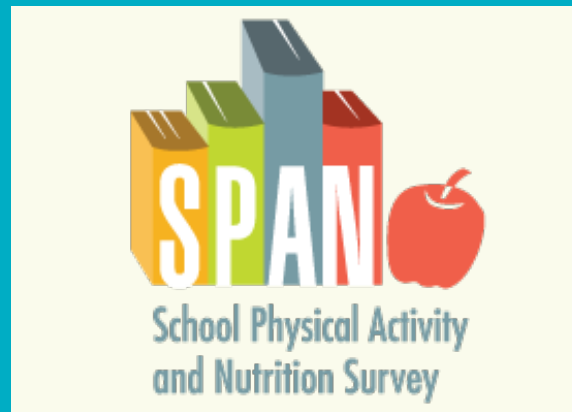


Are We Making Progress in Child Obesity in Texas? Results from the 2015-2016 SPAN Study



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Michael & Susan Dell Center for Healthy Living

WHAT IS LIVE SMART TEXAS?

Live Smart Texas (LST) is a coalition of organizations and individuals who work together to address the state's obesity epidemic, especially in children. Founded in 2007 with the idea that it takes more than one voice to enact change, LST members represent interdisciplinary sectors including: policy/advocacy, education, government, academia/research, professional associations, and local community groups.



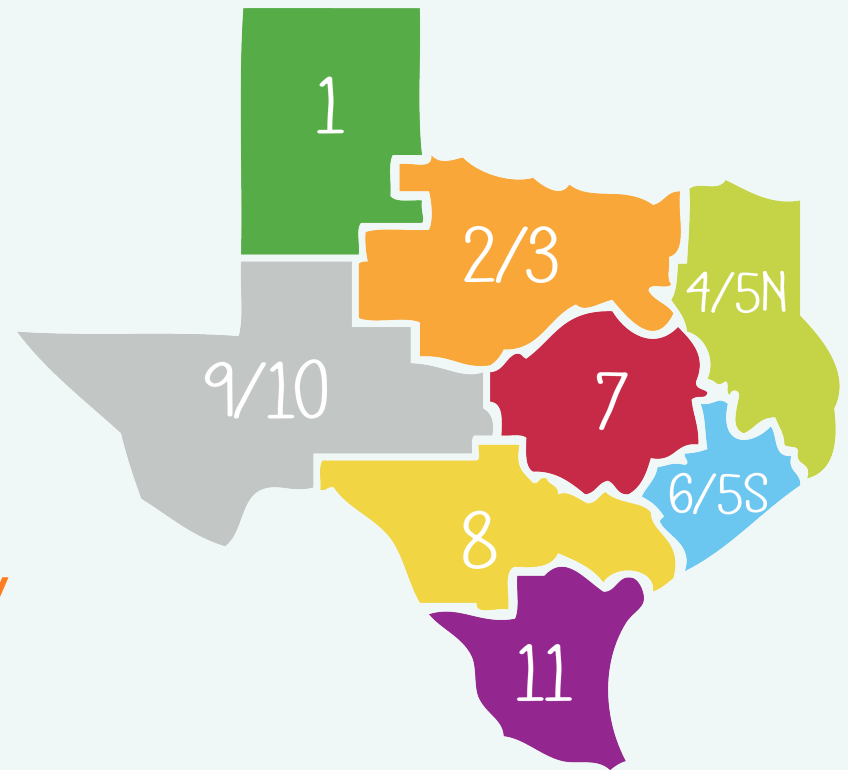
LST Texas Health Service Regions



LST has regional representatives from all eight Texas Health Service Regions (see *map*) and is led by Drs. Diane Dowdy and Hoda Sana.

Members of LST work collaboratively to:

- Connect and build relationships with others who share a common vision to reduce obesity rates in Texas
- Access opportunities to engage in collaborative research and community partnerships
- Share best practices with and learn from the experience of other coalition members
- Create a united obesity prevention policy agenda
- Share and bring resources to address concerns that affect every region of Texas



Today's Presentation

- SPAN Background
- Measures
- Preliminary results
 - Obesity
 - Dietary behaviors
 - Physical activity behaviors
 - Other behaviors
- Conclusions/Implications

Acknowledgements

- ❑ Completion of the School Physical Activity and Nutrition (SPAN) report was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under Grant Number B04MC2937, Texas Title V Maternal and Child Health Services. Additional funding was provided by the Michael & Susan Dell Foundation through the Michael & Susan Dell Center for Healthy Living.
- ❑ Other acknowledgements: DSHS Office of Border Health; UTSPH campuses; DSHS Region 4/5 Community Outreach Division; DSHS Regional 9/10; Area Health Education Centers (AHEC): Desert Mountain AHEC, Greater Houston AHEC, Lower Rio Grande AHEC, Panhandle AHEC, West Texas AHEC; City of El Paso Department of Public Health; UTHealth School of Nursing; UT Health Science Center Regional Campus, Laredo; UT Tyler Nursing
- ❑ Thank you to the school districts, schools, children, and parents who participated in the study!

SPAN Research Team

- UTHealth SPH

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 - Carolyn Smith
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 - Blanche Greene-Cramer, DrPH
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- James Custer
- Kyna Farmer
- Johannah Frelier
- Tiara Jackson
- Christine Jovanovic
- Raja Malkani
- Claire Niday
- Dina Sanchez
- Keith Winters



What is SPAN?

- ❑ School Physical Activity and Nutrition (SPAN) Project.
- ❑ SPAN is a surveillance system that monitors the prevalence of and secular trends in overweight and obesity in school children in Texas.
- ❑ SPAN identifies other obesity-related factors in Texas students.
- ❑ Information from SPAN will assist in the development of targeted programs and policies to address overweight and obesity among Texas youth.
- ❑ SPAN 2015–2016 is the fourth time the state-wide project has been conducted.

Overview of SPAN Surveys & Data

Survey	Grades	HSR's	Other
SPAN 2000-2002	4, 8, 11	1, 3, 5, 7, 11, 2, 4, 6, 8, 9/10	
SPAN 2004-2005	4, 8, 11	1, 2/3, 4/5N, 6/5S, 7, 8, 9/10, 11	9 counties
SPAN 2009-2011	4, 8, 11, 4 th parents	1, 2/3, 4/5N, 6/5S, 7, 8, 9/10, 11, border/non-border	School health policy survey, CIP
SPAN 2015-2016	2, 4, 8, 11	1-9/10, 2/3, 4/5N, 6/5S, 7, 8-11, border/non-border for grades 4, 8, 11	School health policy survey, CIP, vending machine audits, signage observation

Data Collected During SPAN

- ❑ Objectively measured height and weight for students from 2nd, 4th, 8th, and 11th grades

- ❑ A self-report questionnaire administered to students of 4th, 8th, and 11th grades
 - ❑ Demographics, diet, and physical activity practices and knowledge

- ❑ A take home survey for parents of 2nd grade students
 - ❑ Information on the child's diet and activity, as well as parental practices and rules relating to diet and physical activity

Sampling Design

- ❑ Multistage, probability-based survey.
- ❑ SPAN is designed to yield representative data at the Texas state level, health service region (HSR), and at the Texas-Mexico border and non-border areas.
- ❑ Sampling weights are available for each level of representation.
- ❑ Counties designated as border or non-border according to Article 4 of the La Paz Agreement of 1983, which defines a county as a border county if that county is within 100 Kilometers of the U.S./Mexico border.
 - ❑ 32 counties meet this criterion in Texas.

Sampling Design

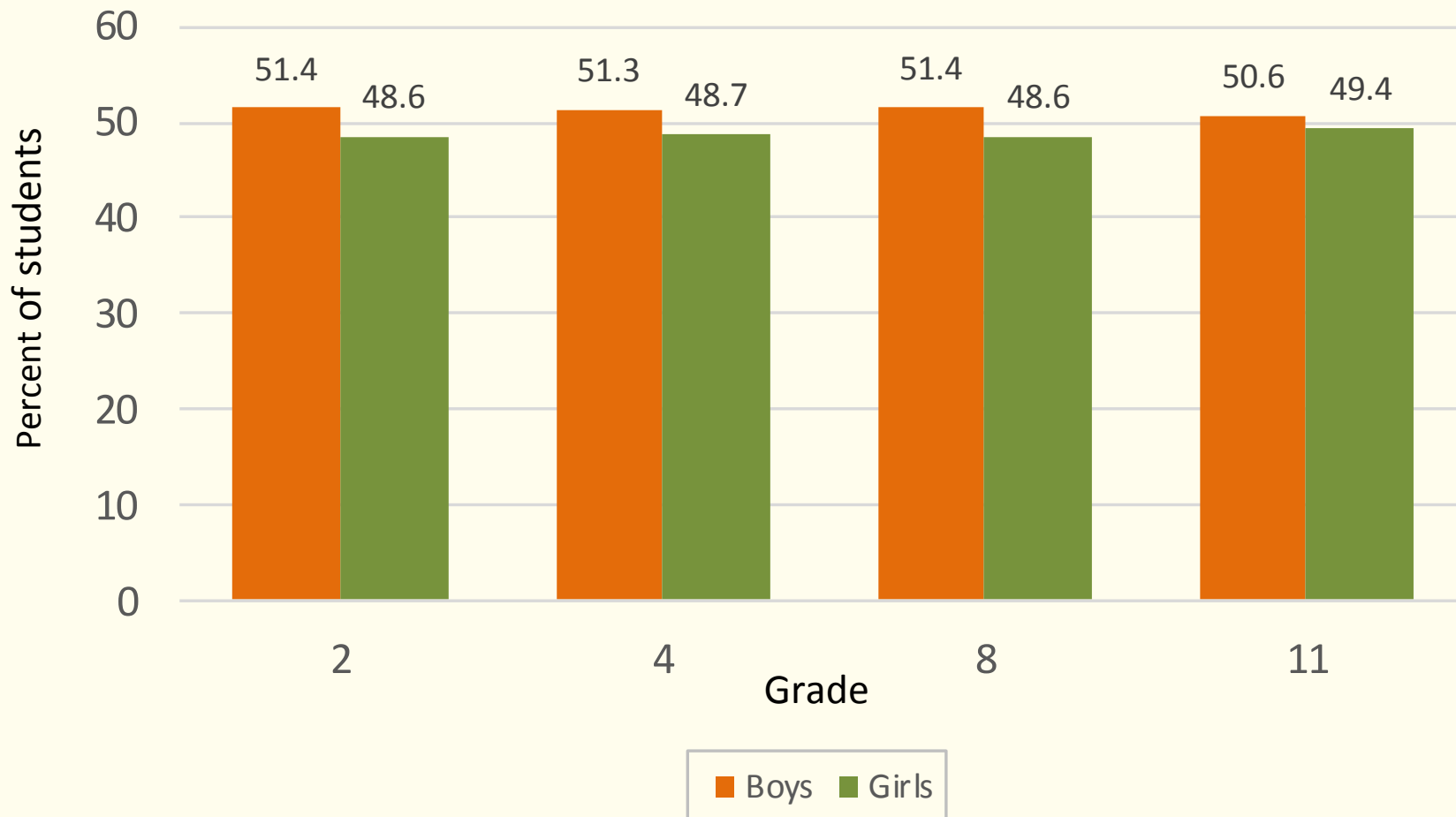
- ❑ Strata were designated by Health Service Regions urban / rural areas
 - ❑ Health Service Regions: 1-9/10, 2/3, 4/5N, 6/5S, 7, 8/11
 - ❑ Definitions for “rural” and “urban” follow DSHS definitions
- ❑ The sampling frame included:
 - ❑ List of eligible school districts in Texas for first stage of sampling
 - ❑ List of schools within each district for the second stage
 - ❑ Classrooms within each school as third stage
- ❑ PPS sampling, controlling for economic disadvantage at each grade level, is used for the first two stages, and a fixed number of students at the last stage.

Statewide Participation

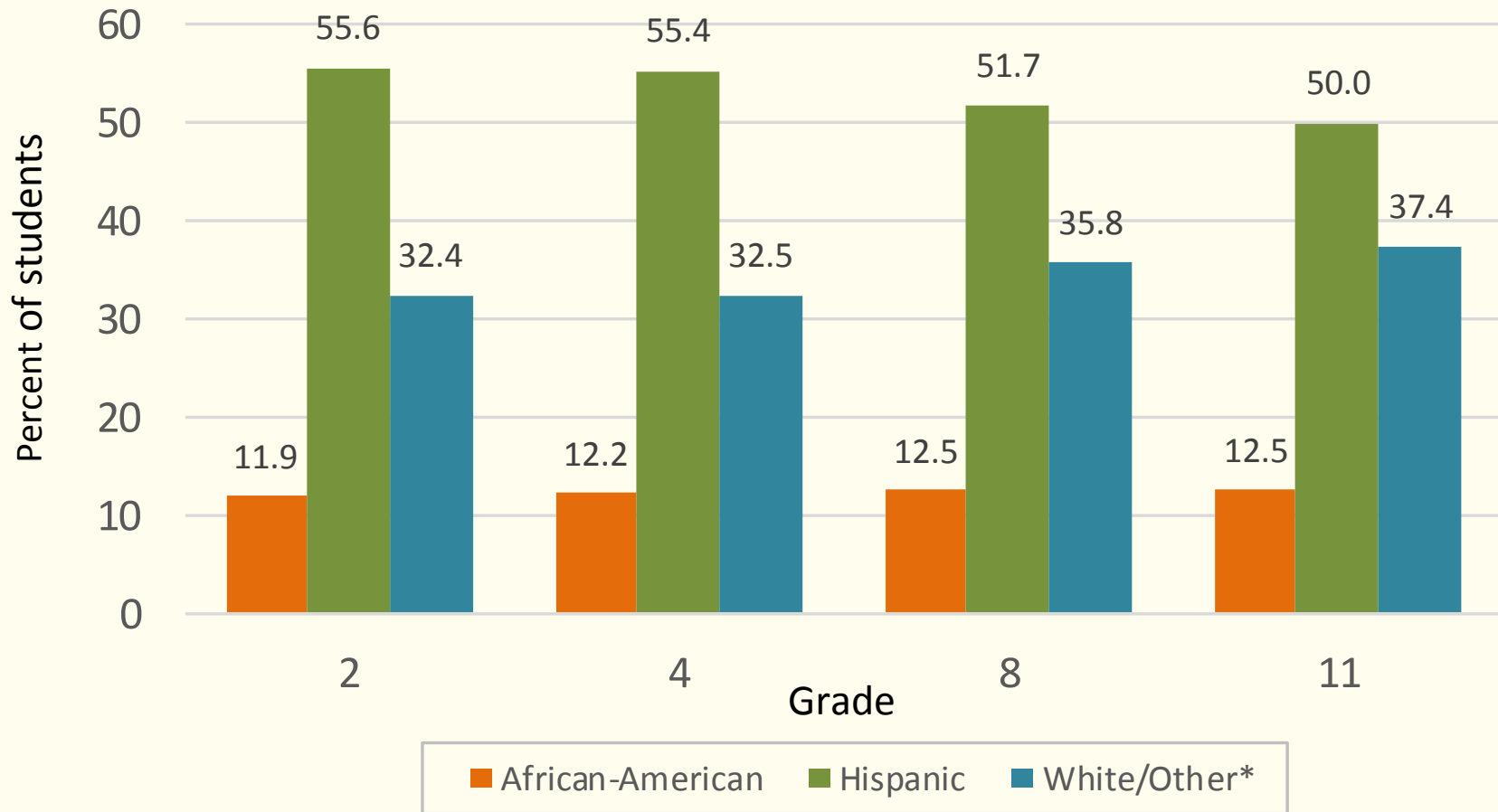
- Health Service Regions: 1-9/10, 2/3, 4/5N, 6/5S, 7, 8/11
- Number of Districts Surveyed: 70
- Number of Schools Surveyed: 280

	Students / Parents Participating	2015–2016 Population Representation
2nd Grade Parents	2,317	320,800
4th Grade	6,180	315,228
8th Grade	5,421	347,620
11th Grade	3,635	311,668
Total	17,553	1,295,316

Gender Distribution

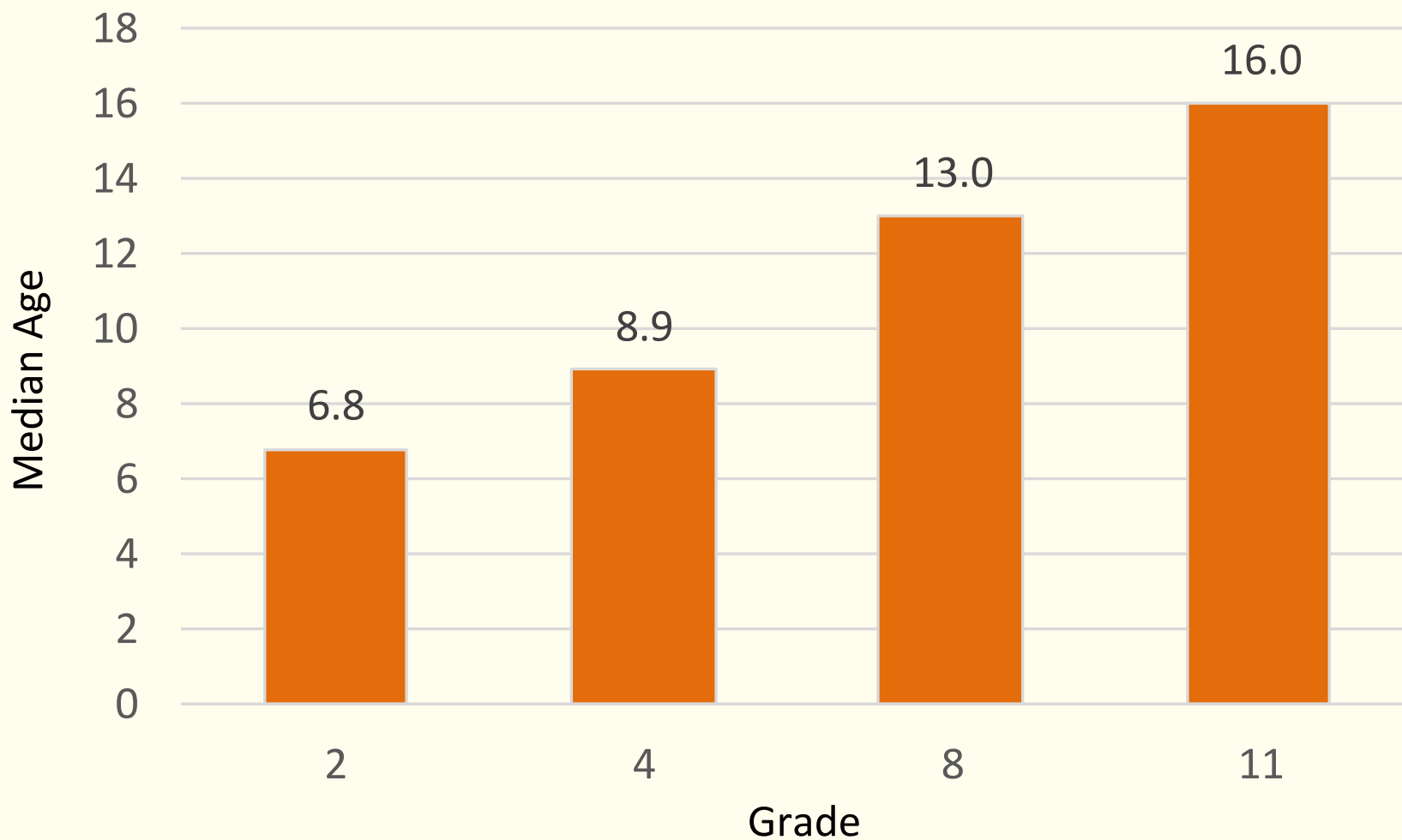


Ethnic Distribution



*White/Other includes multi-racial students.

Median Age



Weight Status in Children

- ❑ Weight status categories for children 2-19 are defined using BMI (kg/m²) percentile cutpoints on the CDC growth charts
 - ❑ Underweight is defined as <5th percentile BMI
 - ❑ Healthy weight is defined as 5th to <85th percentile BMI
 - ❑ Overweight is defined as 85th to <95th percentile
 - ❑ Moderate obesity is defined as 100-119% of 95th percentile BMI
 - ❑ Severe obesity is defined as ≥ 120% of 95th percentile BMI

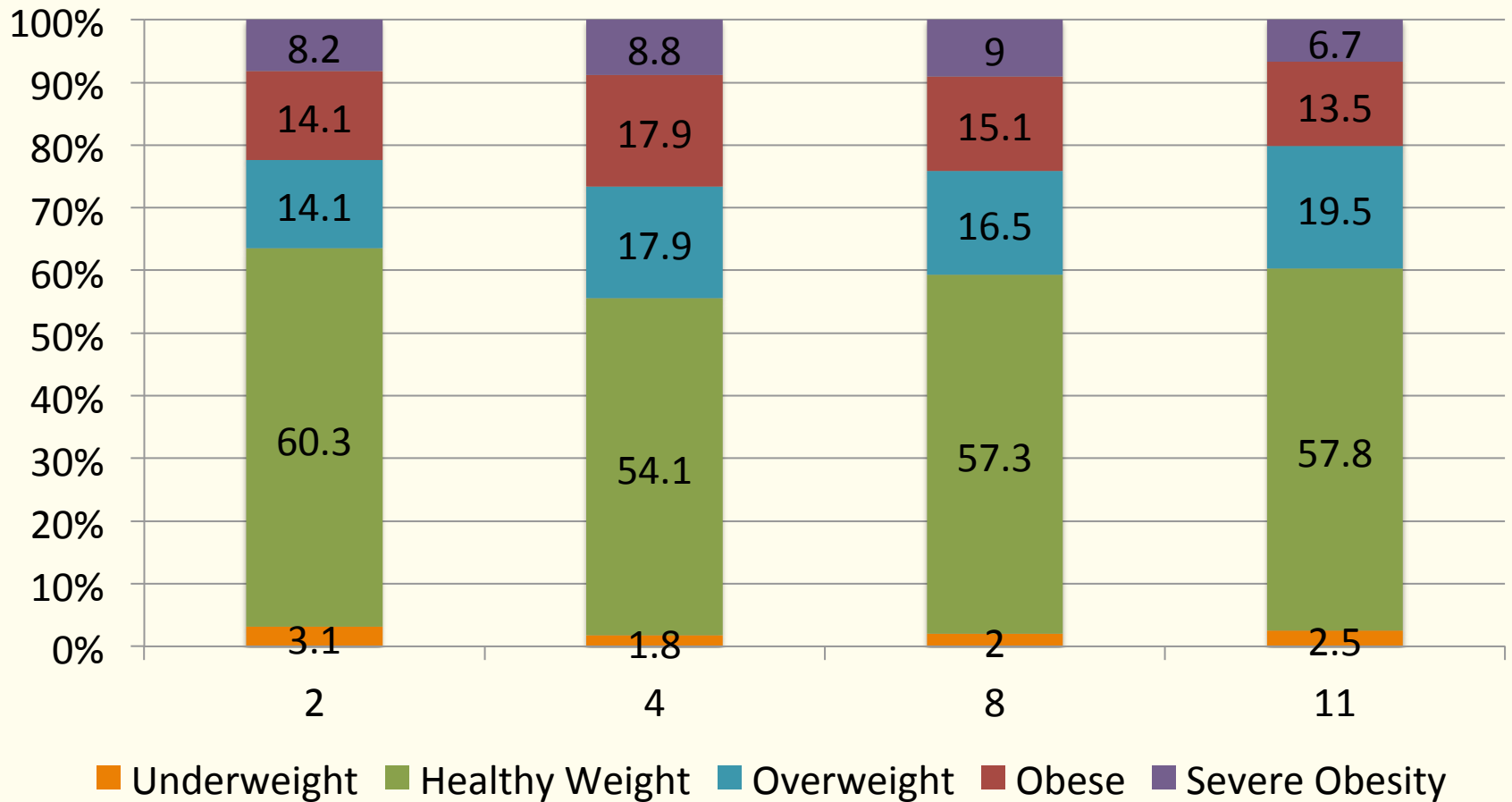
- ❑ The “severe” obesity category has been recently developed to accommodate the inadequacy of percentile BMI in capturing risk at very high ranges

Source: Freedman et al., Obesity, 2017

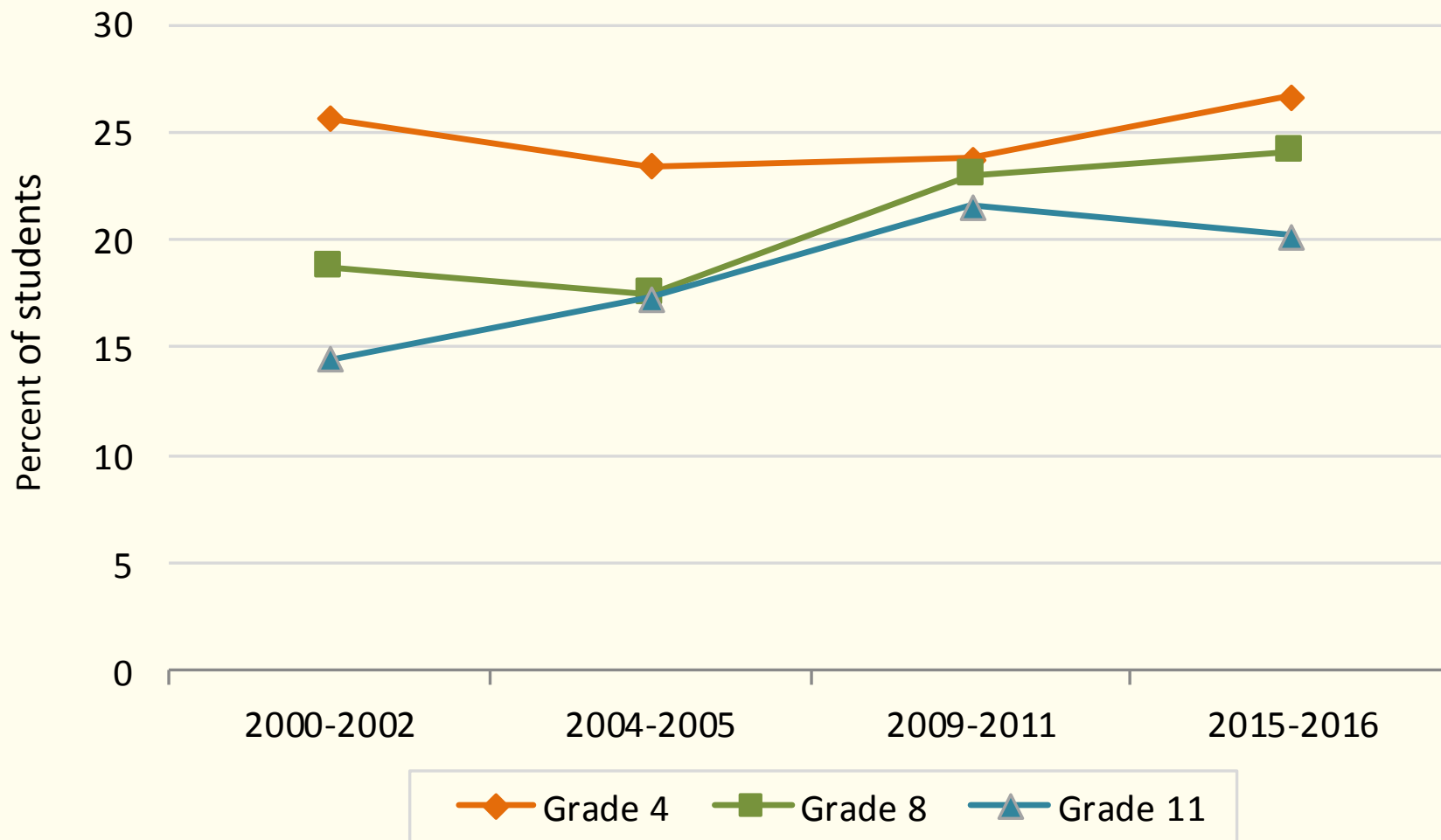
Obesity Reduction Goals

- Nutrition and Weight Status Objective-10 of the Healthy People 2020 Goals is to Reduce the proportion of children and adolescents who have obesity by 10%.
 - Thus, obesity prevalence in children ages 6-11 should be reduced from 17.4% to 15.7%, and obesity prevalence among adolescents age 12-19 should be reduced from 17.9% to 16.1%.

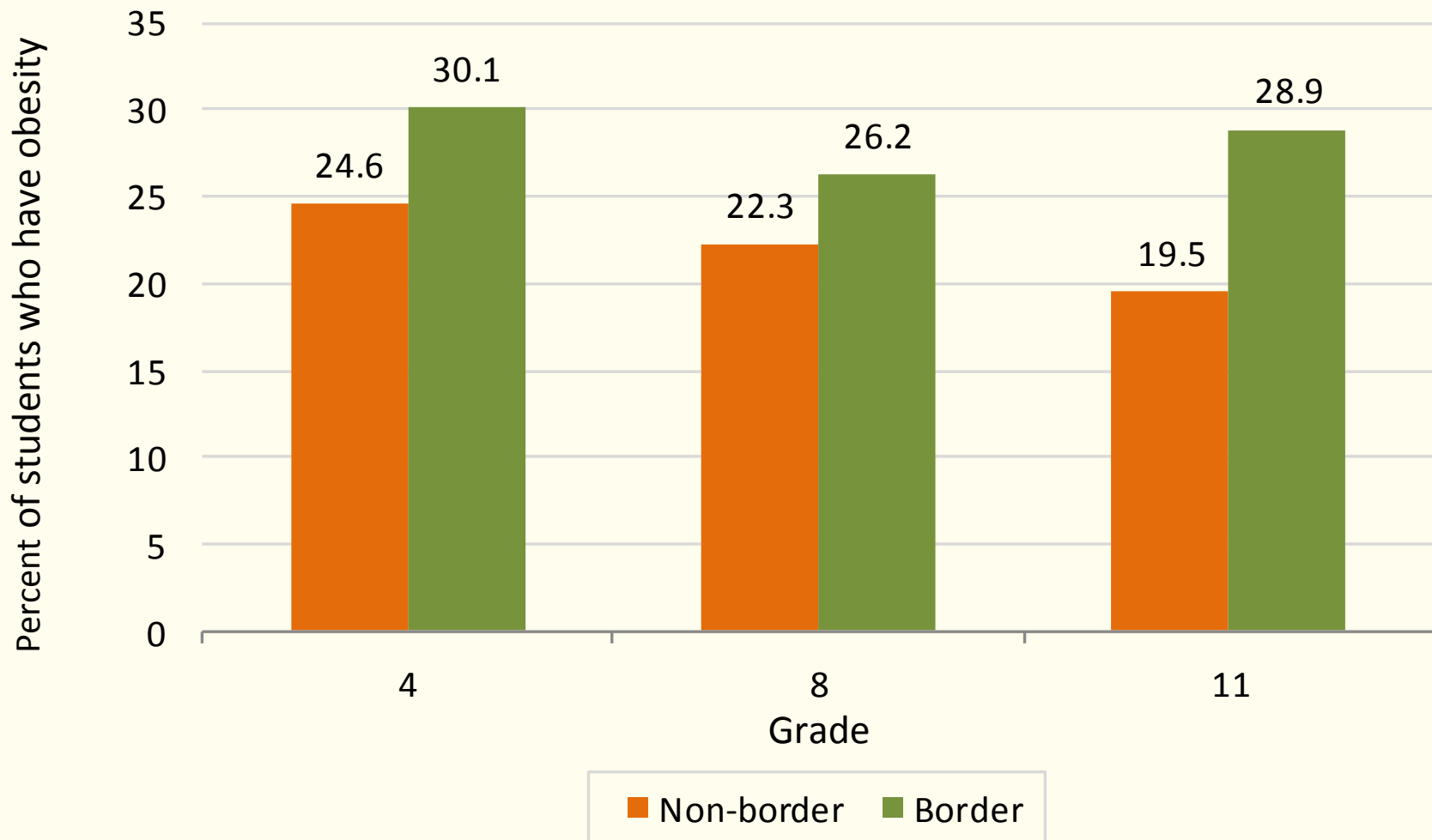
Weight Status by Grade, SPAN 2015-2016



Obesity Trends (2000-2016)

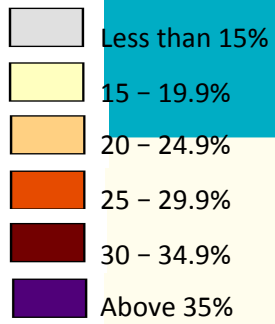
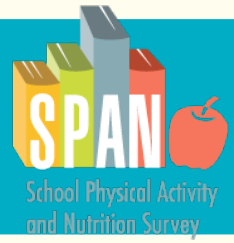


Weight Status Distribution by Border/Non-border County



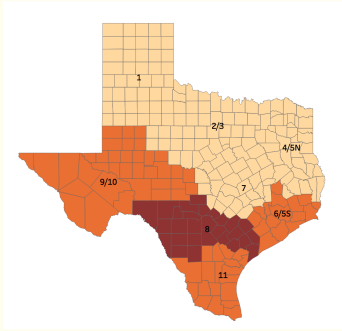
Percent Obese

Texas SPAN Percent Obese by Health Service Region: Trends from 2000-2016

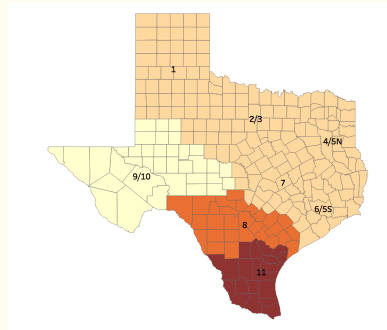


Grade 4

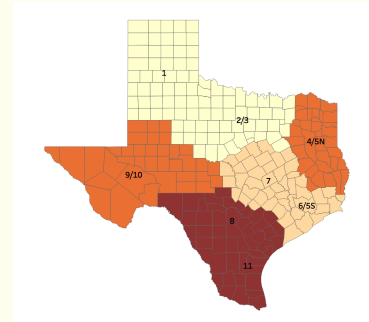
2000 - 2002



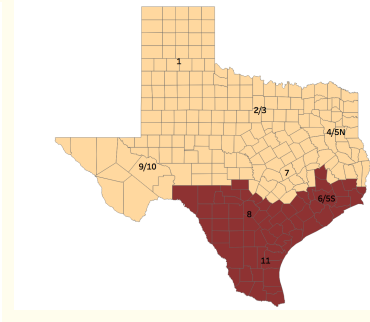
2004 - 2005



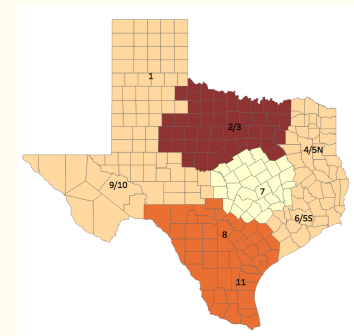
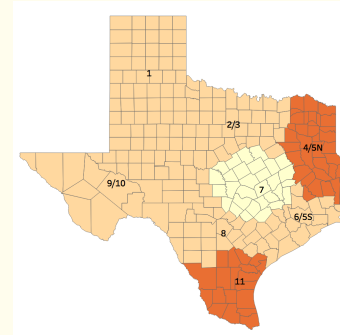
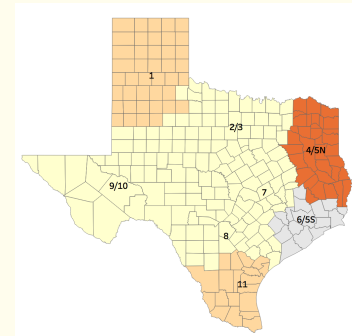
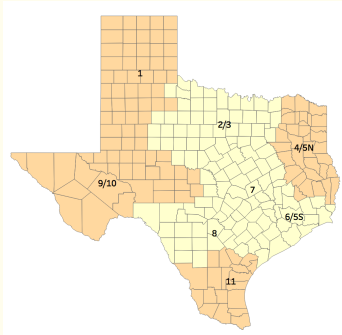
2009 - 2011



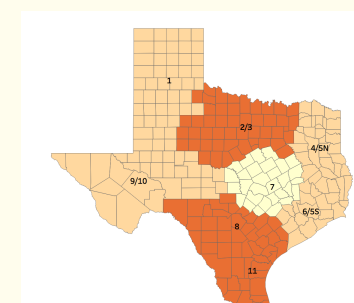
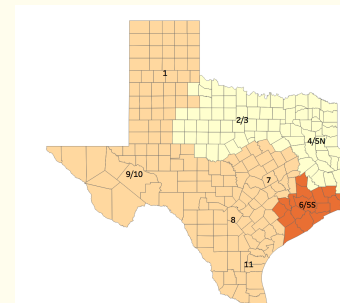
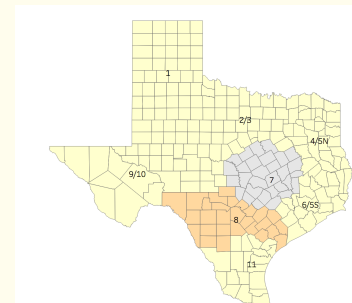
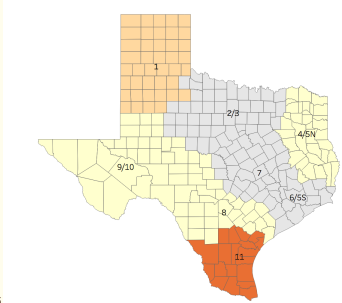
2015 - 2016



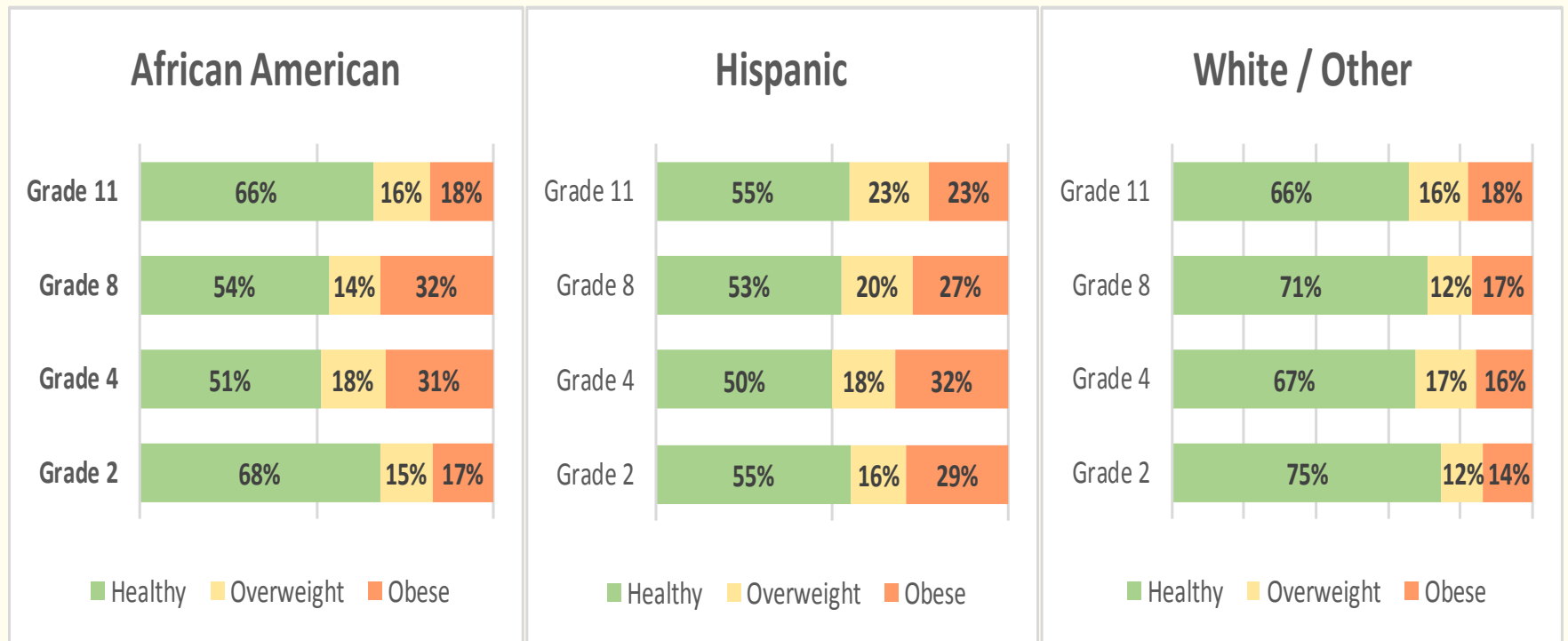
Grade 8



Grade 11



Weight Status Categories by Grade and Race/Ethnicity, SPAN 2015-2016

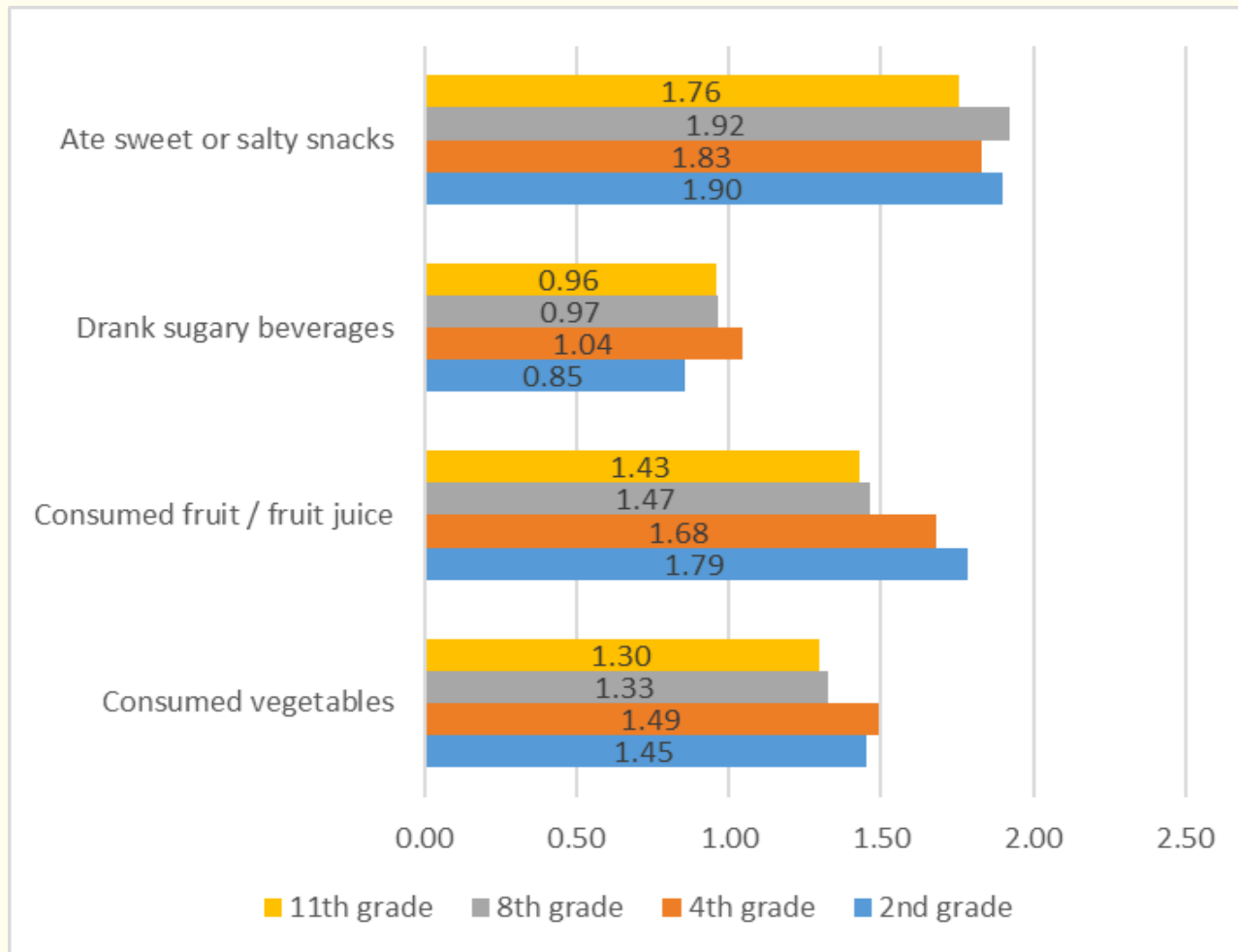


Dietary Practices of Texas School Children, by Grade, SPAN 2015-2016

	2nd grade	4th grade	8th grade	11th grade
Percent that ate no vegetables in the previous day	26.8%	31.5%	33.6%	36.5%
Percent that ate no fruit in the previous day	12.7%	17.0%	21.8%	23.1%
Percent that consumed sugary beverages at least once in the previous day	53.4%	60.3%	60.7%	59.6%
Percent that ate sweet or salty snacks at least once in the previous day	87.2%	83.4%	87.4%	84.1%

Source: Michael & Susan Dell Center for Healthy Living (2017). *The 2015-2016 School Physical Activity and Nutrition (SPAN) Survey*, Report to the Texas Department of State Health Services Title V Maternal and Child Health.

Mean Number of Times Specific Food Groups were Consumed on Previous Day, by Grade

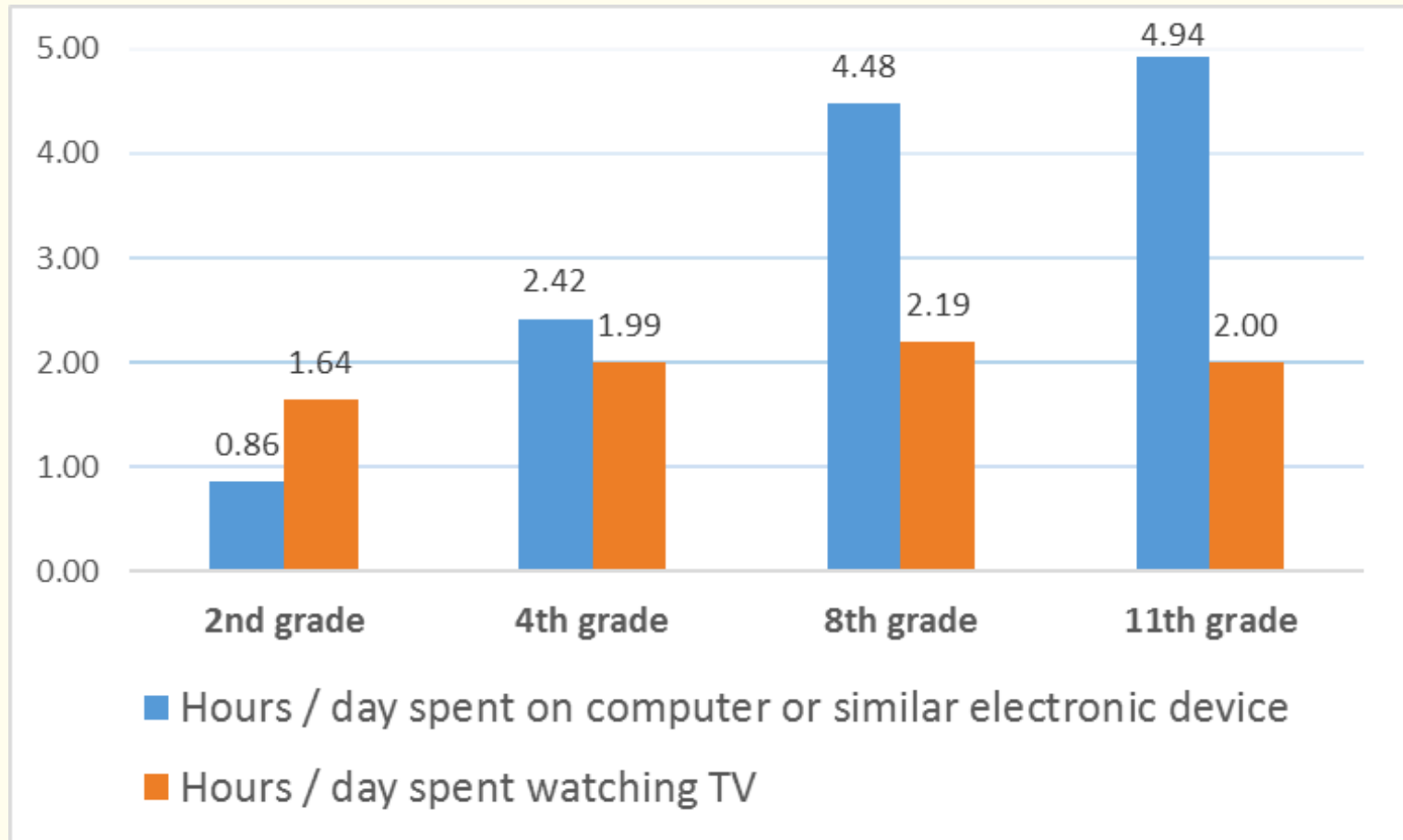


Physical Activity Practices of Texas School Children, by Grade, SPAN 2015-2016

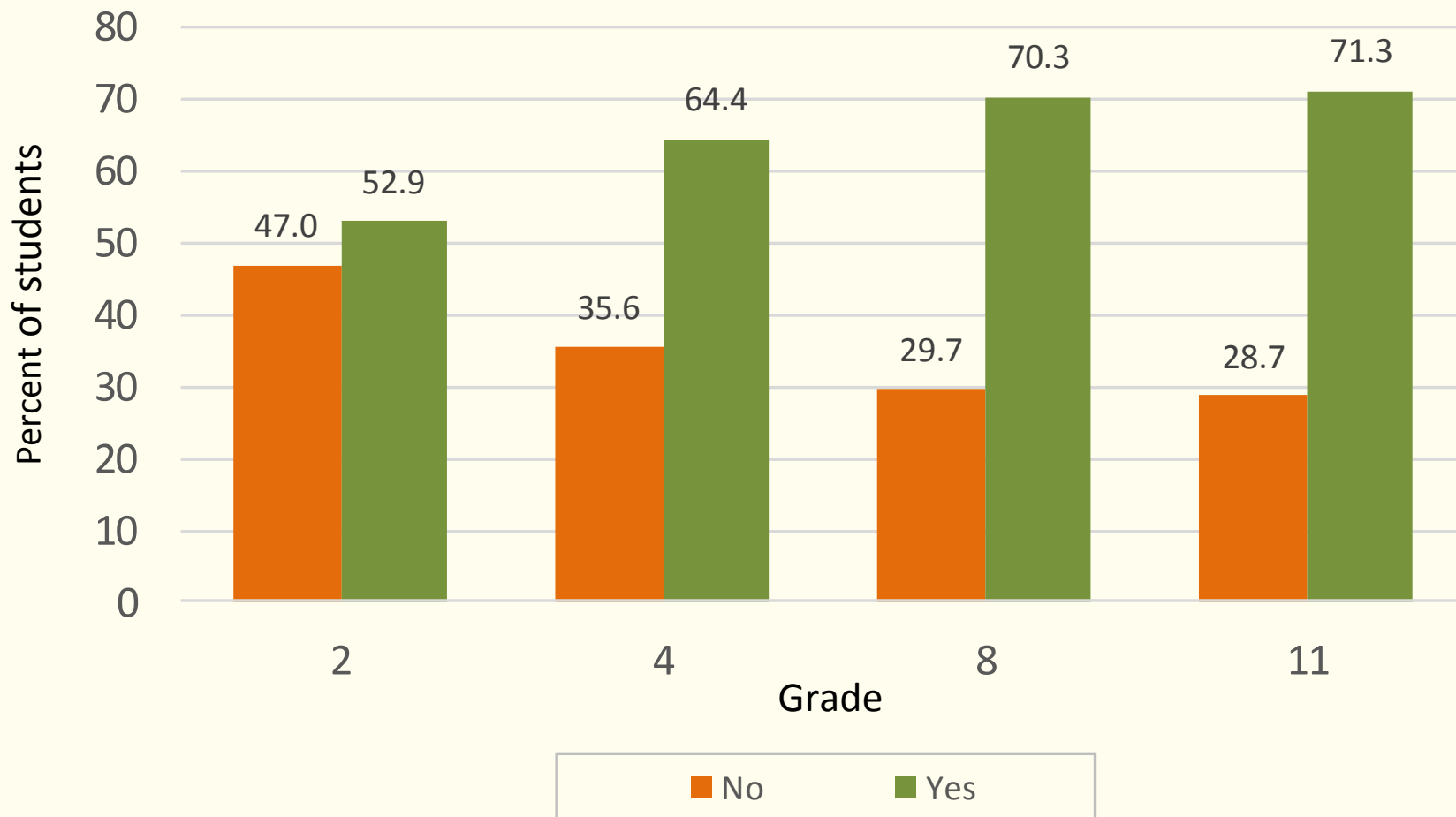
	2nd grade	4th grade	8th grade	11th grade
Mean days / week of at least 60 minutes PA	3.9	2.6	4.3	4.0
Percent that engaged in 60 minutes PA <= 1 day a week	26%	49%	14%	16%
Number of sports teams	0.7	1.2	1.5	1.2
Percent that are in any organized sports activity	47%	77%	73%	66%

Source: Michael & Susan Dell Center for Healthy Living (2017). *The 2015-2016 School Physical Activity and Nutrition (SPAN) Survey*, Report to the Texas Department of State Health Services Title V Maternal and Child Health.

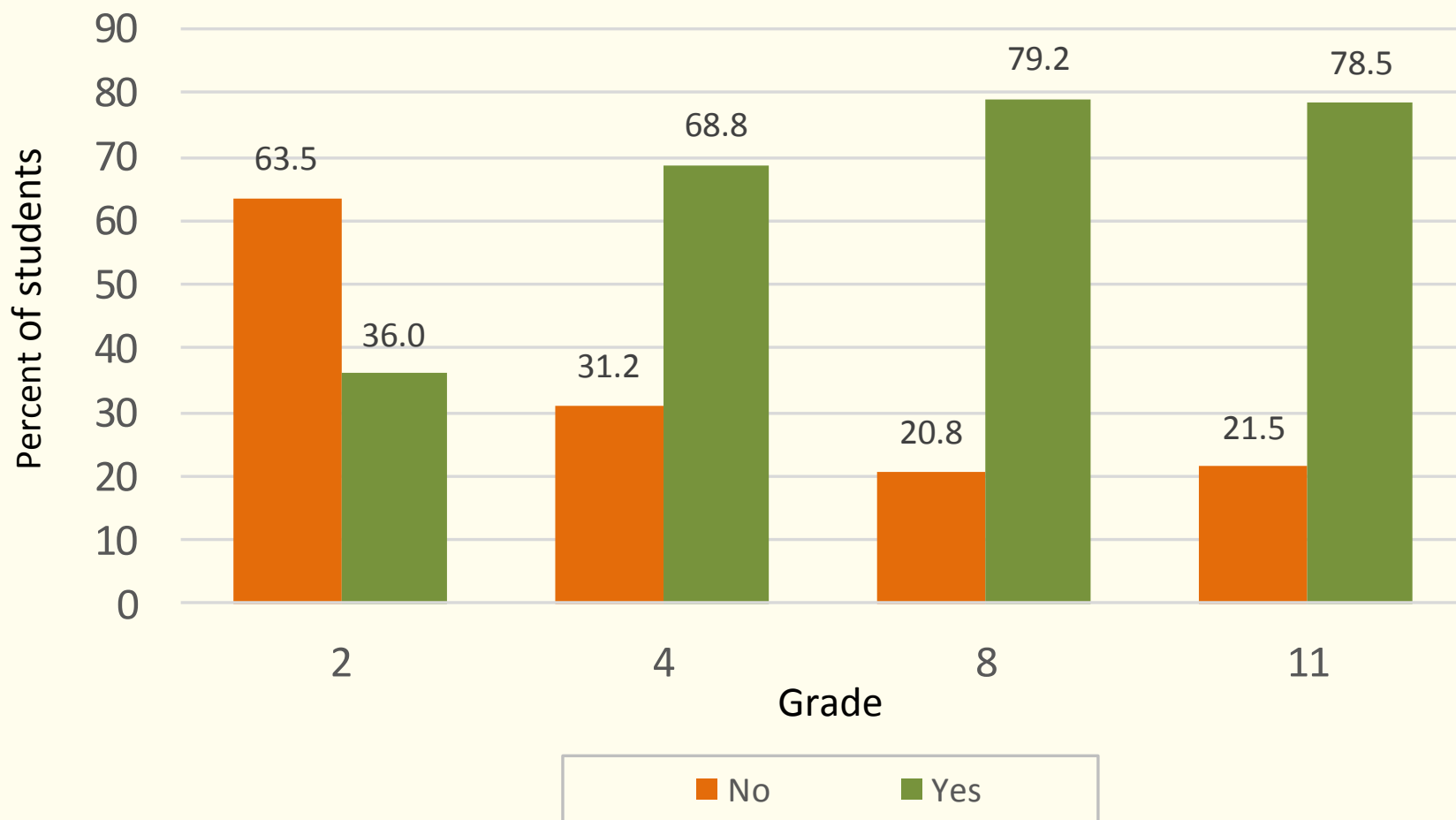
Time Spent on TV and Electronic Devices, by Grade, SPAN 2015-2016



Do You Have a TV in the Room Where You Sleep?



Do you have a computer, iPad®, tablet, phone, or gaming console in the room where you sleep?



2015-2016 SPAN Fact Sheets

Child Obesity in Texas: Grade 2 (HSR 1 & 9/10)

Source: SPAN Survey 2015-2016

Grade 2 Population Demographics

Demographic	HSR 1 & 9/10	Texas
Hispanic	73%	56%
Anglo	24%	32%
Black	3%	12%

Child Obesity in Texas: Grade 4 (HSR 1 & 9/10)

Source: SPAN Survey 2015-2016

Grade 4 Population Demographics

Demographic	HSR 1 & 9/10	Texas
Hispanic	73%	55%
Anglo	24%	32%
Black	3%	12%

Child Obesity in Texas: Grade 8 (HSR 1 & 9/10)

Source: SPAN Survey 2015-2016

Grade 8 Population Demographics

Demographic	HSR 1 & 9/10	Texas
Hispanic	72%	52%
Anglo	24%	37%
Black	4%	13%

Child Obesity in Texas: Grade 11 (HSR 1 & 9/10)

Source: SPAN Survey 2015-2016

Grade 11 Population Demographics

Demographic	HSR 1 & 9/10	Texas
Hispanic	71%	50%
Anglo	25%	37%
Black	4%	13%

SPAN Survey 2015-2016 Results

Grade	HSR 1 & 9/10	Texas
4th Grade	Percent with normal weight	56.3%
	Percent with overweight (BMI between the 85th and 94th percentile)	20.6%
	Percent with obesity (BMI at or above 95th percentile)	23.1%
	Percent with severe obesity (BMI ≥ 120th percent of 95th percentile)*	11.3%
	Days per week of at least 60 min physical activity	3.9
	Percent meeting physical activity guidelines	2.2
	Hours per day watching TV or movies	1.3
	Hours per day playing video games	2.5
	Hours per day watching TV or movies	1.0
	Hours per day playing video games	1.7
8th Grade	Percent with normal weight	60.3%
	Percent with overweight (BMI between the 85th and 94th percentile)	20.6%
	Percent with obesity (BMI at or above 95th percentile)	19.5%
	Percent with severe obesity (BMI ≥ 120th percent of 95th percentile)*	20.2%
	Days per week of at least 60 min physical activity	4.0
	Percent meeting physical activity guidelines	2.1%
	Hours per day watching TV or movies	3.9
	Hours per day playing video games	2.2
	Hours per day watching TV or movies	1.1
	Hours per day playing video games	2.0
11th Grade	Percent with normal weight	60.3%
	Percent with overweight (BMI between the 85th and 94th percentile)	20.6%
	Percent with obesity (BMI at or above 95th percentile)	19.5%
	Percent with severe obesity (BMI ≥ 120th percent of 95th percentile)*	20.2%
	Days per week of at least 60 min physical activity	4.0
	Percent meeting physical activity guidelines	2.1%
	Hours per day watching TV or movies	3.9
	Hours per day playing video games	2.2
	Hours per day watching TV or movies	1.1
	Hours per day playing video games	2.0

<http://go.uth.edu/SPANsheets>

Conclusions

- School children in Texas have high rates of obesity, and rates might be increasing
 - Need to increase our focus on child obesity
- There are disparities in the prevalence of obesity, by sub-group, border/non-border, and HSR
 - Requires more concentrated efforts & resources such as evidence-based programs & policy, systems, environmental changes
- Increases seem to accelerate between 2nd and 4th grades

Conclusions

- Data at the HSR and border region are useful for helping us identify trends and areas of greater need to prioritize efforts and resources
- A significant number of children do not consume fruits and vegetables (about 1/3) on a daily basis
- A significant number of children have TVs or other electronics (phones, computers) in their bedrooms
-and this is only the beginning...

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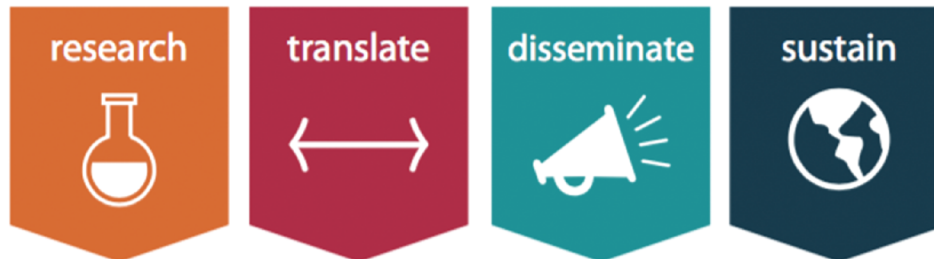
MICHAEL & SUSAN DELL CENTER *for* HEALTHY LIVING

Healthy children in a healthy world.

We advance health and healthy living for children and families through cutting-edge research, innovative community-based programs, and dissemination of evidence-based practices.

This chart illustrates how our individual efforts contribute to the Center's broader strategic goals and overall mission and vision.

STRATEGIC PLAN GOALS



Percent of Children who have Obesity, by Grade and HSR

