

# Ethnicity, Place, and Policy: The Relationship to Childhood Obesity



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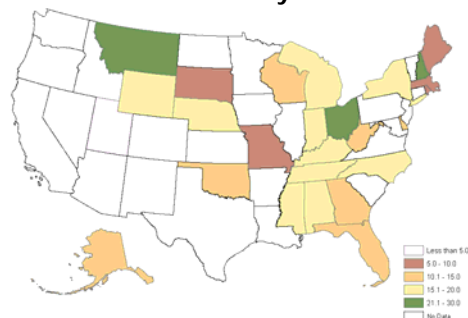
## Background

Childhood obesity has become an important issue in current years. The Center for Disease Control (CDC) reported over the past two decades the percent of overweight children has increased dramatically. Between 1963-1965 and 1999-2002 children aged 6-11 experienced a mean 9 pound increase in weight. For the same time period, boys aged 12-17 average weight increased by 15 pounds and girls aged 12-17 average weight increased by 12 pounds. Although rates of overweight status have increased among all children, certain racial and ethnic groups tend to be more at risk. The highest rates were found among American Indians/Alaskan Natives (18.8%), African-Americans (17.6%), and Hispanics (16.1%). (Missouri Department of Health and Senior Services, 2002).

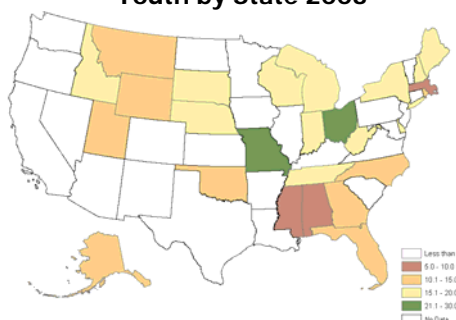
## Obesity

Obesity is defined by the Centers for Disease Control and Prevention as "an excessively high amount of body fat or adipose tissue in relation to lean body mass" and is generally measured by Body Mass Index (BMI), which expresses the ratio of weight-to-height. It is calculated by dividing a person's body weight in kilograms by the square of his or her height in meters (wt/ht<sup>2</sup>). The BMI is more highly correlated with body fat than any other indicator of height and weight; "risk of overweight" is defined as the 85th to 94th percentile of BMI by age and gender; obesity, or "overweight" is considered to be greater than or equal to 95th percentile of BMI.

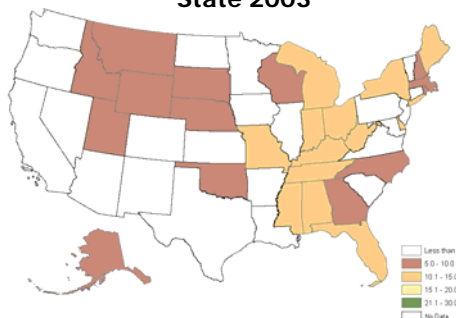
**Percentage of Overweight Black and African American Youth by State 2003**



**Percentage of Overweight Hispanic or Latino Youth by State 2003**



**Percentage of Overweight White Youth by State 2003**



## Data and Objective

The Youth Risk Behavioral Surveillance Survey (YRBSS) is conducted by the Centers for Disease Control and Prevention (CDC) every two years for a nationally representative sample of high school students in public and private high schools in the United States. 2003 state level surveys of the YRBSS was used in the analysis.

The 2003 YRBSS data on individual students was combined with state school policies from School Health Policies and Programs Study (SHPPS) 2000 to determine how a child's Body Mass Index (BMI) is affected by school policies, specifically those focused on food service and physical education policies.

## Quantiles by Ethnicity

	Black or African American					
	25	50	75	85	90	95
Constant	25.56 **	29.39 **	31.79 **	35.16 **	42.57 **	41.55 **
Age	0.36 **	0.37 **	0.44 **	0.57 **	0.65 **	0.62 **
Male	0.23	0.80 **	0.64 **	0.81 **	0.68 **	1.13 **
Trying to lose weight	-0.55 **	-0.72 **	-0.99 **	-1.08 **	-1.19 **	-1.42 **
Exercising to lose weight	-0.93 **	-1.29 **	-1.63 **	-1.85 **	-2.04 **	-1.34 **
Eating less to lose weight	-1.47 **	-2.11 **	-2.43 **	-3.01 **	-3.23 **	-3.81 **
Fasting to lose weight	-0.05	0.25	-0.27	-0.89 *	-0.64	-0.95
Taking pills to lose weight	-0.91 **	-1.59 **	-1.49 **	-1.17	-2.22 **	-1.40
Vomiting to lose weight	-0.52	-0.21	0.31	-0.88	-1.14	-0.17
Eat green salad	-0.09	-0.07	-0.06	-0.15	-0.14	-0.02
Vigorous exercise	0.03	0.01	-0.11 **	-0.13 **	-0.19 **	-0.30 **
Hours watching TV	0.01	0.07 *	0.09 *	0.14 *	0.23 **	0.30 **
Sport team participation	-0.08	-0.19 **	-0.19 **	-0.38 **	-0.49 **	-0.73 **
"Junk Food" Policies	-0.14	-0.31 **	-0.58 **	-0.67 **	-0.66 **	-0.73
High School Policies	0.01	0.04	0.04	0.09	0.09	-0.04
State per capita income	0.06	0.03	-0.02	0.00	-0.03	-0.10
Female headed households	-0.52 *	-0.55 **	-0.52	-0.58	-0.57	-0.10
Low birth rate	0.45 **	0.53 **	0.98 **	1.22 **	0.94 *	0.86
Minimum January temperature	-0.01	0.00	-0.01	0.00	0.01	0.03

	Hispanic or Latino Youth					
	25	50	75	85	90	95
Constant	20.01 **	22.99 **	28.43 **	34.24 **	35.78 **	44.63 **
Age	0.25 **	0.20 **	0.37 **	0.38 **	0.43 **	0.52 **
Male	1.16 **	1.79 **	2.30 **	2.77 **	2.89 **	2.91 **
Trying to lose weight	-0.55 **	-0.77 **	-0.93 **	-1.13 **	-1.25 **	-1.12 **
Exercising to lose weight	-1.01 **	-1.07 **	-1.45 **	-1.16 **	-1.51 **	-1.12 **
Eating less to lose weight	-1.12 **	-1.54 **	-2.16 **	-2.50 **	-2.43 **	-2.27 **
Fasting to lose weight	0.11	0.34 *	0.29	0.19	0.67	0.97
Taking pills to lose weight	-0.70 **	-1.41 **	-0.94 *	-1.31 **	-1.78 **	-4.43 **
Vomiting to lose weight	0.46 *	0.34	-0.08	-0.31	0.00	0.04
Eat green salad	-0.08 *	-0.06	-0.07	-0.04	-0.03	-0.06
Vigorous exercise	0.01	-0.07 **	-0.13 **	-0.14 **	-0.16 **	-0.17
Hours watching TV	0.05 *	0.07 **	0.13 **	0.27 **	0.26 **	0.38 **
Sport team participation	-0.16 **	-0.21 **	-0.38 **	-0.31 **	-0.34 **	-0.36
"Junk Food" Policies	0.16	0.27 **	0.27	0.19	0.25	-0.11
High School Policies	-0.10 **	-0.10 **	-0.03	0.01	-0.02	-0.11
State per capita income	-0.06 *	-0.03	-0.11	-0.11	-0.12	-0.29 *
Female headed households	0.57 **	0.63 **	0.84 **	0.36	0.46	0.80
Low birth rate	0.11	0.06	-0.07	0.03	-0.09	-0.01
Minimum January temperature	-0.02 **	-0.02 **	-0.03 **	-0.06 **	-0.06 **	-0.08 **

	White Youth					
	25	50	75	85	90	95
Constant	18.55 **	20.58 **	23.65 **	25.88 **	27.93 **	31.83 **
Age	0.36 **	0.35 **	0.40 **	0.44 **	0.54 **	0.48 **
Male	1.46 **	2.05 **	2.70 **	3.20 **	3.48 **	3.92 **
Trying to lose weight	-0.42 **	-0.59 **	-0.82 **	-0.88 **	-0.93 **	-0.86 **
Exercising to lose weight	-0.97 **	-1.03 **	-1.16 **	-1.40 **	-1.65 **	-1.86 **
Eating less to lose weight	-0.80 **	-1.14 **	-1.53 **	-1.78 **	-1.83 **	-2.12 **
Fasting to lose weight	0.18 **	0.23 **	0.26 **	0.17	-0.01	-0.19
Taking pills to lose weight	-0.59 **	-0.61 **	-1.01 **	-0.91 **	-1.28 **	-1.57 **
Vomiting to lose weight	0.51 **	0.55 **	0.65 **	0.50 **	0.51	0.08
Eat green salad	-0.02	-0.01	0.00	-0.03	0.00	0.05
Vigorous exercise	-0.01	-0.03 **	-0.11 **	-0.17 **	-0.19 **	-0.23 **
Hours watching TV	0.03 **	0.09 **	0.22 **	0.28 **	0.38 **	0.59 **
Sport team participation	0.04 **	-0.11 **	-0.29 **	-0.48 **	-0.62 **	-0.83 **
"Junk Food" Policies	0.04 **	0.04	-0.04	-0.06	-0.01	-0.10
High School Policies	-0.01	-0.02	-0.01	0.01	-0.02	0.03
State per capita income	-0.02 *	-0.04 **	-0.05 **	-0.07 **	-0.09 **	-0.08 *
Female headed households	0.21 **	0.24 **	0.29 **	0.29 **	0.41 **	0.33
Low birth rate	-0.01	0.06 *	0.12 **	0.19 **	0.17 *	0.22 **
Minimum January temperature	-0.01 **	-0.01 **	-0.01 **	-0.01 **	-0.01	-0.01

\* Significant at .1  
 \*\* Significant at .05

Note: "Junk Food" is defined as foods which provide calories primarily through fats or added sugars and have minimal amounts of vitamins and minerals.  
 "Junk Food" Policies include prohibiting junk food a la carte during breakfast or lunch, concession stands, vending machines, and in school stores.  
 High School Policies include if the state has adopted goals, objectives and expected outcomes; requires written, skills performance, and written tests; student to teacher ratio; and if the state provides information on plans to assess or evaluate students at the high school level.