98.2		
My peers would think it is "wrong" or "very wrong" if I used prescription drugs not prescribed to me	98.8	98.8		
Home Environment				
Does anyone who lives with you currently use tobacco (including vape products, cigarettes, cigars, smokeless tobacco)?	7.2	10.4	26.0	29.9
Does anyone who lives with you now use marijuana?	3.9	2.5		
Feeling their neighborhood was safe from crime	96.0	98.9	92.8	89.8
Exposure to violence				
You were physically hurt by someone in your family	11.9	7.2	9.9	9.0
You witnessed violence in your family	6.2	4.1	8.5	11.6
Vehicle safety				
Never or rarely wear seatbelt	3.5	4.9	5.7	4.6

Technical Note

Technical Note 1. Assessment of Statistical Differences Between the Massachusetts Sample and MHS Students

Comparisons between rates of health risk behaviors observed between the state sample and MHS 2022 students and MHS students in 2019 compared with MHS students in 2022 were assessed using a comparing proportions test (see “Z” equation below). This equation tested whether the rate of health behaviors were equivalent between the Massachusetts and MHS 2022 samples and between the MHS 2019 and 2022 samples.

$$Z = \frac{(\hat{p}_1 - \hat{p}_2) - 0}{\sqrt{\hat{p}(1 - \hat{p}) \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

$$\hat{p} = \frac{Y_1 + Y_2}{n_1 + n_2}$$