

**Hill, Samantha. 2016. A raw data comparison of two-years of BMI data collection and percentile analysis of elementary students participating in school garden program in Tuscaloosa County, Alabama. (Review summary)**

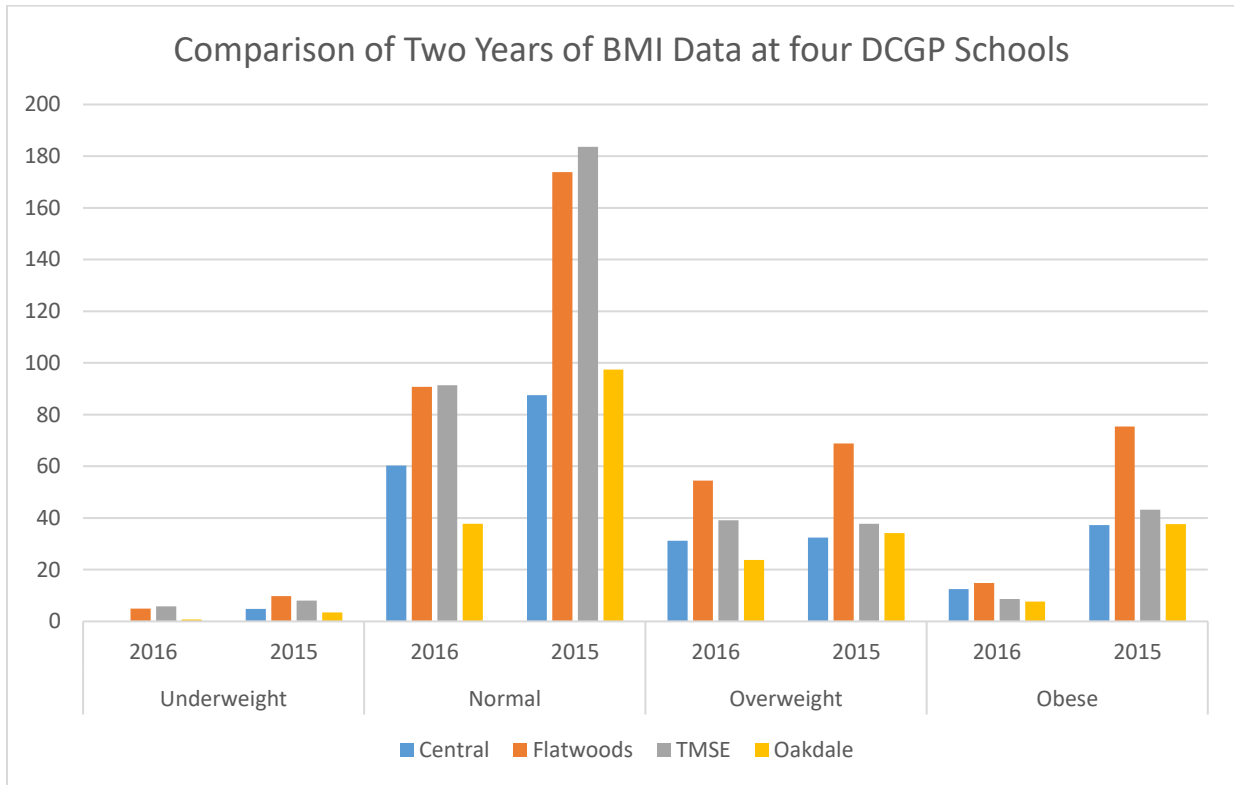
Druid City Garden Project collects the Body Mass Index (BMI) of participating students at the beginning and end of the school year to determine whether their garden programs impact childhood obesity. DCGP will collaborate with researchers at The University of Alabama to determine whether there is a direct correlation between changes in children’s BMI and DCGP’s programs in a three-year longitudinal study of consenting children. What follows is a summary of the collection of BMI data in the fall of 2016.

DCGP took the height and weight of students whose guardians had consented at participating schools during the Fall semester of the 2016-2017 school year. Height and weight was only recorded for those students who also participated in the previous school year’s BMI collection. Data were collected at Central and Flatwoods from 2<sup>nd</sup>-5<sup>th</sup> graders only and at TMSE and Oakdale from 3<sup>rd</sup>-5<sup>th</sup> graders only to track the same student populations over the length of the study. Height and weight data were used to calculate student BMI, or Body Mass Index, which the CDC notes is essentially weight (lbs) divided by the square of height (feet/inches). A spreadsheet prepared by the CDC entitled “Children’s BMI Group Calculator” was utilized to calculate BMI and BMI percentile for each student. Height and weight measurements were entered directly into the spreadsheet while in the field. Additional data such as sex and age were entered prior to collecting height and weight. The CDC calculator summarized children’s BMI for age at each school, and determined percentiles that shed light on their susceptibility to adverse health conditions. All four schools were then combined in the calculator to produce average percentages from target student populations. Per the combined school calculations, 40% of students are in the percentile considered overweight or obese. In the previous year’s analysis, Morgan, 2016 also reported 40% of students in the 85<sup>th</sup> percentile or greater. However, in 2015, 21% of those students were also in the 95<sup>th</sup> or greater percentile while in 2016 the obese category contained only 9% of students. This data represents raw numbers only and does not correlate DCGP’s programs to the results.

**Table 1. Comparison of two years of BMI data from four DCGP schools. 2015 school year data are in parenthesis.**

School	Central	Flatwoods	TMSE	Oakdale	Average %
<u>Number of children assessed:</u>	104 (162)	165 (328)	145 (270)	70 (171)	Total: 484 (931)
Underweight (< 5th %ile)	0% (3%)	3% (3%)	4% (3%)	1% (2%)	2% (3%)
Normal BMI (5th - 85th %ile)	58% (54%)	55% (53%)	63% (68%)	54% (57%)	58% (58%)
Overweight or obese (≥ 85th %ile)*	30% (20%)	33% (21%)	27% (14%)	34% (20%)	31% (19%)
Obese (≥ 95th %ile)	12% (23%)	9% (23%)	6% (16%)	11% (22%)	9% (21%)

**Figure 1. Chart representing raw data numbers from four DCGP schools over two consecutive school years.**



**References:**

Morgan, Camille. 2016. BMI Data Collection and Percentile Analysis of Elementary Students Participating in School Garden Program in Tuscaloosa County, Alabama. (Research Summary).

[https://www.druidcitygardenproject.org/wp-content/uploads/2016/02/BMIShortSummary\\_1.22.16.pdf](https://www.druidcitygardenproject.org/wp-content/uploads/2016/02/BMIShortSummary_1.22.16.pdf)

Center for Disease Control and Prevention. "Body Mass Index Measurement in Schools."

[http://www.cdc.gov/healthyweight/assessing/bmi/childrens\\_bmi/tool\\_for\\_schools.html](http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/tool_for_schools.html). 12 Dec 2016.