

## Gender Attribution and Mental Health Disparities among New York City Public High School Students, 2017

Gender attribution is the process through which others assign a gender to a person, with or without any knowledge of that person’s sex assigned at birth or gender identity.<sup>1</sup> Those whose gender attribution does not match social expectations of gendered dress, speech, or behavior are often labeled as gender nonconforming.<sup>2</sup> Many people, communities, and institutions create gender expectations for individuals that are often limited to only two genders in accordance with sex assigned at birth – males are expected to be masculine, females, feminine. People perceived by others as not conforming to these gender norms are at increased risk of being subjected to violence, bullying, and adverse mental health outcomes.<sup>3,4</sup> Public health interventions designed to build understanding and acceptance of youth whose gender attribution does not align with their sex can help to reduce these risks and address disparities.

This brief presents data from the 2017 New York City (NYC) Youth Risk Behavior Survey on the mental health of NYC public high school students by alignment between their sex (male or female) and gender attribution. (See last page for data limitations related to gender identity.)

### Over a third of students reported gender attributions that were not aligned with the social expectations of their sex

In 2017, public high school students reported how masculine or feminine they thought people at school perceived them to be.

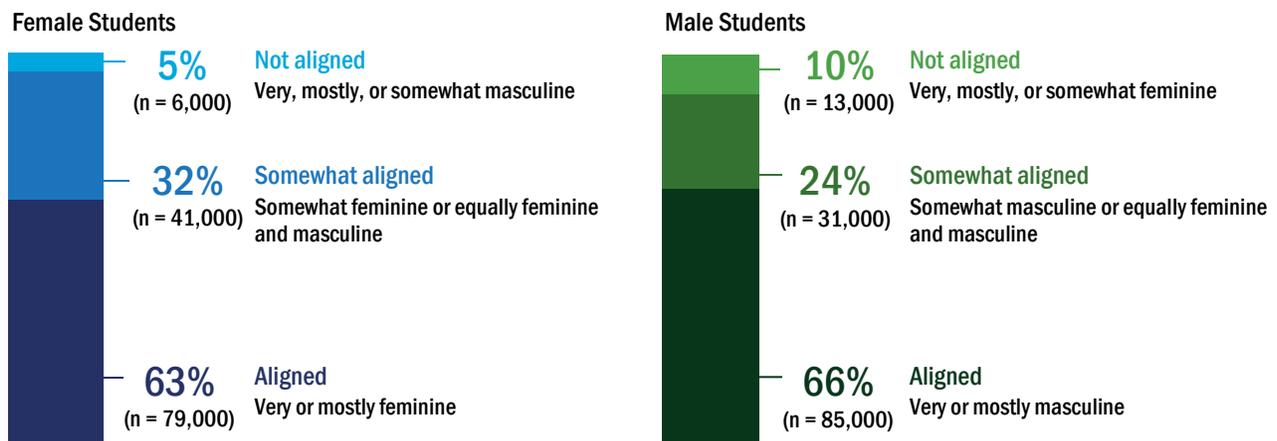
- Among students who replied “female” to the question “what is your sex?”, 5% reported that others would describe them as very, mostly, or somewhat masculine; 10% of those who replied “male” reported that others would describe them as very, mostly, or somewhat feminine.
- Thirty-two percent of female students reported others saw them as somewhat feminine or equally feminine and masculine. Twenty-four percent of male students reported others saw them as somewhat masculine or equally feminine and masculine.
- Sixty-three percent of female students reported feeling perceived as very or mostly feminine and 66% of male students reported feeling perceived as very or mostly masculine.

**Definition:**

**Gender attribution**

was measured by the question: A person’s appearance, style, dress, or the way they walk or talk may affect how people describe them. How do you think other people at school would describe you? Very feminine, mostly feminine, somewhat feminine, equally feminine and masculine, somewhat masculine, mostly masculine, very masculine.

New York City high school students by levels of gender attribution and sex alignment, 2017



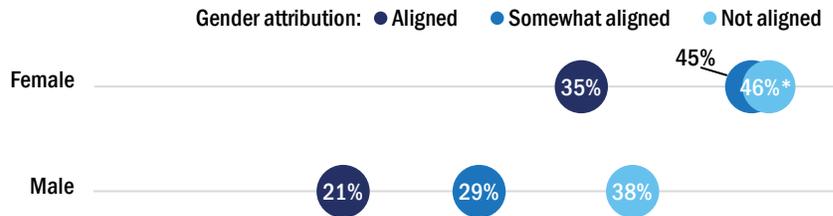
'n' represents the number of students, rounded to the nearest thousand.  
Source: New York City Youth Risk Behavior Survey 2017

## Mental health concerns were more common among students who reported gender attributions that were not aligned with their sex

- In 2017, students whose gender attributions were not aligned with their sex were more likely to report depressive symptoms, non-suicidal self-injury, suicidal thoughts, and suicide attempts than students whose gender attribution aligned with their sex.

### Depressive symptoms† were more common among students whose gender attributions were not aligned with their sex

Prevalence of depressive symptoms among New York City public high school students by sex, 2017



†Symptoms in the past 12 months

\*Estimate should be interpreted with caution due to small sample size.

Source: New York City Youth Risk Behavior Survey 2017

- Female students whose gender attributions were somewhat aligned and male students whose gender attributions were not aligned or were somewhat aligned were more likely to report depressive symptoms in the past 12 months than aligned students (female: 45% vs. 35%; male: 38% and 29% vs. 21%).

- Female or male students whose gender attributions were not aligned or were somewhat aligned were more likely to report non-suicidal self-injury in the past 12 months than students with aligned gender attributions (female: 26% and 23% vs. 18%; male: 29% and 17% vs. 10%).

- Female students with non-aligned or somewhat aligned gender attributions and male students with non-aligned gender attributions were more likely to have seriously considered suicide in the past 12 months, compared with students with aligned gender attributions (female: 32% and 24% vs. 16%; male: 26% vs. 11%).

- Female or male students with non-aligned or somewhat aligned gender attributions were more likely to report a suicide attempt in the past 12 months than students with aligned gender attribution (female: 22% and 13% vs. 9%; male: 28% and 13% vs. 6%).

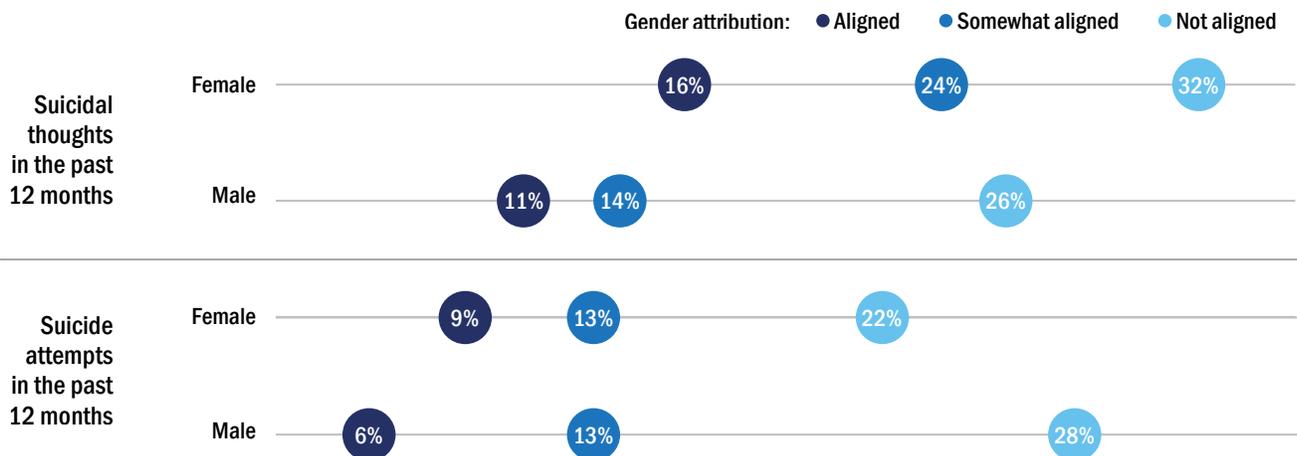
#### Definition:

#### Depressive symptoms

were assessed by the question: During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?

## Suicidal thoughts and suicide attempts were more common among students whose gender attributions were not aligned or somewhat aligned with their sex

Prevalence among New York City public high school students by sex, 2017



Source: New York City Youth Risk Behavior Survey 2017

**Limitations:** This analysis uses responses to the “what is your sex?” question, which we assumed was interpreted by students to mean “what is/was your sex assigned at birth?” We do not know if responses to this question reflect transgender students’ gender identity, or their sex assigned at birth since we do not have information on how respondents interpreted the question. A separate question that asked specifically if students identified as transgender found about 2% identified as transgender, but it is not possible to know if they identified as a transgender male or transgender female or if they identified as non-binary, meaning, not male or female. Therefore, some students’ gender attribution alignment may be misclassified in this brief. Despite the limitations of these data, these findings represent an important first step in describing the mental health status of students who feel they are seen by others in a manner that does not align with their sex, irrespective of their gender identity and sexual orientation.

For more information about treatment resources or to talk to someone directly if you are experiencing a crisis, call 1-888 NYCWell (1-888-692- 9355) or visit: [nycwell.cityofnewyork.us](http://nycwell.cityofnewyork.us)

To learn more about LGBTQ-affirming and supportive resources available across NYC, including mental health support, please visit the NYC Unity Project website at: [nyc.gov/unityproject](http://nyc.gov/unityproject)

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**Suggested citation:** Yoon CA, Shaff J, Murray L, Fong MC, Davila M. Gender Attribution and Mental Health Disparities among New York City Public High School Students, 2017. New York City Department of Health and Mental Hygiene: Epi Data Brief (121); November 2019.

**Data Source: Youth Risk Behavior Survey (YRBS) 2017:** YRBS is a biennial self-administered, anonymous survey conducted in NYC public high schools by the Health Department and the NYC Department of Education. Notes: Survey question on sex neither asked about transgender identity nor included an “intersex” response option. Sample sizes were too small to report estimates by race and ethnicity. For more survey details, visit <https://www1.nyc.gov/site/doh/data/data-sets/nyc-youth-risk-behavior-survey.page>

**References:**

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3. Gordon AR, Conron KJ, Calzo JP, White MT, Reisner SL, Austin SB. Gender expression, violence, and bullying victimization: Findings from probability samples of high school students in 4 US school districts. *J Sch Health*. 2018;88(4):306-314.
4. Gower AL, Rider GN, Coleman E, Brown C, McMorris BJ, Eisenberg ME. Perceived gender presentation among transgender and gender diverse youth: Approaches to analysis and associations with bullying victimization and emotional distress. *LGBT Health*. 2018;5(5):312-319.

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New York City Department of Health and Mental Hygiene





# Epi Data Tables

November 2019, No. 121

## Gender Attribution and Mental Health Disparities among New York City Public High School Students, 2017

### Data Tables

**Table 1.** New York City public high school students' gender attribution, 2017

**Table 2.** Mental health disparities by gender attribution among New York City public high school students, 2017

**Youth Risk Behavior Survey (YRBS) 2017:** The YRBS is a biennial self-administered, anonymous survey conducted in NYC public high schools by the NYC Health Department and the NYC Department of Education. For more survey details, visit <https://www1.nyc.gov/site/doh/data/data-sets/nyc-youth-risk-behavior-survey.page>



**Table 1. New York City public high school students' gender attribution, 2017**

Source: NYC Youth Risk Behavior Survey, 2017

Data are weighted to the NYC public high school student population.

Data are not age adjusted.

	Weighted N	%	Lower 95% CI	Upper 95% CI
<b>Among female students</b>				
Not aligned <sup>1</sup>	6,000	5.1	4.0	6.4
Somewhat aligned <sup>2</sup>	41,000	32.2	29.8	34.6
Aligned <sup>3</sup>	79,000	62.8	60.0	65.4
<b>Among male students</b>				
Not aligned <sup>4</sup>	13,000	10.2	8.8	11.8
Somewhat aligned <sup>5</sup>	31,000	23.8	21.8	26.0
Aligned <sup>6</sup>	85,000	65.9	63.5	68.3
<b>Among female students</b>				
Very masculine	1,000	1.1	0.7	1.5
Mostly masculine	2,000	1.2	0.7	2.0
Somewhat masculine	4,000	2.8	2.2	3.6
Equally feminine and masculine	21,000	16.9	15.3	18.7
Somewhat feminine	19,000	15.2	13.5	17.1
Mostly feminine	41,000	32.3	30.6	34.0
Very feminine	39,000	30.48 <sup>D</sup>	28.5	32.5
<b>Among male students</b>				
Very feminine	6,000	4.7	3.7	5.9
Mostly feminine	3,000	2.5 <sup>D</sup>	1.9	3.3
Somewhat feminine	4,000	3.1	2.6	3.7
Equally feminine and masculine	15,000	11.9	10.1	13.8
Somewhat masculine	15,000	12.0	10.7	13.3
Mostly masculine	33,000	25.2	22.9	27.7
Very masculine	52,000	40.7	37.7	43.8

Students were asked how they thought other people at school would describe them.

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

Weighted N represents a population estimate, rounded to the nearest thousand.

1 Very, mostly, or somewhat masculine

2 Somewhat feminine, or equally feminine and masculine

3 Very or mostly feminine

4 Very, mostly, or somewhat feminine

5 Somewhat masculine, or equally feminine and masculine

6 Very or mostly masculine

U When reporting to nearest whole percent, round up

D When reporting to nearest whole percent, round down

**Table 2. Mental health disparities by gender attribution among New York City public high school students, 2017**

Source: NYC Youth Risk Behavior Survey, 2017

Data are weighted to the NYC public high school student population.

Data are not age adjusted.

	Experienced depressive symptoms in previous 12 months $\lambda$					Engaged in non-suicidal self-injury in previous 12 months $\delta$					Seriously considered suicide in previous 12 months					Attempted suicide in previous 12 months				
	Weighted N	%	Lower 95% CI	Upper 95% CI	p-value	Weighted N	%	Lower 95% CI	Upper 95% CI	p-value	Weighted N	%	Lower 95% CI	Upper 95% CI	p-value	Weighted N	%	Lower 95% CI	Upper 95% CI	p-value
<b>Among female students</b>																				
Not aligned <sup>1</sup>	3,000	46.0 *	34.4	58.2	0.084	2,000	26.0	19.3	34.1	<b>0.040</b>	2,000	32.1	24.3	41.0	<b>&lt;0.001</b>	1,000	21.5 <sup>U</sup>	15.9	28.5	<b>&lt;0.001</b>
Somewhat aligned <sup>2</sup>	18,000	45.0	41.0	49.0	<b>&lt;0.001</b>	9,000	22.8	20.2	25.7	<b>0.006</b>	9,000	23.8	21.5	26.3	<b>&lt;0.001</b>	5,000	13.4	10.3	17.2	<b>0.043</b>
Aligned <sup>3</sup>	27,000	35.4	33.0	37.9	<i>referent</i>	14,000	17.7	15.8	19.8	<i>referent</i>	12,000	15.8	14.3	17.5	<i>referent</i>	6,000	9.0	7.2	11.3	<i>referent</i>
<b>Among male students</b>																				
Not aligned <sup>4</sup>	4,000	37.8	30.0	46.2	<b>&lt;0.001</b>	4,000	29.5 <sup>D</sup>	23.0	36.9	<b>&lt;0.001</b>	3,000	25.7	17.8	35.7	<b>0.002</b>	3,000	27.8	20.7	36.2	<b>&lt;0.001</b>
Somewhat aligned <sup>5</sup>	8,000	29.2	26.3	32.2	<b>&lt;0.001</b>	5,000	17.2	13.7	21.4	<b>&lt;0.001</b>	4,000	14.3	11.8	17.2	0.063	3,000	13.5 <sup>D</sup>	11.0	16.4	<b>&lt;0.001</b>
Aligned <sup>6</sup>	18,000	21.4	19.8	23.2	<i>referent</i>	8,000	10.1	8.5	12.0	<i>referent</i>	9,000	11.0	9.7	12.3	<i>referent</i>	4,000	6.4	5.3	7.8	<i>referent</i>

Students were asked how they thought other people at school would describe them.

Depressive symptoms were assessed by the question: During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?

Weighted N represents a population estimate, rounded to the nearest thousand.

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

\* 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.

Bold p-values indicate a statistically significant difference from the reference group.

1 Very, mostly, or somewhat masculine

2 Somewhat feminine, or equally feminine and masculine

3 Very or mostly feminine

4 Very, mostly, or somewhat feminine

5 Somewhat masculine, or equally feminine and masculine

6 Very or mostly masculine

$\delta$  Purposely hurt themselves without wanting to die

U When reporting to nearest whole percent, round up

D When reporting to nearest