

Mental Health and Substance Use Behaviors Among New York City Public High School Students, 2023

Persistent feelings of sadness or hopelessness may be an indication of depression and can prevent a person from participating in their everyday activities. These feelings may reflect broader social and structural realities such as experiences of discrimination, financial hardship, unstable housing, and social isolation that can shape emotional wellbeing and coping behaviors. In New York City (NYC), the prevalence of feeling sad or hopeless every day for two weeks or more among public high school students increased from 27% in 2011 to 38% in 2021, with inequities observed among youth by race and ethnicity, sexual orientation, and gender identity.¹ Separately, similar inequities in the rates of alcohol and cannabis use among NYC public high school students have previously been documented.² Researchers have observed the co-occurrence of mental health issues with alcohol and cannabis use during adolescence, although the directionality of this relationship is complex.^{3,4} Substance use and mental health concerns among youth should be addressed early since their co-occurrence may exacerbate both conditions.⁵ This report examines the relationship between feeling sad or hopeless and alcohol or cannabis use among NYC public high school students using data from the 2023 Youth Risk Behavior Survey.

Definitions:

Youth: NYC public high school students in grades 9 through 12.

Feeling sad and hopeless: Felt sad or hopeless almost every day for two weeks or more in a row during the past 12 months so that they stopped doing some usual activities.

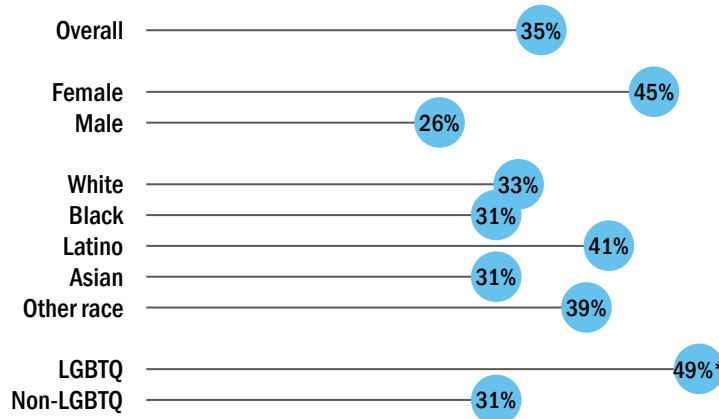
LGBTQ: Includes students describing their sexual identity as gay, lesbian, bisexual, some other way, unsure and/or their gender identity as transgender, non-binary, some other way, unsure.

Race and ethnicity: For the purpose of this publication, Latino includes people of Hispanic or Latino origin, as identified by the survey question “Are you Hispanic or Latino?” and regardless of reported race. Asian, Black, Other and white race categories exclude those who identified as Latino. “Other race” collectively refers to people who identify as American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, and/or as multi-racial.

The prevalence of feeling sad or hopeless in 2023 varies by sex, race and ethnicity, and LGBTQ status

- In 2023, 35% of public high school students said they had felt sad or hopeless for more than two weeks in the last 12 months.
- Females were more likely to have felt sad or hopeless than males (45% vs. 26%).
- Latino youth were more likely than white youth to have felt sad or hopeless (41% vs. 33%).
- LGBTQ youth were more likely to report feeling sad or hopeless compared with non-LGBTQ youth (49%* vs. 31%).

Prevalence of feeling sad or hopeless among New York City youth according to sex assigned at birth, race and ethnicity, and LGBTQ status, 2023



Race/ethnicity: White, Black, Asian, and Other race categories exclude Latino ethnicity. Latino includes Hispanic or Latino of any race. Other race: Includes American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, or multi-race people.

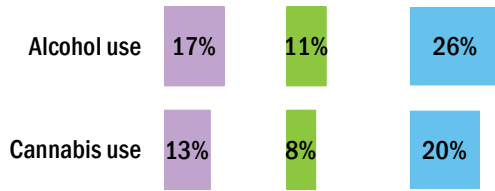
LGBTQ includes students describing their sexual identity as gay, lesbian, bisexual, some other way, unsure and/or their gender identity as transgender, non-binary, some other way, unsure.

*Estimate should be interpreted with caution due to wide 95% Confidence Interval

Source: NYC Youth Risk Behavior Survey, 2023

Youth who felt sad or hopeless are more likely to have recently used alcohol and cannabis

Prevalence of recent alcohol and cannabis use among New York City youth overall, and by those who did not feel sad or hopeless and those who did, 2023



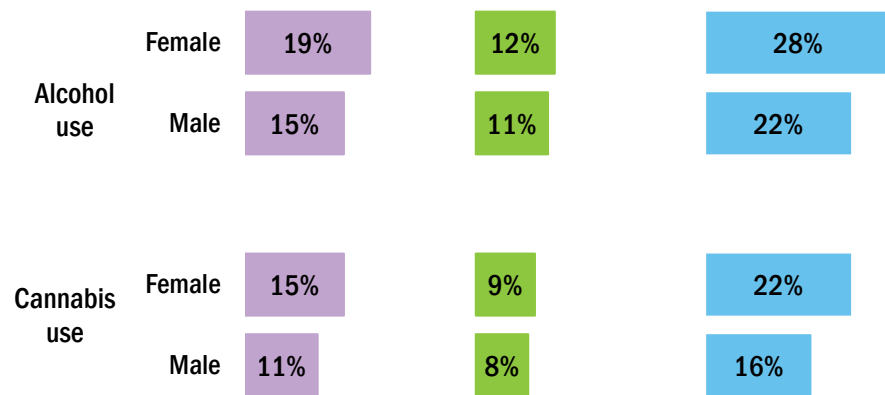
Source: NYC Youth Risk Behavior Survey, 2023

- Citywide, in 2023 17% of public high school students drank alcohol within the past 30 days. Students who felt sad or hopeless every day for two weeks or more within the past 12 months were over twice as likely to have had at least one alcoholic drink (26%) compared with students who did not feel sad or hopeless (11%).
- Among NYC public high school students, 13% had used cannabis in the past 30 days. The prevalence of cannabis use was over twice as high among students who felt sad or hopeless every day for over two weeks or more within the past 12 months (20%) compared with those who did not (8%).

Both females and males who felt sad or hopeless are more likely to have consumed alcohol and cannabis, with higher prevalences observed among females

- In 2023, female high school students were more likely than males to use alcohol (19% vs. 15%) or cannabis (15% vs. 11%) in the past 30 days.
- Females who felt sad or hopeless in the past year were over two times more likely to report alcohol use or cannabis use compared with females who did not feel sad or hopeless (28% vs. 12% and 22% vs. 9%, respectively).
- Compared with males who did not feel sad or hopeless, males who felt sad or hopeless were twice as likely to have consumed alcohol (22% vs. 11%) or cannabis (16% vs. 8%) in the past 30 days.

Prevalence of recent alcohol and cannabis use among New York City youth overall, and by those who did not feel sad or hopeless and those who did by sex assigned at birth, 2023



Source: NYC Youth Risk Behavior Survey, 2023

- Among NYC youth who felt sad or hopeless in the past year, females were more likely than males to have used alcohol (28% vs. 22%) and cannabis (22% vs. 16%). There were no differences in prevalence of alcohol (12% vs. 11%) and cannabis (9% vs. 8%) use between females and males who did not feel sad or hopeless.

Definitions: Alcohol use: Consumed at least one alcoholic drink during the past 30 days.

Cannabis use: Used cannabis (also known as marijuana, pot, or weed) at least once during the past 30 days.

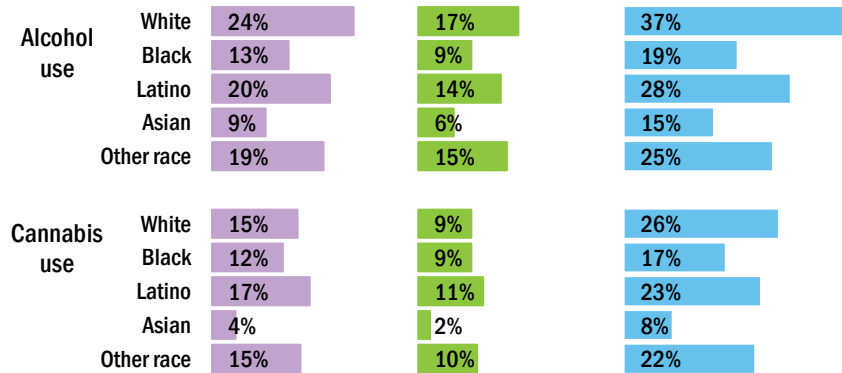
Data Source: Youth Risk Behavior Survey (2023): Youth Risk Behavior Survey (YRBS) is a biennial self-administered, anonymous survey conducted in NYC public high schools (including public charter schools) by the Health Department and the NYC Public Schools. For more details, visit nyc.gov/site/doh/data/data-sets/nyc-youth-risk-behavior-survey.page.

Health equity is attainment of the highest level of health and well-being for all people. Not all New Yorkers have the same opportunities to live a healthy life. Achieving health equity requires focused and ongoing societal efforts to address historical and contemporary injustices such as discrimination based on race/ethnicity, and other identities. For more information, visit the World Health Organization's [Health Equity](#) webpage.

Among youth who felt sad or hopeless, alcohol and cannabis use was more prevalent across all racial and ethnic groups, with differences between groups

- Citywide, in 2023 white youth were more likely to use alcohol compared with Black or Asian youth (24% vs. 13% and 9%, respectively) and were more likely than Asian youth to use cannabis (15% vs. 4%).
- White youth who felt sad or hopeless were over two times as likely to have consumed alcohol compared with those who did not (37% vs. 17%), Black youth were 2.2 times as likely (19% vs. 9%), Latino youth were 2.2 times as likely (28% vs. 14%), and Asian youth were two and a half times as likely (15% vs. 6%*).

Prevalence of recent alcohol and cannabis use among **New York City youth overall** and by **those who did not feel sad or hopeless** and **those who did** by race and ethnicity, 2023



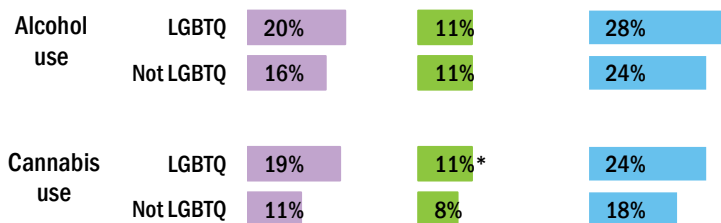
Race/ethnicity: White, Black, Asian, and Other race categories exclude Latino ethnicity. Latino includes Hispanic or Latino of any race. Other race: Includes American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, or multi-race people. *Estimate should be interpreted with caution due to large Relative Standard Error
 Source: NYC Youth Risk Behavior Survey, 2023

- White youth who felt sad or hopeless were nearly three times as likely to have used cannabis (26% vs. 9%) compared with white youth who did not feel sad or hopeless, Black youth were nearly two times as likely (17% vs. 9%), Latino youth were over two times as likely (23% vs. 11%), and Asian youth were more than four times as likely (8% vs. 2%).
- Among youth who felt sad, white youth were more likely to drink alcohol when compared with Black, Asian, Latino, and Other race youth (37% vs. 19%, 15%, 28%, and 25% respectively). White youth who felt sad or hopeless were more likely to use cannabis compared with Black or Asian youth who felt sad or hopeless (26% vs. 17% and 8%, respectively).

Cannabis use is higher among LGBTQ youth who felt sad or hopeless compared with non-LGBTQ youth who felt sad or hopeless

- In 2023, LGBTQ youth citywide were more likely to use alcohol (20%) or cannabis (19%) compared with non-LGBTQ youth (16% and 11%, respectively).
- Compared with LGBTQ youth who did not feel sad or hopeless, LGBTQ youth who felt sad or hopeless were at least twice as likely to drink alcohol (28% vs 11%) and use cannabis (24% vs. 11%*). Non-LGBTQ youth who felt sad or hopeless were also at least twice as likely to drink alcohol and use cannabis compared with non-LGBTQ youth who did not feel sad or hopeless (24% vs. 11% and 18% vs. 8% respectively).

Prevalence of recent alcohol and cannabis use among **New York City youth overall** and by **those who did not feel sad or hopeless** and **those who did** by LGBTQ status, 2023



LGBTQ includes students describing their sexual identity as gay, lesbian, bisexual, some other way, unsure and/or their gender identity as transgender, non-binary, some other way, unsure.
 *Estimate should be interpreted with caution due to large Relative Standard Error
 Source: NYC Youth Risk Behavior Survey, 2023

- Among youth who felt sad or hopeless, the prevalence of cannabis use was higher among LGBTQ youth than non-LGBTQ youth (24% vs. 18%). There was no difference in the prevalence of cannabis use by LGBTQ status among youth who did not feel sad or hopeless (11%* vs. 8%).

Implications

Generally, youth who reported feeling sad or hopeless were more likely to have recently used alcohol and cannabis than youth who did not. This analysis also suggests possible relationships between sadness and alcohol and cannabis use across youth in different demographic groups. Among females, higher prevalences of alcohol and cannabis use appeared to be related to sadness, while findings among youth of different race and ethnicity and LGBTQ status were more mixed. Feeling sad or hopeless may accentuate some differences between racial and ethnic groups, such as between white and Latino youth who use alcohol and white and Black youth who use cannabis. Among LGBTQ youth, higher rates of cannabis use appeared to be associated with feeling sad or hopeless. Further research is needed on how the social determinants of health interact with these demographic factors to shape both mental health and substance use behaviors. Addressing some of the root causes of sadness (e.g., stigma, discrimination, and social isolation) may also be essential to reducing disparities in substance use among NYC youth. This is especially relevant given that Black and Latino youth

may face disproportionately severe health and social consequences related to their alcohol or cannabis use.⁶ The Health Department is committed to providing support to youth experiencing challenges with their mental health to prevent future substance use and vice versa as well as improving knowledge, awareness, and capacity among mental health professionals and school health centers. Programs include [NYC TeenSpace](#), a free mental health support program available to NYC teenagers aged 13 to 17, which matches teens with licensed therapists for virtual support. Furthermore, Family and Youth Peer support services employ family and youth peer advocates to provide free support for youth experiencing social, emotional, and substance use challenges. The Health Department also supports community based organizations engaging with youth via primary substance use prevention and risk reduction programs through technical assistance and direct funding. For more information on these services visit our [prevention webpage](#) and for free, confidential mental health and substance use support, call or text 988 or chat online at nyc988.cityofnewyork.us, anytime.

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Epi Data Tables

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Data Tables

- Table 1.** Feeling sad and hopeless by demographics, New York City, 2023
- Table 2.** Alcohol use and feeling sad and hopeless by demographics, New York City, 2023
- Table 3.** Cannabis use and feeling sad and hopeless by demographics, New York City, 2023

Data Sources

New York City Youth Risk and Behavior Survey, 2023: Youth Risk Behavior Survey (YRBS) is a biennial self-administered, anonymous survey conducted in NYC public high schools (including public charter schools) by the Health Department and the NYC Public Schools. For more survey details, visit www1.nyc.gov/site/doh/data/data-sets/nyc-youth-risk-behavior-survey.page.



Table 1. Feeling sad and hopeless by demographics, New York City, 2023

Source: NYC Youth Risk Behavior Survey, 2023

Data are weighted to the NYC public high school student population

Feeling sad or hopeless every day for 2 weeks in a row ¹				
	Prevalence %	Lower 95% Confidence Interval	Upper 95% Confidence Interval	p-value
Total	35.5 D	32.5	38.6	
Sex assigned at birth				
Female	44.9	41.4	48.4	ref
Male	26.2	23.9	28.7	<0.001
Race and Ethnicity²				
White	33.0	28.0	38.3	ref
Black	30.7	23.6	38.7	0.603
Latino	41.2	38.8	43.7	0.004
Asian	31.4	28.6	34.3	0.596
Other race ³	38.6	34.2	43.2	0.114
LGBTQ status				
LGBTQ ⁴	49.2 *	38.1	60.4	ref
Not LGBTQ	31.0	29.0	33.0	0.002

¹ Felt sad or hopeless almost every day for >=2 weeks in a row so that they stopped doing some usual activities, ever during the 12 months before the survey

² For the purpose of this publication, Latino includes persons of Hispanic or Latino as identified by the survey question "Are you Hispanic or Latino?" and regardless of race. Black, White, and Asian race categories exclude those who identified as Latino.

³ Other category includes non-Latino students who selected American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, another race or multiple race categories.

⁴ LGBTQ includes students describing their sexual identity as gay, lesbian, bisexual, some other way or describing their gender identity as transgender, non-binary, or some other way. Students who were unsure about their sexual or gender identity were included in this category. Students who did not know what either question was asking were excluded from

* Estimate should be interpreted with caution. Estimate's Relative Standard Error a measure of estimate precision is greater than 30%, the 95% Confidence Interval half-width is greater than 10, or the sample size is less than 50, making the estimate potentially unreliable.

95% Confidence Intervals CIs are a measure of estimate precision: the wider the CI, the more imprecise the estimate.

A p-value is a measure of statistical significance. A bold p-value less than .05 means there is a significant difference between that group and the referent comparison group.

D When reporting to the nearest whole percent, round down

Table 2. Alcohol use and feeling sad and hopeless by demographics, New York City, 2023

Source: NYC Youth Risk Behavior Survey, 2023

Data are weighted to the NYC public high school student population

	Any alcohol use ¹ in the past 30 days among students, city-wide				Any alcohol use ¹ in the past 30 days among students feeling sad and hopeless ² in the past year				Any alcohol use ¹ in the past 30 days among students who did not feel sad and hopeless ² in the past year				Comparison in alcohol use ¹ between students who did and did not feel sad and hopeless ²	
	Prevalence %	Lower 95% Confidence Interval	Upper 95% Confidence Interval	p-value	Prevalence %	Lower 95% Confidence Interval	Upper 95% Confidence Interval	p-value	Prevalence %	Lower 95% Confidence Interval	Upper 95% Confidence Interval	p-value	% diff	p-value
Total	16.8	15.2	18.6		25.6	23.0	28.3		11.3	9.7	13.2		126%	<0.001
Sex assigned at birth														
Female	18.9	16.8	21.3	Ref	27.8	24.9	30.9	ref	11.5 U	9.5	13.9	ref	141%	<0.001
Male	14.6	12.8	16.5	<0.001	22.0	18.6	25.9	0.004	11.1	9.2	13.4	0.775	98%	<0.001
Race and Ethnicity³														
White	23.8	19.6	28.6	Ref	37.0	29.5	45.1	ref	17.1	13.5	21.4	ref	117%	<0.001
Black	12.8	10.4	15.7	<0.001	19.3	14.7	25.0	<0.001	8.9	6.6	11.8	0.001	117%	<0.001
Latino	20.0	17.8	22.3	0.122	28.3	24.4	32.5	0.026	13.5 U	11.3	16.1	0.147	109%	<0.001
Asian	9.1	6.1	13.3	<0.001	15.3	11.5	20.1	<0.001	6.1 *	3.0	12.0	<0.001	150%	<0.001
Other race ⁴	18.9	14.7	23.9	0.067	25.1	19.5	31.7	0.013	14.9	10.1	21.4	0.499	69%	0.008
LGBTQ status														
LGBTQ ⁵	19.9	16.1	24.3	0.060	28.0	23.9	32.5	0.211	10.5 U	7.9	14.0	0.630	165%	<0.001
Not LGBTQ	15.8	14.0	17.7	Ref	24.5 D	21.2	28.1	ref	11.5 D	9.5	13.9	ref	113%	<0.001

¹ Current drinking: Consuming at least 1 alcoholic drink during the past 30 days.

² Felt sad or hopeless almost every day for >=2 weeks in a row so that they stopped doing some usual activities, ever during the 12 months before the survey

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⁴ Other category includes non-Latino students who selected American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, another race or multiple race categories.

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D When reporting to the nearest whole percent, round down

U When reporting to the nearest whole percent, round up

Table 3. Cannabis use and feeling sad and hopeless by demographics, New York City, 2023

Source: NYC Youth Risk Behavior Survey, 2023

Data are weighted to the NYC public high school student population

	Any cannabis use ¹ in the past 30 days among students, city-wide				Any cannabis use ¹ in the past 30 days among students feeling sad and hopeless ² in the past year				Any cannabis use ¹ in the past 30 days among students who did not feel sad and hopeless ² in the past year				Comparison in cannabis use between students who did and did not feel sad and hopeless	
	Prevalence %	Lower 95% Confidence Interval	Upper 95% Confidence Interval	p-value	Prevalence %	Lower 95% Confidence Interval	Upper 95% Confidence Interval	p-value	Prevalence %	Lower 95% Confidence Interval	Upper 95% Confidence Interval	p-value	% diff	p-value
Total	13.0	11.4	14.8		19.9	17.7	22.2		8.4	6.9	10.3		136%	<0.001
Sex assigned at birth														
Female	14.8	12.6	17.2	Ref	22.0	19.4	24.9	ref	8.8	6.5	11.7	ref	151%	<0.001
Male	10.8	9.4	12.2	<0.001	15.9	13.4	18.9	0.001	8.1	6.8	9.8	0.587	96%	<0.001
Race and Ethnicity³														
White	14.5 U	11.4	18.3	Ref	25.8	19.2	33.7	ref	9.0	6.6	12.1	ref	188%	<0.001
Black	12.0	8.8	16.2	0.331	16.9	13.3	21.1	0.038	9.0	5.6	14.2	0.976	87%	0.006
Latino	16.6	14.8	18.5	0.265	23.3	20.3	26.7	0.520	11.0	9.2	13.2	0.199	112%	<0.001
Asian	4.0	2.8	5.9	<0.001	8.3	5.2	12.9	<0.001	1.7	1.0	3.0	<0.001	382%	0.001
Other race ⁴	15.0	12.1	18.6	0.760	22.5 D	15.9	30.8	0.417	10.1	7.0	14.3	0.607	123%	0.006
LGBTQ status														
LGBTQ ⁵	18.6	13.4	25.1	0.014	23.7	20.3	27.5	0.024	11.0 *	5.6	20.4	0.375	116%	<0.001
Not LGBTQ	11.0	9.6	12.5	Ref	17.8	14.9	21.0	ref	7.7	6.5	9.3	ref	130%	<0.001

¹ Percentage of students who currently used marijuana one or more times during the past 30 days. Cannabis is also known as marijuana, pot, or weed.

² Felt sad or hopeless almost every day for >=2 weeks in a row so that they stopped doing some usual activities, ever during the 12 months before the survey

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⁴ Other category includes non-Hispanic students who selected American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, another race or multiple race categories.

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