



MISSOURI DEPARTMENT OF
**HEALTH &
SENIOR SERVICES**

Health Risk Behaviors Among Missouri High School Students

Maddison Geller, MPH, Anthony Belenchia, PhD

The 2023 Missouri Youth Risk Behavior Survey was conducted by the Missouri Department of Health and Senior Services with funding provided by a cooperative agreement between the U.S. Centers for Disease Control and Prevention and the Missouri Department of Elementary and Secondary Education

Agenda

1. Background

2. Data Review

3. Summary

4. Q&A

What is the YRBS?

Student demographics:

- Sex
- Sexual identity
- Race and ethnicity
- Grade

Health behaviors

- Sexual
- Injury and violence
- Bullying
- Diet and physical activity
- Obesity
- Mental health (including suicide)

Substance use:

- Electronic vapor product
- Tobacco product use
- Alcohol, and other drug use

Student experiences:

- Parental monitoring
- School connectivity
- Unstable housing
- Exposure to community violence

Why is the YRBS Conducted?

Monitor adolescent health behavior changes over time

Inform school, community programs, and communications campaigns

Monitor progress toward achieving the Healthy People Objectives

How is the YRBS conducted?



YRBS Quick FAQs



Students do not put their name nor any other identifying information (such as a school ID number) on the survey.

Are student's names used or linked to the survey?



Research indicates student's responses are reliable

Do students answer questions truthfully?



Possibly. In previous years CDC and DESE have agreed to provide financial grants.

Incentives for schools completing the survey?



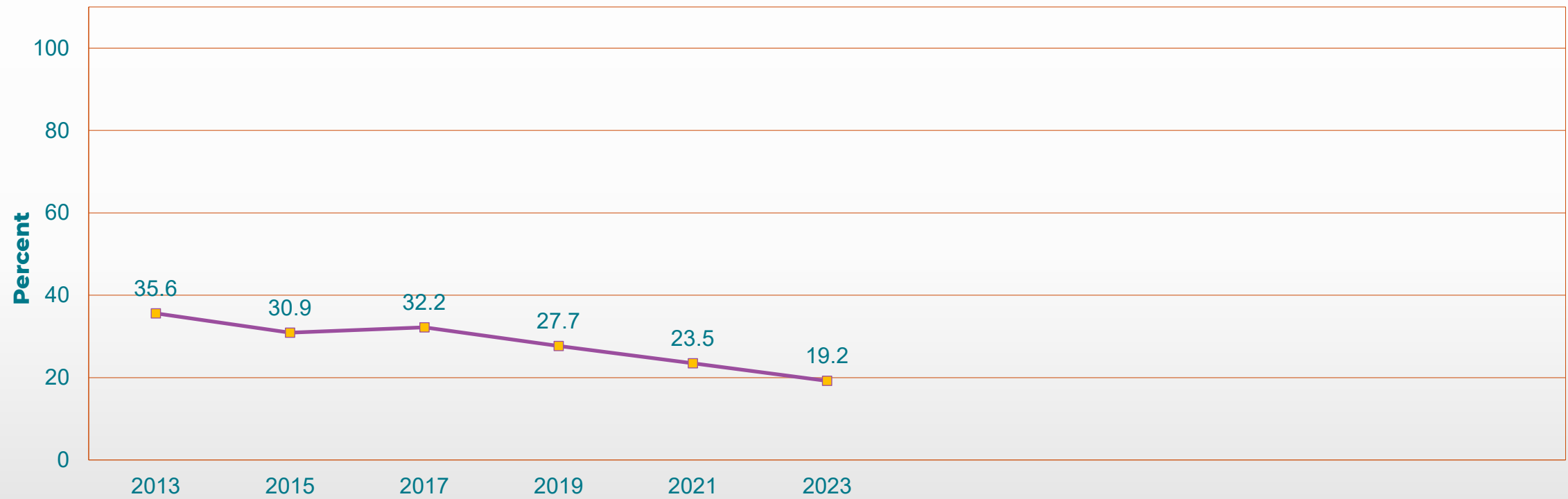
There is no evidence that asking these questions will lead to an increase in the likelihood that youth will practice risky behaviors.

Do survey questions increase the chance of risky behaviors?

Nutrition and Physical Activity



Percentage of High School Students Who Ate Breakfast on All 7 Days,* 2013-2023†

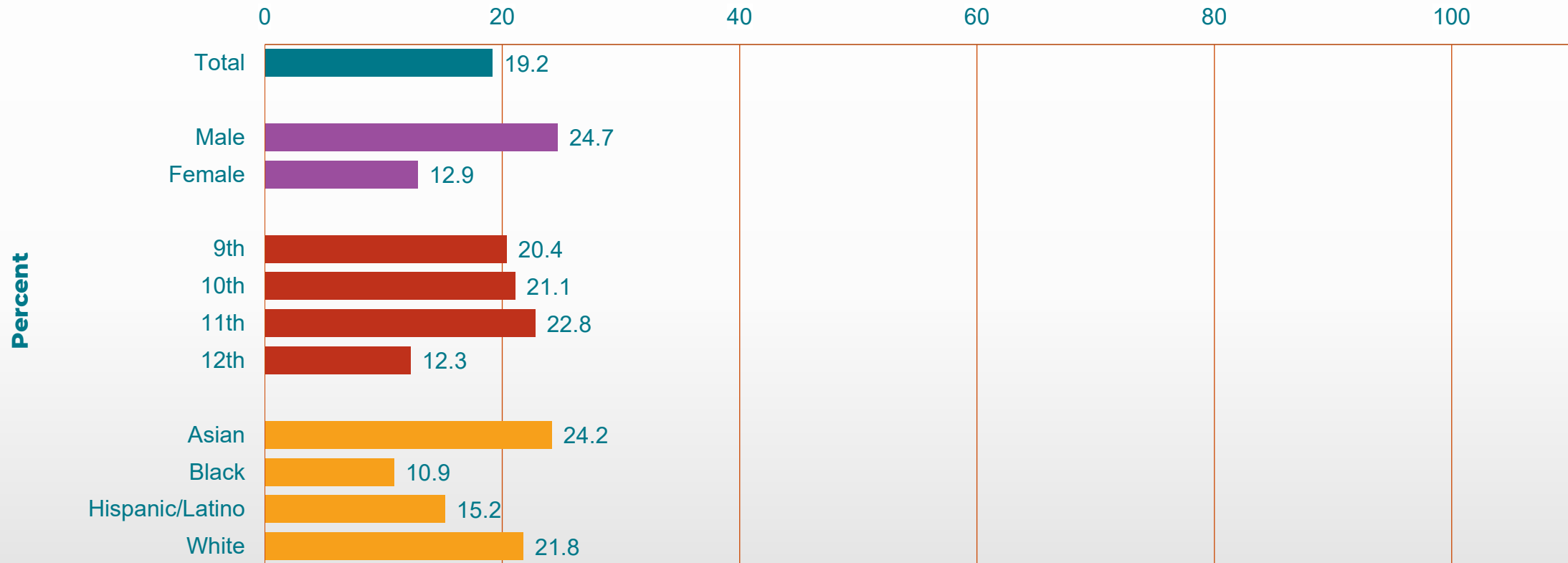


***During the 7 days before the survey**

†Decreased 2013-2023 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]

This graph contains weighted results.

Percentage of High School Students Who Ate Breakfast on All 7 Days,* by Sex,[†] Grade,[†] and Race/Ethnicity, 2023



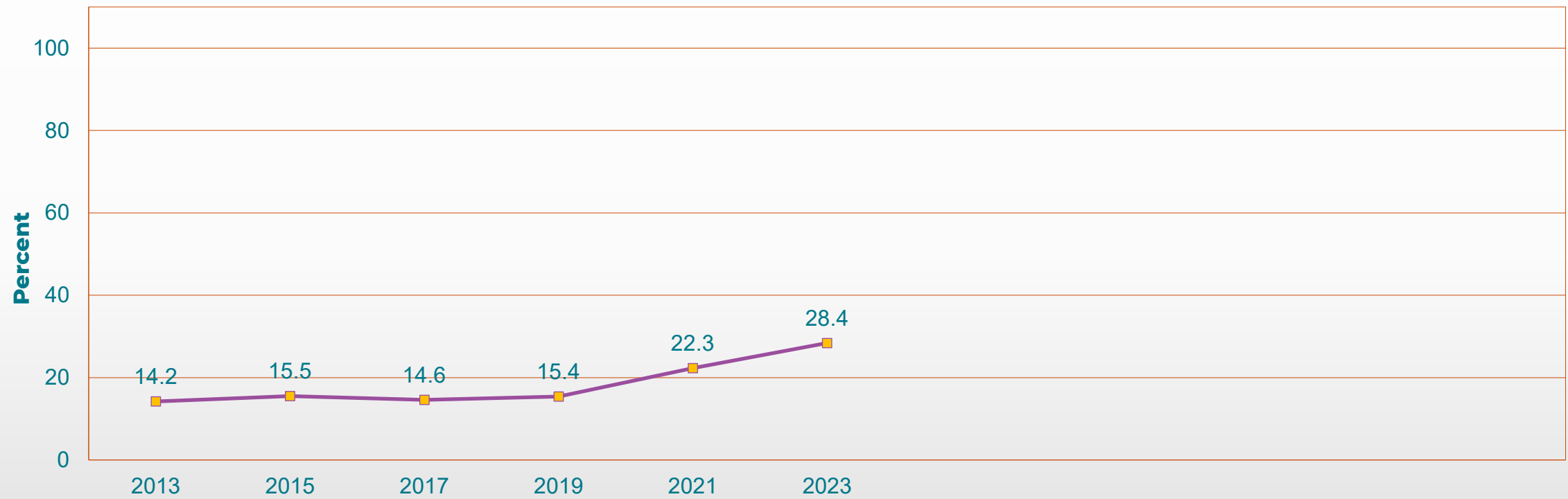
***During the 7 days before the survey**

[†]M > F; 9th > 12th (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Percentage of High School Students Who Did Not Eat Breakfast,* 2013-2023†

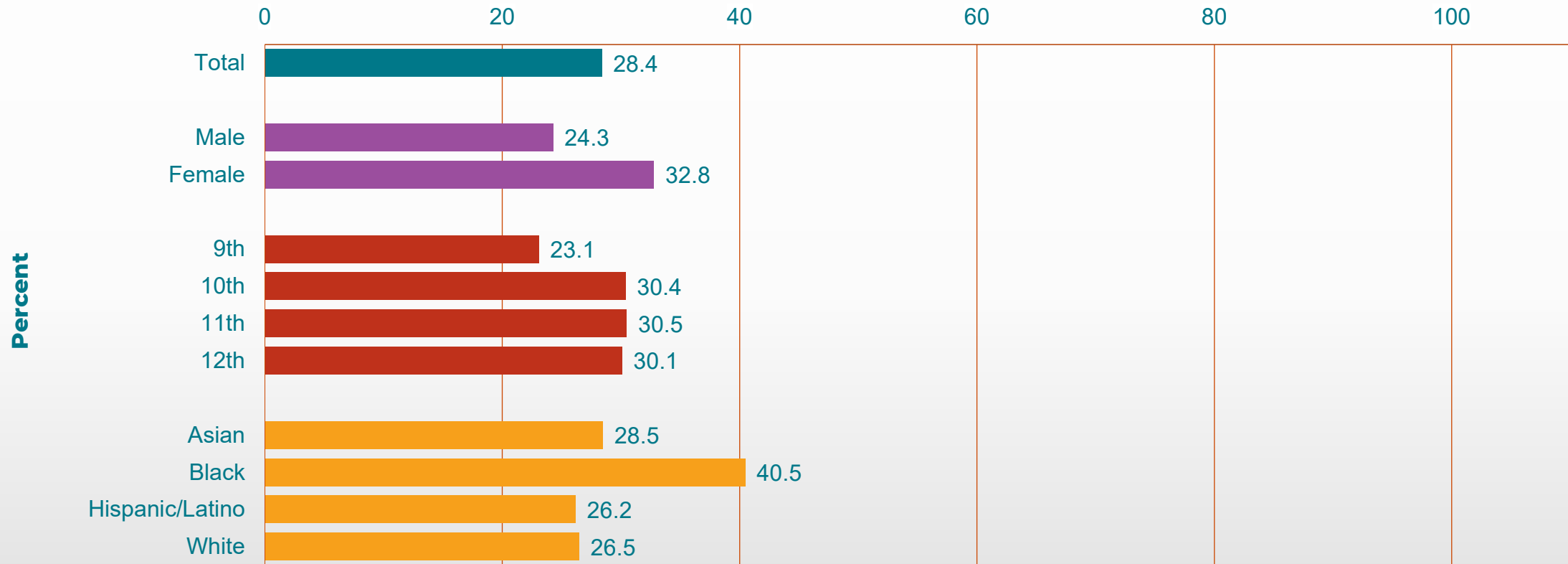


***During the 7 days before the survey**

†Increased 2013-2023, no change 2013-2019, increased 2019-2023 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]

This graph contains weighted results.

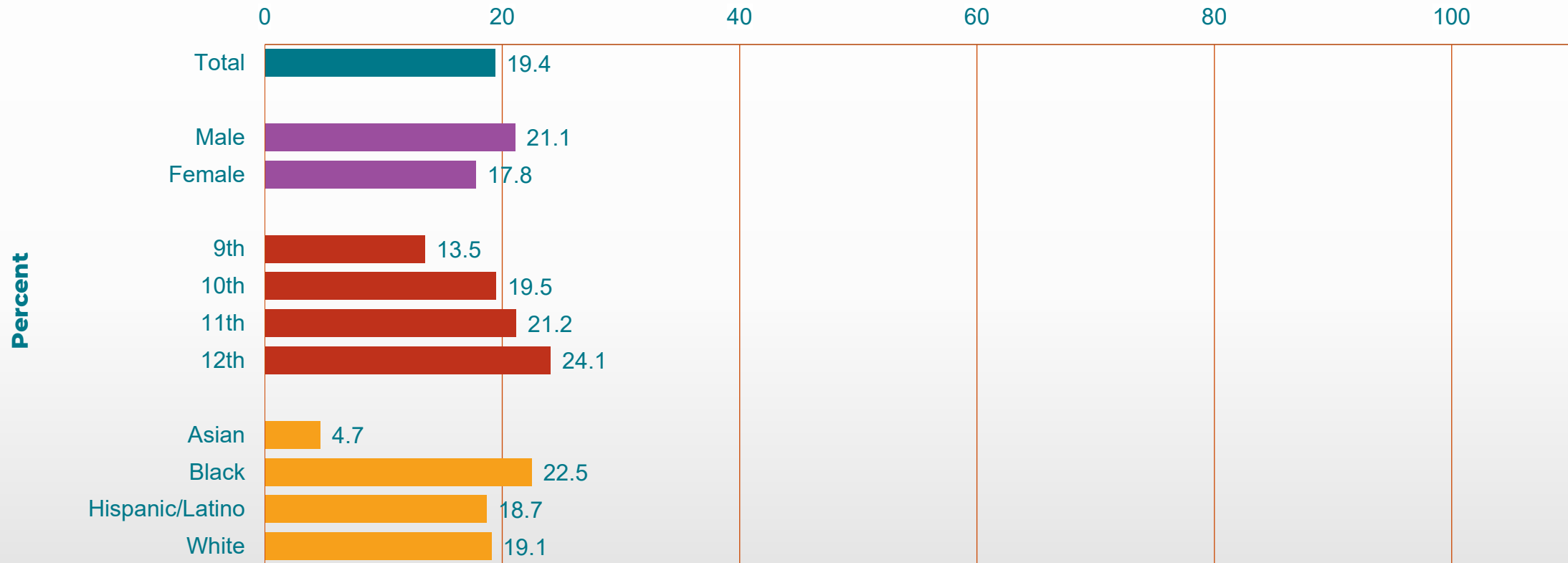
Percentage of High School Students Who Did Not Eat Breakfast,* by Sex, Grade, and Race/Ethnicity, 2023



***During the 7 days before the survey**

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
This graph contains weighted results.

Percentage of High School Students Who Drank a Can, Bottle, or Glass of Soda or Pop One or More Times Per Day,* by Sex, Grade, and Race/Ethnicity,† 2023



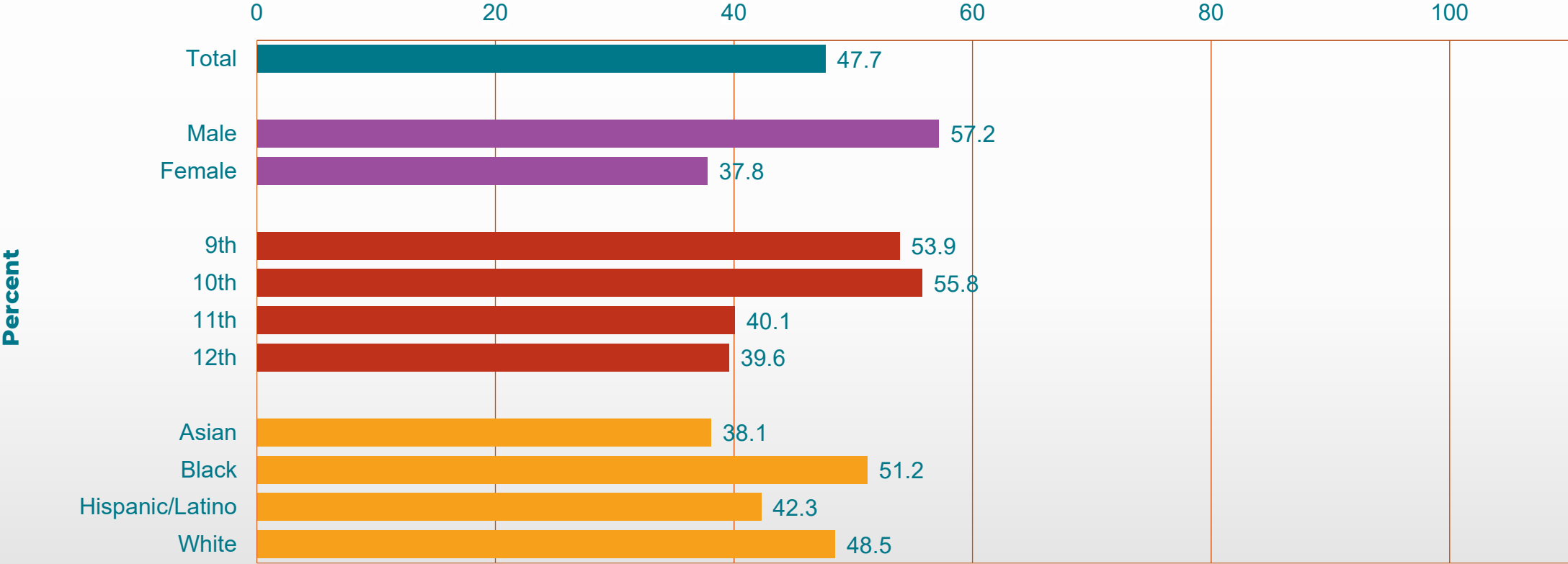
***Such as Coke, Pepsi, or Sprite, not counting diet soda or diet pop, during the 7 days before the survey**

†B > A, W > A (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Percentage of High School Students Who Were Physically Active at Least 60 Minutes Per Day on 5 or More Days,* by Sex,† Grade,† and Race/Ethnicity, 2023



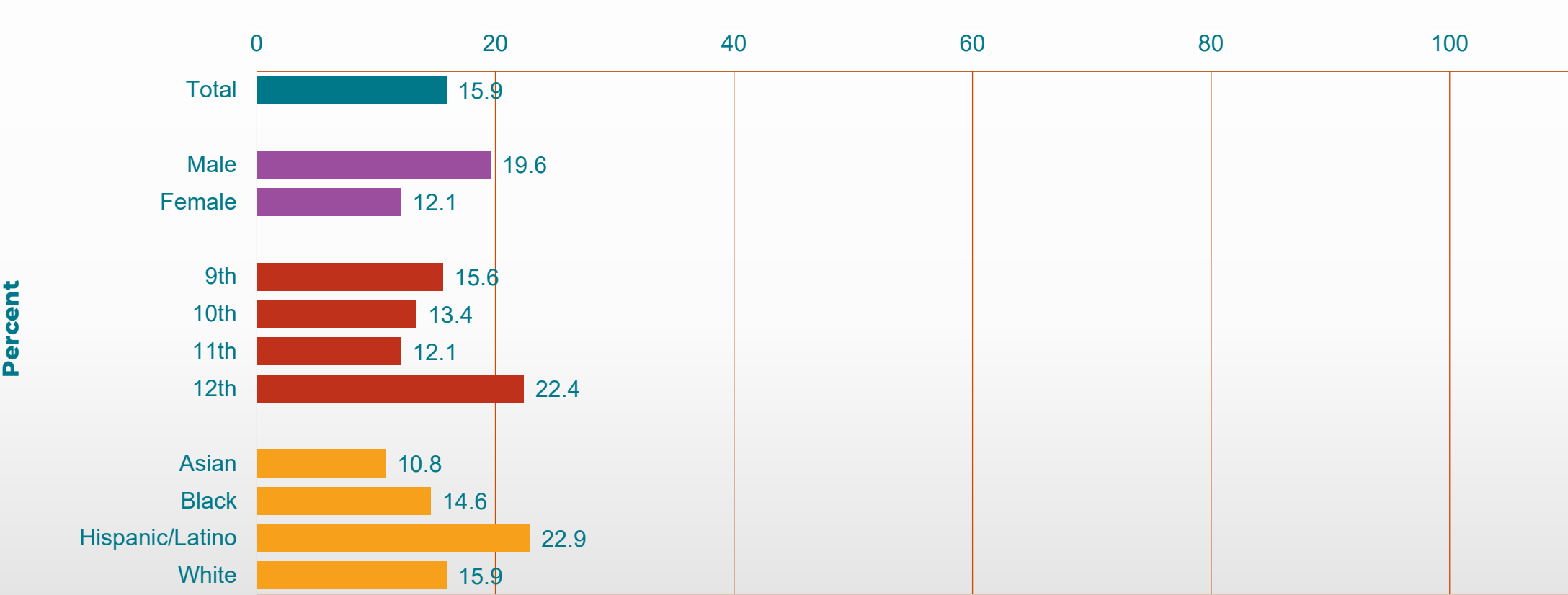
***In any kind of physical activity that increased their heart rate and made them breathe hard some of the time during the 7 days before the survey**

†M > F; 10th > 11th (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

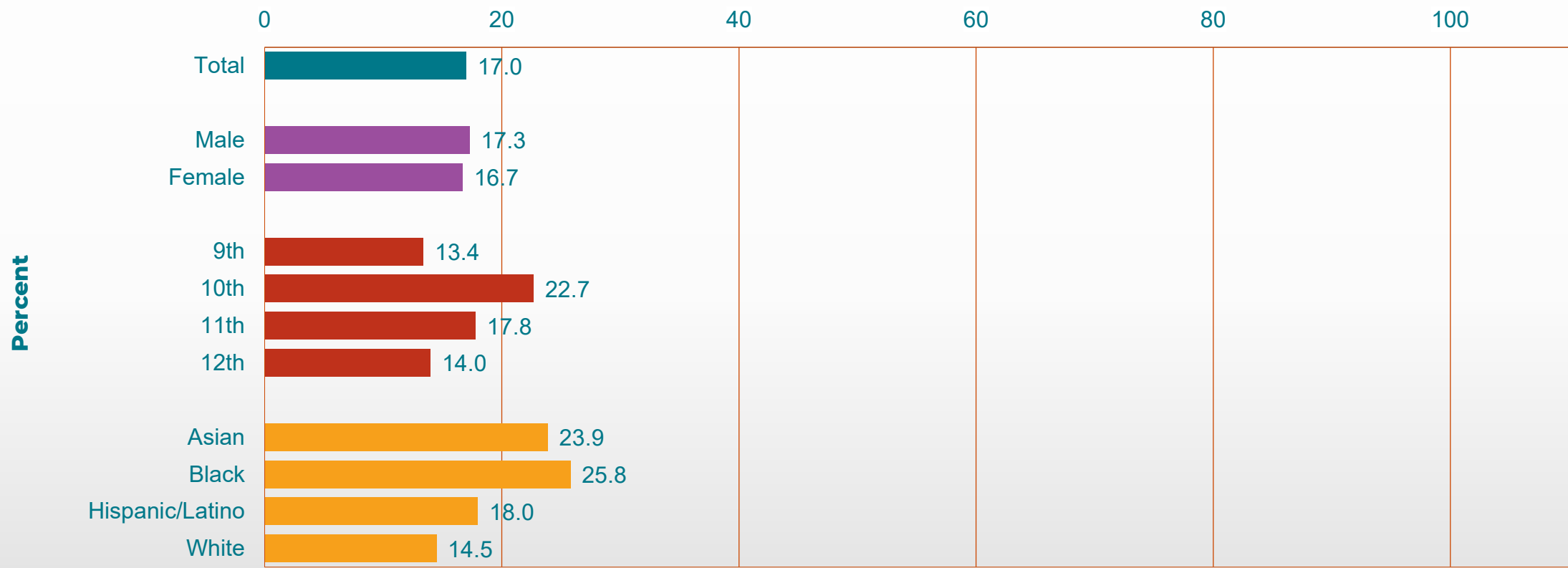
Percentage of High School Students Who Had Obesity,* by Sex, Grade, and Race/Ethnicity,† 2023



*** ≥ 95th percentile for body mass index, based on sex- and age-specific reference data from the 2000 CDC growth charts. In 2017, new, slightly different ranges were used to calculate biologically implausible responses to height and weight questions.**

†H > A (Based on t-test analysis, p < 0.05.)
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
This graph contains weighted results.

Percentage of High School Students Who Were Overweight,* by Sex, Grade,† and Race/Ethnicity, 2023



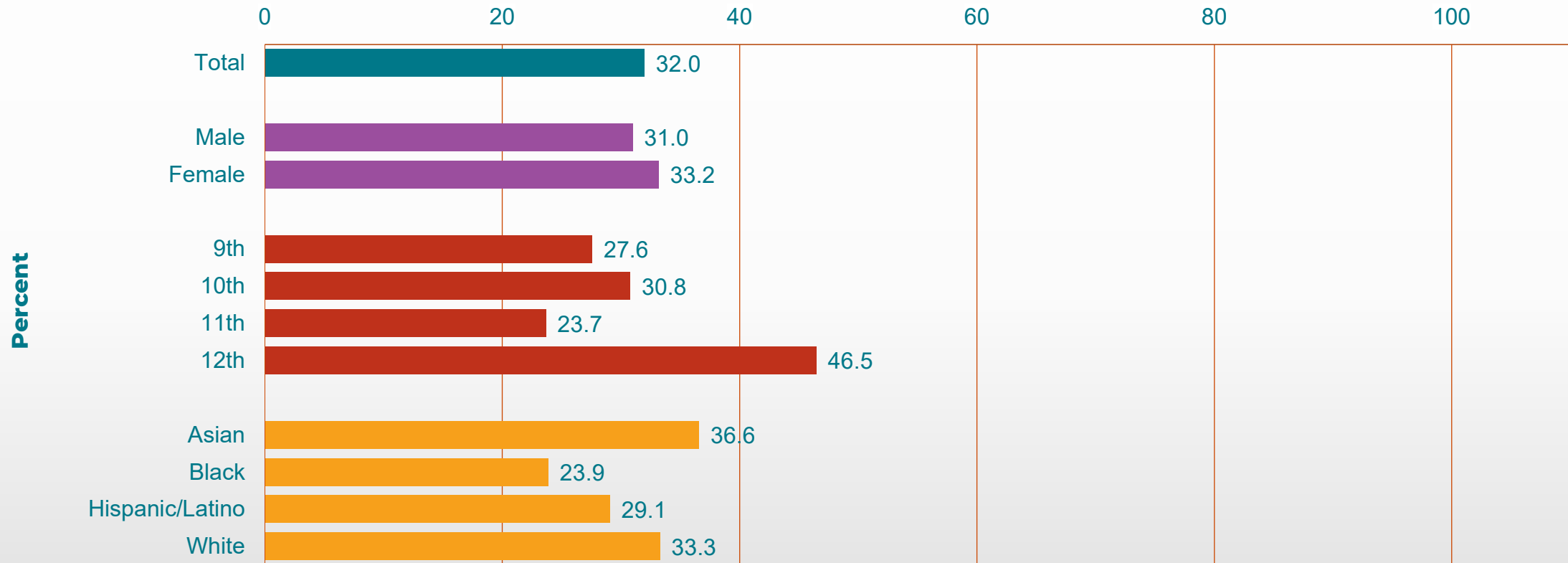
*** ≥ 85th percentile but <95th percentile for body mass index, based on sex- and age-specific reference data from the 2000 CDC growth charts. In 2017, new, slightly different ranges were used to calculate biologically implausible responses to height and weight questions.**

†10th > 9th (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Percentage of High School Students Who Described Themselves As Slightly or Very Overweight, by Sex, Grade,* and Race/Ethnicity, 2023



*12th > 9th, 12th > 10th, 12th > 11th (Based on t-test analysis, $p < 0.05$.)

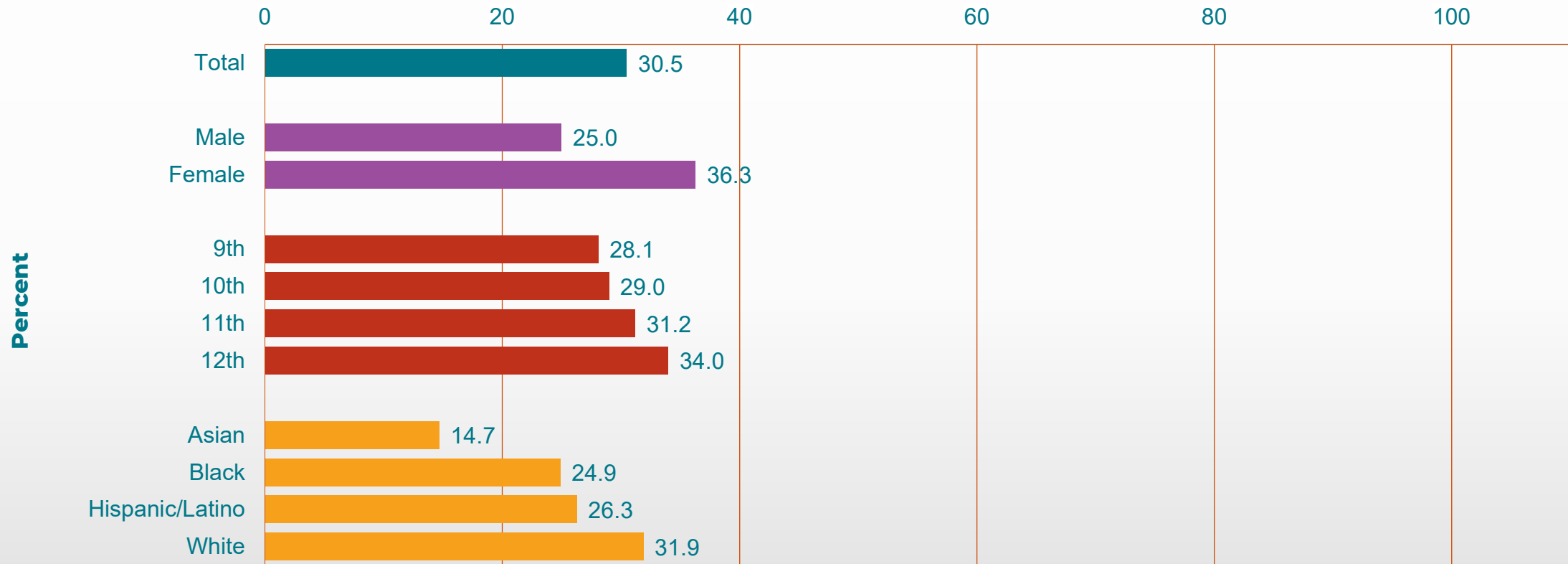
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Mental Health



Percentage of High School Students Who Reported That Their Mental Health Was Most of the Time or Always Not Good,* by Sex,† Grade, and Race/Ethnicity,† 2023



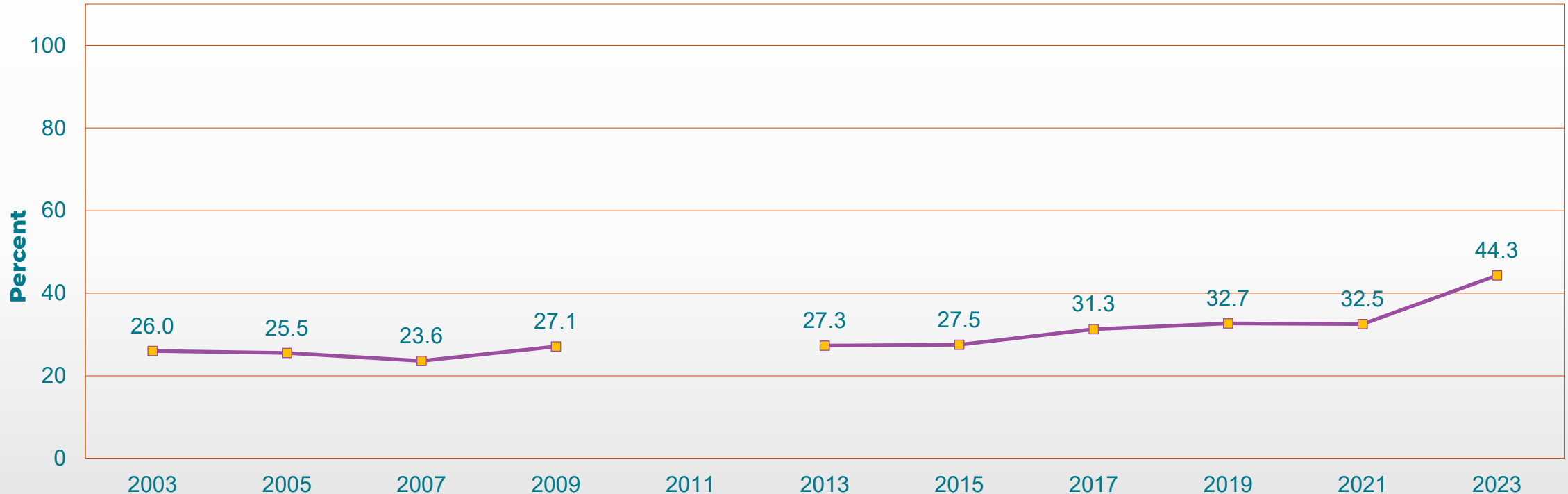
***Including stress, anxiety, and depression, during the 30 days before the survey**

†F > M; B > A, W > A (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Percentage of High School Students Who Felt Sad or Hopeless,* 2003-2023†



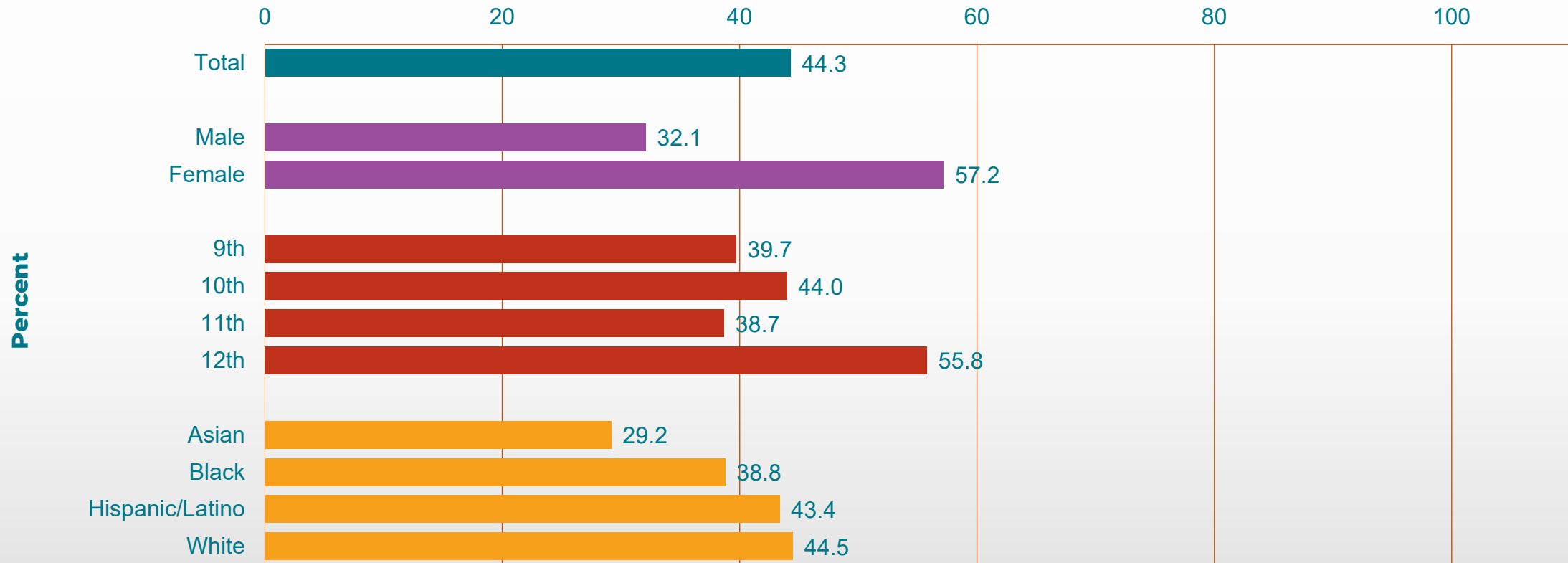
***Almost every day for ≥ 2 weeks in a row so that they stopped doing some usual activities, ever during the 12 months before the survey**

†Increased 2003-2023, increased 2003-2019, increased 2019-2023 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]

Data not available for 2011.

This graph contains weighted results.

Percentage of High School Students Who Felt Sad or Hopeless,* by Sex,† Grade,† and Race/Ethnicity, 2023



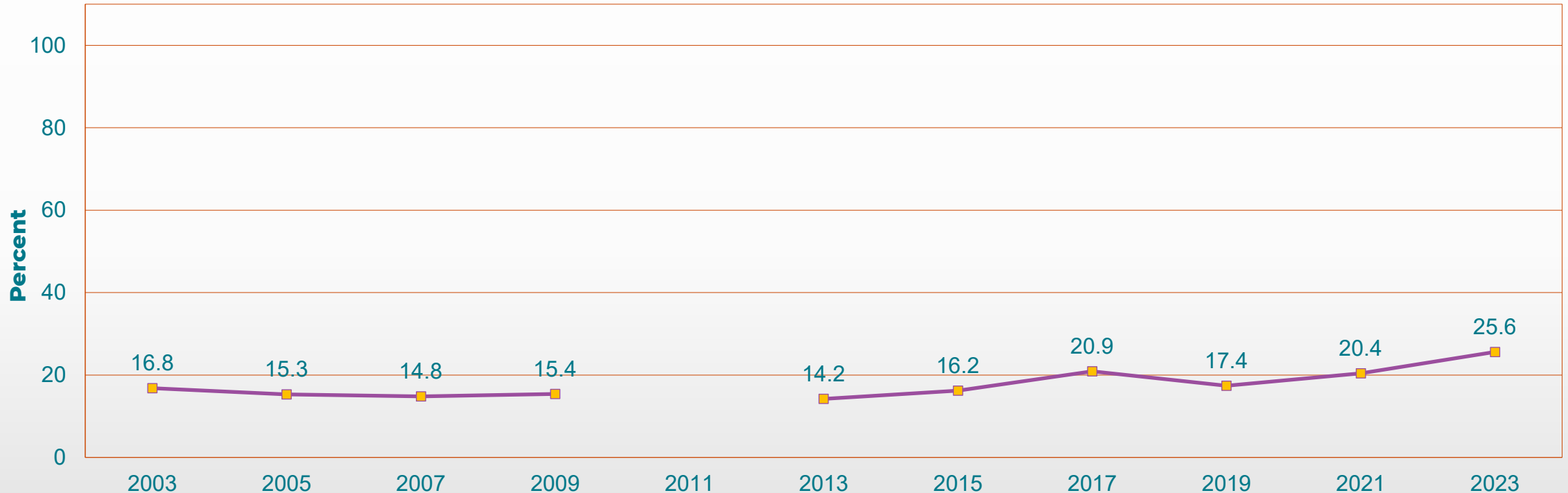
***Almost every day for ≥ 2 weeks in a row so that they stopped doing some usual activities, ever during the 12 months before the survey**

†F > M; 12th > 11th (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Percentage of High School Students Who Seriously Considered Attempting Suicide,* 2003-2023[†]



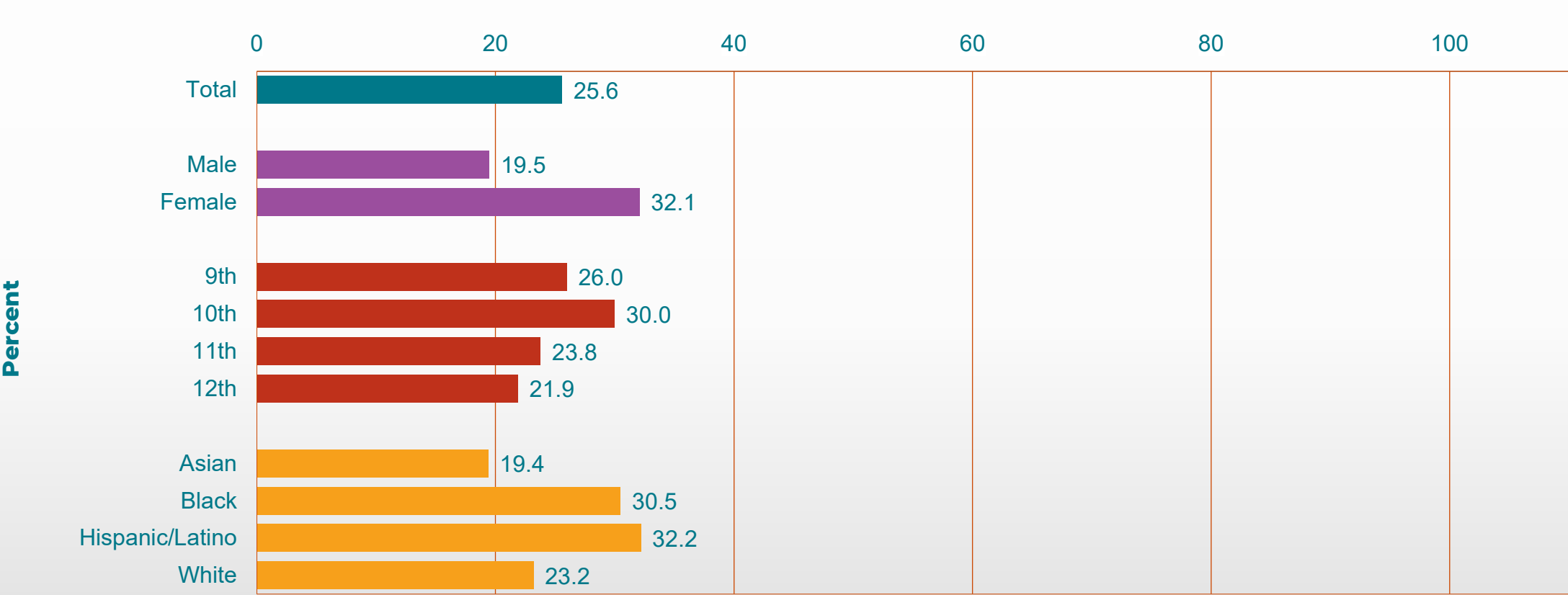
***During the 12 months before the survey**

[†]Increased 2003-2023, no change 2003-2013, increased 2013-2023 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]

Data not available for 2011.

This graph contains weighted results.

Percentage of High School Students Who Seriously Considered Attempting Suicide,* by Sex,† Grade,† and Race/Ethnicity, 2023



***During the 12 months before the survey**

†F > M; 10th > 11th (Based on t-test analysis, $p < 0.05$.)

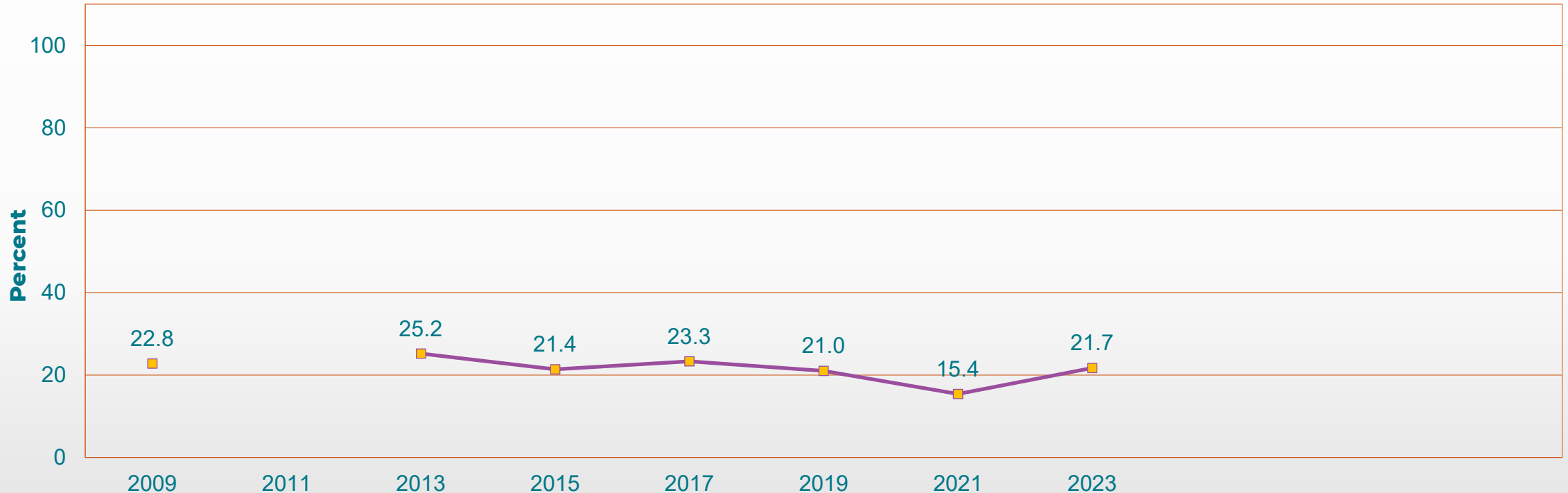
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Bullying



Percentage of High School Students Who Were Bullied on School Property,* 2009-2023[†]



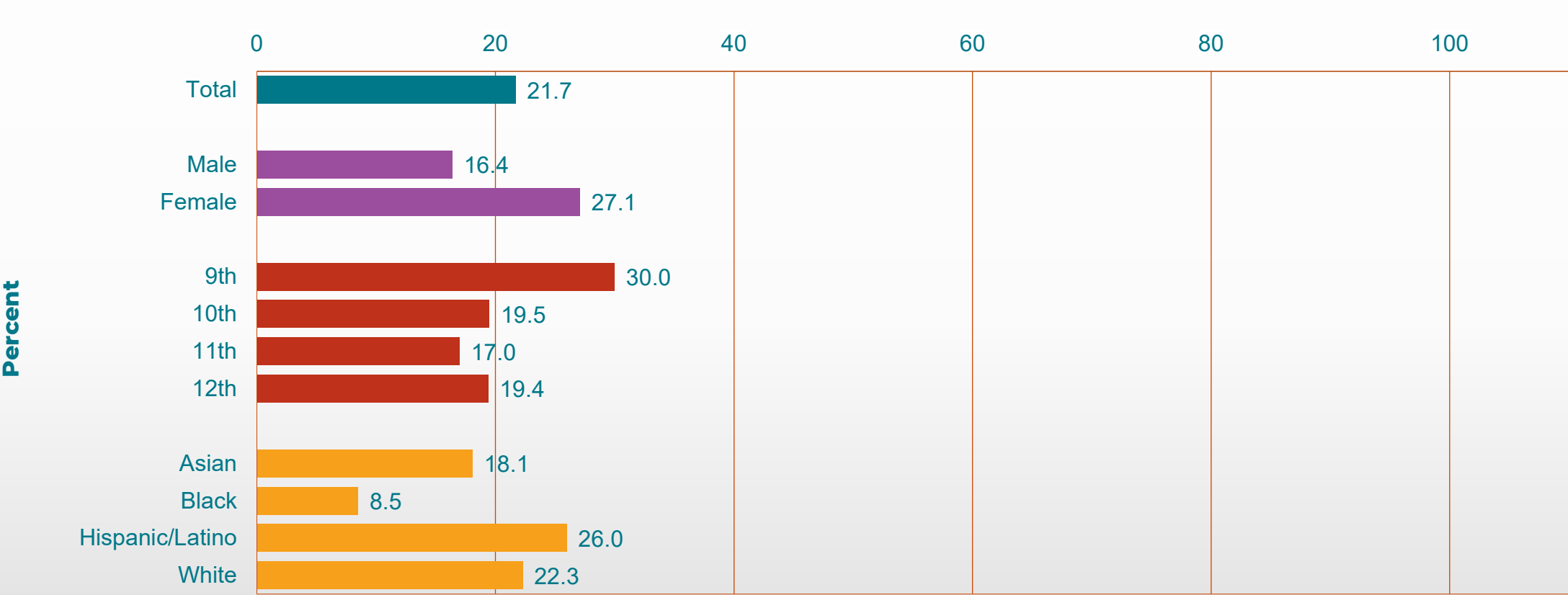
***Ever during the 12 months before the survey**

[†]No change 2009-2023 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]

Data not available for 2011.

This graph contains weighted results.

Percentage of High School Students Who Were Bullied on School Property,* by Sex,† Grade,† and Race/Ethnicity, 2023



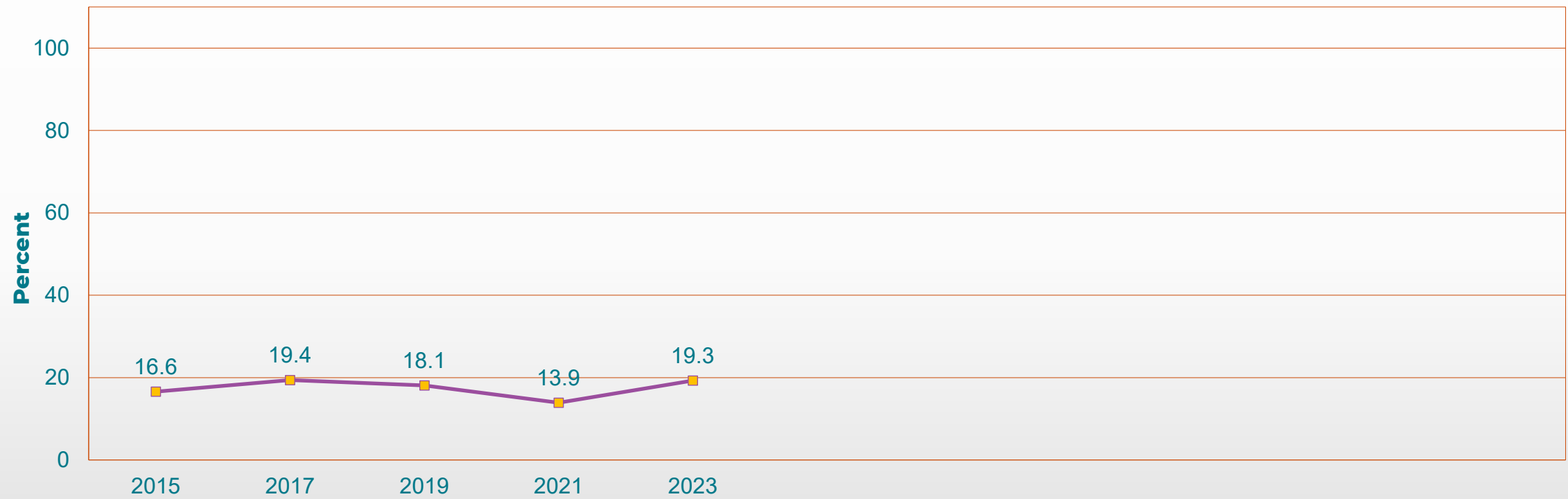
***Ever during the 12 months before the survey**

†F > M; 9th > 11th (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

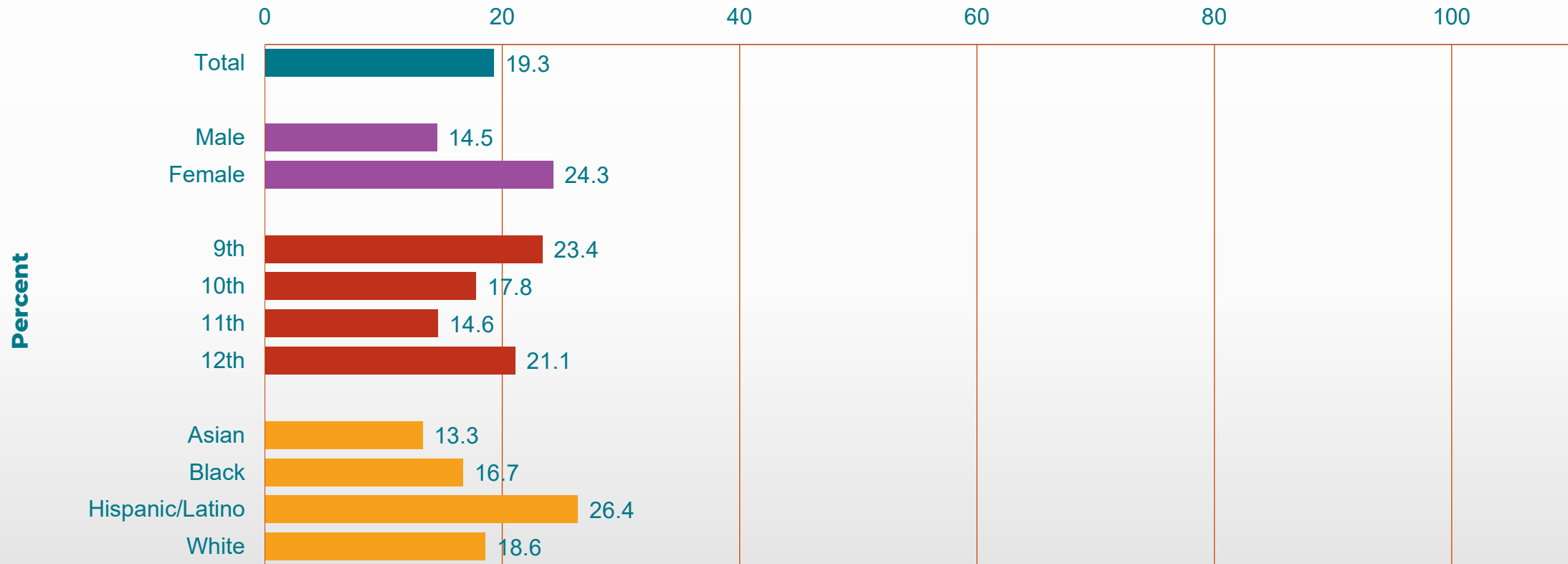
This graph contains weighted results.

Percentage of High School Students Who Were Electronically Bullied,* 2015-2023†



***Counting being bullied through texting, Instagram, Facebook, or other social media, ever during the 12 months before the survey**
†No change 2015-2023 [Based on linear trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$).]
This graph contains weighted results.

Percentage of High School Students Who Were Electronically Bullied,* by Sex,[†] Grade, and Race/Ethnicity, 2023



***Counting being bullied through texting, Instagram, Facebook, or other social media, ever during the 12 months before the survey**

[†]F > M (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Social Media



Percentage of High School Students Who Used Social Media Several Times a Day, by Sex,* Grade, and Race/Ethnicity,* 2023

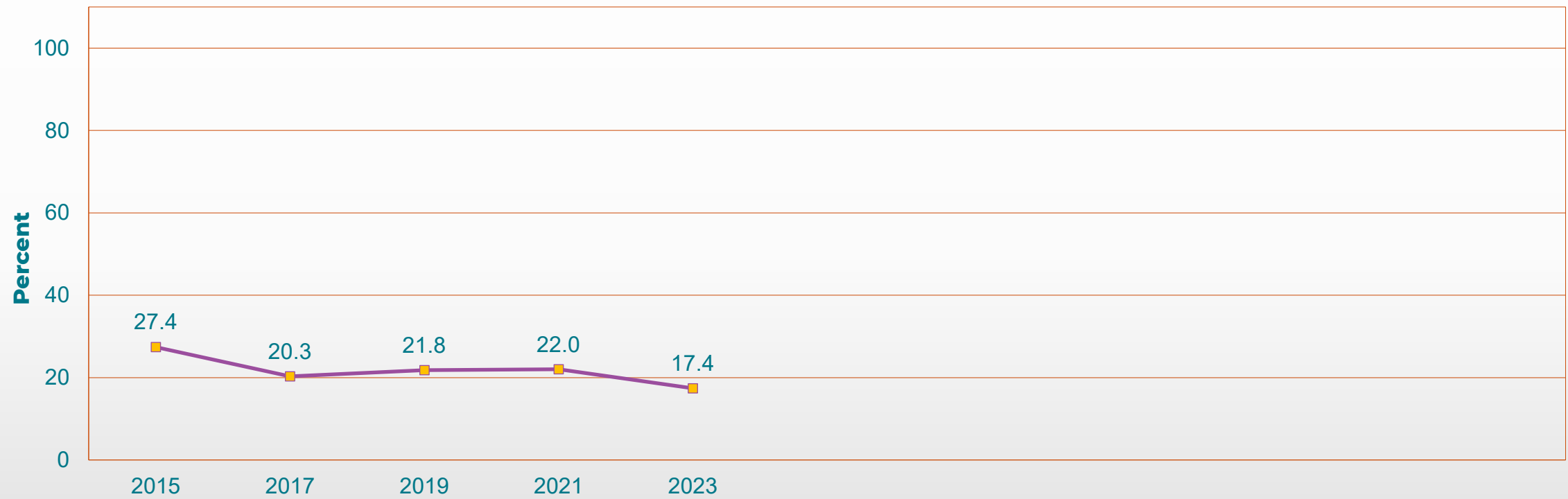


*F > M; A > H, B > H, W > H (Based on t-test analysis, $p < 0.05$.)
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
This graph contains weighted results.

Sleep



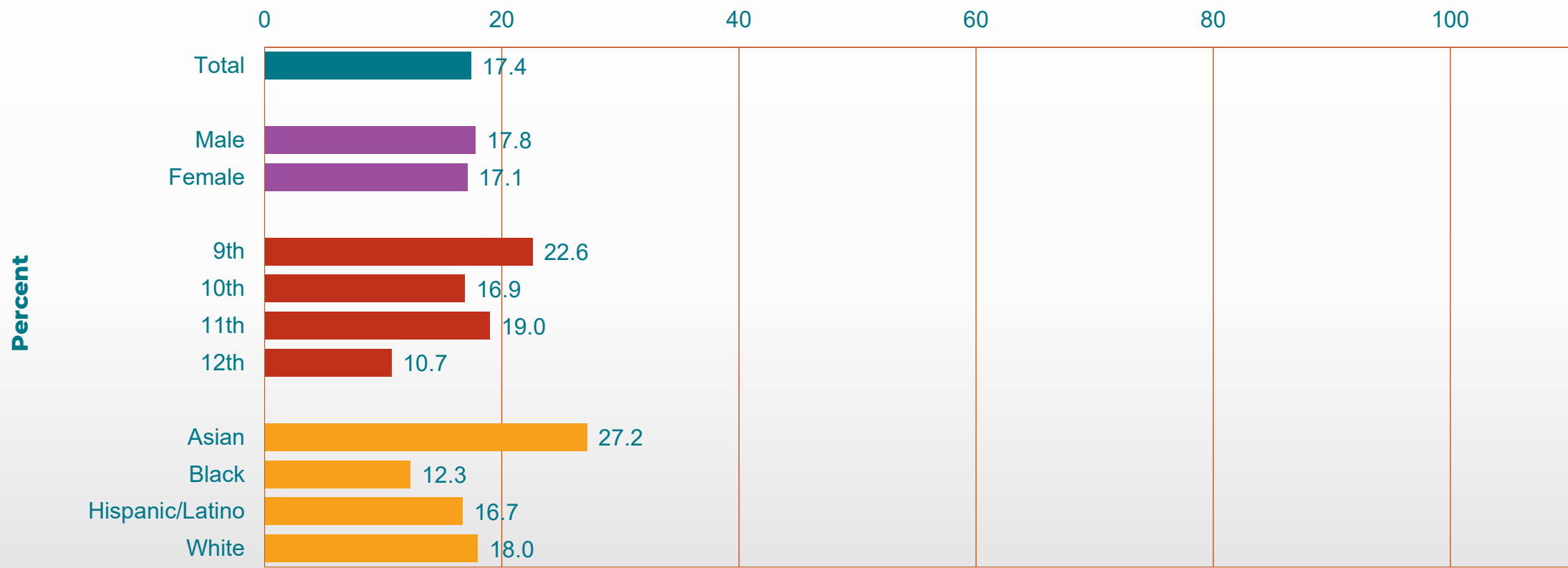
Percentage of High School Students Who Got 8 or More Hours of Sleep,* 2015-2023[†]



***On an average school night**

[†]Decreased 2015-2023 [Based on linear trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$).]

Percentage of High School Students Who Got 8 or More Hours of Sleep,* by Sex, Grade,† and Race/Ethnicity, 2023

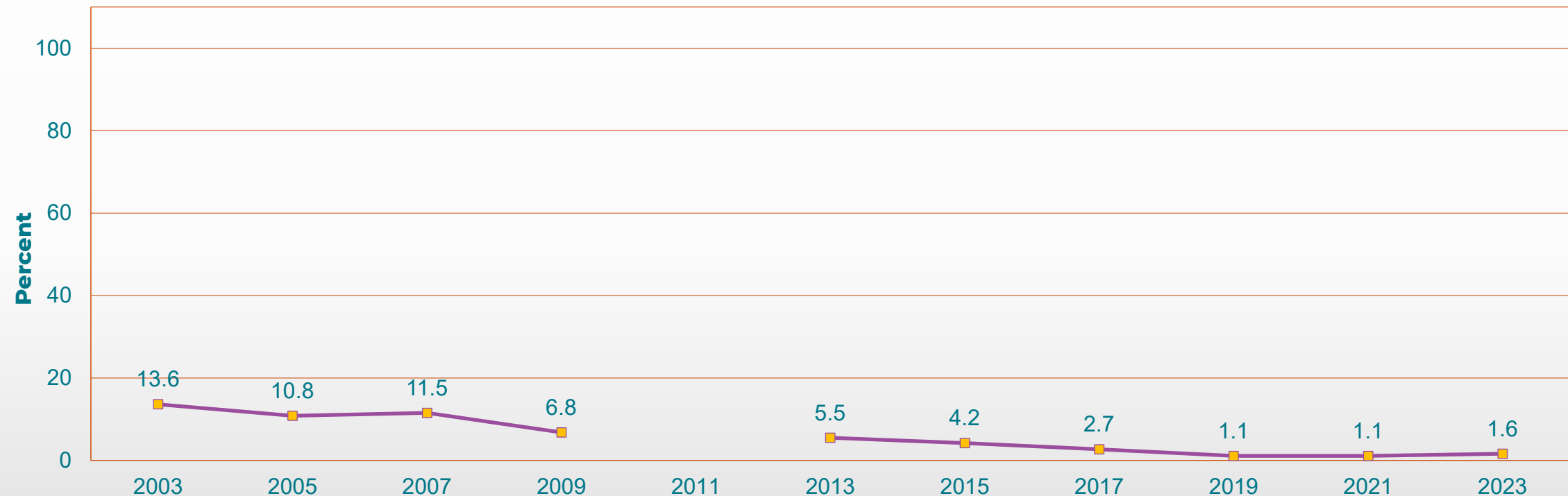


***On an average school night**
†11th > 12th (Based on t-test analysis, $p < 0.05$.)
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
This graph contains weighted results.

Alcohol, Nicotine, and Illicit Drug Use



Percentage of High School Students Who Currently Smoked Cigarettes Frequently,* 2003-2023†



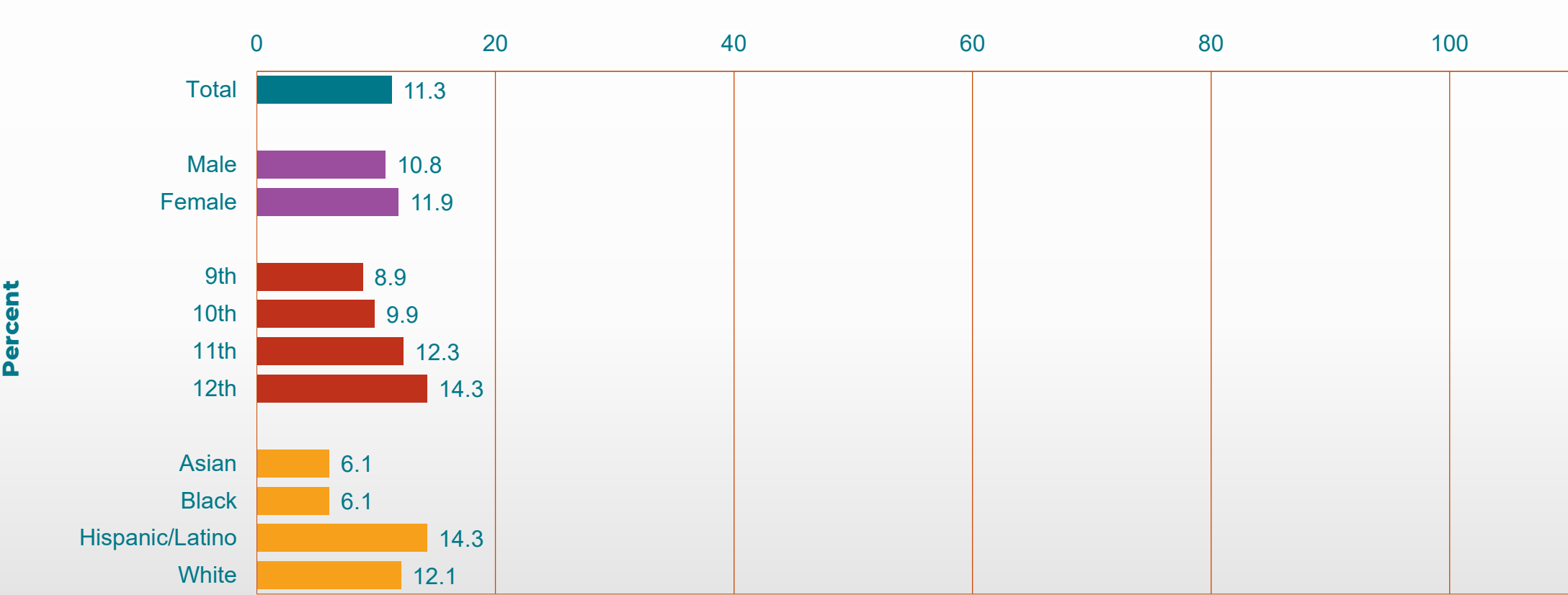
***On 20 or more days during the 30 days before the survey**

†Decreased 2003-2023 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]

Data not available for 2011.

This graph contains weighted results.

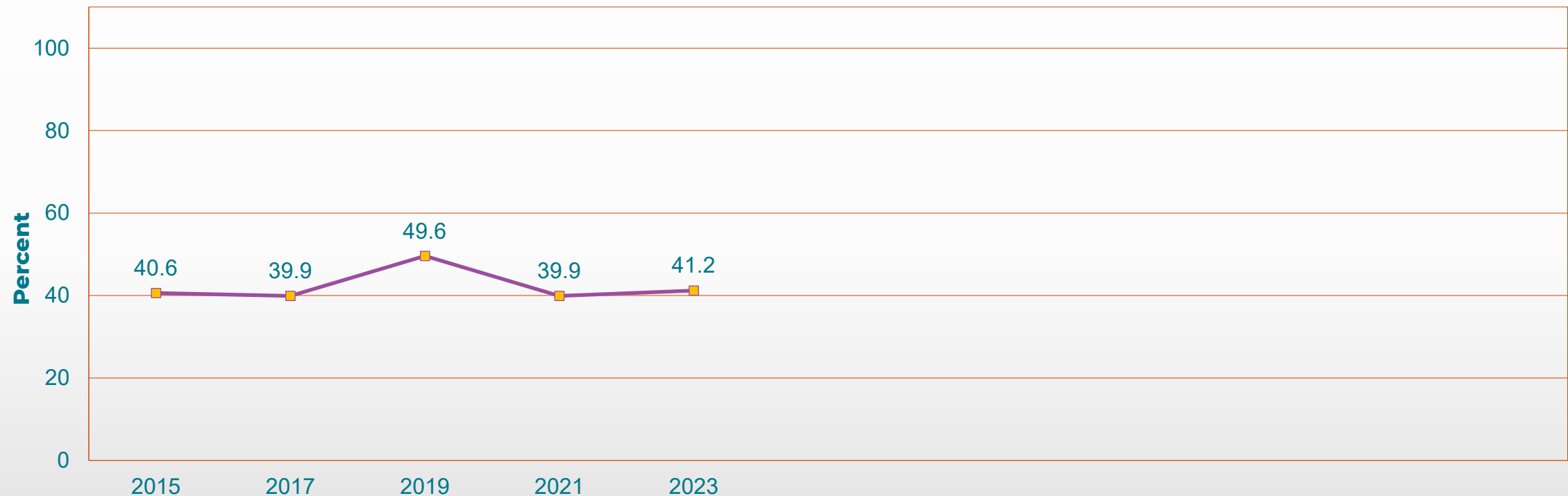
Percentage of High School Students Who Smoked a Cigarette Before Age 13 Years,* by Sex, Grade, and Race/Ethnicity, 2023



***Even one or two puffs**

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.
This graph contains weighted results.

Percentage of High School Students Who Ever Used an Electronic Vapor Product,* 2015-2023[†]

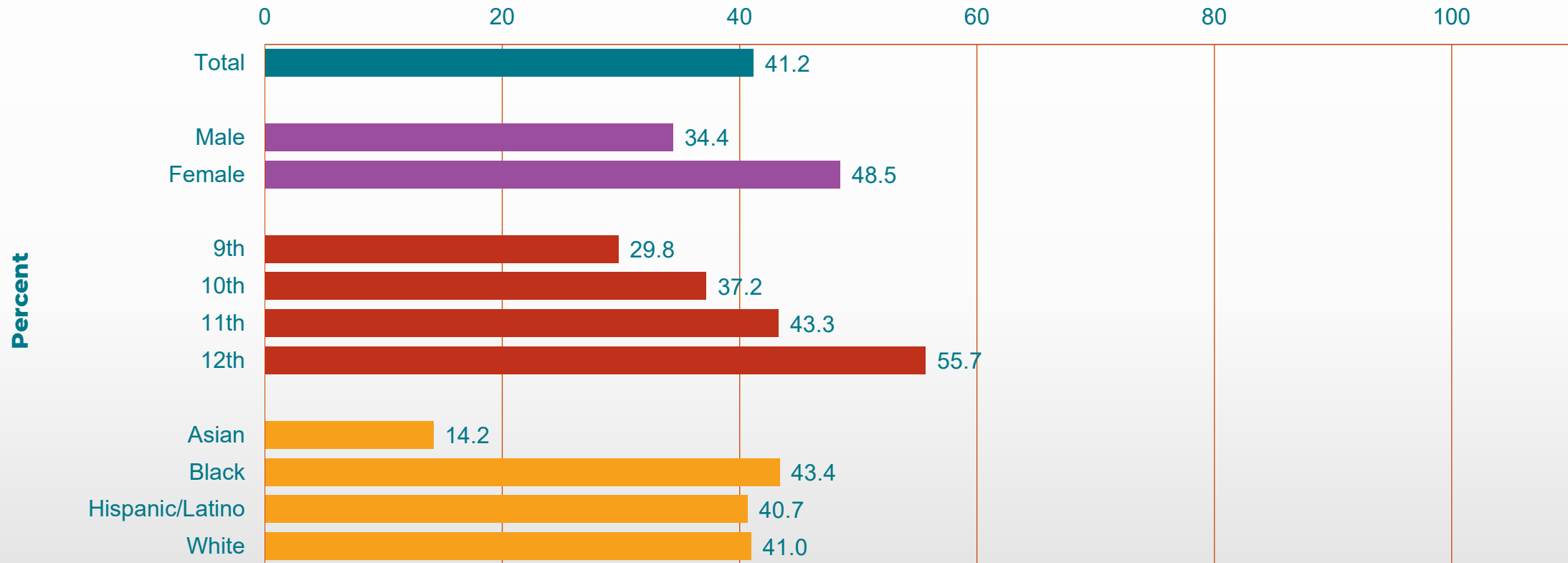


***Including e-cigarettes, vapes, vape pens, e-cigars, e-hookahs, hookah pens, and mods [such as JUUL, SMOK, Suorin, Vuse, and blu]**

[†]No change 2015-2023 [Based on linear trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$).]

This graph contains weighted results.

Percentage of High School Students Who Ever Used an Electronic Vapor Product,* by Sex,† Grade,† and Race/Ethnicity,† 2023



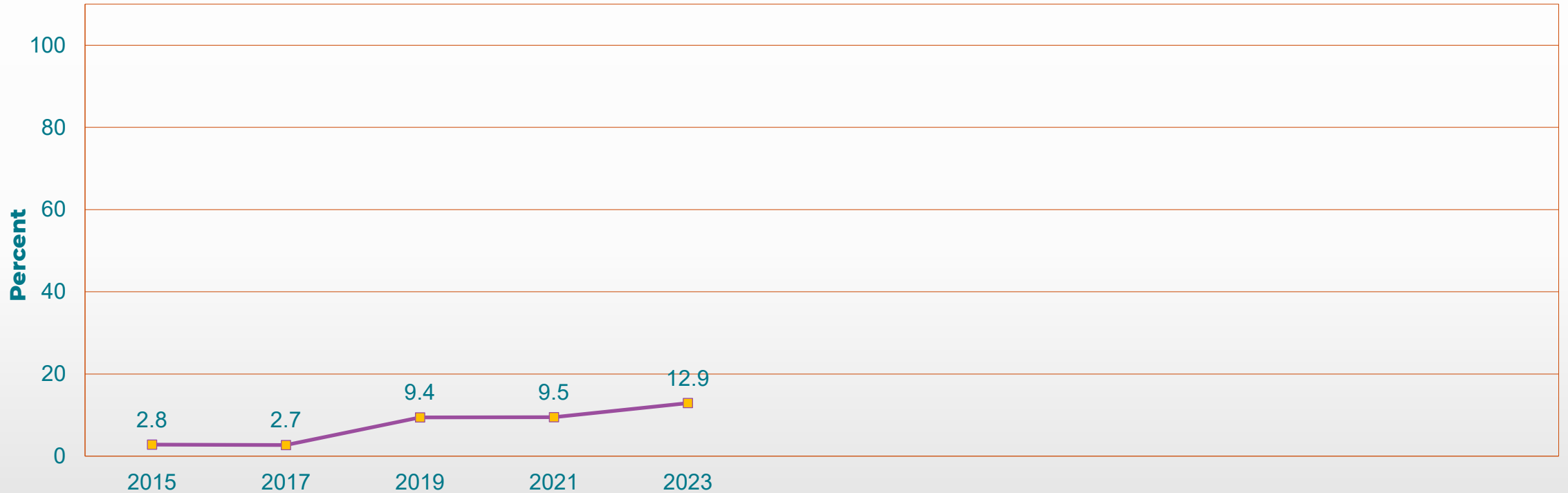
***Including e-cigarettes, vapes, vape pens, e-cigars, e-hookahs, hookah pens, and mods [such as JUUL, SMOK, Suorin, Vuse, and blu]**

†F > M; 11th > 9th, 12th > 9th; B > A, H > A, W > A (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Percentage of High School Students Who Currently Used Electronic Vapor Products Frequently,* 2015-2023[†]

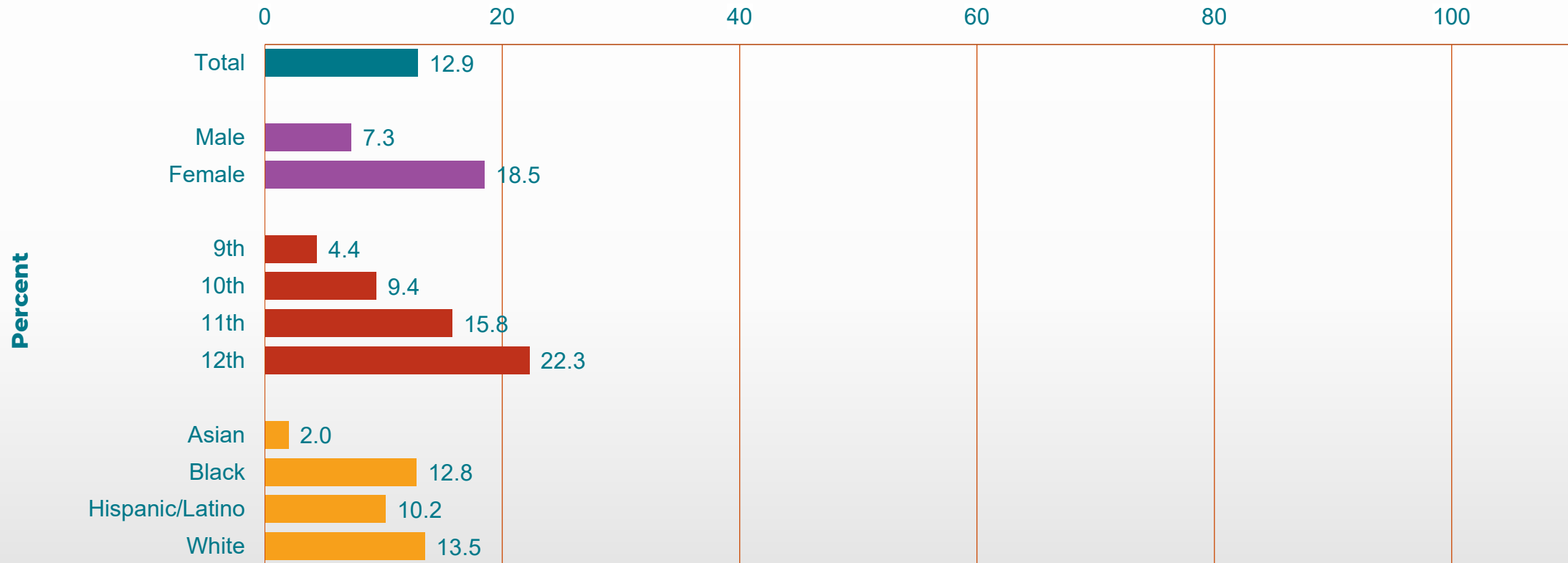


***On 20 or more days during the 30 days before the survey**

[†]Increased 2015-2023 [Based on linear trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$).]

This graph contains weighted results.

Percentage of High School Students Who Currently Used Electronic Vapor Products Frequently,* by Sex,[†] Grade,[†] and Race/Ethnicity,[†] 2023



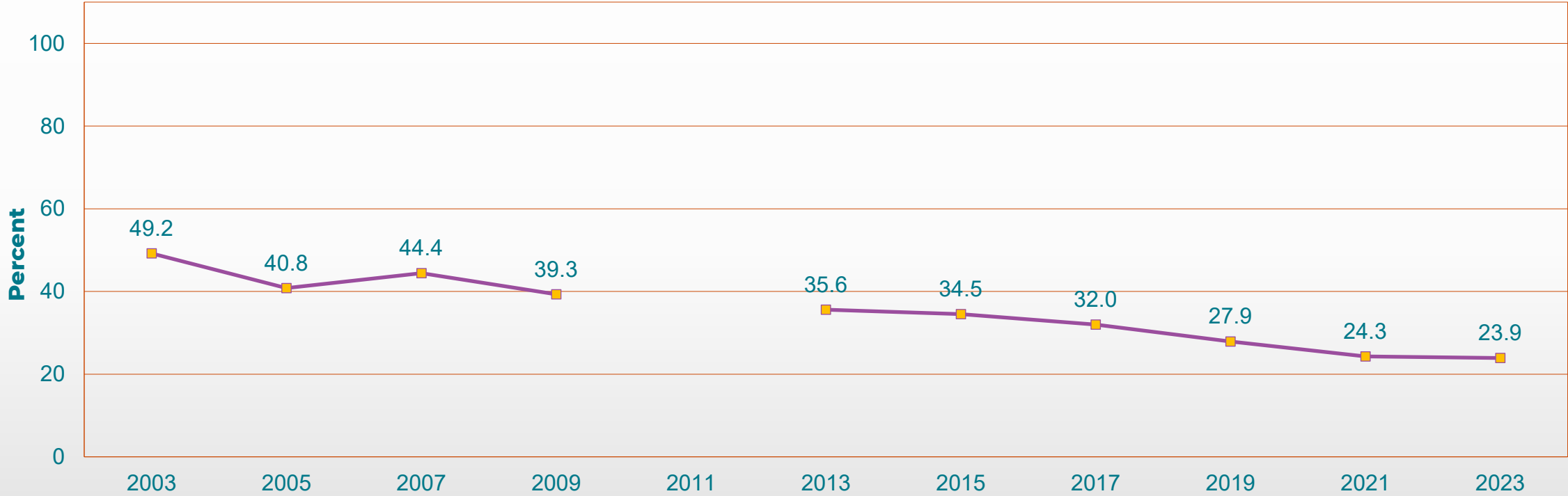
***On 20 or more days during the 30 days before the survey**

[†]F > M; 11th > 9th; W > A (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Percentage of High School Students Who Currently Drank Alcohol,* 2003-2023[†]



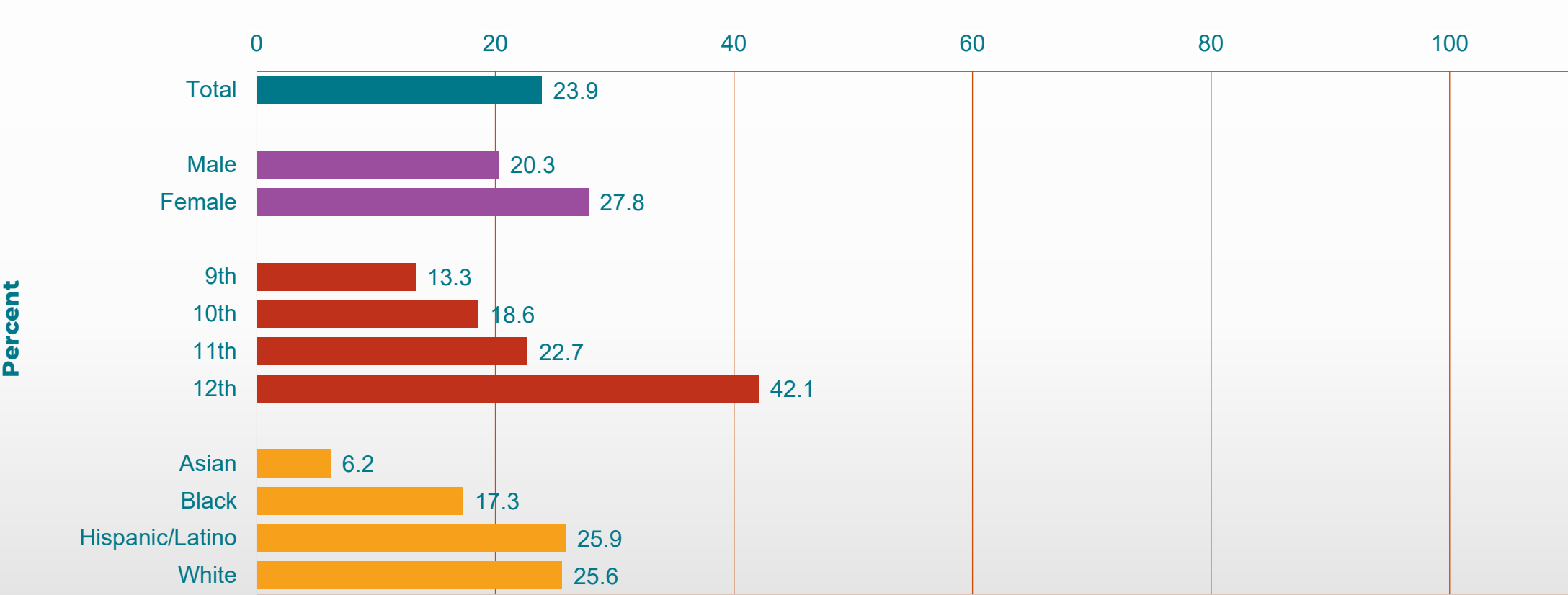
***At least one drink of alcohol, on at least 1 day during the 30 days before the survey**

[†]Decreased 2003-2023 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]

Data not available for 2011.

This graph contains weighted results.

Percentage of High School Students Who Currently Drank Alcohol,* by Sex, Grade,† and Race/Ethnicity,† 2023



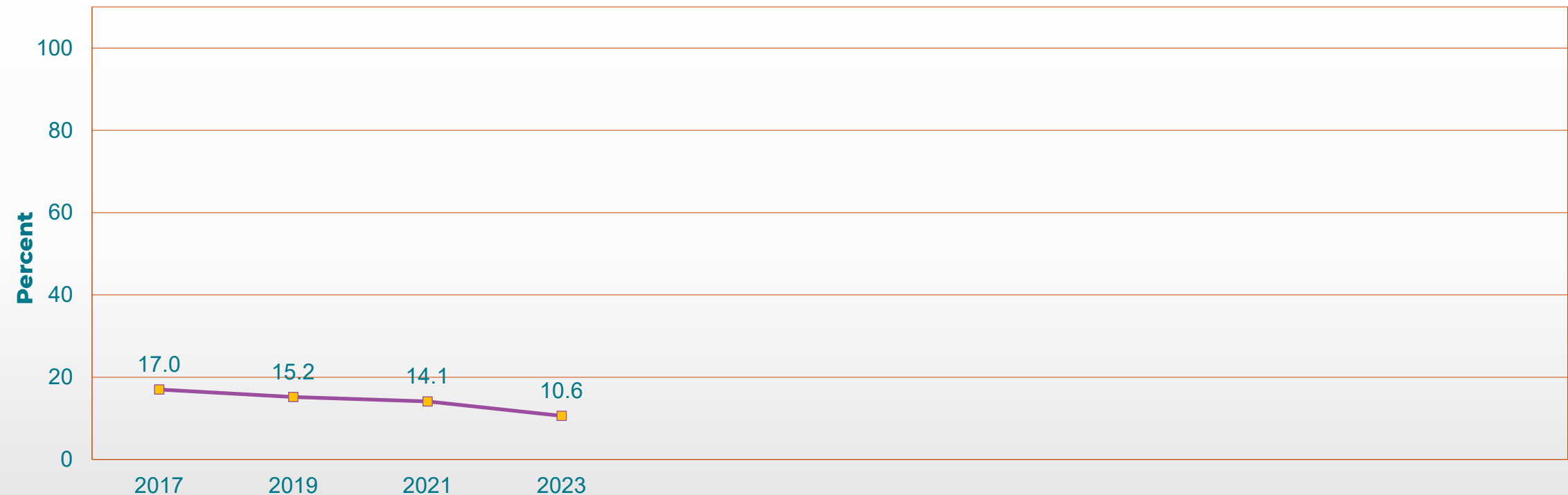
***At least one drink of alcohol, on at least 1 day during the 30 days before the survey**

†11th > 9th, 12th > 9th; W > A (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Percentage of High School Students Who Currently Were Binge Drinking,* 2017-2023†

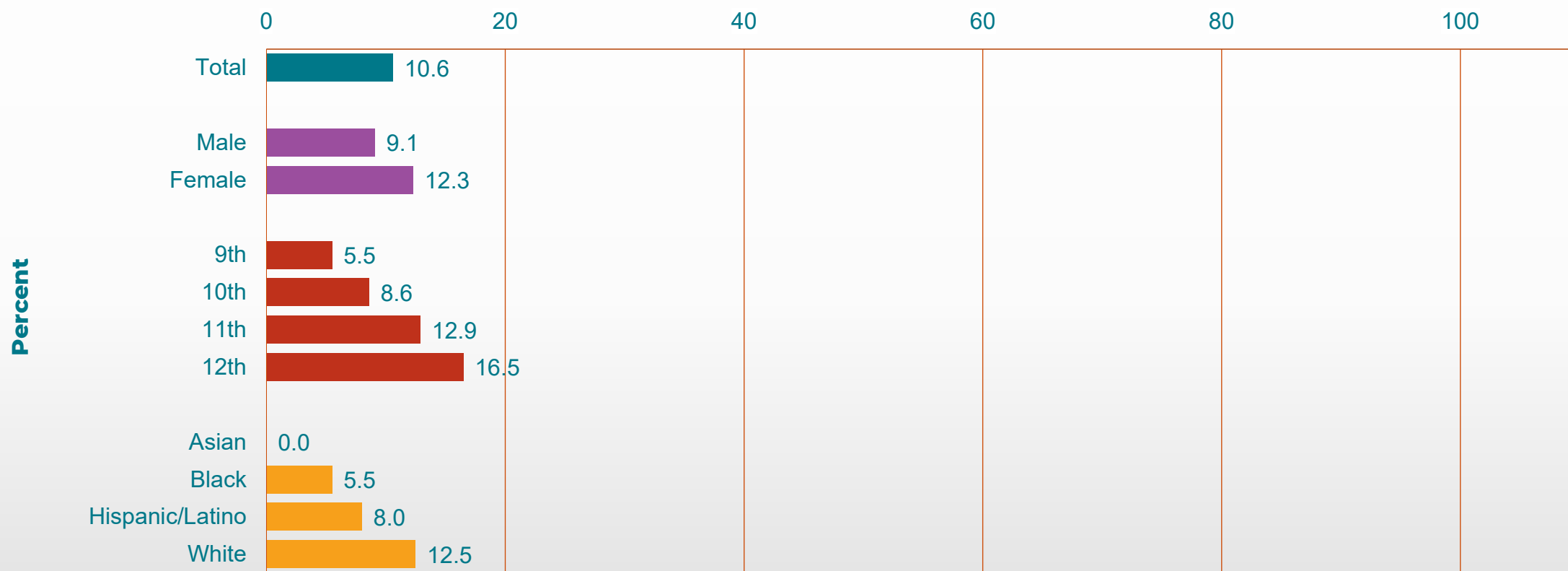


***Had four or more drinks of alcohol in a row if they were female or five or more drinks of alcohol in a row if they were male, within a couple of hours, on at least 1 day during the 30 days before the survey**

†No change 2017-2023 [Based on linear trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$).]

This graph contains weighted results.

Percentage of High School Students Who Currently Were Binge Drinking,* by Sex, Grade,† and Race/Ethnicity,† 2023



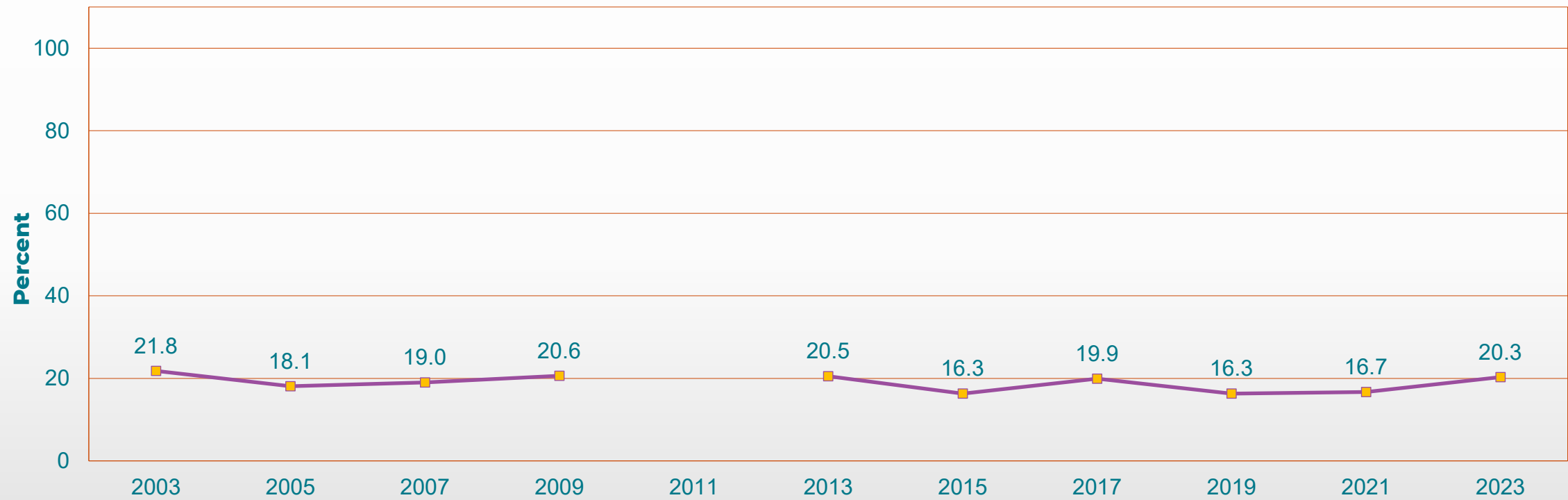
***Had four or more drinks of alcohol in a row if they were female or five or more drinks of alcohol in a row if they were male, within a couple of hours, on at least 1 day during the 30 days before the survey**

†11th > 9th; W > A (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Percentage of High School Students Who Currently Used Marijuana,* 2003-2023†



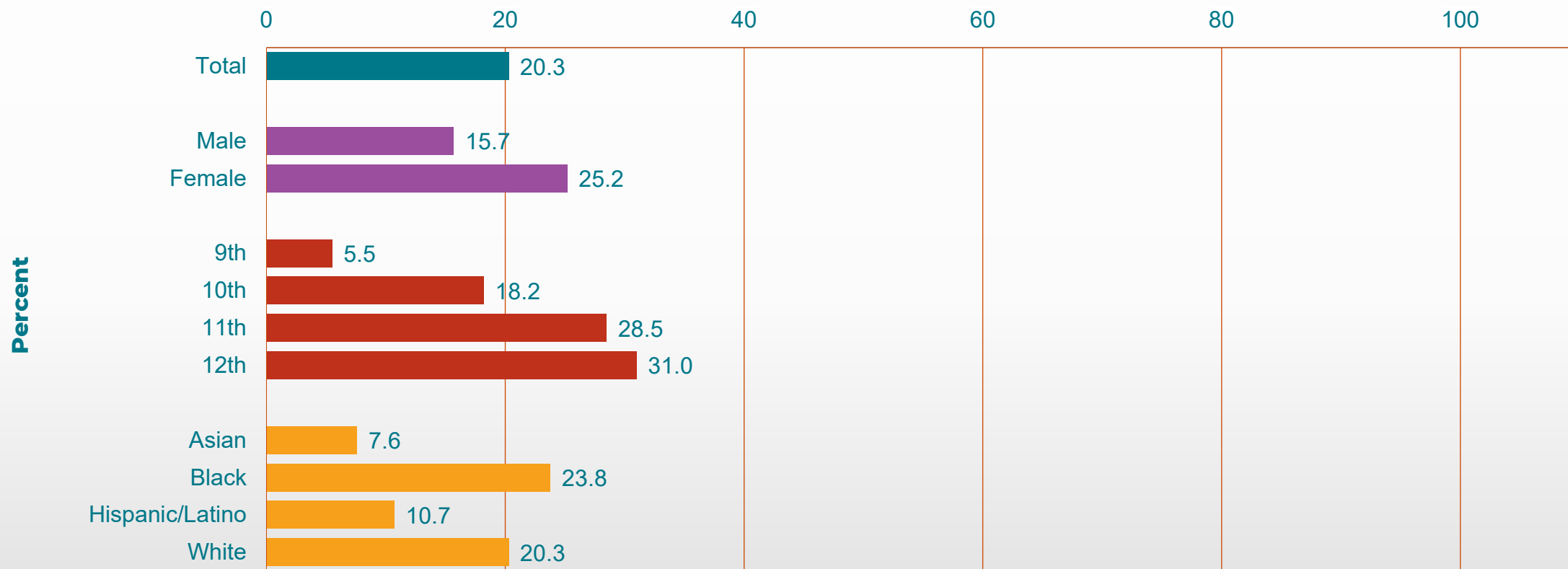
***One or more times during the 30 days before the survey**

†No change 2003-2023 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]

Data not available for 2011.

This graph contains weighted results.

Percentage of High School Students Who Currently Used Marijuana,* by Sex, Grade,† and Race/Ethnicity,† 2023



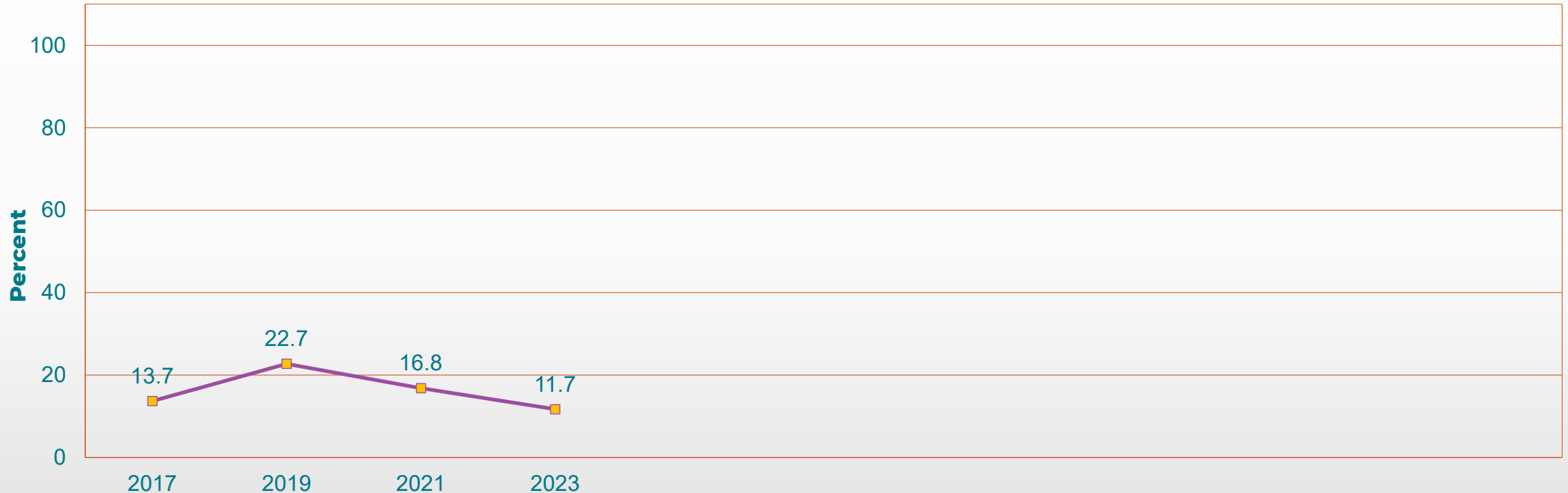
***One or more times during the 30 days before the survey**

†10th > 9th, 11th > 9th, 12th > 9th; B > A (Based on t-test analysis, $p < 0.05$.)

All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Percentage of High School Students Who Ever Took Prescription Pain Medicine Without a Doctor's Prescription or Differently Than How a Doctor Told Them to Use It,* 2017-2023[†]

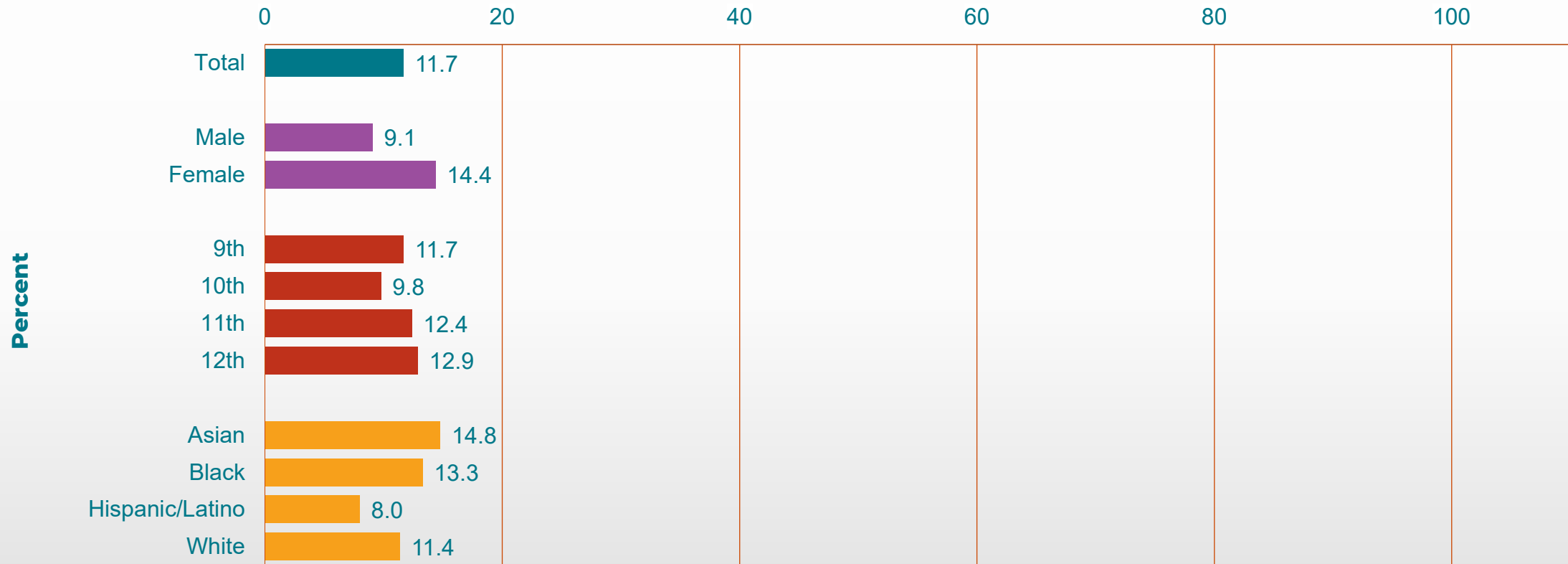


***Counting drugs such as codeine, Vicodin, OxyContin, Hydrocodone, and Percocet, one or more times during their life**

[†]No change 2017-2023 [Based on linear trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$).]

This graph contains weighted results.

Percentage of High School Students Who Ever Took Prescription Pain Medicine Without a Doctor's Prescription or Differently Than How a Doctor Told Them to Use It,* by Sex, Grade, and Race/Ethnicity, 2023



***Counting drugs such as codeine, Vicodin, OxyContin, Hydrocodone, and Percocet, one or more times during their life**

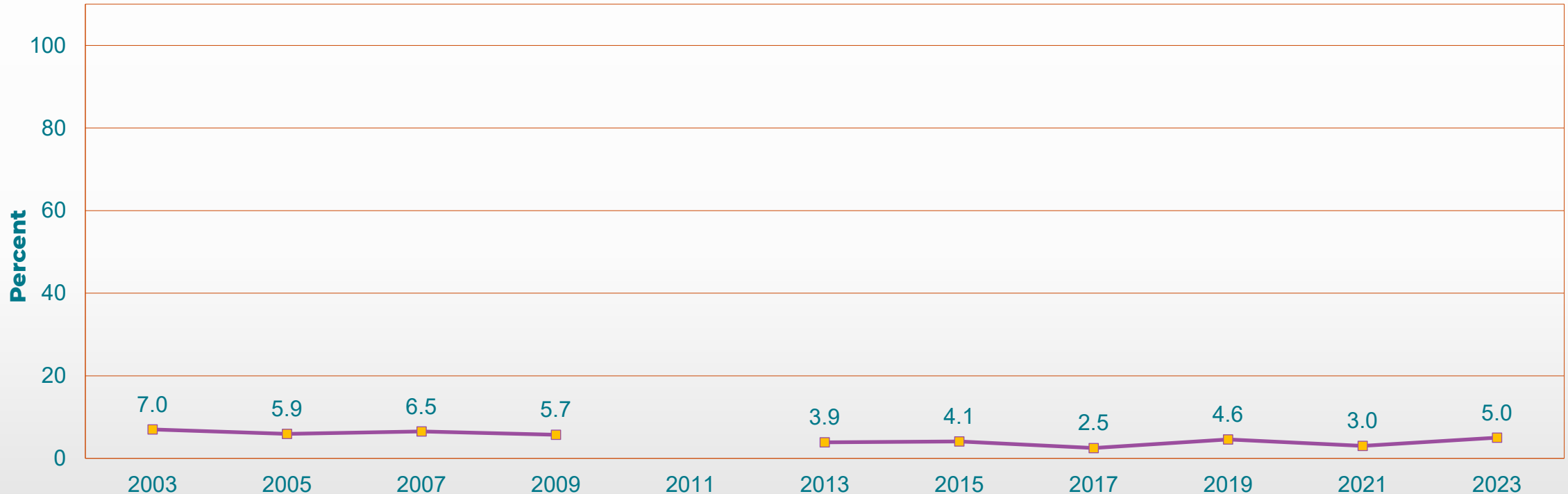
All Hispanic students are included in the Hispanic category. All other races are non-Hispanic.

This graph contains weighted results.

Sexual Activity



Percentage of High School Students Who Had Sexual Intercourse for the First Time Before Age 13 Years, 2003-2023*

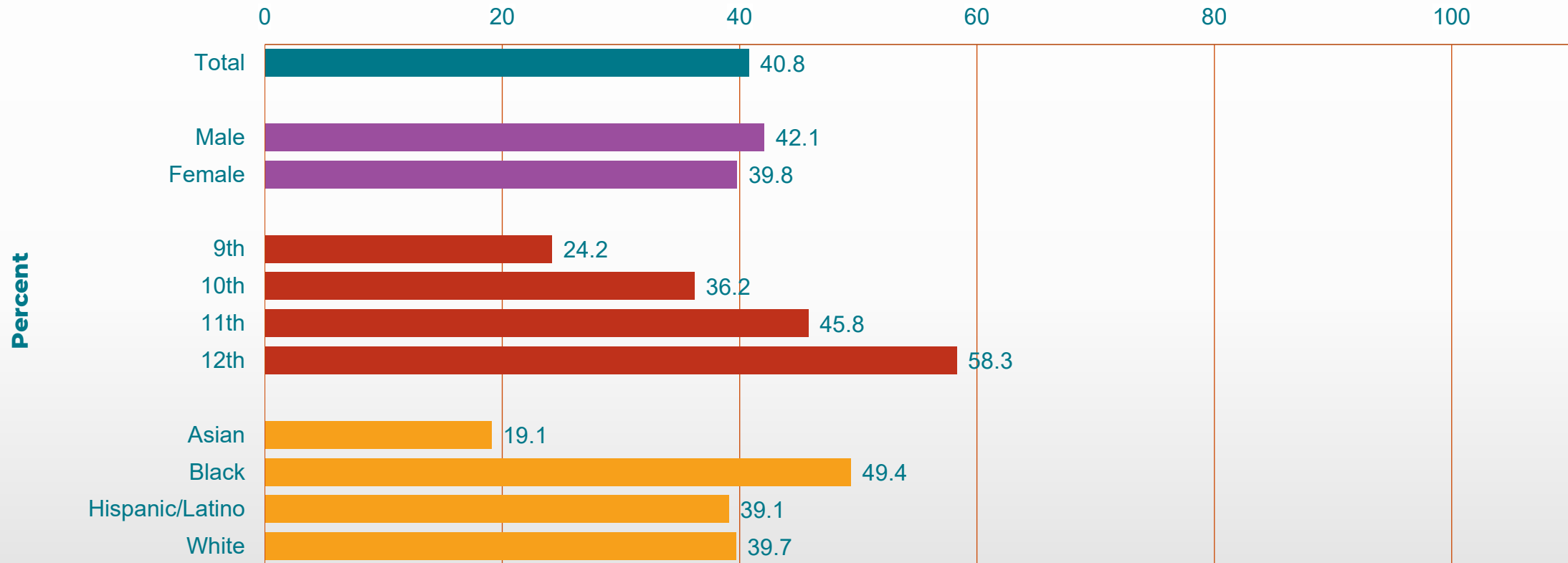


*Decreased 2003-2023 [Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade ($p < 0.05$). Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).]

Data not available for 2011.

This graph contains weighted results.

Percentage of High School Students Who Ever Had Sexual Intercourse, by Sex, Grade,* and Race/Ethnicity,* 2023



*10th > 9th, 11th > 9th, 12th > 9th; B > A, W > A (Based on t-test analysis, $p < 0.05$.)
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This graph contains weighted results.

Summary

1. Monitor

2. Inform

3. Process

4. Data Dissemination

health.mo.gov/data/yrbss/

MISSOURI DEPARTMENT OF
HEALTH & SENIOR SERVICES

MO.gov Governor Kehoe Find an Agency

Healthy Living Senior & Disability Services Licensing & Regulations Disaster &

Youth Risk Behavior Surveillance System

DHSS Home » Data » yrbss

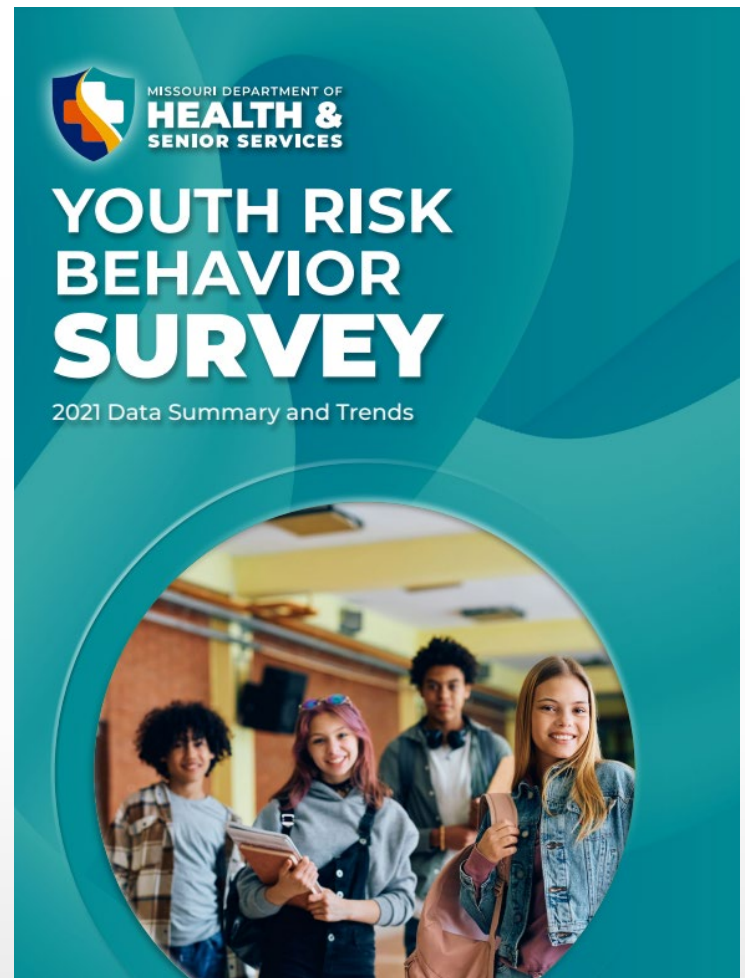
- **Data & Statistical Reports**

The Youth Risk Behavior Surveillance System (YRBSS) monitors six types of health-risk behaviors that contribute to the leading causes of death and disability among youth and adults, including:

- Behaviors that contribute to unintentional injuries and violence
- Sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases, including HIV infection
- Alcohol and other drug use
- Tobacco use
- Unhealthy dietary behaviors
- Inadequate physical activity

YRBSS also measures the prevalence of obesity and asthma among high school students.

YRBSS includes national and state surveys of high school students and is supported by the U.S. Centers for Disease Control and Prevention (CDC). For additional information about the YRBSS, go to the **CDC website**.



You can access the **2021 YRBS report** by clicking on the **Data & Statistical Reports** link on our webpage at health.mo.gov/data/yrbss

The **2023 YRBS report** is being finalized. Please check back in the coming months for the updated report.



MISSOURI DEPARTMENT OF
**HEALTH &
SENIOR SERVICES**

QUESTIONS?

**Missouri Department of Health and Senior Services:
Youth Risk Behavior Surveillance System (YRBSS)**

<https://health.mo.gov/data/yrbss/>

**Missouri Department of Elementary and Secondary
Education**

<https://dese.mo.gov/>

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