

Spartanburg County

# 2014 Body Mass Index (BMI) Report

First, Third, and Fifth Grade Students





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**District 1**  
SPARTANBURG COUNTY  
STUDENT-CENTERED EDUCATION

**2**  
SPARTANBURG  
SCHOOL  
DISTRICT

**3**

SPARTANBURG COUNTY  
**4**  
SCHOOL DISTRICT

DISTRICT  
**Five**  
SCHOOLS  
Spartanburg County  
*Every child...every day*

SPARTANBURG COUNTY SCHOOL  
**District 6**

**7**  
**Spartanburg**  
School District **SEVEN**

# Preface

## Project Description

The annual Spartanburg County Body Mass Index (BMI) Project is a collaborative effort between Spartanburg County school districts, the S.C. Department of Health and Environmental Control (DHEC) Upstate Region, and the Spartanburg Childhood Obesity Task Force (SCOTF). The project was first implemented in 2011. This report presents detailed findings from the fourth-year BMI Project, which measured first-, third- and fifth-graders attending Spartanburg County public schools.

The data collected for this study is strictly for surveillance and is not used as a screening tool. The purpose 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.

## Project History

In an effort to address the obesity epidemic, a community task force was formed in 2008. Endorsed by the S.C. Eat Smart Move More Coalition, the Spartanburg Childhood Obesity Task Force is comprised of a diverse group of partners including representatives from:

- Alliance for a Healthier Generation
- Chartwells Schools Food Service
- City of Spartanburg Parks and Recreation
- Healthy Eating Decisions Program
- Hub City Farmer's Market
- Hub City Co-Op
- Meeting Street Academy
- Spartanburg County School Districts 1-7
- Spartanburg County First Steps

- Joe R. Utley Heart Resource Center
- Mary Black Foundation
- Partners for Active Living
- Spartanburg Regional Healthcare System
- Spartanburg County Parks Department
- Spartanburg County Government
- University of South Carolina Upstate
- S.C. Department of Health and Environmental Control
- S.C. Safe Routes to School
- United Way of the Piedmont
- Upstate Forever
- Westgate Family Therapy
- YMCA of Greater Spartanburg

The task force collectively crafted a goal with the objective of reversing the childhood obesity epidemic in Spartanburg County by the year 2018. The ongoing BMI project will monitor those efforts.

The BMI report is associated with a local campaign, Good For You Spartanburg, which was created by the SCOTF to capture the broad-based grassroots, nonprofit, institutional, and governmental support for the development of a healthy Spartanburg County. Good For You Spartanburg is an online resource guide that gives residents and visitors current information about health, events, programs, destinations and other wellness resources available in Spartanburg and surrounding areas. For more information, visit the website: [www.goodforyouspartanburg.org](http://www.goodforyouspartanburg.org).

## Problem Statement

Childhood obesity continues to threaten the health of young people and their future potential. The Centers for Disease Control and Prevention (CDC) states that obesity

among children age 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. This puts them at higher risk for serious and sometimes life-threatening health conditions.

Currently one out of three S.C. children is overweight or obese. The 2012 South Carolina Children's Health Assessment Survey states that 35.1 percent of all children and adolescents age 2 to 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

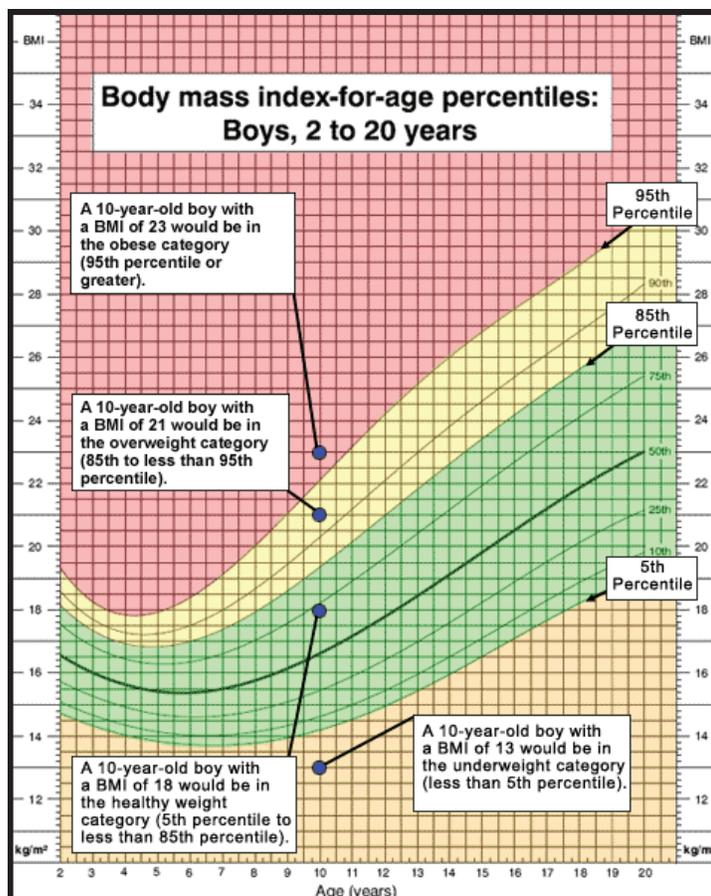
Students from all elementary/primary schools (first, third, and fifth grades) in Spartanburg County participated in the 2014-2015 BMI study. Thanks to a generous grant from the Mary Black Foundation in 2011, the study uses high-precision electronic scales for all schools. The Partners for Active Living Healthy school coordinator served as technical assistant and coordinated the collection of data. School staff measured the height/weight of each student and 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 of estimating 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
<b>Underweight</b> Less than the 5 <sup>th</sup> percentile
<b>Normal Weight</b> 5 <sup>th</sup> percentile to less than the 85 <sup>th</sup> percentile
<b>Overweight</b> 85 <sup>th</sup> percentile to less than the 95 <sup>th</sup> percentile
<b>Obese</b> Equal to or greater than the 95 <sup>th</sup> percentile

# 2014 Key Findings

A census rather than a sample method of data collection was used, yielding very reliable results. Of the total population of first-, third- and fifth-graders, 87.7 percent were measured (9,314 of 10,621). A breakdown for each grade follows:

## FIRST GRADE

89.8 percent were measured. (3,328 of 3,705)

**28%**

were either overweight or obese.

## THIRD GRADE

90.9 percent were measured. (3,204 of 3,523)

**35.1%**

were either overweight or obese.

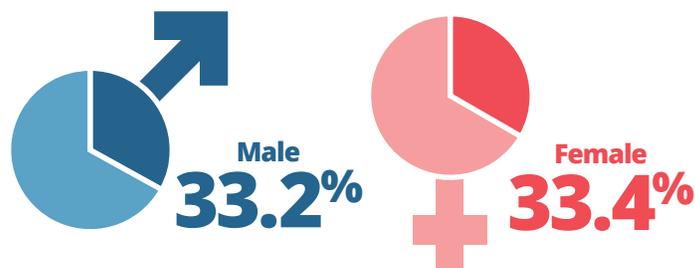
## FIFTH GRADE

81.9 percent were measured. (2,782 of 3,393)

**37.7%**

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:

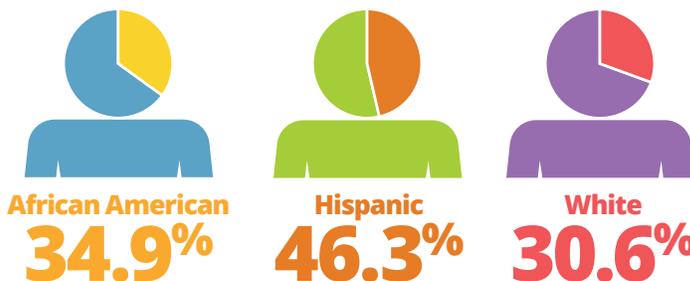


No significant difference exists between male and female genders.



Slight differences exist between children from low socioeconomic households and children from higher socioeconomic households.

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



Significant disparities exist between African American, Hispanic and White children.

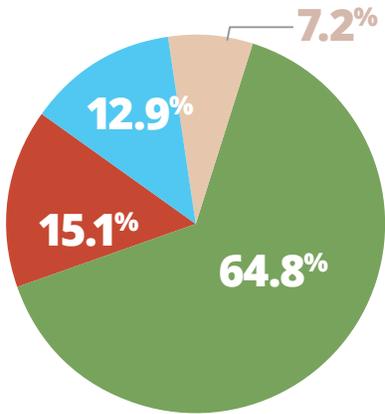
Note: For statistical reasons, racial/ethnic groups comprising less than 5 percent of the data were not included.



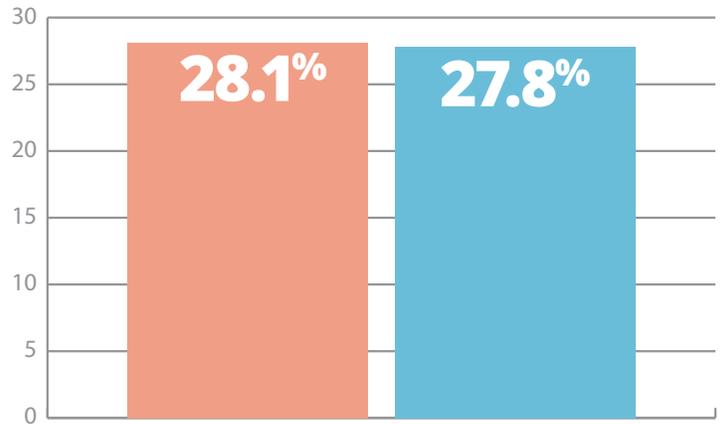
# First Grade Report



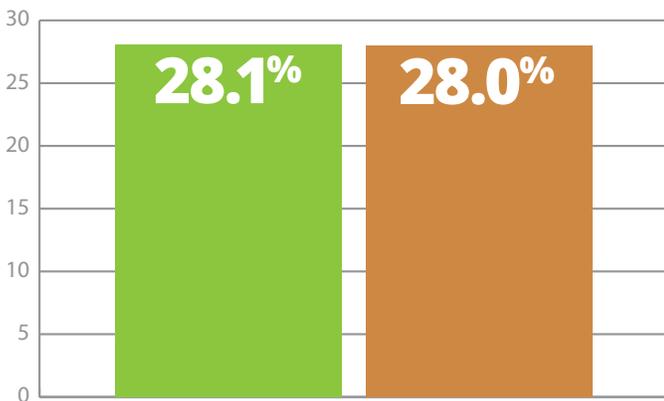
# OVERVIEW



**Percent of children by weight status**  
Spartanburg County • First Grade • 3,328 Students



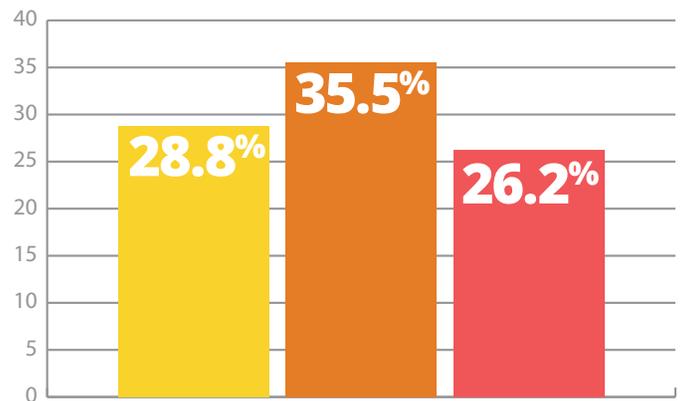
**Percent of children who were obese or overweight by gender**  
Spartanburg County • First Grade



**Percent of children who were obese or overweight by SES\***  
Spartanburg County • First Grade



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



**Percent of children who were obese or overweight by race/ethnicity\***  
Spartanburg County • First Grade

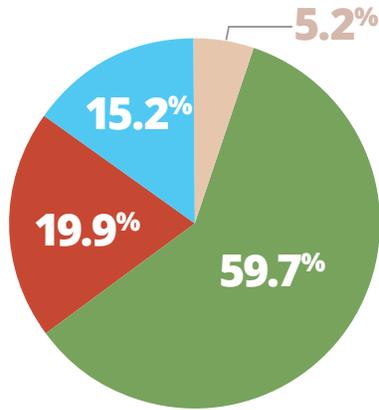


\* For statistical reasons, racial/ethnic groups comprising < 5 percent of the data were not included. These groups/individuals are included in all other parts of the report

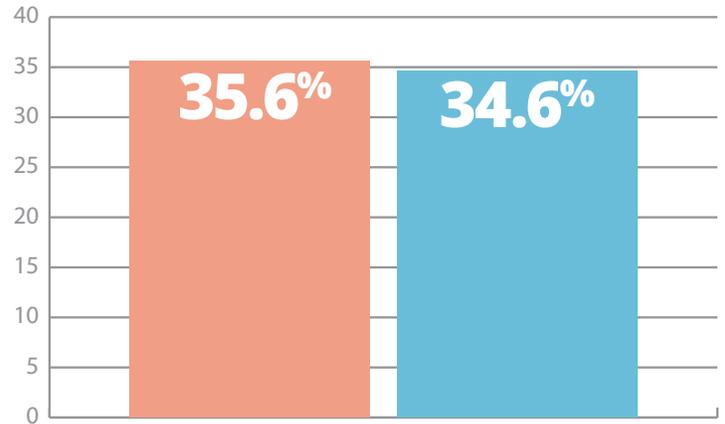
# Third Grade Report



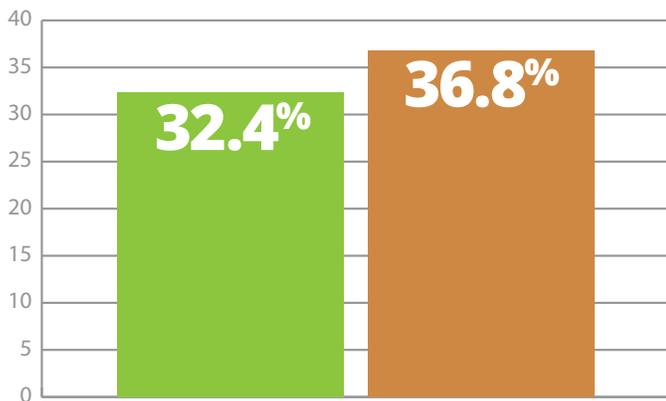
# OVERVIEW



**Percent of children by weight status**  
Spartanburg County • Third Grade • 3,204 Students



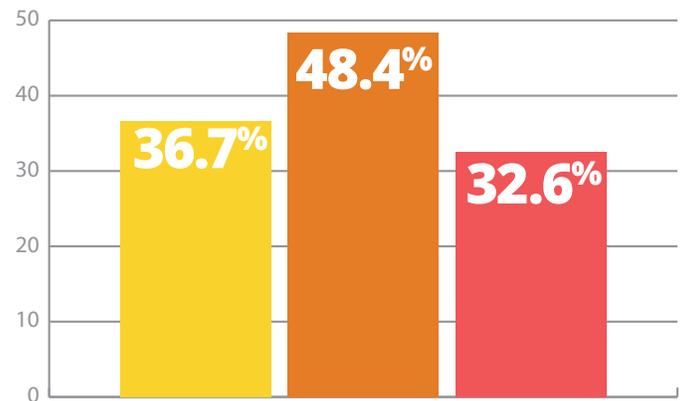
**Percent of children who were obese or overweight by gender**  
Spartanburg County • Third Grade



**Percent of children who were obese or overweight by SES\***  
Spartanburg County • Third Grade



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



**Percent of children who were obese or overweight by race/ethnicity\***  
Spartanburg County • Third Grade

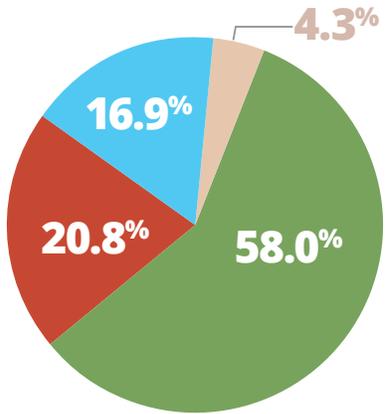


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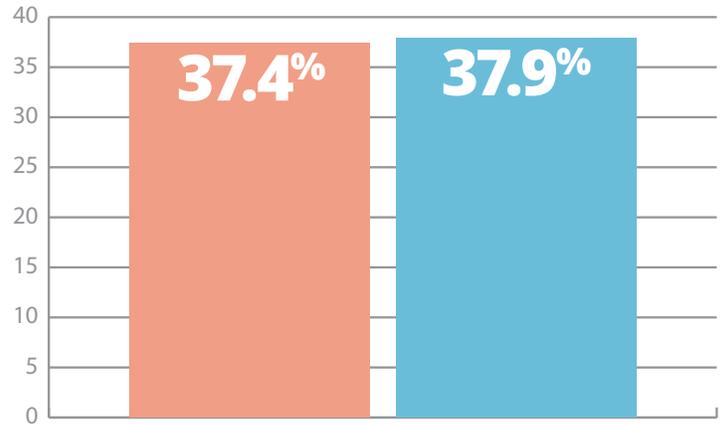
# Fifth Grade Report



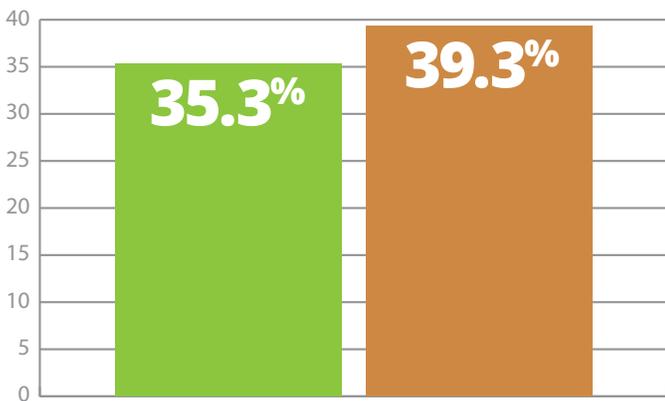
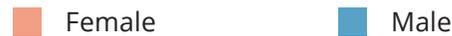
# OVERVIEW



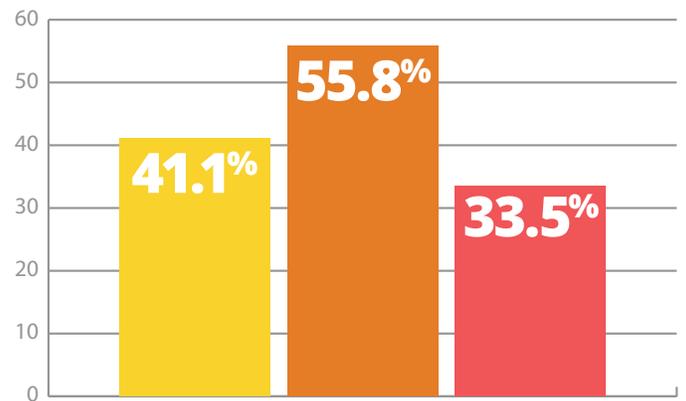
**Percent of children by weight status**  
Spartanburg County • Fifth Grade • 2,782 Students



**Percent of children who were obese or overweight by gender**  
Spartanburg County • Fifth Grade



**Percent of children who were obese or overweight by SES\***  
Spartanburg County • Fifth Grade



**Percent of children who were obese or overweight by race/ethnicity\***  
Spartanburg County • Fifth Grade



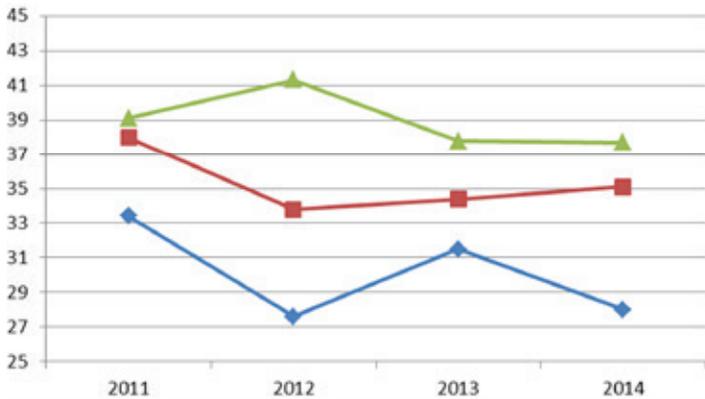
\*Socioeconomic status based on free and reduced school lunch eligibility.

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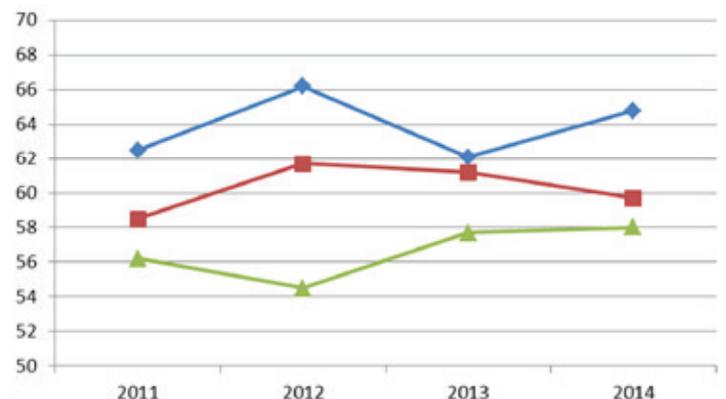
# Four-Year Comparative Data

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 Spartanburg County, statistics indicate some positive trends among students in the fourth year. Comparative data charts follow.



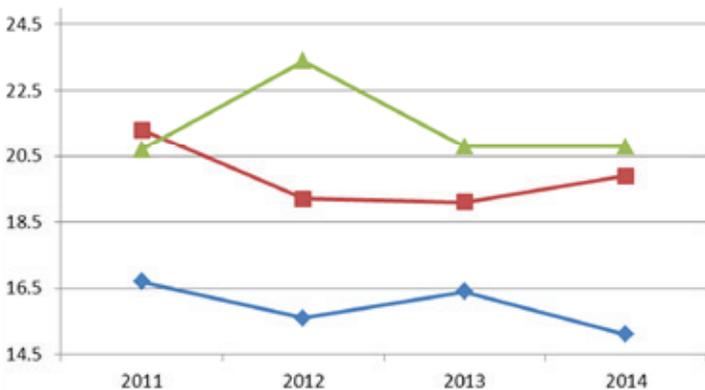
**Spartanburg County Four-Year Trend Data: Percentage of Overweight & Obese Children**

◆ First Grade    ■ Third Grade    ▲ Fifth Grade



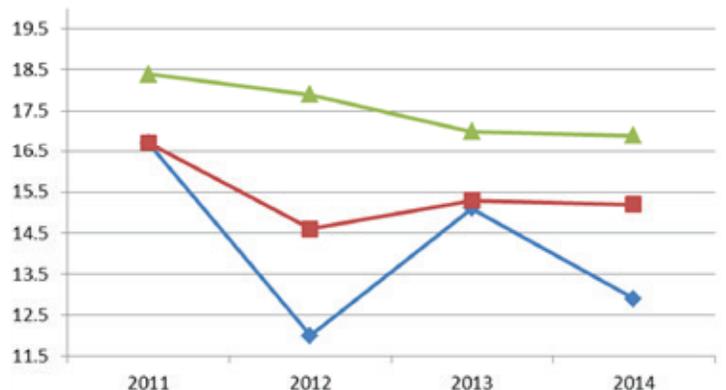
**Spartanburg County Four-Year Trend Data: Percentage of Normal Weight Children**

◆ First Grade    ■ Third Grade    ▲ Fifth Grade



**Spartanburg County Four-Year Trend Data: Percentage of Obese Children**

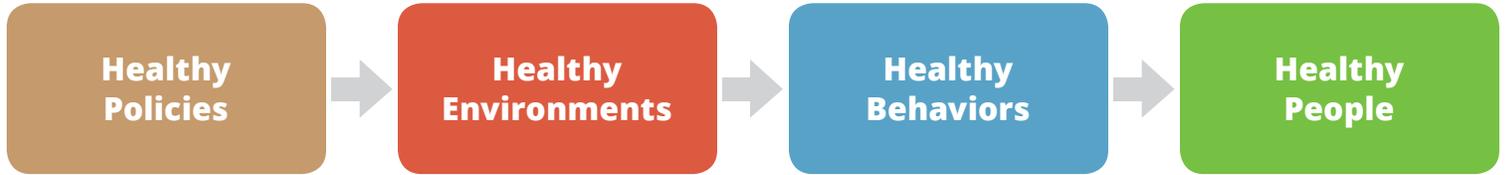
◆ First Grade    ■ Third Grade    ▲ Fifth Grade



**Spartanburg 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 [www.healthiergeneration.org](http://www.healthiergeneration.org).

## Acknowledgement

This assessment would not have been possible without the willingness and cooperation of all seven Spartanburg County school districts. DHEC and Partners for Active Living sincerely appreciate their commitment to this

project. Spartanburg school superintendents are to be commended for taking a major step in a community-wide effort to address the issue of childhood obesity.





South Carolina Department of Health  
and Environmental Control

[www.scdhec.gov](http://www.scdhec.gov)