

Union County School District

2014 Body Mass Index (BMI) Report

First, Third, and Fifth Grade Students



BUFFALO ELEMENTARY
FOSTER PARK ELEMENTARY
JONESVILLE ELEMENTARY
LOCKHART ELEMENTARY
MONARCH ELEMENTARY



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South Carolina Department of Health
and Environmental Control



Preface

Project Description

The Union County Body Mass Index (BMI) project is the result of a collaborative effort between the Union County School District and S.C. Department of Health and Environmental Control (DHEC). This report details the fourth consecutive year of BMI measurement for all Union County first, third and fifth grade students attending public school. Consistent participation over the last four years is significant. Comparing four data points allows for the establishment of trend data, which is a useful metric in measuring differences and changes over time.

Rates in Union County reflect state and national trends, indicating an alarming prevalence of overweight and obesity. However, it's also true that the majority of students in the Union County study continue to fall within the normal and healthy weight range.

The data collected for this study is strictly for surveillance and is not used as a screening tool. The purpose of the study is to create an aggregate community indicator. Surveillance data helps schools and policymakers make informed decisions about how to address the problem of childhood obesity.

Problem Statement

Childhood obesity continues to threaten the health of young people and their future potential. The U.S. Centers for Disease Control and Prevention (CDC) states that obesity among children aged 2 to 19 years has not changed significantly since 2003-2004, and remains at about 17 percent.

Today, more than 23.5 million children and adolescents in the United States - nearly one in three young people - are either obese or overweight, putting

them at higher risk for serious, and sometimes life-threatening health conditions.

Currently one out of three S.C. children are overweight or obese. The 2012 South Carolina Children's Health Assessment Survey states that 35.1 percent of all children and adolescents aged 2-17 were either overweight or obese (15.2 percent overweight; 19.9 percent obese). Data were also stratified by grade, with 39.3 percent of those in elementary school classified as overweight or obese. If current trends continue, this generation of South Carolina kids will have a shorter life expectancy than their parents.

Causes of Childhood Obesity

Childhood obesity is a complex condition that stems from behavioral, biological, and environmental factors. In simplest terms, childhood obesity results from an energy imbalance - children consuming more calories than they burn through physical activity and normal growth. However, research clearly indicates that the environments in which we live also directly affect the foods our children eat and how much activity they get.

Modern conditions have created an environment that makes unhealthy behavior the default and childhood obesity a predictable and understandable consequence. This underscores the need for changes in the environment. Obesity problems cannot be solved solely through changing individuals' actions and health choices. Everyone has a part in solving childhood obesity - schools, businesses, community organizations, health care professionals, and families. Communities must work collectively to make healthy choices easy, acceptable, and supported.

Methodology

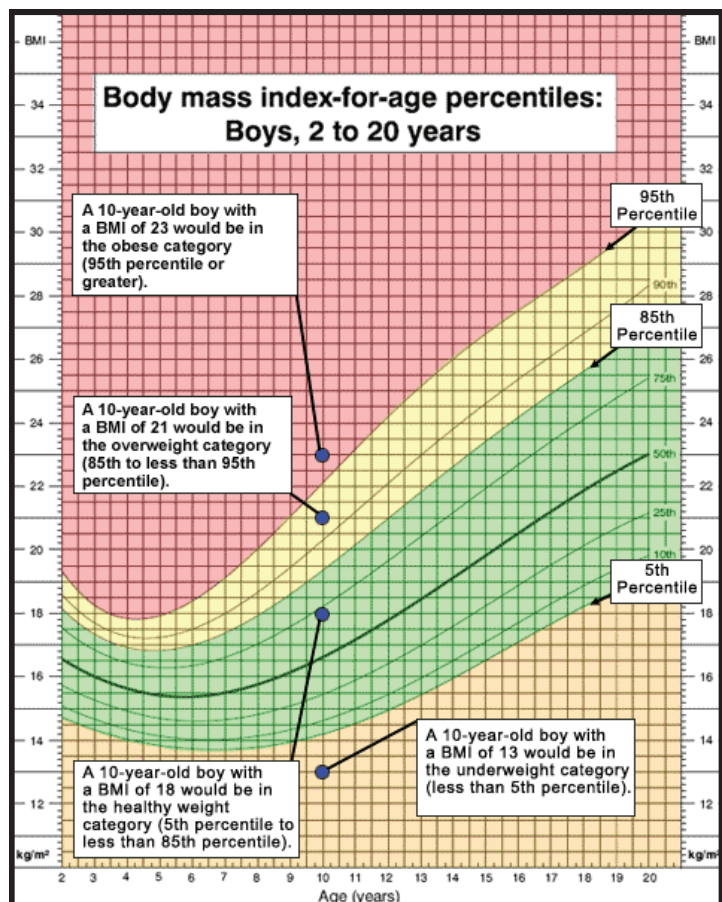
Students from all five elementary/primary schools (first, third, and fifth graders) in Union County participated in the BMI study. DHEC provided high-precision electronic scales and staff were trained to measure the height/weight of each student. School personnel provided de-identified information regarding gender, date of birth, ethnicity, and free and reduced lunch status.

Obesity is defined as excess body fat, and we have various ways to estimate fat. The most commonly used screening tool is the calculation of body mass index (BMI) from the weight and height of an individual.

Here is the formula:

$$\text{BMI} = 703 \times (\text{weight (pounds)} / \text{height}^2 (\text{inches}^2))$$

For children and youth, defining overweight or obesity based on BMI is more difficult because height and weight are age dependent and change throughout development. For children age 2 to 20 years old, the CDC has developed a definition based on the 2000 CDC growth charts for age and sex. The BMI categories used for this report are listed below.



Weight Status Category and Percentile Range
Underweight Less than the 5 th percentile
Normal Weight 5 th percentile to less than the 85 th percentile
Overweight 85 th percentile to less than the 95 th percentile
Obese Equal to or greater than the 95 th percentile

2014 Key Findings

A census rather than a sample method of data collection was used, making the results very reliable. Of the total population of first, third and fifth graders, 91.9 percent were measured (879 of 956). A breakdown for each grade follows:

FIRST GRADE

91.3 percent were measured. (294 of 322)

36.4%

were either overweight or obese.

THIRD GRADE

90.6 percent were measured. (300 of 331)

40.3%

were either overweight or obese.

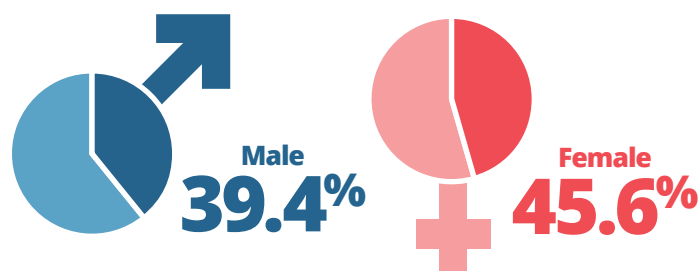
FIFTH GRADE

94 percent were measured. (285 of 303)

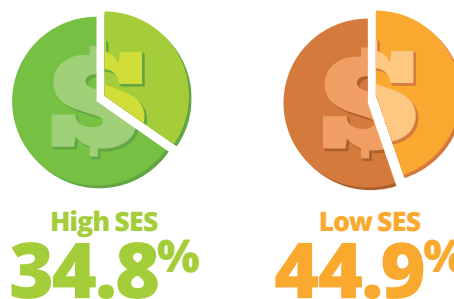
50.9%

were either overweight or obese.

Of the total number of first, third, and fifth graders that were overweight/obese, the following observations can be made:

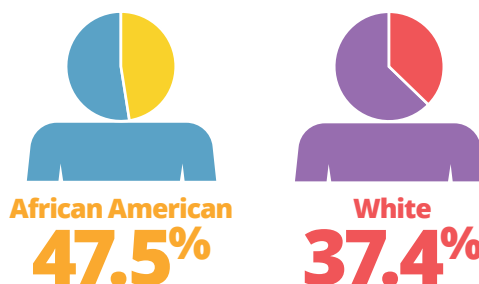


Significant disparities exist between male and female genders



Significant disparities exist between children from low socioeconomic households and children from high socioeconomic households.

Note: Socioeconomic status based on free and reduced lunch eligibility.



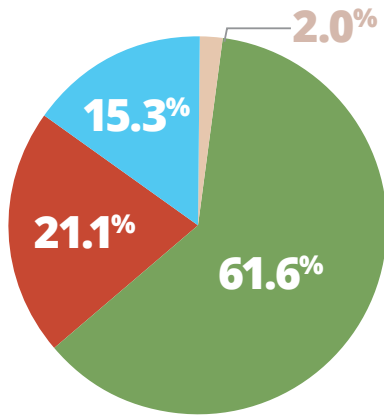
Significant disparities exist between African American, and White children.

Note: For statistical reasons, race/ethnic groups comprising less than 5 percent of the data were not included.

First Grade Report

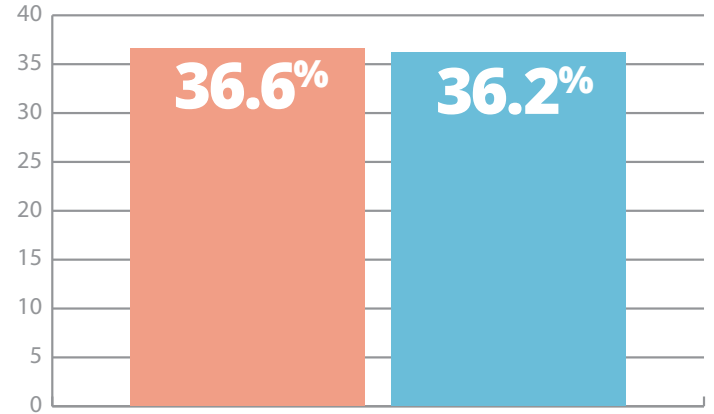


OVERVIEW



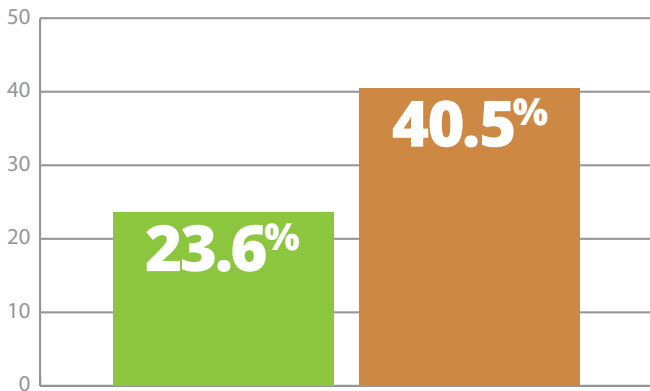
Percent of children by weight status

Union County • First Grade • 294 Students



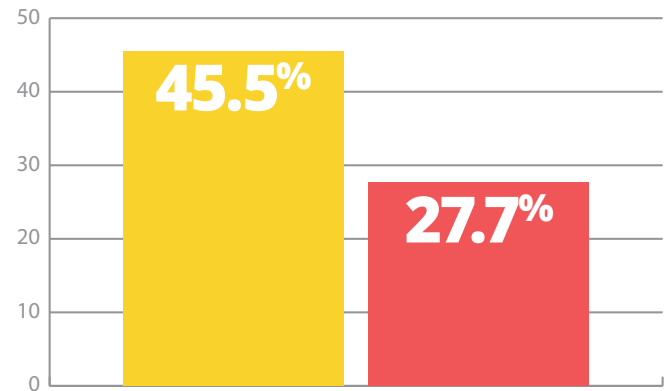
Percent of children who were obese or overweight by gender

Union County • First Grade



Percent of children who were obese or overweight by SES*

Union County • First Grade



Percent of children who were obese or overweight by race/ethnicity*

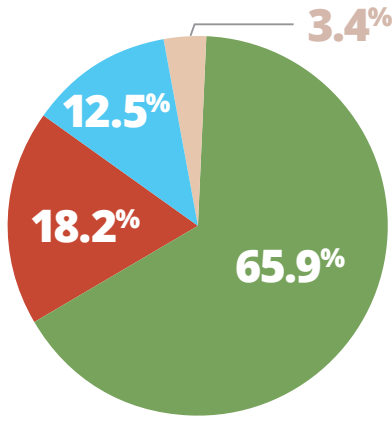
Union County • First Grade



*Socioeconomic status based on free and reduced school lunch eligibility.

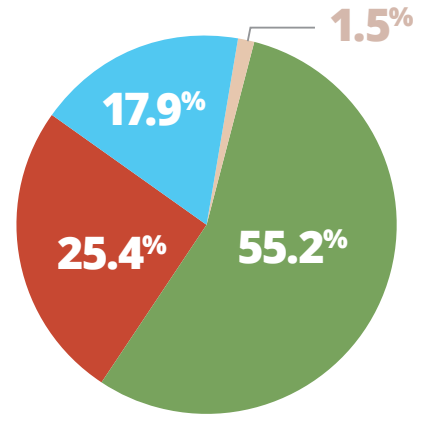
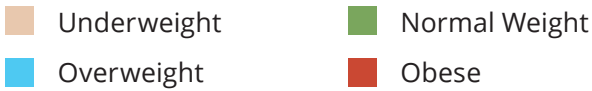
* For statistical reasons, race/ethnic groups comprising < 5 percent of the data were not included. These groups/individuals are included in all other parts of the report

BY SCHOOL



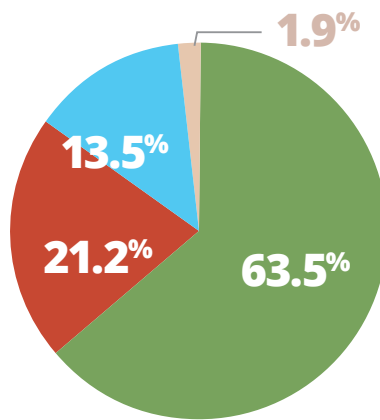
Percent of children by weight status

Buffalo Elementary • First Grade • 88 Students



Percent of children by weight status

Foster Park Elementary • First Grade • 67 Students



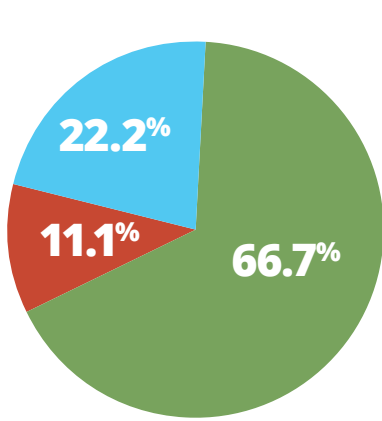
Percent of children by weight status

Jonesville Primary • First Grade • 52 Students



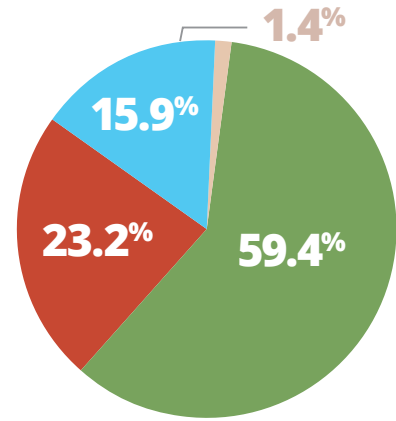
Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile

BY SCHOOL



Percent of children by weight status

Lockhart Elementary • First Grade • 18 Students



Percent of children by weight status

Monarch Elementary • First Grade • 69 Students

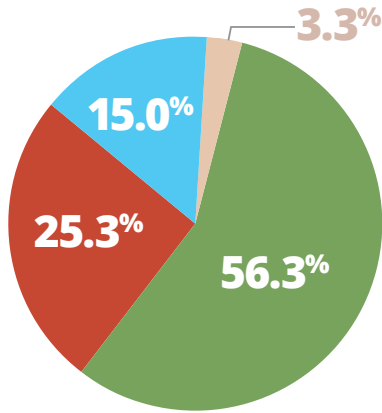


Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile

Third Grade Report

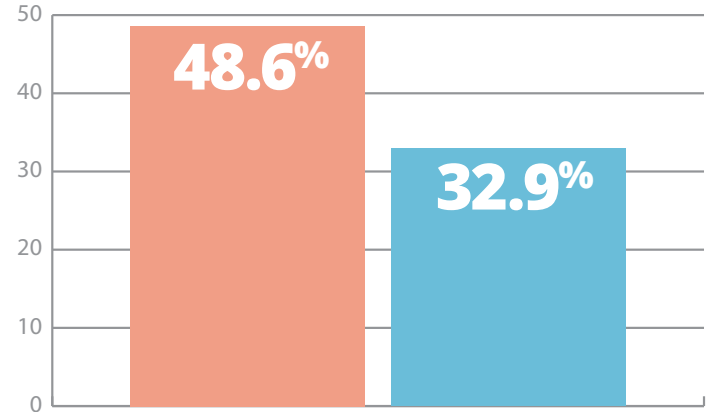


OVERVIEW



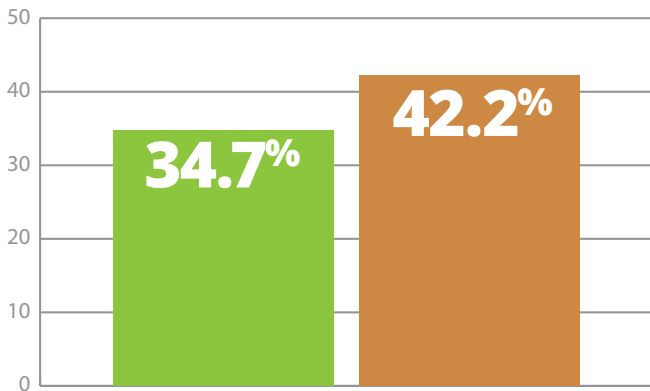
Percent of children by weight status

Union County • Third Grade • 300 Students



Percent of children who were obese or overweight by gender

Union County • Third Grade

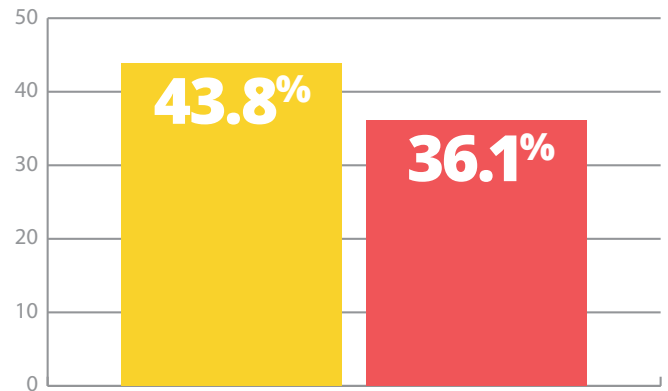


Percent of children who were obese or overweight by SES*

Union County • Third Grade



*Socioeconomic status based on free and reduced school lunch eligibility.



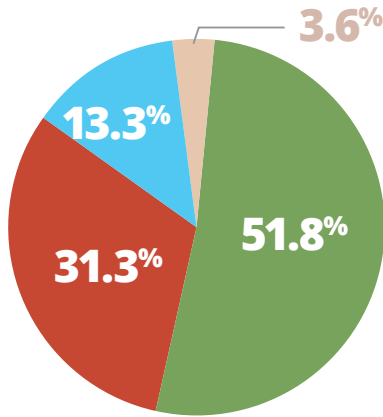
Percent of children who were obese or overweight by race/ethnicity*

Union County • Third Grade



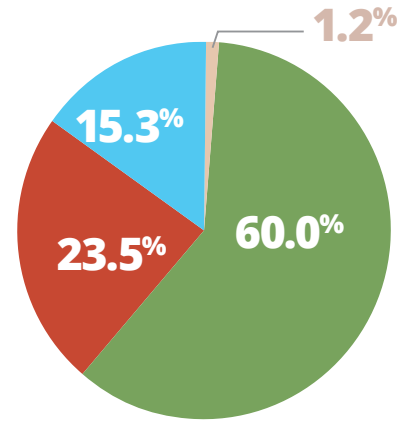
* For statistical reasons, race/ethnic groups comprising < 5 percent of the data were not included. These groups/individuals are included in all other parts of the report

BY SCHOOL



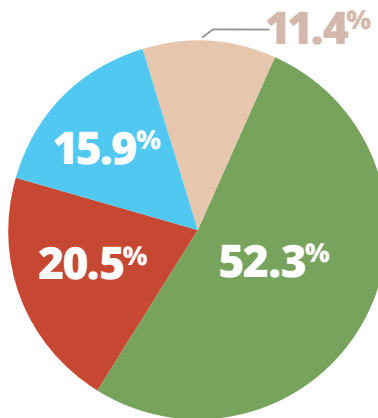
Percent of children by weight status

Buffalo Elementary • Third Grade • 83 Students



Percent of children by weight status

Foster Park Elementary • Third Grade • 85 Students



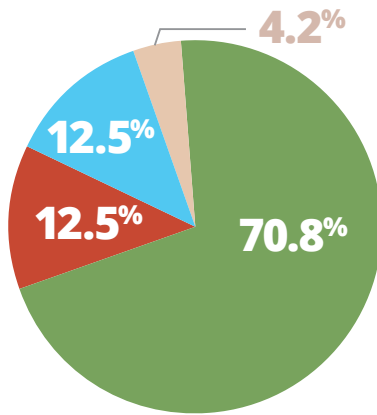
Percent of children by weight status

Jonesville Elementary • Third Grade • 44 Students



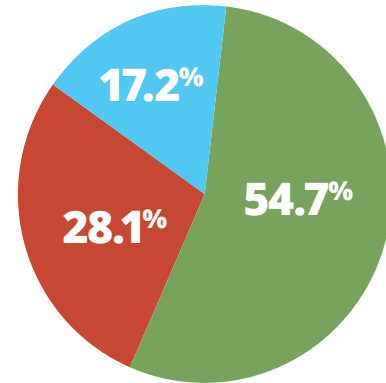
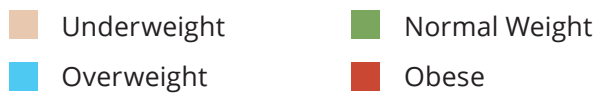
Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile

BY SCHOOL



Percent of children by weight status

Lockhart Elementary • Third Grade • 24 Students



Percent of children by weight status

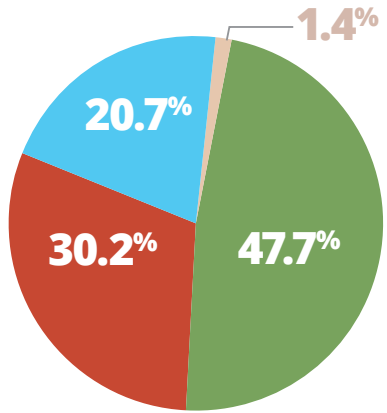
Monarch Elementary • Third Grade • 64 Students



Fifth Grade Report

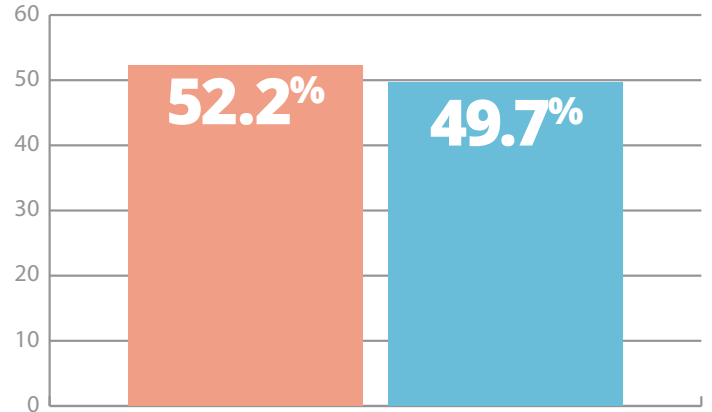


OVERVIEW



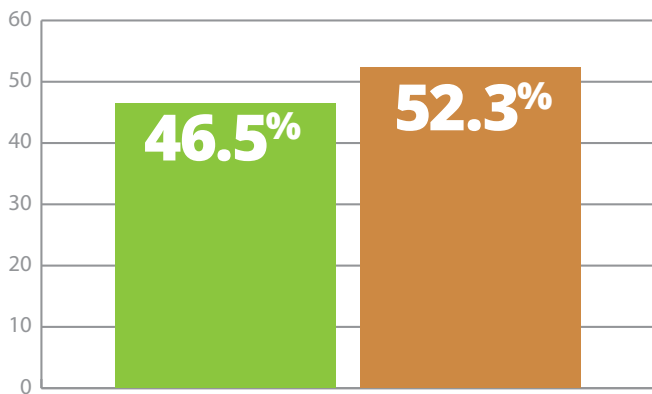
Percent of children by weight status

Union County • Fifth Grade • 285 Students



Percent of children who were obese or overweight by gender

Union County • Fifth Grade

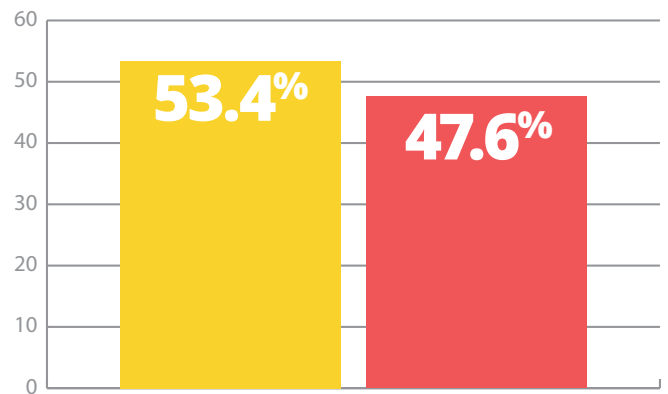


Percent of children who were obese or overweight by SES*

Union County • Fifth Grade



*Socioeconomic status based on free and reduced school lunch eligibility.



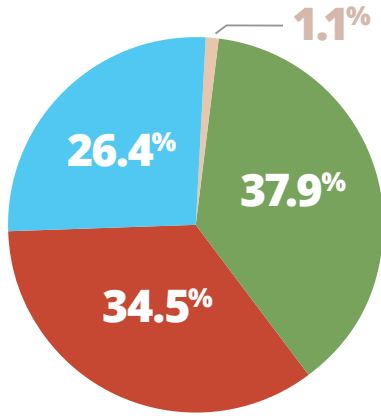
Percent of children who were obese or overweight by race/ethnicity*

Union County • Fifth Grade



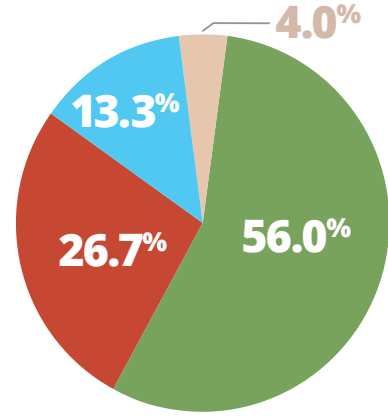
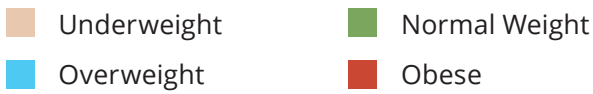
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BY SCHOOL



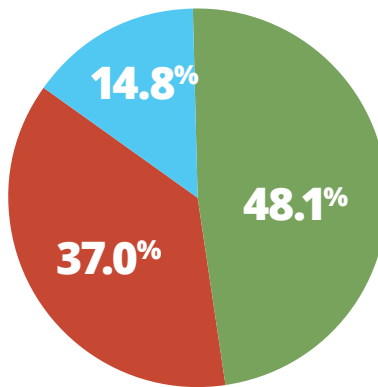
Percent of children by weight status

Buffalo Elementary • Fifth Grade • 87 Students



Percent of children by weight status

Foster Park Elementary • Fifth Grade • 75 Students



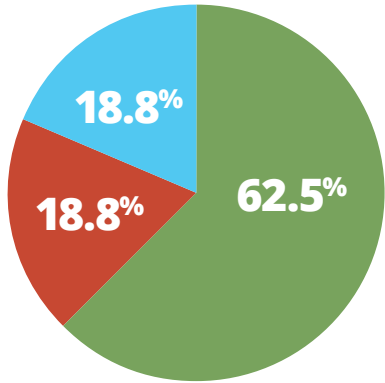
Percent of children by weight status

Jonesville Elementary • Fifth Grade • 54 Students



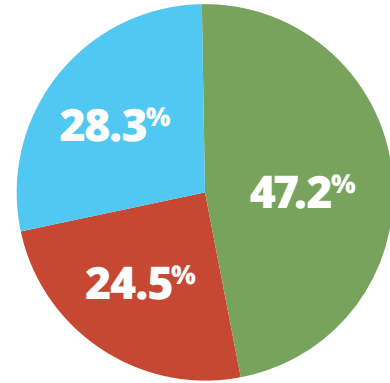
Underweight: < 5th percentile • Overweight: ≥ 85th percentile to < 95th percentile • Normal weight: ≥ 5th percentile to < 85th percentile • Obese: ≥ 95th percentile

BY SCHOOL



Percent of children by weight status

Lockhart Elementary • Fifth Grade • 16 Students



Percent of children by weight status

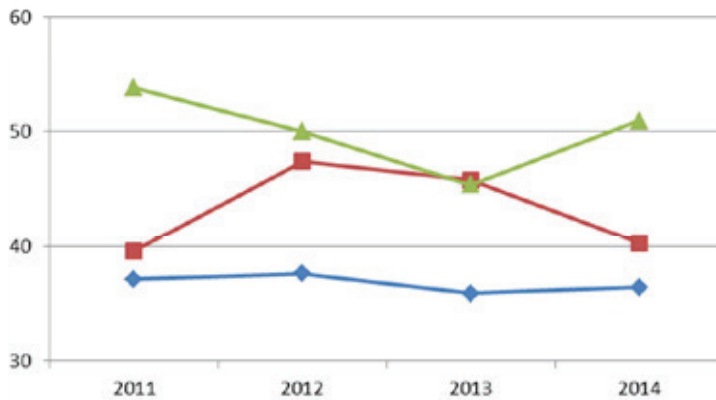
Monarch Elementary • Fifth Grade • 53 Students





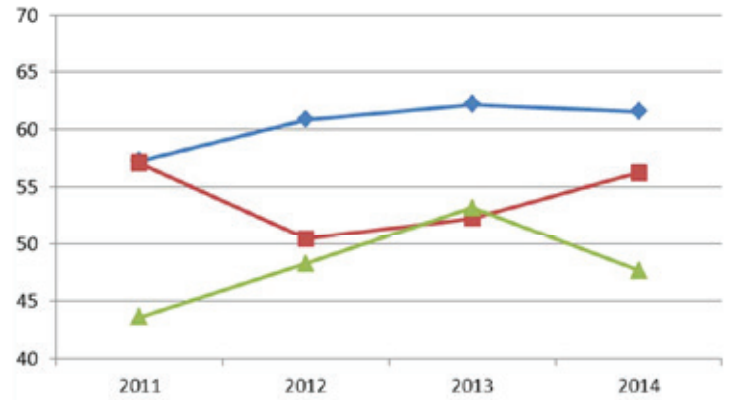
Four-Year Comparative Data

Data has been collected for four consecutive years (2011, 2012, 2013, 2014). While overall rates of childhood overweight and obesity are considered to be high in Union County, statistics indicate some positive trends among students in the fourth year. Comparative data charts follow.



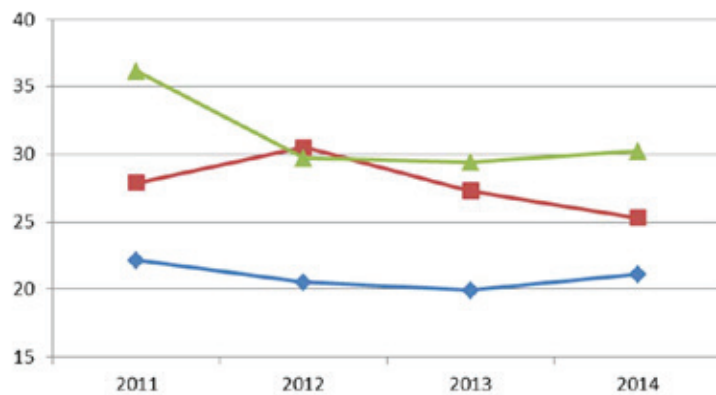
Union County Four-Year Trend Data: Percentage of Overweight & Obese Children

◆ First Grade ■ Third Grade ▲ Fifth Grade



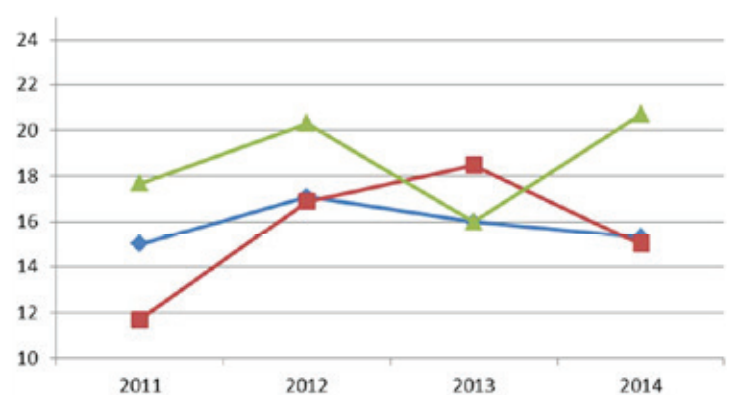
Union County Four-Year Trend Data: Percentage of Normal Weight Children

◆ First Grade ■ Third Grade ▲ Fifth Grade



Union County Four-Year Trend Data: Percentage of Obese Children

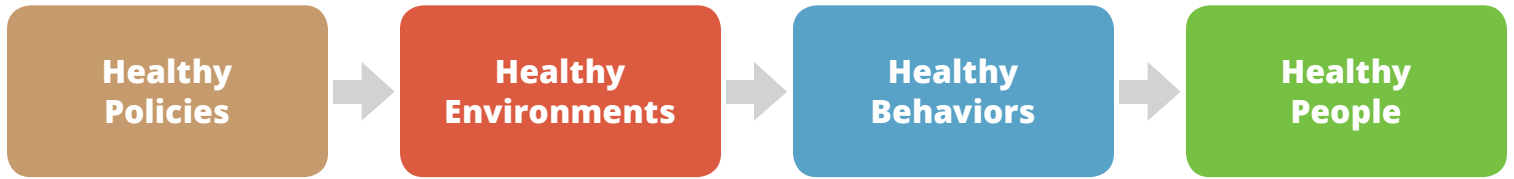
◆ First Grade ■ Third Grade ▲ Fifth Grade



Union County Four-Year Trend Data: Percentage of Overweight Children

◆ First Grade ■ Third Grade ▲ Fifth Grade

Final Recommendations



It is well recognized that small improvements in eating and activity behaviors will lead to improved health. However, many factors affect whether an individual practices healthy eating and activity behaviors. Although it is each individual's responsibility to eat smart and move more, societal barriers often make change improbable, if not impossible. Factors that influence our ability to make healthy changes include the physical and social environments of families, communities, and schools. Identifying and addressing these factors will require deliberate, persistent action. Making these changes will require individual commitment, tools to help individuals and families make better decisions, policy changes, environmental changes, and ultimately a cultural change.

Research suggests that a healthier school environment can result in greater academic achievement and healthier lives for students and school staff. Healthy students perform better, attend school more and behave better in class.

A resource specifically created for schools and endorsed by the CDC, is the Alliance for a Healthier Generation's Healthy Schools Program. Launched in 2006 with funding from the Robert Wood Johnson Foundation, the program was founded by the American Heart Association and the Bill Clinton Foundation.

Now supporting 24,000 schools across the U.S., including more than 300 in South Carolina, the Healthy Schools Program takes a comprehensive approach to helping schools create healthier environments by working with them to improve access to healthier foods; increase physical activity opportunities before, during and after school; enhance nutrition education; and establish school employee wellness programs.

Any school or individual in the U.S. can enroll in the Healthy Schools Program at no cost at HealthierGeneration.org.

Acknowledgement

This assessment would not be possible without the willingness and cooperation of the Union County School District. DHEC sincerely appreciates the commitment

to this project, and commends the district for taking a major step in a community-wide effort to address the issue of childhood obesity in Union County.





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