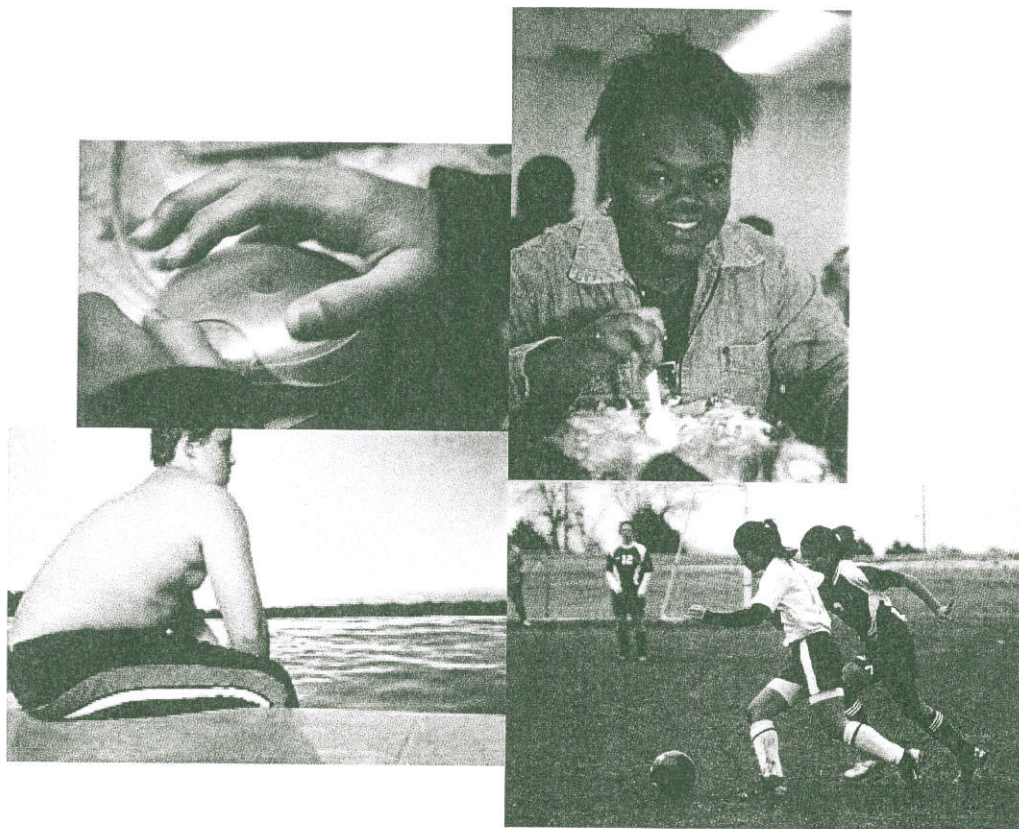


Overweight and Physical Inactivity among Rural Children Aged 10-17:  
A National and State Portrait



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**Overweight and Physical Inactivity among Rural Children Aged 10-17:  
A National and State Portrait**

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**May 2007**

**Funding Acknowledgment:**

This report was prepared under Grant Award No 6 UIC RH 03711-01-00 with the Federal Office of Rural Health Policy, Health Resources and Services Administration

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## Executive Summary

The persisting epidemic of childhood obesity throughout the United States has led policymakers to rank it as a critical public health threat for the 21st century.<sup>1-3</sup> Recent studies have found that the tide of child obesity is rising faster in rural communities in several states, including Pennsylvania, New Mexico, Michigan, West Virginia, and North Carolina.<sup>4</sup> This pattern dispels a long-held belief that in farm communities and other rural towns, heavy chores, wide expanses of land and fresh air make leaner and stronger bodies. It is not clear whether the same epidemic has happened in rural towns across the nation.

Our report examines the presence of overweight and obesity among children in both rural and urban settings using the data from a recent national survey, the 2003 National Survey of Children's Health (NSCH). Using the 2000 CDC BMI charts as a reference, children whose gender- and age-specific BMI values were at or above the 95th percentile of the reference population were defined as *obese*. Those children with BMI at or above the 85th percentile of the CDC reference population were classified as being either *overweight or obese*. For simplicity, we used the term *overweight* to represent this group. Since parent-reported height and weight are not reliable for children less than 10 years old, the data presented are limited to children aged 10 to 17. Urban/Rural residence was defined at the county level using Urban Influence Codes (UICs), with "Rural" defined as an UIC of 3 through 12. If UIC values are 1 or 2, then the county was coded as "Urban". The key findings of the report are as follows:

### Overweight and obesity

- In 2003, 30.6% of children aged 10-17 years old were overweight, 14.8% of which were obese. Rural children (16.5%) were more likely to be obese than urban children (14.4%).
- Children living in rural areas adjacent to metropolitan areas (16.7%) and micropolitan rural areas (17.1%) were more likely to be obese than those living in small remote rural areas (14.3%).
- Minority children were more likely to be overweight than either urban or rural white children.
  - Black children (41.2%) were more likely to be overweight than Hispanic (38.0%) and white children (26.7%). A similar pattern was observed for obesity; nearly one in four black children was obese (23.6%) versus 19.0% for Hispanic children and 12.0% for white children.

- Rural blacks had the highest level of overweight (44.1%) and obesity (26.3%) than other race/ethnicity groups.
- As family income increased, the proportion of children who were overweight decreased significantly among both rural and urban residents.
- The proportion of children who were overweight ranged from 21.0% to 39.6% across the states, while the proportion of children who were obese ranged from 8.6% to 22.9%. At least 10% of children were obese in 48 of the states.
  - Children living in the South were most likely to be overweight or obese (33.1%), followed by the Midwest (30.2%), the Northeast (29.5%), and the West (28.1%).
  - Children living in the rural South had the highest likelihood of being overweight (34.5%) and obese (19.5%) in the country, while children living in the West had the lowest likelihood of overweight (27.1%) and obesity (12.4%).

#### Physical Activity

- More than one out of four children (28.6%) aged 10-17 years old failed to meet recommended physical activity levels; that is, not participating in moderate to vigorous exercises for at least 20 minutes three or more days per week.
- Fewer rural children (25.4%) failed to meet physical activity recommendations than urban children (29.3%).
- Older children (aged 15-17), girls, Hispanics, blacks, children from low income families, and children in poor health were less likely to meet physical activity recommendations.
- Across the states, between 22.7% to 38.5% of children failed to meet physical activity recommendations.
- Rural children living in the Midwest were more likely to be physically inactive (26.1%), followed by the South (26.0%), the Northeast (23.7%) and the West (23.5%).

#### Weight-Related Health Behaviors

- More than two out of five children (41.2% for all children; 40.7% for rural children and 41.3% for urban children) did not participate in any after school sport teams or lessons in 2003.
  - Rural black children (50.1%) and rural Hispanic children (48.6%) were more likely

- not to participate in after school sport teams or lessons than rural white children (38.9%) and urban white children (35.6%).
- The proportion of children not participating in any after school sport teams or lessons ranged from 25.9% in Vermont to 54.5% in South Carolina.
  - About half of the children (48.0% for rural and 47.0% for urban) aged 10-17 years spent at least two hours a day with electronic entertainment media (such as non-educational computer use, playing video games, and watching television).
    - Among rural children, high electronic media use was more common among blacks (63.7%), overweight children (54.0%), and obese children (54.8%).
    - The proportion of children spending at least two hours a day on electronic media ranged from 37.8% in Vermont to 57.6% in New Jersey.
  - About two out of five mothers (38.4% for rural and 39.8% for urban) reported being physically inactive in the past month (i.e., no moderate to vigorous exercise for 20 minutes or more on a routine basis).
    - Children of inactive mothers (34.6%) were more likely not to meet physical activity recommendations than children of active mothers (22.9%).
    - Rural Hispanic (47.9%) and black children (43.9) were more likely to have inactive mothers than rural whites (36.8%).
    - The proportion of mothers who were physically inactive ranged from 30.8% in Vermont to 50.0% in Washington D.C.
  - Rural children (20.1%) were less likely to live in an environment perceived to be unsafe than urban children (25.7%).
    - Among rural children, black children (38.3%), Hispanic children (32.6%), and children from low income families (36.1%) were more likely to perceive unsafe environments.
    - Overweight children were more likely to feel unsafe, in both urban (28.9%) and rural environments (23.2%).
    - The proportion of children living in perceived unsafe environments ranged from 11.6% in Vermont to 50.0% in Washington D.C.

- One in four children ate with their families three or fewer days per week. Urban children (25.3%) were more likely to have infrequent family meals than rural children (21.9%).
  - Overweight (19.9%) and obese (19.4%) rural children were less likely to eat together as a family three or fewer days per week than other rural children.
  - Urban black (31.4%) and white (25.2%) children were more likely to eat together as a family three or fewer days per week than their rural counterparts (25.9% and 21.5%).
  - Among rural children, however, blacks were more likely to eat together as a family three or fewer days per week (25.9%) than whites (21.5%) or Hispanics (21.2%).
  - The proportion of children who ate with their families three or fewer days per week ranged from 17.3% in Wyoming to 30.5% in Washington D.C.

This chartbook provides information about the proportion of US children aged 10-17 years who are overweight or obese, for the US as a whole, by region, and state by state. These findings indicate a level of disparity that exists for rural residents, minorities, and low income individuals. Other factors, such as family influences and the physical environment in which a child lives, also appear to play an important role in the development of overweight, in addition to the individual health behaviors (such as physical activity, sports participation, and sedentary electronic media use). Parents of children play an important role in modeling these behaviors by being active themselves and eating healthy meals together as a family. Finally, it is important for children to be in an environment that is conducive to physical activity, and provides safe opportunities for recreation and sports activities that are important for health weight maintenance and growth.



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## Introduction

Since the 1970s, the prevalence of obesity has more than doubled among children aged 12–19 years. Approximately nine million American children over 6 years of age are already considered obese.<sup>1</sup> This epidemic of childhood obesity in the United States has led policymakers to rank it as a critical public health threat for the 21st century.<sup>2-4</sup> Because obesity in children and adolescents has significant ramifications across the country for children's physical health, both in the immediate and long term,<sup>5-6</sup> obesity prevention efforts have begun.<sup>4</sup> There is an emerging need for the understanding of the extent of the obesity problem among children living in diverse communities and with different socio-demographic backgrounds, which are important for the design of programs and interventions to prevent childhood obesity.

Recent studies found that the tide of child obesity is rising faster in rural communities in several states such as Pennsylvania, New Mexico, Michigan, West Virginia, and North Carolina.<sup>7</sup> This pattern dispels a long-held belief that in farm communities and other rural towns, heavy chores, wide expanses of land and fresh air make leaner and stronger bodies. It is not clear whether the same epidemic has happened in rural towns across the nation. Researchers, program officers, and policy-makers are searching for explanations for this rise of overweight and obesity among rural children.

## Objectives

The report that follows sought to examine the prevalence of overweight and obesity among rural and urban children, aged 10 to 17 years old. The analysis was performed using the data from the 2003 National Survey of Children's Health (NSCH, n=45,833). The chartbook also presents information regarding behaviors that influence weight: 1) parent-reported compliance with physical activity recommendations; 2) participation in after school sports activities in the past year; 3) electronic entertainment media use (including non-educational computer use, watching television and videos, or playing video games); 4) perceived safety of the environment, and; 5) how many times in a week the family eats a meal together.

## Definitions

One important aspect of children's health ascertained by the NSCH was child's body mass index (BMI), which was calculated from the parent-reported weight and height for each child ( $\text{weight}(\text{kg})/\text{height}(\text{m})^2$ ). Using the 2000 CDC BMI charts as a reference, children whose gender- and age-specific BMI values were at or above the 95th percentile of the reference population were defined as *obese*. Those children with BMI at or above the 85th percentile of the CDC reference population were classified as being either *overweight or obese*. For simplicity, we used the term *overweight* to represent this group. The NSCH was a telephone survey that relied upon parental reports of each

child's height and weight. Although the NSCH collected data on children from 2 to 17 years old, the information presented in this chartbook is limited to children aged 10 to 17, as parent-reported height and weight are more reliable for this age group than they are for younger children.

In addition to weight and height measures, the NSCH also collected information about weight-related health behaviors. *Physical activity* is inextricably linked with overweight and obesity. Parents were asked to report how many days in the week before the survey their child exercised or participated in physical activity that lasted for at least 20 minutes and caused sweating and hard breathing, such as basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or similar aerobic activities (Item S7Q21). The International Consensus Conference on Physical Activity Guidelines for Adolescents (aged 11 to 21) recommends that children should engage in three or more sessions per week of activities that last for 20 minutes or more at a time and that require moderate to vigorous levels of exertion.<sup>8</sup> Thus, we defined compliance with recommended levels of physical activity as those children reported to be physically active three or more days per week. For more information about the measurements of weight-related health behaviors, please see Technical Notes section.

*Urban/Rural residence* was defined at the county level using Urban Influence Codes (UICs). "Rural" in the aggregate was defined as UIC Codes 3 through 12 ("All rural"). When differentiated by level of rurality, counties were categorized as "micropolitan" rural (UIC Codes 3, 5 and 8), "small rural adjacent to a metro area" (UIC Codes 4, 6 and 7), and "small remote rural" (UIC Codes 9 and 12). If UIC Codes are 1 or 2, then the county was coded as "Urban". Due to sample size limitations, only the national and regional analyses use multiple levels of rurality.

*Race / ethnicity* was defined using the NSCH's definitions, based upon parental report. All children identified as Hispanic are classified as such, regardless of their race. Non-Hispanic whites (hereafter "whites") and non-Hispanic blacks (hereafter "blacks") are presented separately. All other races are collectively classified as "other."

### What is New in This Chartbook?

Recently, the Maternal and Child Health Bureau at Health Resources and Services Administration (HRSA) published four chartbooks using the data from the 2003 National Survey of Children's Health. The present chartbook adds new information in several ways. First, it provides an account of overweight and physical inactivity among children analyzed across rural residence. Second, it provides a state by state portrait for both rural and urban children, wherever the sample size allows. Third, information about a number of weight-related health behaviors is presented both by rural residence and by socio-demographic characteristics. Fourth, this chartbook examines three main outcomes (overweight, obesity, and physical activity) by multiple levels of rurality. This chartbook will offer important information about the needs of children and adolescents living in rural areas.



The knowledge on the weight-related health behaviors will provide us a basis for the design of family-centered preventive services or interventions to prevent obesity among children living in rural areas.

### **How the Chartbook is Organized**

The chartbook is organized into three main sections. The first section analyzes overweight, obesity, physical activity, and the weight-related health behaviors among rural children in the nation as a whole. The next section examines the four regions of the US (Northeast, South, Midwest, and West), using the same factors of interest. Finally, the chartbook presents the proportion of children who are overweight or obese, as well as the weight-related health behaviors, by rural residence. The highlights within each state page discuss those findings that are statistically significant and meaningful for interpretation.

### **About the National Survey of Children's Health**

The NSCH was designed to measure the health and well-being of children from birth to age 17 in the United States while taking into account the environment in which they grow and develop. The survey was supported and developed by the U.S. Department of Health and Human Services, HRSA, Maternal and Child Health Bureau and was conducted by the National Center for Health Statistics at the CDC in 2003. The survey was developed to produce reliable and representative state- and national-level estimates for Healthy People 2010 national prevention objectives, for each state's Title V needs assessment, and for Title V program planning and evaluation.

For more information on the NSCH, please read the methodology report at the NCHS website: <http://www.cdc.gov/nchs/>





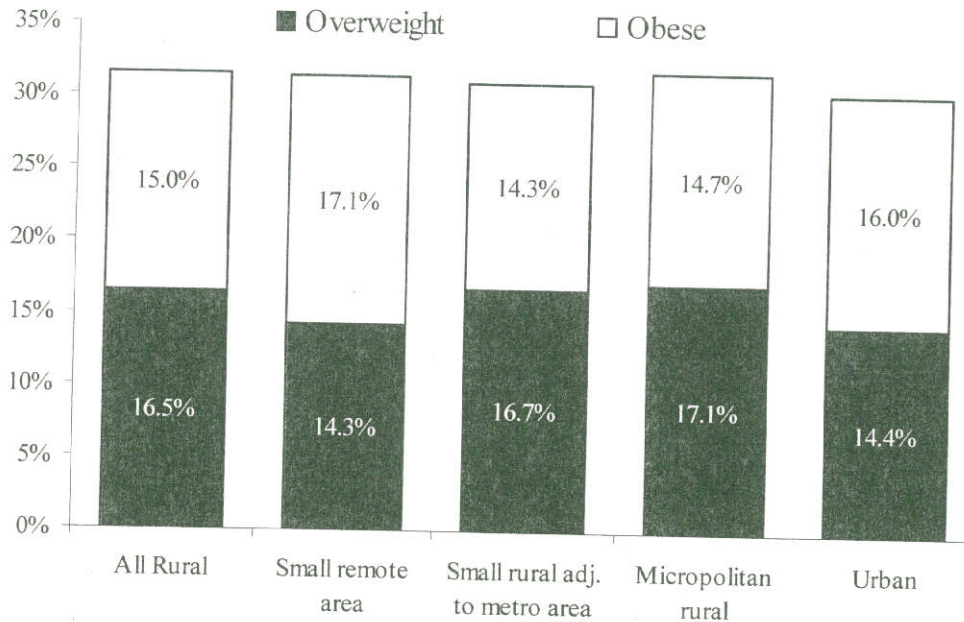
## National Profile



Prevalence of Overweight among Children

Across the US, nearly one in three children aged 10-17 years old were overweight or obese (30.6%); that is, their BMI was at or above the 85th percentile for their age. About a third of rural children (31.5%) and urban children (30.4%) were overweight or obese. The proportion of overweight or obese children did not differ by level of rurality (see **Figure 1**). Black children (41.2%) were more likely to be overweight or obese than Hispanic (38.0%) and white children (26.7%) (See **Table 1**).

Figure 1: Proportion of US Children who are Overweight, by Level of Rurality

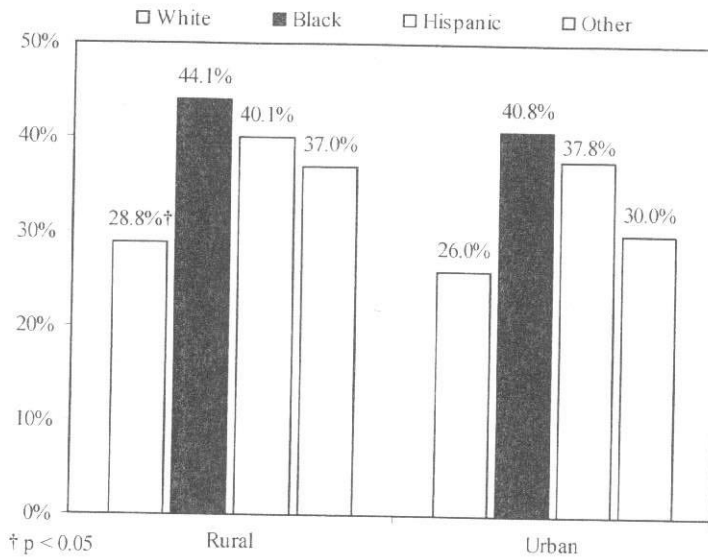


The perceived health status of the child was also related to the risk of being overweight. Children who were in good, fair, or poor health were more likely to be overweight (41.3%) than those who were in excellent or good health (28.3%).

National: Overweight

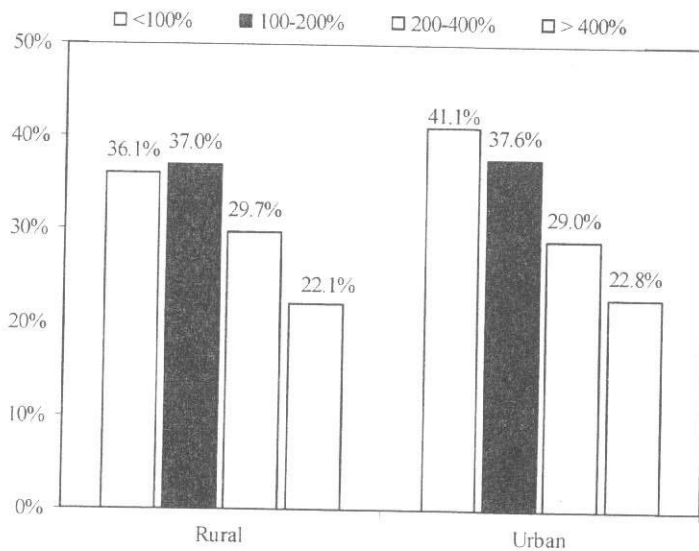
**Figure 2: Proportion of Children who are Overweight, by Race/Ethnicity and Residence**

Both rural and urban minority children were more likely to be overweight, and more rural minority children were overweight than urban minorities. Rural black children were most likely to be overweight (44.1%) than other rural children. Rural white children (28.8%) were more likely to be overweight than urban white children (26.0%)



(See Figure 2).

**Figure 3: Proportion of Children who are Overweight by Poverty Level and Residence**



The proportion of children who were overweight or obese decreased as family income increased, for both rural and urban residents (See Figure 3).

Rural children who were in excellent or very good health were less likely to be overweight than those with a poorer perceived health status (See Table 1).



Table 1: Overweight or Obesity among US Children aged 10-17 by SocioDemographic Characteristics\*

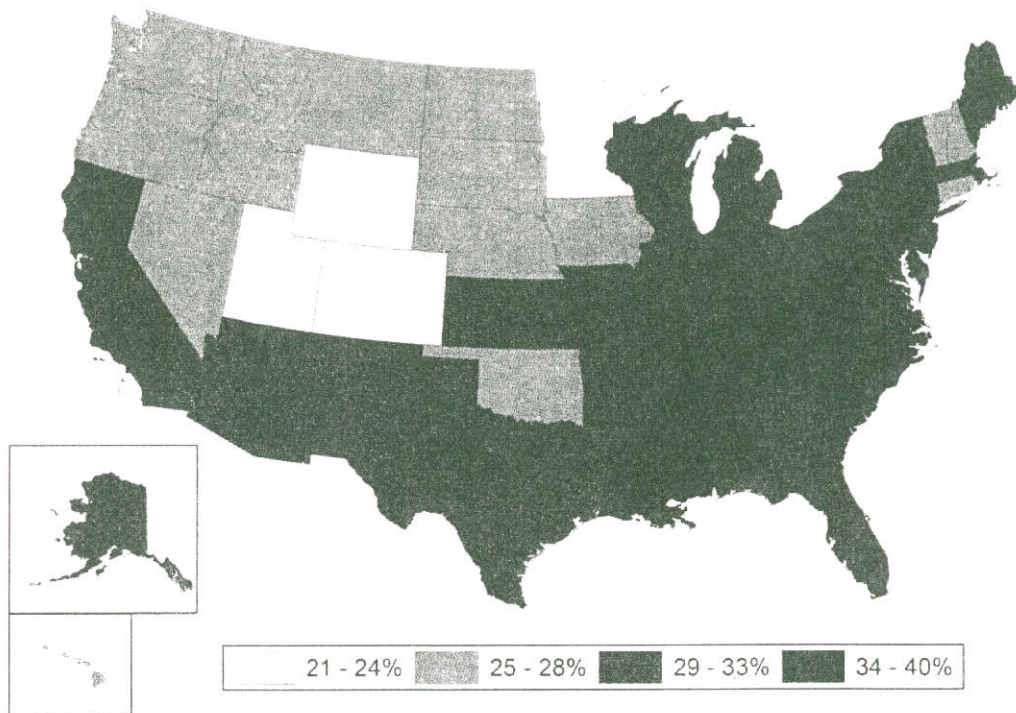
	All	Rural	Urban
<b>Total</b>	30.6	31.5	30.4
<b>Age Groups</b>			
10-14	34.8	35.5	34.6
15-17	23.4	25.0	23.0
<b>Sex</b>			
Male	34.8	36.3	34.5
Female	26.3	26.5	26.2
<b>Race / Ethnicity</b>			
White	26.7	28.8 <sup>†</sup>	26.0
All Minorities	38.0	41.3	37.6
Hispanic	38.0	40.1	37.8
Black	41.2	44.1	40.8
Other	31.1	37.0	30.0
<b>Family Income (% Poverty)</b>			
<100%	39.9	36.1	41.1
100-200%	37.4	37.0	37.6
200-400%	29.1	29.7	29.0
>400%	22.7	22.1	22.8
<b>Perceived Health Status</b>			
Excellent / Very Good	28.3	29.8 <sup>†</sup>	28.0
Good/ Fair/ Poor	43.1	40.9	43.6

<sup>†</sup> Indicates a difference between rural and urban at  $p < 0.05$

\*All within group differences are significant at  $p < 0.05$ ; e.g. rural males (36.3%) have a higher prevalence of overweight than rural females (26.5%)

National: Overweight

Figure 4: Proportion of Children Classified as Overweight, by State



Consistent with previous findings that the South and Southwest tend to have the highest proportion of residents who are overweight, we found:

- The District of Columbia had the highest proportion of overweight children across all states (39.6%), with Kentucky close behind (38.8%).
- A number of other states, including West Virginia, Mississippi, Louisiana, South Carolina, Tennessee, and Delaware had overweight rates of 35% or more.
- 20 states had rates higher than the national average of 30.6%
- The lowest rates were in the western part of the country, with Wyoming, Colorado, and Utah having the lowest overall.

While the proportion of children who were overweight ranged from 21.0% to 39.6%, it is important to note that the lowest rate is still greater than 20%. This indicates that at least one out of every five children is at increased risk for long-term health effects due to being overweight or obese. Nationally, almost one out of every three children is considered overweight and at increased risk for negative long term health effects.



Table 2: State Rankings for the Proportion of Children who are Overweight or Obese

Ranking	State	% Overweight	Ranking	State	% Overweight
U.S. Total		30.6	26	Kansas	29.8
1	Washington DC	39.6	27	Maryland	29.8
2	Kentucky	38.8	28	Pennsylvania	29.5
3	Mississippi	36.8	29	Wisconsin	29.4
4	W. Virginia	36.8	30	Massachusetts	28.9
5	Louisiana	35.9	31	New Mexico	28.9
6	S. Carolina	35.8	32	Michigan	28.8
7	Tennessee	35.7	33	Oklahoma	27.7
8	Delaware	35.5	34	Connecticut	27.6
9	Alabama	34.8	35	N.Hampshire	27.2
10	N. Carolina	34.3	36	Rhode Island	27.2
11	Arkansas	33.1	37	Montana	26.9
12	Indiana	32.9	38	N. Dakota	26.9
13	Texas	32.9	39	Hawaii	26.8
14	Florida	32.1	40	Nebraska	26.6
15	New Jersey	31.6	41	Nevada	26.4
16	New York	31.3	42	Oregon	26.4
17	Missouri	31.0	43	S. Dakota	26.0
18	Alaska	30.8	44	Vermont	25.8
19	Illinois	30.8	45	Iowa	25.6
20	Georgia	30.7	46	Idaho	25.4
21	Ohio	30.5	47	Washington	25.4
22	California	30.3	48	Minnesota	24.0
23	Maine	30.3	49	Wyoming	22.7
24	Virginia	30.2	50	Colorado	21.8
25	Arizona	29.8	51	Utah	21.0

State Rankings: Overweight

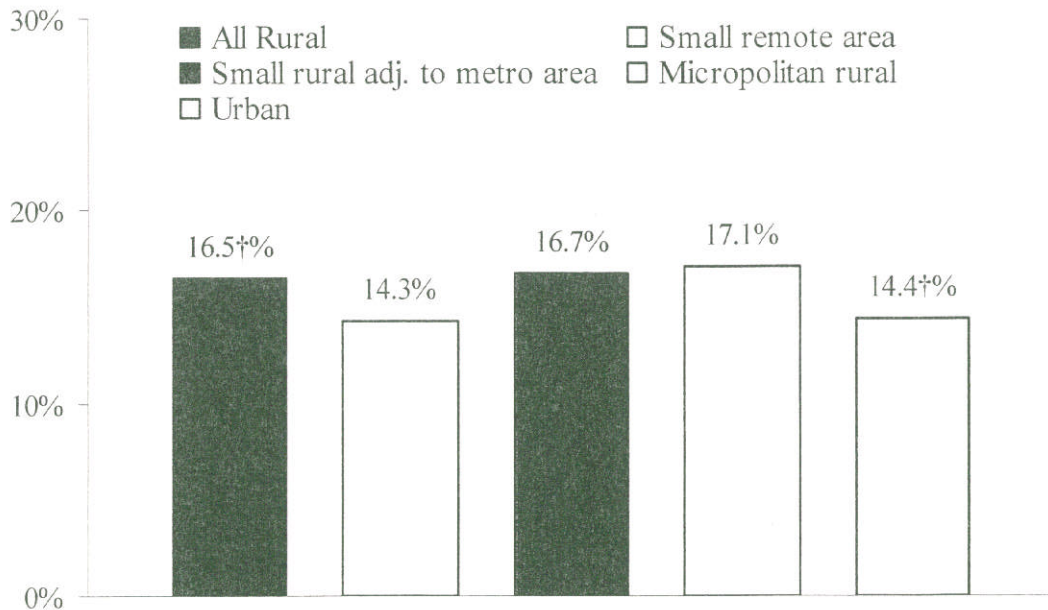
**Prevalence of Obesity among Children**

In 2003, 14.8% of children aged 10-17 years old in the United States were obese; that is, their BMI was at or above the 85th percentile for their age. Rural children (16.5%) were more likely to be obese than urban children (14.4%). Children living in rural counties adjacent to metropolitan or micropolitan counties were more likely to be obese than those living in small remote rural areas (See **Figure 5**).

Younger children (10-14 years old), boys, and children in relatively poor health were more likely to be obese than their counterparts. Compared to white children (12.0%), black children were about twice as likely to be obese (23.6%) and other minority children were also more likely to be obese. Hispanic children (19.0%) also had a high proportion of obesity (See **Table 3**).

National: Obesity

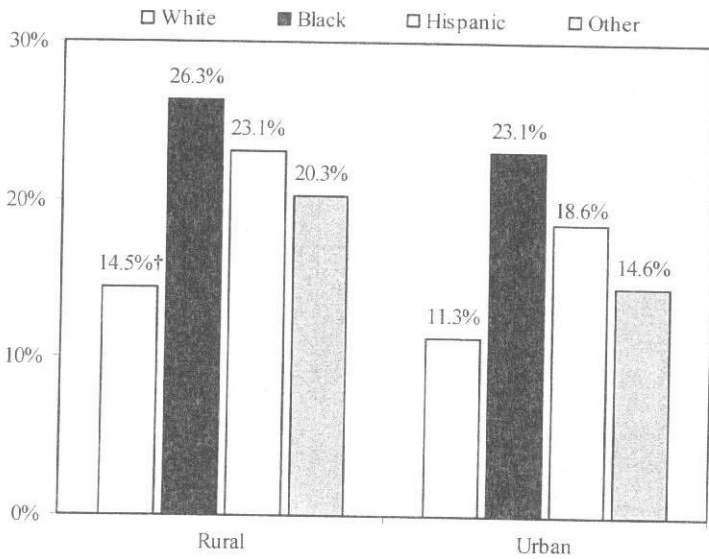
**Figure 5: Proportion of US Children who are Obese, by Level of Rurality**



<sup>†</sup> All Rural different than urban at  $p < 0.05$



**Figure 6: Prevalence of Obesity by Race/Ethnicity and Residence**

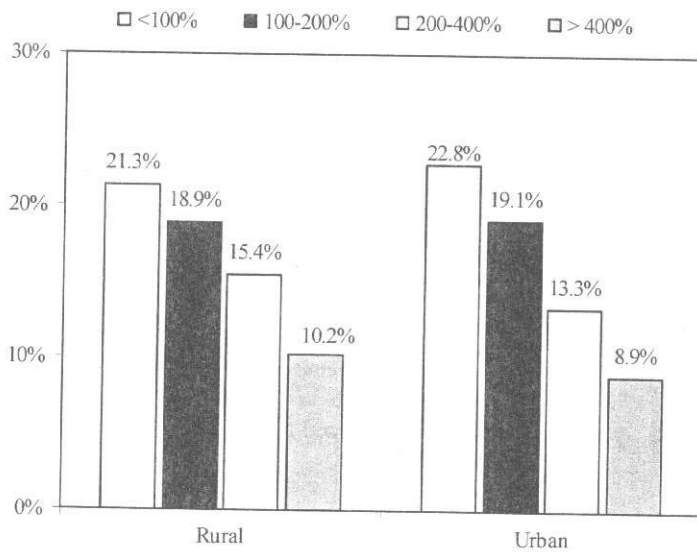


Rural black children were more likely to be obese (23.6%) than rural Hispanic (19.0%) and rural white children (14.5%). Rural white children (14.5%) were more likely to be obese than urban white children (11.3%) (See Figure 6, Table 3).

Overall, children from low income families (below 100% FPL) had an obesity rate that was more than twice that of children from families

at or above 400% FPL (22.4% vs. 9.1%) (See Table 3). Obesity decreased with increasing family incomes among both rural and urban children (see Figure 7). However, only in one income bracket (200-400% FPL) was the proportion of obesity higher among rural children (15.4%) than urban children (13.3%).

**Figure 7: Prevalence of Obesity by Poverty Level and Residence**



For both urban and rural children, obesity increased as perceived health status decreased.

Rural children in excellent or very good health were more likely to be obese than their urban counterparts.

National: Obesity

Table 3: Proportion of Obesity among US Children aged 10-17 by Socio-Demographic Characteristics\*

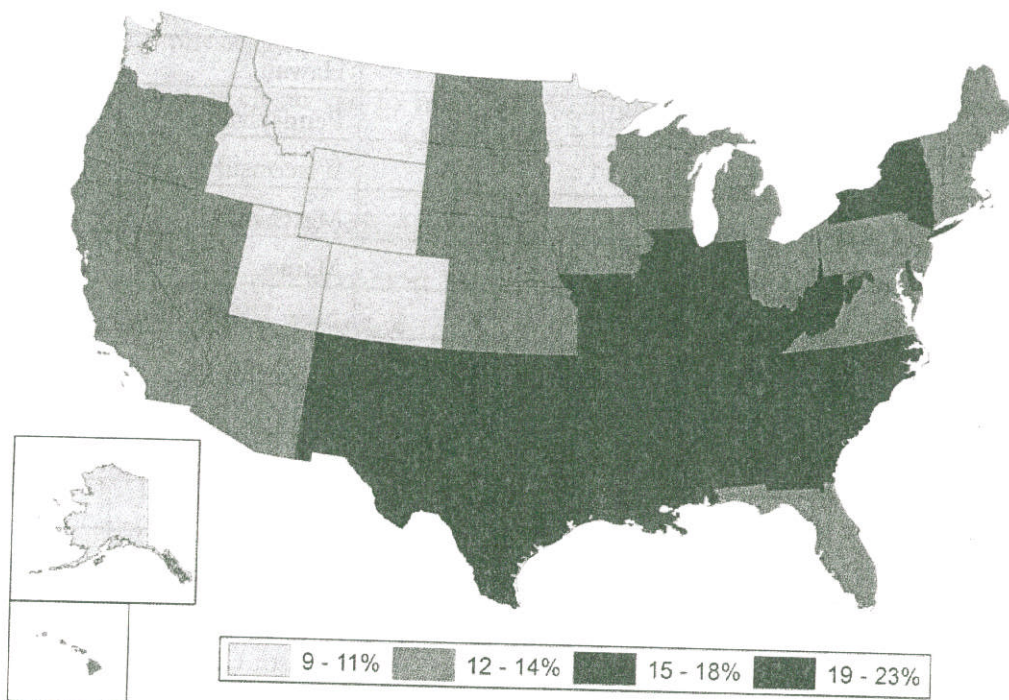
	All	Rural	Urban
<b>Total</b>	14.8	16.5 <sup>†</sup>	14.4
<b>Age Groups</b>			
10-14	17.2	19.2 <sup>†</sup>	16.7
15-17	10.8	12.2 <sup>†</sup>	10.5
<b>Sex</b>			
Male	18.1	20.8 <sup>†</sup>	17.5
Female	11.4	12.1	11.3
<b>Race / Ethnicity</b>			
White	12.0	14.5 <sup>†</sup>	11.3
All Minorities	20.2	23.8	19.7
Hispanic	19.0	23.1	18.6
Black	23.6	26.3	23.1
Other	15.4	20.3	14.6
<b>Family Income (% Poverty)</b>			
<100%	22.4	21.3	22.8
100-200%	19.0	18.9	19.1
200-400%	13.7	15.4 <sup>†</sup>	13.3
>400%	9.1	10.2	8.9
<b>Perceived Health Status</b>			
Excellent/ Very Good	12.6	14.6 <sup>†</sup>	12.2
Good/ Fair/ Poor	26.9	26.9	26.8

<sup>†</sup> Indicates a difference between rural and urban at  $p < 0.05$

\*all within group differences are significant at  $p < 0.05$ ; e.g. rural males (20.8%) have a higher prevalence of obesity than rural females (12.1%)



Figure 8: Proportion of Children Classified as Obese, by State



State Rankings: Obesity

The states with the highest rates of obesity in children were clustered in the South and Southeast, while the West, Midwest, and Northeast had the lowest rates of obesity.

- The District of Columbia had the highest obesity rate (22.9%), with West Virginia (21.0%) close behind.
- The highest rates were clustered in the Southern states, including Kentucky, Tennessee, North Carolina, Texas, South Carolina, Mississippi, and Louisiana.
- 18 states had obesity rates higher than the national average (14.8%).
- The lowest rates were in the western part of the country, with Colorado, Idaho, Utah, and Wyoming having the lowest rates overall.

The proportion of obesity ranged from 8.6% to 22.9%. In 48 states, at least 10% of children are at increased risk for short and long-term health effects due to being obese.

Table 4: State Rankings for the Proportion of Children who are Obese

Ranking	State	% Obesity	Ranking	State	% Obesity
<b>U.S. TOTAL</b>		<b>14.8</b>	26	Kansas	13.5
1	Washington DC	22.9	27	Virginia	13.5
2	West Virginia	21.0	28	California	13.4
3	Kentucky	20.7	29	Hawaii	13.4
4	Tennessee	20.2	30	Pennsylvania	13.4
5	North Carolina	19.4	31	Wisconsin	13.4
6	Texas	19.4	32	Maryland	13.1
7	South Carolina	18.7	33	Maine	12.9
8	Mississippi	17.9	34	New Hampshire	12.9
9	Louisiana	17.5	35	Connecticut	12.6
10	Alabama	16.9	36	Iowa	12.6
11	Arkansas	16.6	37	Nevada	12.5
12	New Mexico	16.6	38	Nebraska	12.1
13	Georgia	15.7	39	South Dakota	12.1
14	Illinois	15.7	40	Arizona	12.0
15	Indiana	15.7	41	North Dakota	12.0
16	New York	15.6	42	Rhode Island	11.9
17	Missouri	15.5	43	Vermont	11.6
18	Oklahoma	14.9	44	Alaska	11.0
19	Delaware	14.8	45	Montana	11.0
20	Michigan	14.4	46	Washington	10.9
21	Ohio	14.1	47	Minnesota	10.1
22	Oregon	14.1	48	Colorado	10.0
23	Florida	13.9	49	Idaho	9.9
24	New Jersey	13.9	50	Utah	8.6
25	Massachusetts	13.7	51	Wyoming	8.6

State Rankings: Obesity



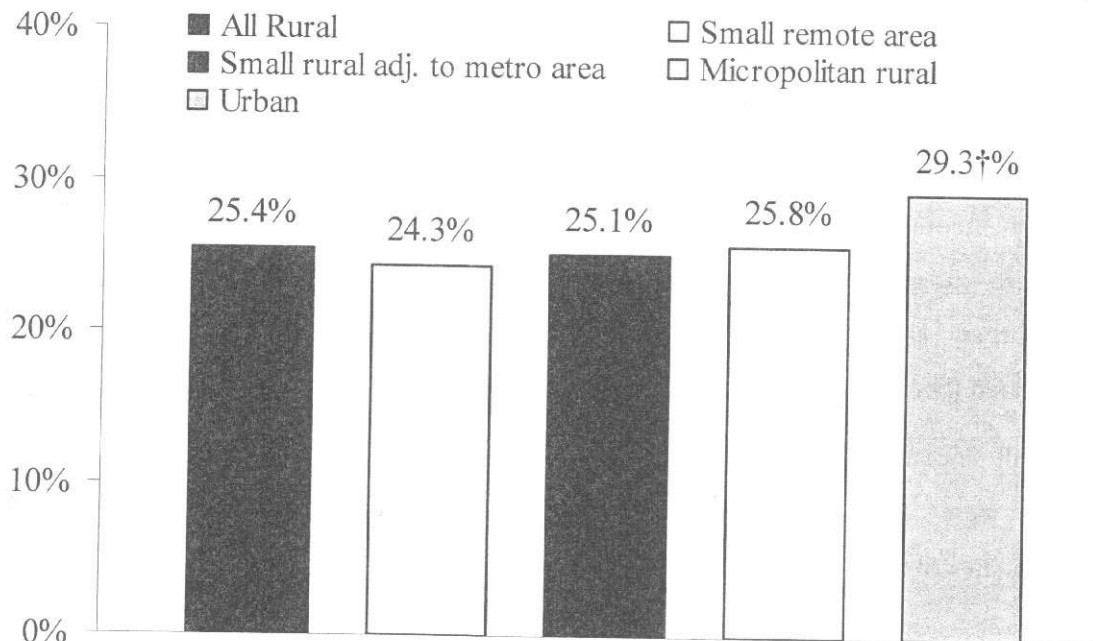


**Prevalence of Physical Activity among Children**

Overall, about one out of three children (28.6%) aged 10-17 years old failed to meet the recommended physical activity levels; that is, did not engage in moderate to vigorous exercises for at least 20 minutes for 3 or more days per week. Rural children (25.4%) were less likely to be physically inactive than urban children (29.3%). Children living in all rural counties were less likely to fail to meet PA recommendations than urban children (See Figure 9).

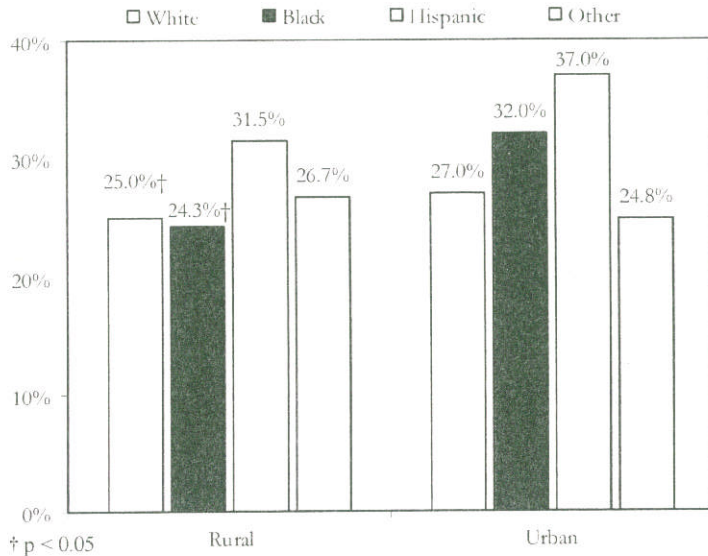
Older children (aged 15-17), girls, Hispanics, blacks, children from low income families, and children in poor health were more likely not to meet physical activity recommendations than their counterparts (See Table 5).

**Figure 9: Proportion of US Children who Failed to Meet Physical Activity Recommendations, by Level of Rurality**



† All Rural different than urban at  $p < 0.05$

**Figure 10: Children who Failed to Meet Physical Activity Recommendations by Race/Ethnicity and Residence**



The proportion of rural children who failed to meet physical activity recommendations did not differ by race. However, among urban children, Hispanic and black children were more likely to be physically inactive than white children. Rural white (25.0%) and black (24.3%) children were less likely to fail to meet

PA recommendations than their urban counterparts (See Figure 10).

Younger children (aged 10-14 years old) were more likely to meet physical activity recommendations than older children (15-17 years old) (See Table 5).

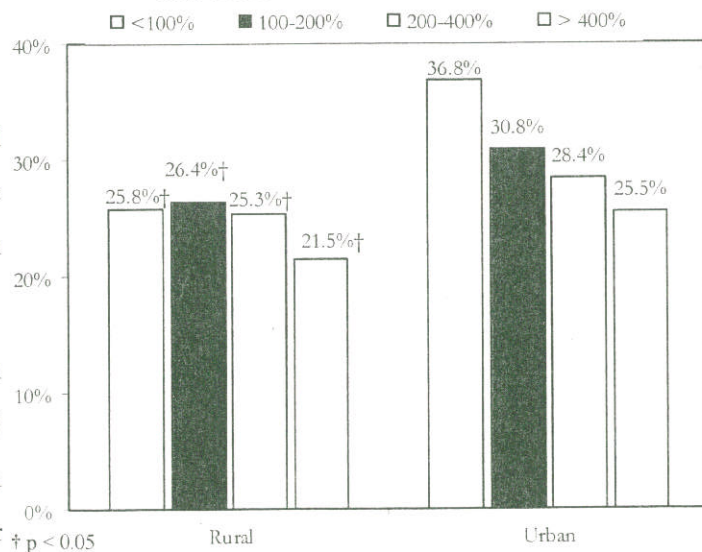
The proportion of children who failed to meet physical activity recommendations decreased as family income increased.

The pattern was more obvious among urban children than rural children (See Figure 11).

Across all income categories, rural children were less likely to be physically inactive than their urban counterparts.

Rural children with a perceived health status of excellent or good (23.2%) were less likely to not meet PA recommendations than those in poor or fair health (36.9%) (See Table 5).

**Figure 11: Children who Failed to Meet Physical Activity Recommendations by Poverty and Residence**



**Table 5: Proportion of US Children aged 10-17 Who Failed to Meet Physical Activity Recommendations by Socio-Demographic Characteristics\***

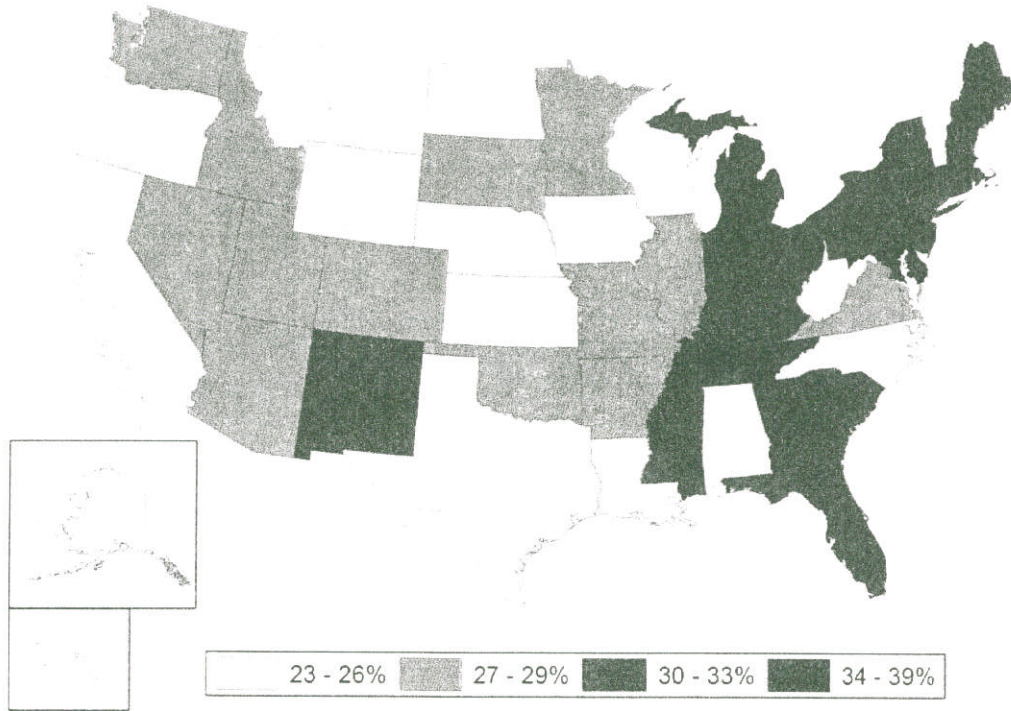
	All	Rural	Urban
<b>Total</b>	28.6	25.4 <sup>†</sup>	29.3
<b>Age Groups</b>			
10-14	24.2	20.5 <sup>†</sup>	25.0
15-17	36.6	33.5 <sup>†</sup>	37.3
<b>Sex</b>			
Male	23.2	21.1 <sup>†</sup>	23.6
Female	34.3	29.8 <sup>†</sup>	35.3
<b>Race / Ethnicity</b>			
White	26.6	25.0 <sup>†</sup>	27.0
All Minorities	32.1	26.7	32.8
Hispanic	36.5	31.5	37.0
Black	31.0	24.3 <sup>†</sup>	32.0
Other	25.1	26.7	24.8
<b>Family Income (% Poverty)</b>			
<100%	34.3	25.8 <sup>†</sup>	36.8
100-200%	29.8	26.4 <sup>†</sup>	30.8
200-400%	27.7	25.3 <sup>†</sup>	28.4
>400%	25.0	21.5 <sup>†</sup>	25.5
<b>Perceived Health Status</b>			
Excellent / Very Good	25.8	23.2	26.4
Good / Fair / Poor	41.9	36.9	42.9
<b>Obesity:</b>			
Obese	32.7	28.9 <sup>†</sup>	33.7
Not Obese	27.3	24.2 <sup>†</sup>	28.0
<b>Overweight:</b>			
Overweight	31.1	27.8 <sup>†</sup>	31.9
Not Overweight	26.7	23.7 <sup>†</sup>	27.4

<sup>†</sup> Indicates a difference between rural and urban at  $p < 0.05$

\*All within group differences are significant at  $p < 0.05$  except Rural Race/Ethnicity ( $p = 0.2376$ ); e.g. rural males (36.3%) have a higher prevalence of overweight than rural females (26.5%)



**Figure 12: Proportion of Children who Failed to meet physical Activity Recommendations, by State**



The distribution of physical activity across states differed from those of overweight and obesity. The highest rates of failure to meet physical activity recommendations were still clustered in the South, but across a broader area. The Northeast states also had high rates of failure to meet physical activity recommendations.

- The highest proportions of physical inactivity were found in Maryland (38.5%) and the District of Columbia (38.3%).
- In 18 states, the proportion of physical inactivity was at or above 30%.
- In 25 states, the proportion of children who were physically inactive was equal to or higher than the national average (28.6%).

Overall, the proportion of children who failed to meet physical activity recommendations ranged from 22.7% to 38.5% in the 50 states.

Table 6: State Rankings for the Proportion of Children who Failed to Meet Physical Activity Recommendations

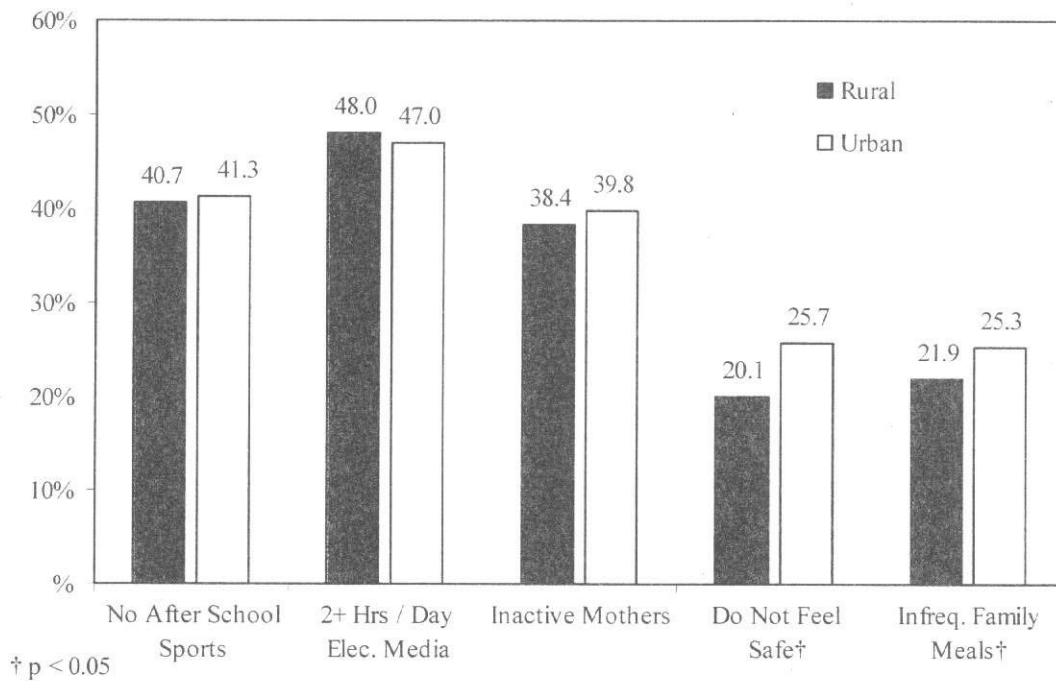
Ranking	State	% Physically Inactive	Ranking	State	% Physically Inactive
U.S. Total		28.6	26	Missouri	27.9
1	Maryland	38.5	27	Arkansas	27.8
2	Washington DC	38.3	28	Virginia	27.7
3	Rhode Island	36.2	29	Arizona	27.7
4	Tennessee	35.2	30	Washington	27.3
5	Delaware	34.5	31	Nevada	27.2
6	Maine	33.1	32	Minnesota	27.2
7	New Jersey	33.0	33	South Dakota	26.9
8	Pennsylvania	32.4	34	Oklahoma	26.6
9	Massachusetts	32.4	35	Vermont	26.4
10	South Carolina	32.1	36	North Carolina	26.0
11	New Hampshire	31.9	37	Texas	25.5
12	Kentucky	31.9	38	Nebraska	25.5
13	New York	31.8	39	Iowa	25.3
14	Connecticut	31.5	40	Wisconsin	25.1
15	Georgia	31.1	41	Louisiana	25.0
16	Florida	31.0	42	North Dakota	24.9
17	Michigan	30.7	43	Hawaii	24.8
18	Mississippi	30.5	44	Alaska	24.6
19	New Mexico	29.8	45	California	24.5
20	Ohio	29.7	46	Montana	23.7
21	Indiana	29.5	47	Wyoming	23.4
22	Colorado	29.3	48	Oregon	23.1
23	Idaho	29.1	49	Kansas	23.1
24	Utah	28.6	50	West Virginia	22.8
25	Illinois	28.6	51	Alabama	22.7

State Rankings: Physical Activity

### Weight-Related Health Behaviors: Overview

Several health behaviors are known to be associated with the development and continuance of overweight and obesity among children. These factors include participation in after school sports activities, use of electronic entertainment media, physical activity level of the mother, perceived safety of the child’s environment, and family eating habits.

Figure 13: Proportion of Weight-Related Health Behaviors by Residence



#### Participation in After School sport teams or lessons

Overall, according to parental reports, 41.2% of children did not participate in any after school sport teams or lessons in the United States in 2003 (40.7% for rural children, 41.3% for urban children). Rural children were not much different from urban children in their participation. Rural white children, however, were less likely not to participate (38.9%) than rural black (50.1%) and Hispanic (48.6%) children, although more likely than urban whites to lack after school sport teams participation (35.6%). Children from higher income families and those who reported higher levels of health were less likely not to participate, among both urban and rural children. Rural children in good, fair, or poor health were less likely to not participate (54.8%) than their urban counterparts (60.5%) (See Table 7).



The proportion of children not participating in any after school sport teams or lessons ranged from 25.9% in Vermont to 54.5% in South Carolina. In three states (South Carolina, Mississippi, and Florida), over 50% of children did not participate in after school sport teams or lessons (See **Table 8**).

### **Electronic Entertainment Media Use**

Nearly one-half of children aged 10-17 years spent at least two hours a day using electronic entertainment media, which includes computer use for non-educational purposes, playing video games, and watching television. Electronic media use was more prevalent among black children (60.5%), obese children (55.2%), and overweight children (53.2%).

Overall, rural children (48.0%) were as likely to spend more than two hours per day using some form of electronic entertainment as urban children (47.0%). Both rural and urban minorities were more likely to spend more than two hours with electronic entertainment media than whites. More than two-thirds of rural black children (63.7%) spent more than two hours per day with electronic entertainment, compared to 45.6 for Hispanic and 45.9% for white children. Rural white children were more likely than urban white children to spend more than two hours. Furthermore, rural children in poorer health (53.3%) were more likely to spend more than two hours than their urban counterparts (47.7%) (See **Table 7**).

The proportion of children spending at least two hours a day on electronic media ranged from 37.8% in Vermont to 57.6% in New Jersey. Seventeen states had over 50% of children who spent at least two hours a day on electronic entertainment. (See **Table 9**).

### **Maternal Physical Activity**

About two out of five mothers reported being physically inactive in the past month (i.e., no moderate to vigorous exercise for 20 minutes or more on a routine basis). Mothers of Hispanic (47.9%) and black (43.9%) rural children were more likely to be inactive than mothers of white children (36.8%). Rural mothers of white children were more likely to be inactive (36.8%) than their urban counterparts (34.7%). The proportion of inactive mothers increased as income decreased, but was lower among rural residents in the lowest incomes (less than 200% poverty) than urban residents (See **Table 7**).

The proportion of mothers who were physically inactive ranged from 30.8% in Vermont to 50.0% in Washington D.C. The top five states with the highest proportion of mothers who

were physically inactive were Washington D.C., New York, California, Mississippi and Rhode Island (See **Table 10**).

### Perceived Safety

The safety of the child's environment was defined as a composite of parental reports of safety at the child's school, their neighborhood, and their home. Overall, one out of four children lived in an environment perceived to be unsafe. Hispanic children (43.6%), black children (43.4%), and children from low income families (46.6%) were more likely to perceive an unsafe environment than their counterparts.

Urban children were more likely to perceive an unsafe environment (25.7%) than rural children (20.1%). Rural black children (38.3%) were more likely to perceive an unsafe environment than rural Hispanic (32.6%) or rural white (16.0%) children. Rural black children (38.3%), however, were less likely to feel unsafe than urban black children (44.2%). The perceptions of feeling safe increased as income and perceived health increased, among both rural and urban children (See **Table 7**).

The proportion of children who lived in perceived unsafe environments ranged from 11.6% in Vermont to 50.0% in Washington D.C. Four states (Washington D.C., California, Mississippi, and New Mexico) had more than 30% of children living in unsafe environments (See **Table 11**).

### Family Eating Patterns

When families infrequently eat meals together as a family, children are at a higher risk for overweight and obesity. One in four children ate with their families on three or fewer days in a week. Black families (30.7%) were more likely to report infrequent family meals than white (24.4%) or Hispanic families (23.4%). Overall, urban children (25.3%) were more likely to have infrequent family meals than rural (21.9%) children. There were no differences by race among rural children in eating habits; urban black (31.4%) and white (25.2%) children, however, were more likely to have infrequent family meals than their rural counterparts (25.9% and 21.5%). As income increased, families were more likely to report eating together. Families with higher incomes were more likely to not eat together three or fewer days per week in both urban and rural children (See **Table 7**).

The proportion of children who did not eat together as a family more than three times per week ranged from 17.3% in Wyoming to 30.5% in Washington D.C. (See **Table 12**).



Table 7: Proportion of Weight-Related Health Behaviors among US Children aged 10-17\*

Race / Ethnicity	No After School Sports		2+ Hrs / Day Elec. Media.		Inactive Mothers		Do Not Feel Safe		Infreq. Family Meals	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Hispanic	48.6	53.0	43.5	45.6	47.9	52.6	32.6†	44.6	21.2	23.5
White	38.9†	35.6	45.9†	43.8	36.8†	34.7	16.0	14.9	21.5†	25.2
Black	50.1	49.3	63.7	60.0	43.9	44.3	38.3†	44.2	25.9†	31.4
Other	39.9	43.6	53.1	48.9	38.8	40.9	25.6	28.1	20.3	17.3
<b>Family Income</b>										
<200% Poverty Level	51.1†	57.1	51.3	50.9	42.2†	48.0	29.2†	42.0	17.2†	21.6
>200% Poverty Level	31.4	31.5	45.3	45.5	33.8	34.2	11.5†	15.3	20.9	24.4
<b>Perceived health status</b>										
Excellent / Very Good	38.0	37.3	47.0	46.9			17.4†	21.2	22.3†	25.1
Good / Fair / Poor	54.8†	60.5	53.3†	47.7			34.0†	46.3	20.1†	26.4

† Indicates a difference between rural and urban at p < 0.05

\*All within group differences are significant at p < 0.05 except Urban Health Status for Electronic Media Use (p = 0.5406), Rural race/ethnicity for Infreq. Family Meals (p=0.2568), and Health Status for Infreq. Family Meals for rural (p=0.1822) and urban (p=0.2985); e.g. rural males (36.8%) less likely not to participate in after school sport teams or lessons than rural females (44.7%).

# National: Health Behaviors



State Rankings: Health Behaviors

Table 8: State Rankings for the Proportion of Children who did Not Participate in After School Sport Teams or Lessons

State		% Not Participating		State	Not Participating
US Total		41.2	26	Oregon	38.5
1	South Carolina	54.5	27	Washington	38.1
2	Mississippi	51.1	28	Ohio	37.5
3	Florida	50.0	29	Utah	37.0
4	Nevada	48.3	30	Idaho	36.4
5	Alabama	48.0	31	Rhode Island	36.3
6	Kentucky	46.9	32	Illinois	36.2
7	North Carolina	46.1	33	Indiana	36.0
8	Georgia	45.9	34	Wisconsin	36.0
9	Arizona	45.7	35	Kansas	35.8
10	Tennessee	45.4	36	New Jersey	35.4
11	California	45.2	37	Michigan	34.9
12	New Mexico	44.9	38	Hawaii	34.5
13	New York	44.6	39	Colorado	33.6
14	West Virginia	44.3	40	New Hampshire	33.0
15	Louisiana	44.2	41	Minnesota	32.5
16	Texas	43.7	42	Montana	32.3
17	Washington DC	42.7	43	Connecticut	31.3
18	Delaware	42.0	44	Maine	30.7
19	Arkansas	41.0	45	Wyoming	30.5
20	Missouri	39.9	46	Massachusetts	30.4
21	Oklahoma	39.9	47	Nebraska	29.8
22	Maryland	39.7	48	Iowa	29.2
23	Pennsylvania	39.3	49	North Dakota	28.6
24	Virginia	39.1	50	South Dakota	28.5
25	Alaska	38.5	51	Vermont	25.9



**Table 9: State Rankings for the Proportion of Children who Used Electronic Entertainment Media More than Two Hours per Day**

State		% of > 2 hrs / day media use		State	% of > 2 hrs / day media use
US Total		47.2	26	Tennessee	47.6
1	New Jersey	57.6	27	Rhode Island	46.6
2	Washington DC	56.2	28	Florida	46.4
3	Louisiana	56.2	29	Wisconsin	45.5
4	Mississippi	55.8	30	Connecticut	45.1
5	Maryland	52.7	31	New Mexico	44.5
6	Arkansas	52.5	32	North Dakota	44.2
7	Missouri	52.2	33	Iowa	43.9
8	Alabama	51.4	34	Alaska	43.8
9	Oklahoma	51.1	35	Nebraska	43.6
10	West Virginia	51.1	36	South Dakota	43.6
11	Delaware	50.8	37	Georgia	43.5
12	Illinois	50.8	38	California	43.4
13	Nevada	50.7	39	New Hampshire	42.8
14	Pennsylvania	50.7	40	Utah	42.8
15	Ohio	50.6	41	Washington	42.7
16	South Carolina	50.0	42	Texas	42.6
17	Arizona	49.7	43	Kansas	42.2
18	Kentucky	49.6	44	Oregon	42.1
19	Michigan	49.2	45	Maine	42.0
20	Virginia	49.1	46	Idaho	41.2
21	New York	48.6	47	Wyoming	41.2
22	Hawaii	48.3	48	Montana	40.4
23	North Carolina	48.2	49	Minnesota	40.2
24	Massachusetts	47.8	50	Colorado	38.4
25	Indiana	47.7	51	Vermont	37.8

State Rankings: Health Behaviors



**Table 10: State Rankings for the Proportion of Children whose Mothers were not Physically Active**

State		% Inactive Mothers		State	% Inactive Mothers
<b>US Total</b>		<b>39.5</b>	26	South Carolina	37.8
1	Washington DC	50.0	27	Nevada	37.7
2	New York	45.6	28	New Mexico	37.6
3	California	44.8	29	Wyoming	37.6
4	Mississippi	43.1	30	Alaska	37.5
5	Rhode Island	42.5	31	Arizona	37.5
6	Tennessee	41.6	32	Ohio	37.4
7	Kansas	41.3	33	Kentucky	37.1
8	Illinois	41.2	34	Indiana	37.0
9	Delaware	41.0	35	Connecticut	36.7
10	New Jersey	40.9	36	Maine	36.1
11	Arkansas	40.7	37	Minnesota	36.1
12	Texas	40.6	38	Wisconsin	36.1
13	Oklahoma	40.4	39	North Dakota	35.9
14	Alabama	40.2	40	Missouri	35.7
15	North Carolina	40.1	41	Maryland	35.4
16	Pennsylvania	39.6	42	Montana	34.8
17	West Virginia	39.1	43	Washington	34.4
18	Virginia	39.0	44	Hawaii	34.2
19	Nebraska	38.8	45	Colorado	33.1
20	Louisiana	38.7	46	Iowa	31.9
21	Michigan	38.7	47	New Hampshire	31.8
22	Georgia	38.6	48	Idaho	31.7
23	South Dakota	38.6	49	Utah	31.7
24	Florida	37.8	50	Oregon	31.5
25	Massachusetts	37.8	51	Vermont	30.8



**Table 11: State Rankings for the Proportion of Children who Lived in Unsafe Environments**

State		% Do Not Feel Safe		State	% Do Not Feel Safe
US Total		24.6	26	New Jersey	21.2
1	Washington DC	50.0	27	Kentucky	20.8
2	California	33.2	28	West Virginia	20.8
3	Mississippi	32.2	29	Indiana	20.3
4	New Mexico	31.9	30	Massachusetts	20.2
5	Hawaii	29.6	31	Missouri	20.2
6	Arizona	29.3	32	Washington	20.2
7	South Carolina	29.0	33	Connecticut	18.5
8	New York	28.6	34	Alaska	17.9
9	Nevada	28.2	35	Colorado	17.9
10	Alabama	27.8	36	Ohio	17.5
11	Texas	27.8	37	Oregon	17.3
12	Illinois	27.1	38	Wisconsin	16.6
13	Florida	26.7	39	Minnesota	16.4
14	Louisiana	26.6	40	Idaho	15.8
15	Delaware	26.5	41	Montana	15.6
16	North Carolina	26.5	42	New Hampshire	15.4
17	Rhode Island	26.4	43	Kansas	15.0
18	Maryland	25.2	44	Nebraska	14.4
19	Georgia	25.0	45	Maine	13.6
20	Arkansas	23.9	46	Wyoming	13.5
21	Virginia	23.6	47	South Dakota	13.3
22	Tennessee	23.2	48	Iowa	12.8
23	Michigan	23.1	49	Utah	12.8
24	Oklahoma	22.3	50	North Dakota	11.8
25	Pennsylvania	21.6	51	Vermont	11.6

State Rankings: Health Behaviors

**Table 12: State Rankings for the Proportion of Children who did not Eat Three or More Meals Together as a Family per Week**

State		% Infreq. Family Meals		State	% Infreq. Family Meals
US Total		24.7	26	Rhode Island	23.7
1	Illinois	30.5	27	New Hampshire	23.6
2	Washington DC	29.8	28	Mississippi	23.5
3	Indiana	29.6	29	North Dakota	23.3
4	Virginia	29.5	30	Texas	23.3
5	Wisconsin	29.1	31	Kansas	23.0
6	Michigan	27.8	32	Massachusetts	22.8
7	Ohio	27.8	33	Maine	22.7
8	Missouri	27.7	34	North Carolina	22.7
9	Maryland	27.3	35	California	22.6
10	Connecticut	26.6	36	Oregon	22.4
11	Iowa	26.6	37	Arizona	22.2
12	Nebraska	26.4	38	South Dakota	21.9
13	Pennsylvania	26.4	39	Arkansas	21.7
14	Georgia	26.1	40	Utah	21.5
15	Delaware	26.0	41	Alabama	21.3
16	New Jersey	25.8	42	Washington	20.9
17	Nevada	25.5	43	Colorado	20.4
18	Louisiana	25.4	44	Alaska	20.2
19	New York	24.8	45	Hawaii	19.9
20	Florida	24.4	46	Vermont	19.8
21	South Carolina	24.4	47	Idaho	18.6
22	Tennessee	24.3	48	Montana	18.4
23	Kentucky	24.2	49	New Mexico	18.3
24	Minnesota	24.2	50	West Virginia	17.4
25	Oklahoma	23.8	51	Wyoming	17.3

## Regional Profile



**Overweight by Region**

Children living in the South had the highest likelihood of being overweight or obese (33.1%), while children living in the West had the lowest (28.1%). Children living in the rural South had the highest likelihood of being overweight or obese (34.5%), followed by urban Southern children (32.7%) (See **Table 13**). In fact, children living in small remote rural areas in the South had the highest proportion of being overweight or obese (37.8%) (See **Figure 19**).

**Table 13: Proportion of Overweight, Obesity, and Physical Inactivity among US Children aged 10-17, by Region and Rural Residence**

	Northeast	Midwest	South	West
<b>All</b>				
Overweight/Obese	30.2	29.5	33.1	28.1
Obese	14.2	14.2	17.1	12.5
Physical Inactive	32.2	28.2	28.9	25.8
<b>Rural</b>				
Overweight/Obese	30.1	30.1	34.5	27.1
Obese	15.5	14.7	19.5	13.1
Physical Inactive	23.7	26.1	26.0	23.5
<b>Urban</b>				
Overweight/Obese	30.2	29.3	32.7	28.2
Obese	14.0	14.0	16.4	12.4
Physical Inactive	33.4	29.0	29.7	26.1

**Obesity by Region**

Children living in the South had the highest likelihood of being obese (17.1%), while children living in the West had the lowest (12.5%). The South led the nation in both rural and urban obesity rates; rural children living in the South had the highest level of being obese (19.5%), while children living in the urban areas and in the West had the lowest level of being obese (12.4%) (See **Table 13**).

In the Northeast, Midwest, and South, children living in small remote counties were less likely to be obese than children living in micropolitan counties or in small rural counties adjacent to a metropolitan area. However, this pattern was not seen in West, where children living in micropolitan and small remote counties had a slightly higher proportion of being obese (See **Figure 20**).

Figure 14: Proportion of Children Who are Overweight, by Region and Level of Rurality

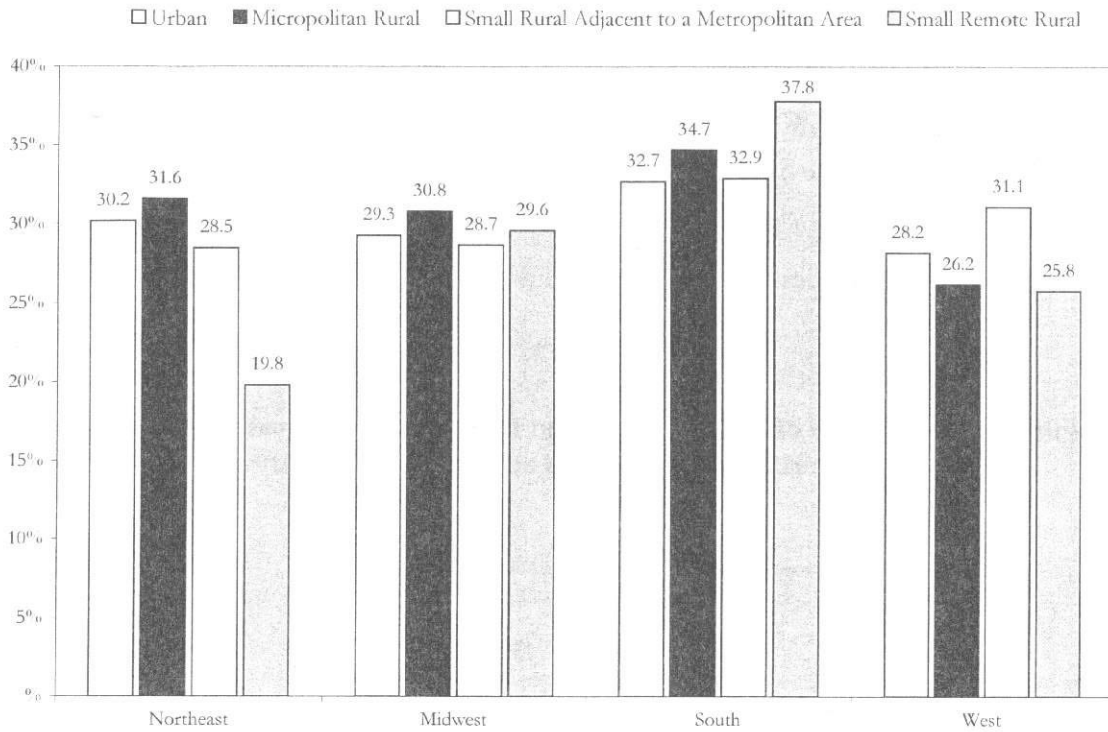
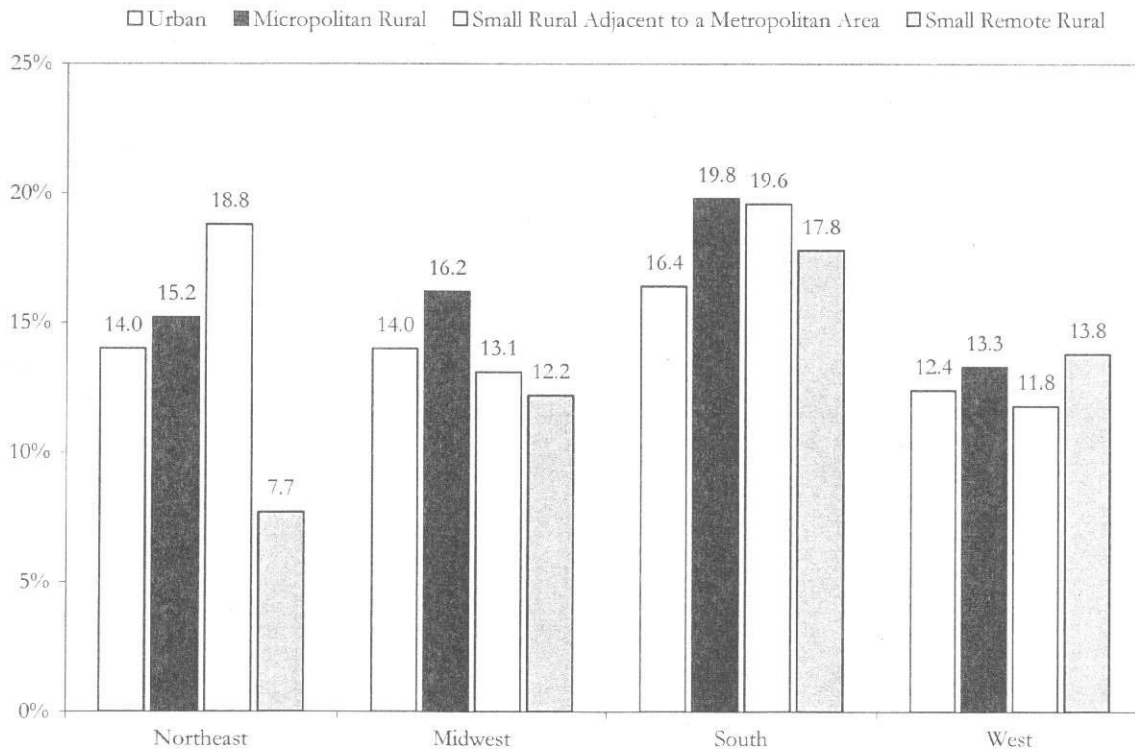


Figure 15: Proportion of US Children Who are Obese, by Region and Level of Rurality



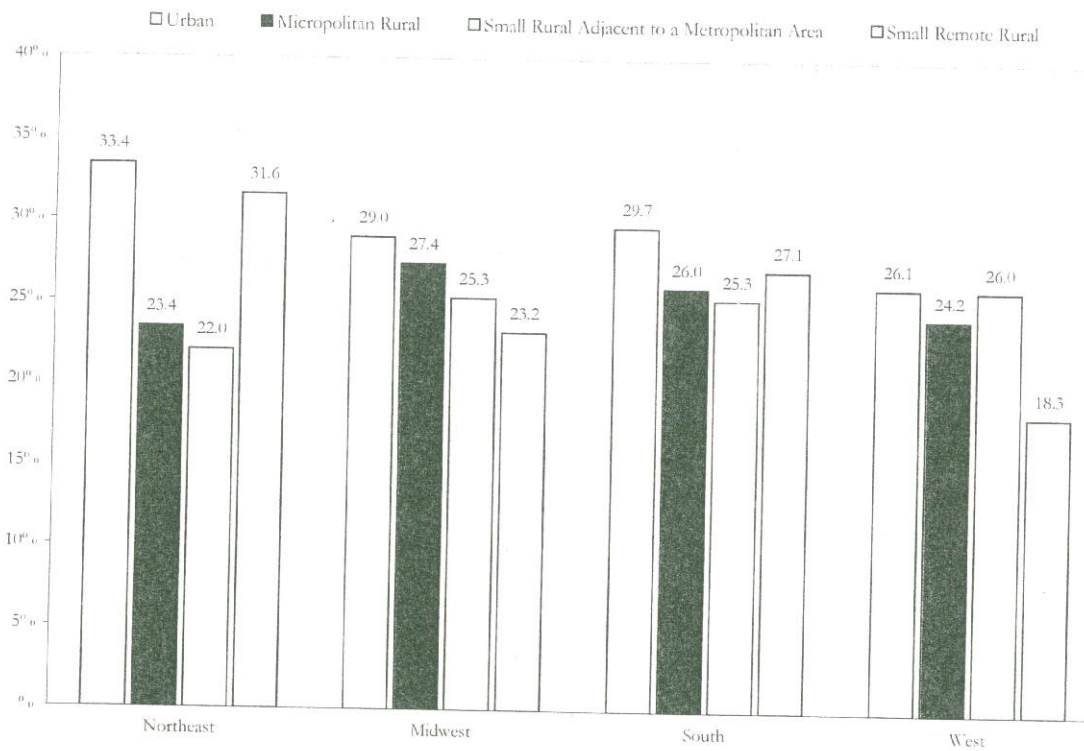
Regional: Overweight and Obesity



**Physical Activity by Region**

Overall, children living in the Northeast were the most likely to be physically inactive (32.2%), followed by the South (28.9%), the Midwest (28.2%) and the West (25.8%). In general, the proportion of children who failed to meet physical activity recommendations was lower in rural counties than in urban counties (See Figure 21, Table 13).

**Figure 16: Proportion of US Children Who Did Not Meet Physical Activity Recommendations, by Region and Level of Rurality**



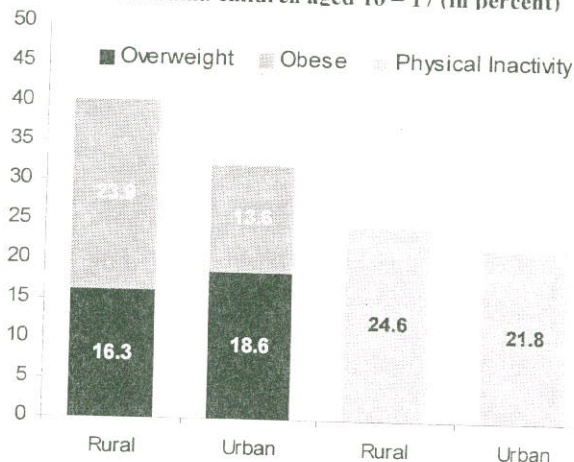


## State Profiles

Alabama

Two out of five rural children in Alabama aged 10-17 years old were overweight or obese (40.2%), as were 32.2% of urban children. The obesity rate (body mass index exceeding the 95<sup>th</sup> percentile for the age and gender) was higher among rural children (23.9%) than urban children (13.6%). Physical inactivity was common: about a quarter of rural children (24.6%) and one-fifth of urban children (21.8%) failed to meet recommended levels for physical activity.

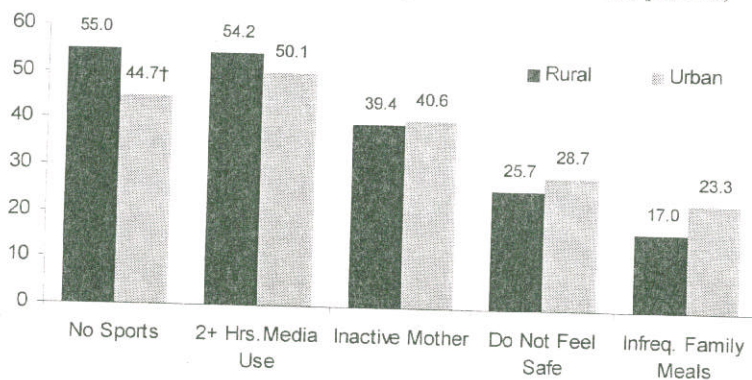
Overweight, obesity and physical inactivity among Alabama children aged 10 – 17 (in percent)



Highlights

- More than half of all black rural children in Alabama were overweight or obese (50.5%), as were 34.8% of white children.
- Nearly one-half of rural children (44.7%) in families with lower incomes (<200% FPL) were overweight or obese.

Weight-Related Behaviors Among Alabama Families (in percent)



- Rural children were more likely not to participate in after school sports activities than their urban counterparts (55.0% versus 44.7%); this difference persisted among overweight or obese rural children as well (63.7% vs. 49.6%)
- More than one-fourth of rural children (25.7%) did not feel safe in their environment.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	40.2	32.2	24.6	21.8
Race/ethnicity				
White	34.8	28.1	23.2	20.3
Black	50.5	38.7	25.8*	23.7
Others	47.6*	34.0*	39.1*	22.5*
Age (years)				
10-14	45.9	35.4	17.4	17.0
15-17	30.4	25.8	37.8	31.8
Sex				
Male	48.1	35.5†	18.6*	17.8
Female	32.7	28.5	30.5	26.4
Family Income				
<200% FPL	44.7	39.9	30.8	26.1
≥ 200% FPL	31.9	25.9	17.6	17.7
Child's health status				
Excellent/Very Good Health	37.4	30.6	22.6	20.6
Good/Fair/Poor Health	50.7	39.8	32.5*	27.2

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

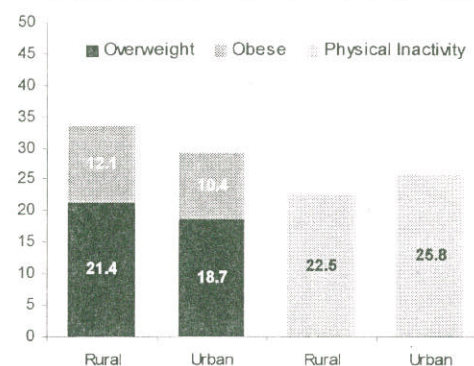
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 1,079 Alabama children.



### Alaska

About a third of rural Alaskan children aged 10-17 years old were overweight or obese (33.5%), as were 29.1% of urban children. Obesity, that is, body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 12.1% of rural and 10.4% of urban Alaskan children. Physical inactivity was common: more than one-fifth of rural children (22.5%) and more than one-quarter of urban children (25.8%) failed to meet recommended levels for physical activity.

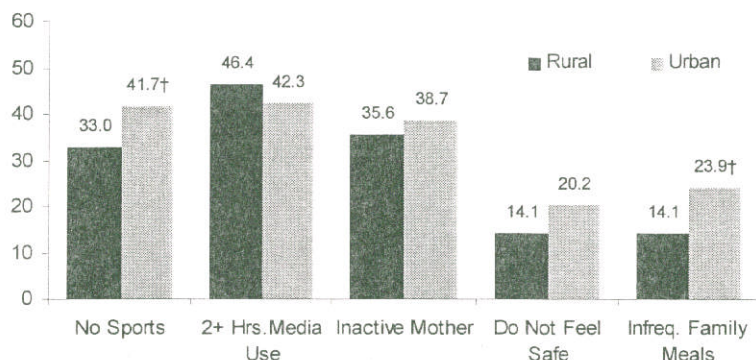
Overweight, obesity and physical inactivity among Alaskan children aged 10 – 17 (in percent)



### Highlights

- Slightly more than two of every five Native Alaskan rural children were overweight or obese. (42.9%).
- More than one-third of rural children (36.7%) in low income families (<200% FPL) were overweight or obese.

Weight-Related Behaviors Among Alaskan Families (in percent)



- Rural Alaskan children were less likely not to participate in after school sports activities than their urban counterparts (33.0% versus 41.7%).
- On the positive side, rural Alaskan children were less likely than urban children to have three or fewer family meals per week (14.1% versus 23.9%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	33.5	29.1	22.5	25.8
Race/ethnicity				
White	29.0	30.4	22.0	24.4
American Indian/Alaska Native	42.9	25.3*	23.1*	38.6*
Others	29.7*	25.7*	21.4*	25.7*
Age (years)				
10-14	40.7	33.7	21.4	21.6
15-17	22.9	21.1	24.2	33.4
Sex				
Male	34.2	28.9	24.5	22.2
Female	32.9	29.3	20.4	29.3
Family Income				
<200% FPL	36.7	35.6	24.3*	24.8
≥ 200% FPL	29.6	24.6	21.7	26.7
Child's health status				
Excellent/Very Good Health	31.8	27.5	19.7	22.6
Good/Fair/Poor Health	42.3*	44.5*	35.0*	55.0

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 945 Alaska children.

State Profiles: Alaska



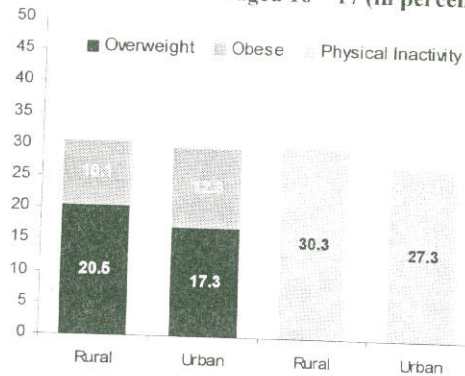
Arizona

Nearly one out of three rural children in Arizona aged 10-17 years old were overweight or obese (30.6%), as were 29.6% of urban children. Obesity, a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 10.1% of rural and 12.3% of urban children. Physical inactivity was common: about one out of three rural children (30.3%) and one-fourth (27.3%) of urban children failed to meet recommended levels for physical activity.

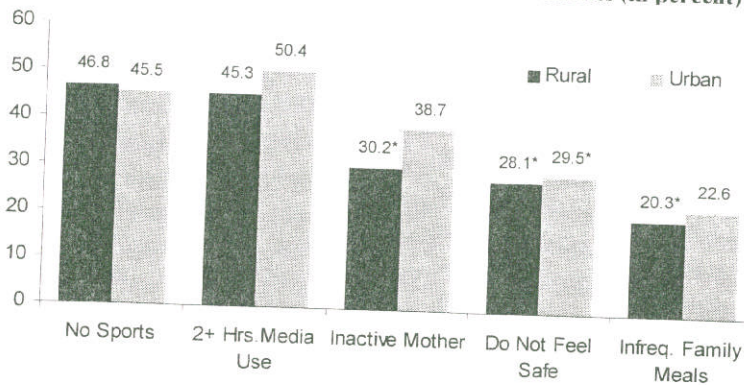
Highlights

- More than one-third of rural Hispanic children (35.5%) in Arizona were overweight or obese.

Overweight, obesity and physical inactivity among Arizona children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Arizona Families (in percent)



- Nearly 50% of all rural children in Arizona did not participate in after school sports (46.8%).
- Rural children (16.0%) from low income families (<200% FPL) were less likely to fail to meet PA recommendations than their urban counterparts (33.5%).
- Nearly one-third of rural children had physically inactive mothers (30.2%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	30.6*	29.6	30.3	27.3
Race/ethnicity				
White	25.0*	23.1	26.9*	27.5
Non-White	35.5*	38.3	32.8*	27.0
Age (years)				
10-14	29.1*	35.5	27.7*	22.1
15-17	32.2*	18.9	33.3*	37.7
Sex				
Male	31.0*	35.7	14.1*	23.9
Female	30.3*	23.3	45.1*	30.9
Family Income				
<200% FPL	33.6*	40.1	16.0*	33.5†
≥ 200% FPL	32.4*	22.5	34.7*	21.8
Child's health status				
Excellent/Very Good Health	27.6*	25.9	32.3*	24.4
Good/Fair/Poor Health	42.5*	45.9	21.7*	37.6

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

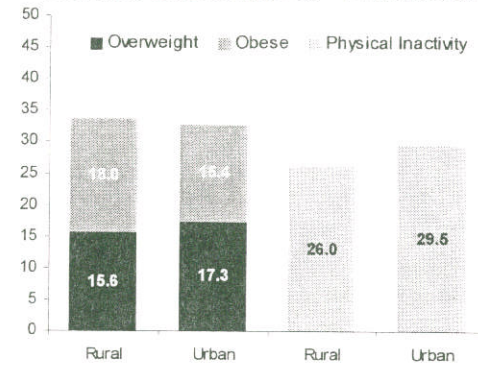
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 811 Arizona children.



**Arkansas**

More than a third of rural children in Arkansas aged 10-17 years old were overweight or obese (33.6%), compared to 32.7% of urban children. Obesity, a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 18.0% of rural and 15.4% of urban children. Physical inactivity (not meeting recommended levels for physical activity) was reported in more than a quarter of rural children (26.0%) and urban children (29.5%).

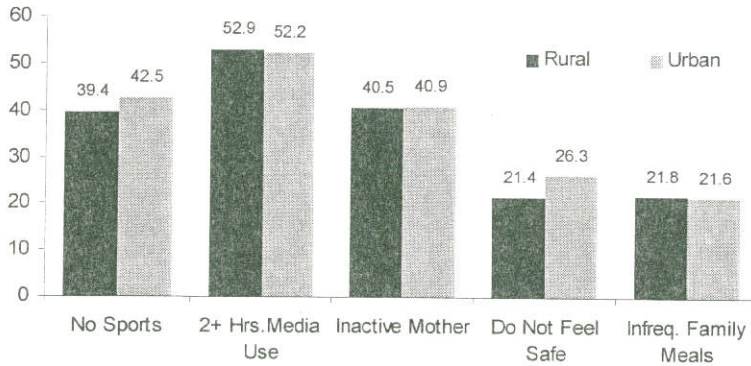
**Overweight, obesity and physical inactivity among Arkansas children aged 10 – 17 (in percent)**



**Highlights**

- Nearly one-half of all minority children in Arkansas (46.5%) were overweight or obese.

**Weight-Related Behaviors Among Arkansas Families (in percent)**



- More than one-third of rural children (35.4%) in low income families (<200% FPL) were overweight or obese.
- More than one-half of rural children who were overweight or obese (52.9%) spent more than two hours per day using electronic entertainment media.
- More than two out of five rural children had physically inactive mothers (40.5%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	33.6	32.7	26.0	29.5
Race/ethnicity				
White	28.4	31.3	27.9	31.0
Non-White	46.5	36.2	21.9*	26.0*
Age (years)				
10-14	37.5	36.4	23.2	23.1
15-17	25.6	26.9	31.8	40.1
Sex				
Male	37.6	37.2	17.3	24.2
Female	29.5	28.4	34.4	34.5
Family Income				
<200% FPL	35.4	41.1	26.9	32.7
≥ 200% FPL	30.8	28.0	24.0	27.2
Child's health status				
Excellent/Very Good Health	29.7	30.6	25.0	28.2
Good/Fair/Poor Health	48.9	44.5*	29.7*	35.0*

\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 877 Arkansas children.

State Profiles: Arkansas

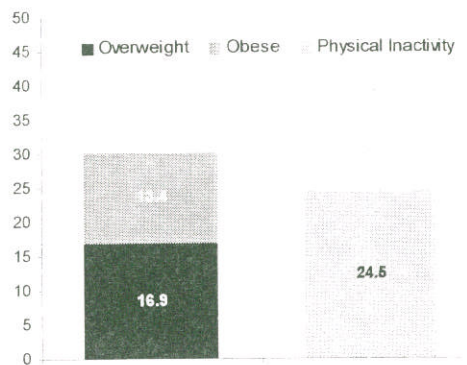


California

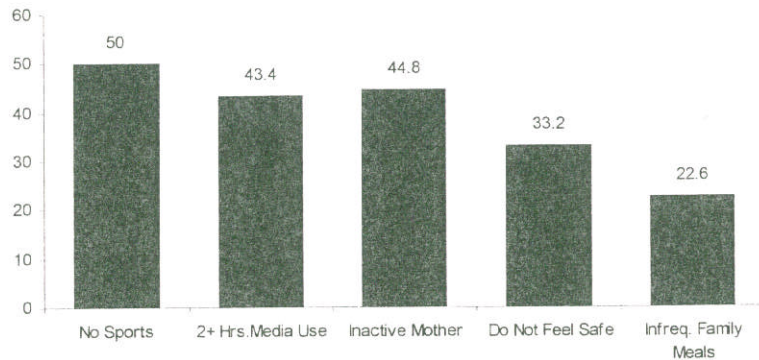
Of the 964 Californian children surveyed by the NCHS, only 2% lived in rural counties; therefore, separate estimates could not be developed at the rural level. The data presented below are for the entire survey population.

About one out of three Californian children aged 10-17 years old were overweight or obese (30.3%). Obesity, a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 13.4% of children. Physical inactivity (failure to meet recommended levels for physical activity) was reported in about a quarter of children (24.5%)

Overweight, obesity and physical inactivity among California children aged 10 – 17 (in percent)



Weight-Related Behaviors Among California Families (in percent)



Highlights

- One-half of the children in California (50.0%) did not participate in after-school sports.
- Nearly one-half of children had physically inactive mothers (44.8%).
- One-third of rural children (33.2%) lived in an environment parents perceived as unsafe.

	Overweight or Obese	Physically Inactive
	All	All
<b>Overall</b>	30.3	24.5
<b>Race/ethnicity</b>		
White	26.2	18.5
Non-White	33.6	28.5
<b>Age (years)</b>		
10-14	35.7	19.5
15-17	20.8	33.8
<b>Sex</b>		
Male	32.2	20.6
Female	28.3	28.7
<b>Family Income</b>		
<200% FPL	37.5	26.4
≥ 200% FPL	26.6	23.3
<b>Child's health status</b>		
Excellent/Very Good Health	28.0	18.2
Good/Fair/Poor Health	40.1	45.9

\* Sample size is less than 30

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 964 California children.



**Colorado**

Fewer than one out of three rural children in Colorado aged 10-17 years old were overweight or obese (28.8%), as were 20.5% of urban children. Obesity, a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 17.1% of rural and 8.6% of urban children. Physical inactivity was common: about one out of five rural children (19.9%) and 31.1% of urban children failed to meet recommended levels for physical activity.

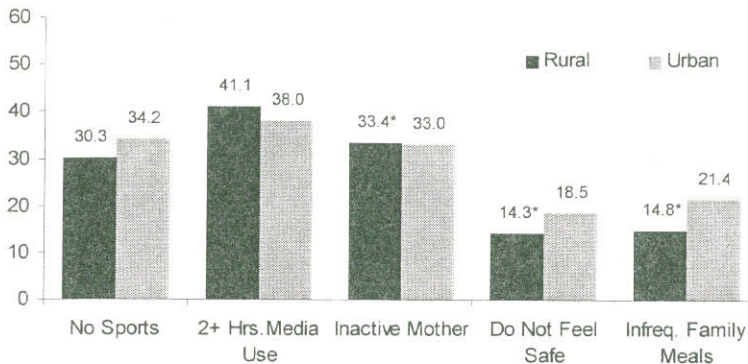
**Overweight, obesity and physical inactivity among Colorado children aged 10 – 17 (in percent)**



**Highlights**

- Nearly one-third of Minority rural children in Colorado were overweight or obese (32.8%)

**Weight-Related Behaviors Among Colorado Families (in percent)**



- Nearly one-half of rural children (49.2%) in low income families (<200% FPL) were overweight or obese.
- Nearly one out of three rural children (30.9%) did not participate in after school sports.
- Healthier rural children (17.2%) were less likely to fail to meet PA recommendations than their urban counterparts (29.3%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	28.8*	20.5	19.9*	31.1†
Race/ethnicity				
White	27.2*	16.5	17.3*	28.5†
Non-White	32.8*	31.5	26.5*	37.0
Age (years)				
10-14	32.9*	21.2	16.7*	27.0
15-17	22.5*	19.2	24.6*	39.1
Sex				
Male	32.1*	26.3	17.2*	28.1
Female	24.6*	14.8	23.3*	34.0
Family Income				
<200% FPL	49.2*	25.1†	19.1*	35.6
≥ 200% FPL	14.7*	18.9	18.2*	28.1
Child's health status				
Excellent/Very Good Health	28.8*	20.3	17.2*	29.3†
Good/Fair/Poor Health	28.7*	22.4*	n/a	43.5

\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 814 Colorado children.  
 Cells marked "n/a" have too few observations to display an estimate

State Profiles: Colorado

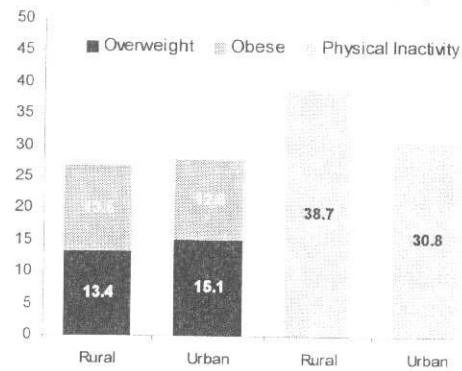
Connecticut

More than one-fourth of rural children in Connecticut aged 10-17 years old were overweight or obese (26.9%), as were 27.7% of urban children. Obesity, that is, body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 13.5% of rural and 12.6% of urban children. Physical inactivity was common: nearly two out of five rural children (38.7%) and 30.8% of urban children failed to meet recommended levels for physical activity.

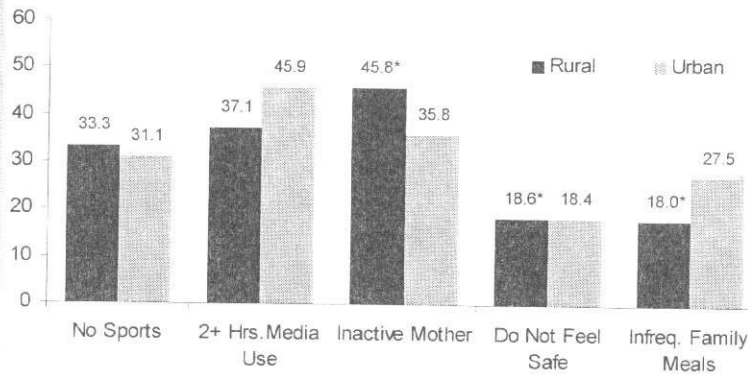
Highlights

- The 2003 NSCH did not have enough Minority rural respondents in Connecticut to make overweight or obesity estimates by race categories.

Overweight, obesity and physical inactivity among Connecticut children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Connecticut Families (in percent)



- About one-third of rural (33.3%) and urban (31.1%) children did not participate in after school sports.
- Nearly two out of five rural children (37.1%) used more than two hours of electronic entertainment media per day.
- Nearly one out of five rural children (18.0%) had less than three family meals per week.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	26.9*	27.7	38.7	30.8
Race/ethnicity				
White	23.3*	23.1	36.2*	27.4
Non-White	n/a	39.6	n/a	38.8
Age (years)				
10-14	25.0*	29.4	38.5*	28.1
15-17	30.4*	25.0	39.2*	35.1
Sex				
Male	47.8*	32.6	26.2*	25.9
Female	12.0*	22.3	47.7*	36.2
Family Income				
<200% FPL	n/a	40.0	n/a	31.8
≥ 200% FPL	27.7*	23.6	43.6*	30.5
Child's health status				
Excellent/Very Good Health	26.6*	26.2	38.0*	27.8
Good/Fair/Poor Health	n/a	37.8	n/a	50.4

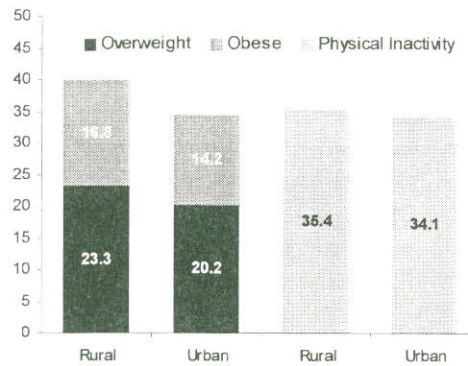
\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 981 Connecticut children.  
 Cells marked "n/a" have too few observations to display an estimate



Delaware

Two out of five rural children in Delaware aged 10-17 years old were overweight or obese (40.1%), as were 34.4% of urban children. Obesity, a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 16.8% of rural and 14.2% of urban children. Physical inactivity was common: more than a third of rural children (35.4%) and 34.1% of urban children failed to meet recommended levels for physical activity.

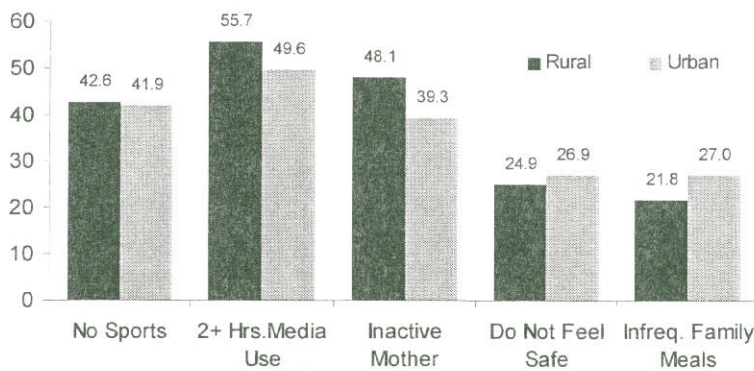
Overweight, obesity and physical inactivity among Delaware children aged 10 – 17 (in percent)



Highlights

- More than one half of all Minority rural children in Delaware were overweight or obese (51.4%).
- More than two out of five rural children (42.1%) in low income families (<200% FPL) were overweight or obese.

Weight-Related Behaviors Among Delaware Families (in percent)



- More than one-half of rural children (55.7%) spent more than two hours per day using electronic entertainment media.
- Nearly one-fourth of rural children (24.9%) lived in an environment parents perceived as unsafe.
- More than one out of five rural children (21.8%) had less than three family meals per week.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	40.1	34.4	35.8	34.1
Race/ethnicity				
White	33.7	27.7	33.5	31.7
Non-White	51.4	47.8	39.9*	38.7
Age (years)				
10-14	46.6	37.6	33.8	30.8
15-17	31.2*	29.1	38.5	39.8
Sex				
Male	47.9	38.3	26.3*	28.3
Female	33.8*	30.3	43.7	40.4
Family Income				
<200% FPL	42.1*	54.0	35.6*	33.9
≥ 200% FPL	36.5	27.5	36.4	33.2
Child's health status				
Excellent/Very Good Health	38.4	32.1	36.0	31.5
Good/Fair/Poor Health	47.0*	49.0	35.0*	50.2

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 999 Delaware children.

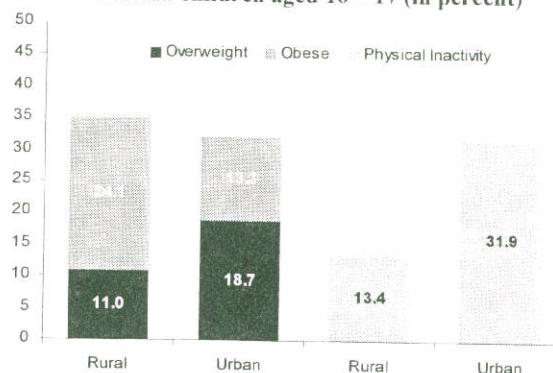


Florida

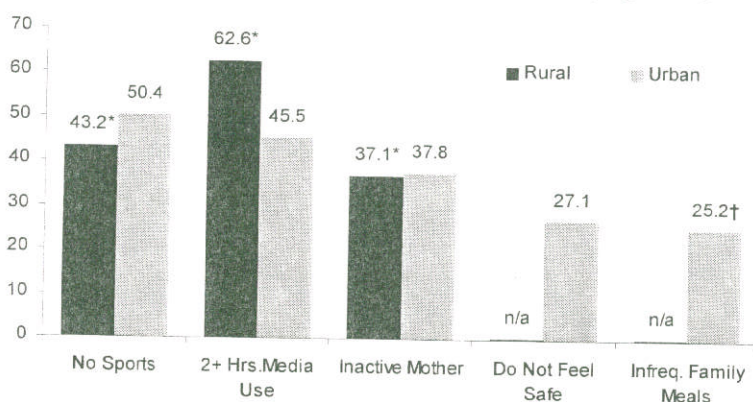
More than one-third of rural children in Florida aged 10-17 years old were overweight or obese (35.1%), as were 32.0% of urban children. Obesity, a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 24.1% of rural and 13.3% of urban children. Physical inactivity (not meeting recommended levels for physical activity) was less common among rural children (13.4%) than urban children (31.9%).

*The 2003 NCHS only surveyed 44 rural children in Florida, which does not allow for accurate rural comparisons by many subgroups.*

Overweight, obesity and physical inactivity among Florida children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Florida Families (in percent)



Highlights

- Nearly one-half of rural children (46.0%) in low income families (<200% FPL) were overweight or obese.
- More than two out of five rural children (43.2%) did not participate in after school sports activities.
- Nearly two-thirds of rural children (62.6%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	35.1*	32.0	13.4*	31.9†
<b>Race/ethnicity</b>				
White	33.5*	24.5	14.7*	29.0
Non-White	n/a	42.7	n/a	35.9
<b>Age (years)</b>				
10-14	44.8*	36.7	n/a	26.6
15-17	n/a	23.7†	n/a	41.3
<b>Sex</b>				
Male	47.3*	38.8	n/a	23.1
Female	n/a	24.9	11.6*	41.5†
<b>Family Income</b>				
<200% FPL	46.0*	37.1	n/a	37.3†
≥ 200% FPL	23.8*	28.1	19.1*	28.5
<b>Child's health status</b>				
Excellent/Very Good Health	31.9*	30.0	14.5*	30.6†
Good/Fair/Poor Health	n/a	43.0	n/a	38.7

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

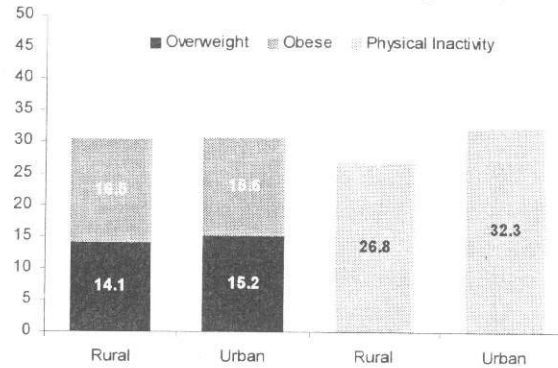
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 982 Florida children.

Cells marked "n/a" have too few observations to display an estimate

### Georgia

About one out of three rural children in Georgia aged 10-17 years old were overweight or obese (30.6%), as were 30.7% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 16.5% for rural children and 15.5% for urban children. Physical inactivity was common: more than a quarter of rural children (26.8%) and nearly one-third of urban children (32.3) failed to meet recommended levels for physical activity.

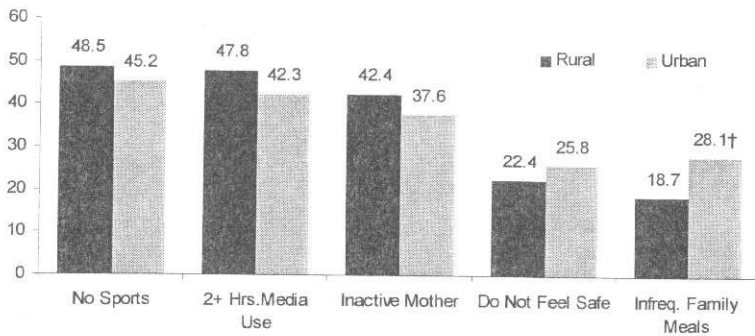
Overweight, obesity and physical inactivity among Georgia children aged 10 – 17 (in percent)



### Highlights

- More than one-third of Minority rural children in Georgia were overweight or obese (33.7%).
- More than one-fourth of rural children (27.0%) in low income families (<200% FPL) were overweight or obese.

Weight-Related Behaviors Among Georgia Families (in percent)



- Nearly one-half of rural children (48.5%) did not participate in after school sports activities.
- Healthier rural children (17.2%) were less likely to fail to meet PA recommendations than their urban counterparts (29.3%).
- Rural children (20.7%) were less likely to have infrequent family meals than urban children (31.0%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	30.6	30.7	26.8	32.3
Race/ethnicity				
White	28.6	25.1	26.8*	27.8
Non-White	33.7*	39.1	26.7*	38.6
Age (years)				
10-14	33.6	33.7	18.6*	26.7
15-17	25.6*	25.4	40.8*	42.7
Sex				
Male	33.1	34.0	25.5*	27.2
Female	27.4*	27.7	28.3*	37.2
Family Income				
<200% FPL	27.0*	45.4†	29.8*	30.7
≥ 200% FPL	37.4*	24.0	25.1*	29.4
Child's health status				
Excellent/Very Good Health	25.2	26.9	20.7	31.0†
Good/Fair/Poor Health	52.9*	57.6	52.5*	41.1

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 813 Georgia children.

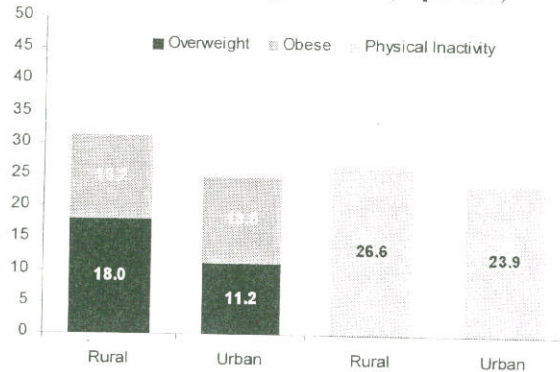
State Profiles: Georgia



Hawaii

About one out of three rural children in Hawaii aged 10-17 years old were overweight or obese (31.2%), as were 24.7% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 13.2% for rural children and 13.5% for urban children. Physical inactivity (not meeting recommended levels for physical activity) was reported in about one-quarter of rural children (26.6%) and urban children (23.9%).

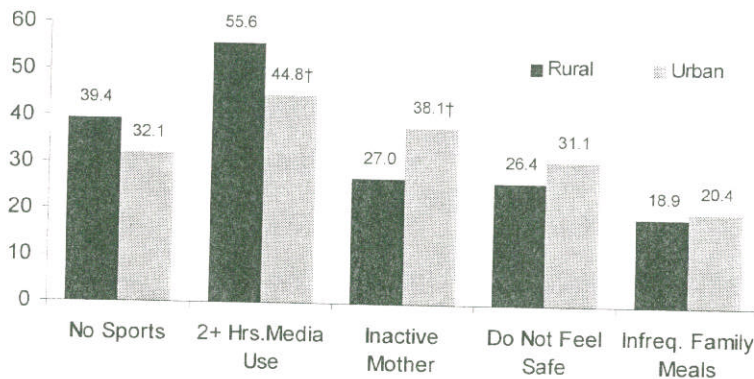
Overweight, obesity and physical inactivity among Hawaii children aged 10 – 17 (in percent)



Highlights

- One-third of rural Minority children in Hawaii were overweight or obese (33.0%), as were 21.8% of white children.

Weight-Related Behaviors Among Hawaii Families (in percent)



- More than one-third of rural children (38.9%) in low income families (<200% FPL) were overweight or obese.
- Rural children (55.6%) were more likely to use electronic entertainment media for more than two hours per day than their urban counterparts (44.8%)
- Rural children were less likely to have physically

inactive mothers (27.0%) than urban children (38.1%).

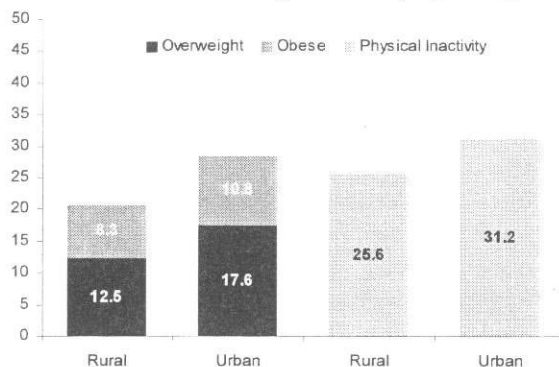
	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	31.2	24.7	26.6	23.9
Race/ethnicity				
White	21.8*	22.6*	20.6*	21.1*
Non-White	33.0	25.0	27.7	24.3
Age (years)				
10-14	34.4	28.5	23.9	22.9
15-17	24.2*	16.9	32.9	25.8
Sex				
Male	28.7	27.4	20.9	18.1
Female	34.4	21.8	33.9	29.9
Family Income				
<200% FPL	38.9	28.3	28.2	29.1
≥ 200% FPL	23.1	24.7	24.1	21.3
Child's health status				
Excellent/Very Good Health	28.5	23.2	26.2	20.7
Good/Fair/Poor Health	43.2*	32.8	28.6*	42.0

\* Sample size is less than 30 † Rural is significantly different than Urban at p<0.05  
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 893 Hawaii children.

**Idaho**

Rural children in Idaho aged 10-17 years old were less likely to be overweight or obese (20.4%) than urban children (28.4%). Idaho had the lowest proportion of rural children who were overweight in the US. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 8.3% for rural children and 10.8% for urban children. Physical inactivity was common: more than one-fourth of rural children (25.6%) and nearly one-third of urban children (31.2%) failed to meet recommended levels for physical activity.

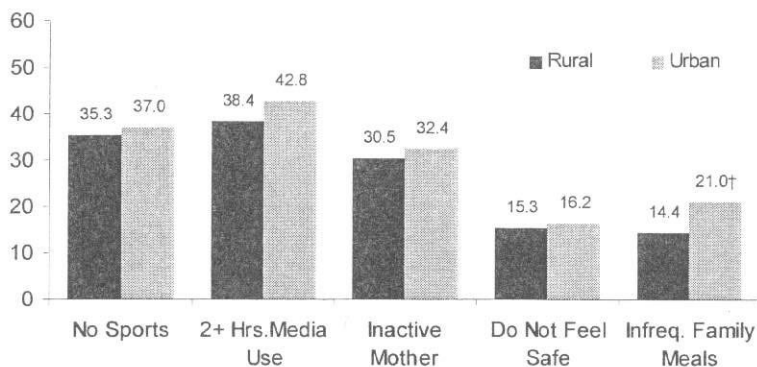
**Overweight, obesity and physical inactivity among Idaho children aged 10 – 17 (in percent)**



**Highlights**

- Nearly one in three Minority rural children in Idaho were overweight or obese (29.6%), compared to 19.2% of white children.

**Weight-Related Behaviors Among Idaho Families (in percent)**



- More than one out of five rural children (22.2%) in low income families (<200% FPL) were overweight or obese.
- More than one-third of rural children (35.3%) did not participate in after school sports activities.
- Rural children (14.4%) were less likely to have infrequent family meals than urban

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	20.4	28.4†	25.6	31.2
<b>Race/ethnicity</b>				
White	19.2	25.3	25.4	29.1
Non-White	29.6*	51.9	26.9*	46.0
<b>Age (years)</b>				
10-14	21.1	27.8	24.1	25.1
15-17	19.3*	29.4	27.9	41.3†
<b>Sex</b>				
Male	24.7	34.5	26.2	25.6
Female	15.6*	21.5	25.0	37.5†
<b>Family Income</b>				
<200% FPL	22.2*	40.4†	27.8	38.5
≥ 200% FPL	17.4*	21.7	21.4	29.4
<b>Child's health status</b>				
Excellent/Very Good Health	19.2	25.9	21.9	28.5
Good/Fair/Poor Health	29.6*	43.8*	49.8*	47.5*

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 860 Idaho children.

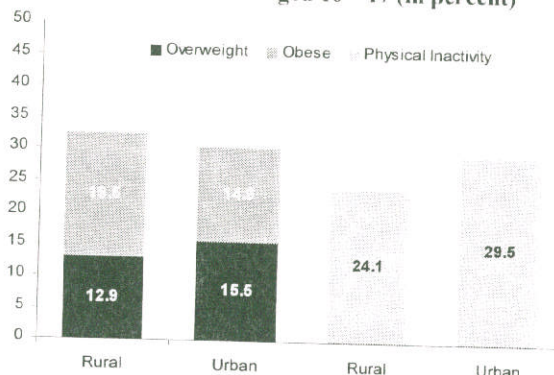
State Profiles: Idaho



Illinois

About one-third of rural children in Illinois aged 10-17 years old were overweight or obese (32.4%), as were 30.4% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 19.5% for rural children and 14.9% for urban children. Physical inactivity was common: nearly one-fourth of rural children (24.1%) and one out of three urban children (29.5%) failed to meet recommended levels for physical activity.

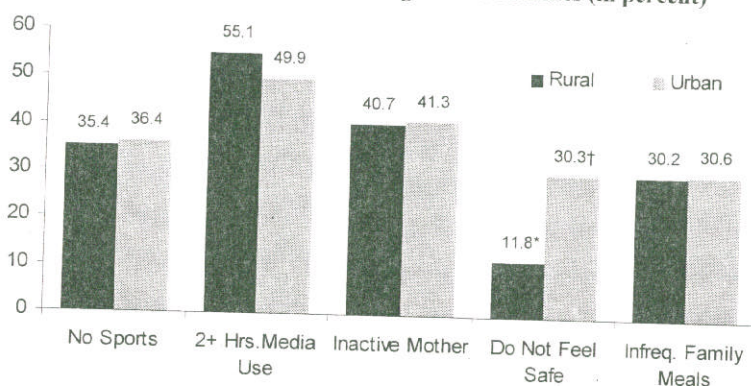
Overweight, obesity and physical inactivity among Illinois children aged 10 – 17 (in percent)



Highlights

- More than one-half of all Minority rural children in Illinois were overweight or obese (61.8%), compared to 29.9% of white children.
- Rural children (18.4%) in lower income rural families (<200% FPL) were less likely to fail to meet PA recommendations than their urban counterparts (40.2%).

Weight-Related Behaviors Among Illinois Families (in percent)



- More than one-half of rural children (55.1%) spent more than two hours per day using electronic entertainment media.
- Rural children were less likely to live in an environment parents perceived as unsafe (11.8%) than urban children (30.3%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	32.4	30.4	24.1	29.5
<b>Race/ethnicity</b>				
White	29.9	27.0	23.1	23.4
Non-White	61.8*	35.2	n/a	37.1
<b>Age (years)</b>				
10-14	39.0	36.3	14.0*	28.3†
15-17	23.0*	20.4	37.7*	31.8
<b>Sex</b>				
Male	35.9	31.3	21.6*	25.6
Female	29.0*	29.6	26.7*	33.3
<b>Family Income</b>				
<200% FPL	41.2*	40.0	18.4*	40.2†
≥ 200% FPL	23.2*	26.3	22.2*	23.6
<b>Child's health status</b>				
Excellent/Very Good Health	32.7	26.4	23.2	25.7
Good/Fair/Poor Health	29.6*	51.7	n/a	46.1

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 958 Illinois children. Cells marked "n/a" have too few observations to display an estimate

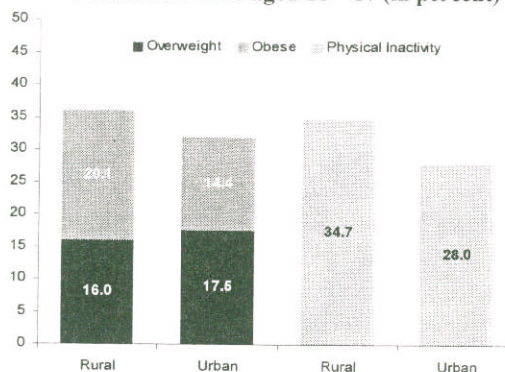


### Indiana

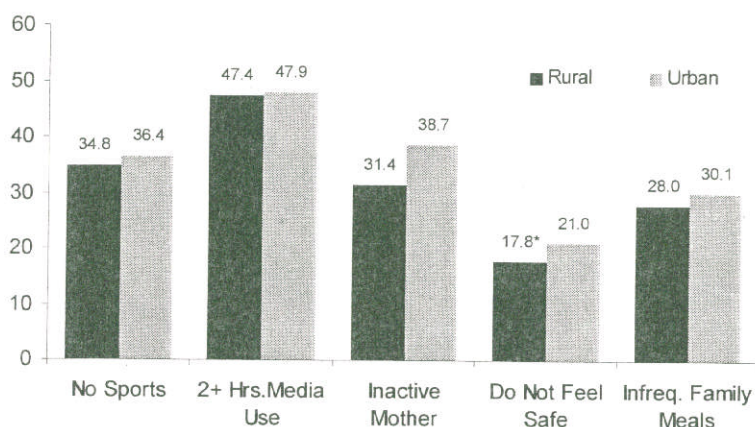
More than one-third of rural children in Indiana aged 10-17 years old were overweight or obese (36.1%), as were 31.9% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 20.1% for rural children and 14.4% for urban children. Physical inactivity was common: more than one-third of rural children (34.7%) and more than one-fourth of urban children (28.0%) failed to meet recommended levels for physical activity.

*Less than 5% of the Rural NSCH survey population for Indiana contained minorities, making analysis by this subgroup unreliable.*

Overweight, obesity and physical inactivity among Indiana children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Indiana Families (in percent)



### Highlights

- Rural children (38.4%) higher income families (>200% FPL) were more likely to be overweight or obese than urban children (26.2%)
- More than one-third of rural children (34.8%) did not participate in after school sports activities.
- Nearly one out of three rural children had physically inactive mothers (31.4%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	36.1	31.9	34.7	28.0
Race/ethnicity				
White	36.3	32.0	34.1	27.3
Non-White	n/a	31.5	n/a	30.3
Age (years)				
10-14	43.9	33.8	34.8	22.2†
15-17	26.3*	28.6	34.5*	38.2
Sex				
Male	40.9	40.8	35.1	24.6
Female	30.3*	21.6	34.2*	31.9
Family Income				
<200% FPL	31.7*	41.9	40.5*	33.5
≥ 200% FPL	38.4	26.2†	31.5	24.0
Child's health status				
Excellent/Very Good Health	32.3	30.9	32.3	27.6
Good/Fair/Poor Health	63.4*	39.1*	50.6*	30.7*

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 848 Indiana children.

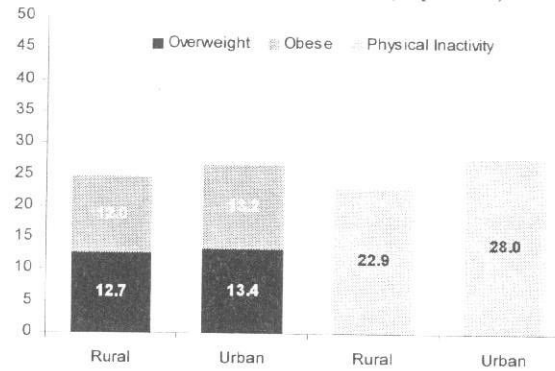
State Profiles: Indiana



Iowa

Nearly one-fourth of rural children in Iowa aged 10-17 years old were overweight or obese (24.7%), as were 26.6% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 12.0% for rural children and 13.2% for urban children. Physical inactivity was common: more than one out of five rural children (22.9%) and more than one-fourth of urban children (28.0%) failed to meet recommended levels for physical activity.

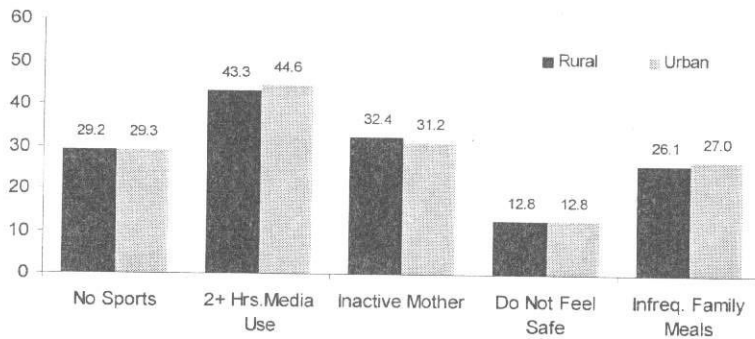
Overweight, obesity and physical inactivity among Iowa children aged 10 – 17 (in percent)



Highlights

- More than half of all Minority rural children in Iowa were overweight or obese (53.6%).

Weight-Related Behaviors Among Iowa Families (in percent)



- Nearly one-third of rural children (29.0%) in low income families (<200% FPL) were overweight or obese.
- More than two out of five rural children (43.3%) spent more than two hours per day using electronic entertainment media.
- More than one-fourth of rural children (26.1%) had infrequent family meals

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	24.7	26.6	22.9	28.0
Race/ethnicity				
White	23.2	25.1	22.2	26.8
Non-White	53.6*	41.7*	33.8*	38.3*
Age (years)				
10-14	25.8	31.4	20.4	23.7
15-17	22.8	18.2	27.2	35.8
Sex				
Male	27.7	28.9	19.2	18.5
Female	21.8	23.8	26.5	40.0†
Family Income				
<200% FPL	29.0	37.4	24.7	27.8*
≥ 200% FPL	22.1	23.2	21.4	27.9
Child's health status				
Excellent/Very Good Health	23.3	25.6	20.3	25.8
Good/Fair/Poor Health	34.9*	38.6*	41.6*	48.8*

\* Sample size is less than 30

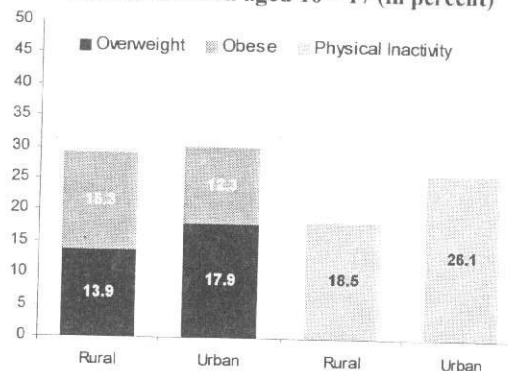
† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 935 Iowa children.

**Kansas**

About one out of three rural children in Kansas aged 10-17 years old were overweight or obese (29.2%), as were 30.2% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 15.3% for rural children and 12.3% for urban children. Physical inactivity was common: nearly one out of five rural children (18.5%) and more than one-fourth of urban children (26.1%) failed to meet recommended levels for physical activity.

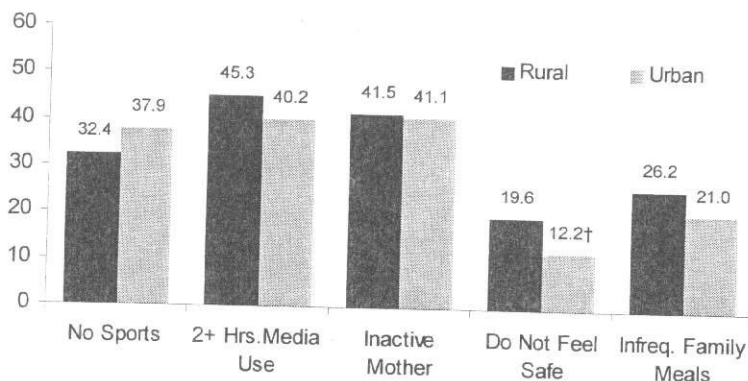
**Overweight, obesity and physical inactivity among Kansas children aged 10 – 17 (in percent)**



**Highlights**

- More than one-third of Minority rural children in Kansas were overweight or obese (36.4%), as were 27.8% of white children.

**Weight-Related Behaviors Among Kansas Families (in percent)**



- Rural children (14.8%) in low income families (<200% FPL) were less likely to fail to meet PA recommendations than their urban counterparts (29.4%).
- Rural children were more likely to live in an environment parents perceived as unsafe (19.6%) than urban children (12.2%).
- More than one out of four family meals in a week.

rural children (26.2%) had less than three

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	29.2	30.2	18.5	26.1†
<b>Race/ethnicity</b>				
White	27.8	27.2	17.2	24.9
Non-White	36.4*	42.9	24.2*	31.0
<b>Age (years)</b>				
10-14	32.5	34.9	9.9*	19.8†
15-17	22.9	22.4	35.1	36.6
<b>Sex</b>				
Male	37.0	36.9	13.7	20.9†
Female	19.7*	23.1	24.2	31.4
<b>Family Income</b>				
<200% FPL	35.7	46.9	14.8*	29.4†
≥ 200% FPL	23.0	23.5	20.1	25.2
<b>Child's health status</b>				
Excellent/Very Good Health	25.9	29.3	16.7	23.9†
Good/Fair/Poor Health	51.5*	37.3*	29.8*	43.0*

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 901 Kansas children.

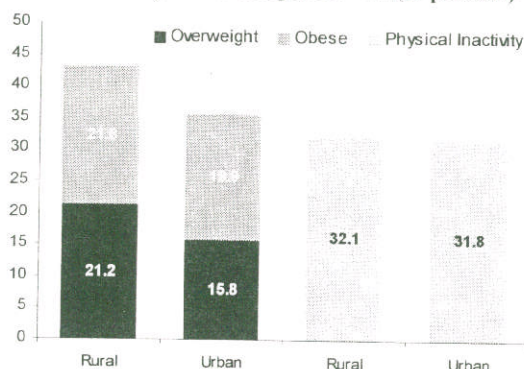
State Profiles: Kansas



### Kentucky

More than two out of five rural children in Kentucky aged 10-17 years old were overweight or obese (43.0%), as were 35.7% of urban children. Kentucky had the highest proportion of rural children who were overweight in the US. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 21.8% for rural children and 19.9% for urban children. Physical inactivity was common: nearly one-third of rural children (32.1%) and urban children (31.8%) failed to meet recommended levels for physical activity.

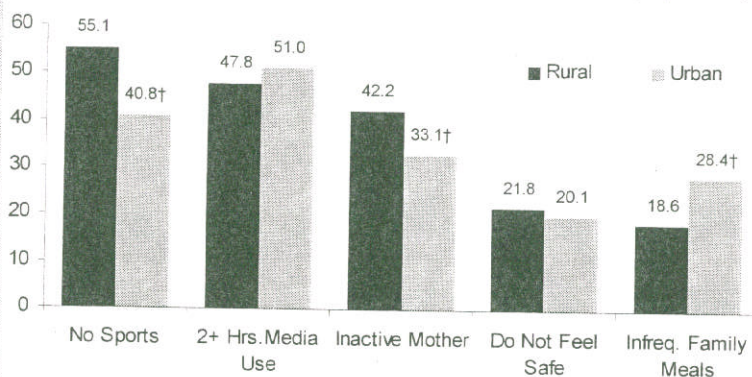
Overweight, obesity and physical inactivity among Kentucky children aged 10 – 17 (in percent)



### Highlights

- More than two-thirds of all Minority rural children in Kentucky were overweight or obese (68.4%), compared to 41.5% of white children.
- Overweight/obese status was more common among rural children (38.6%) living in higher income families (>200% FPL) than urban children (28.7%).

Weight-Related Behaviors Among Kentucky Families (in percent)



- Rural children were more likely not to participate in after school sports activities than their urban counterparts (55.1% versus 40.8%).
- Rural children were more likely to have physically inactive mothers (42.2%) than urban children (33.1%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	43.0	35.7	32.1	31.8
<b>Race/ethnicity</b>				
White	41.5	34.5	32.5	32.9
Non-White	68.4*	40.6	25.9*	27.1
<b>Age (years)</b>				
10-14	49.3	38.4†	24.2	26.3
15-17	31.5	30.5	47.2	42.2
<b>Sex</b>				
Male	44.5	37.5	22.7	27.4
Female	41.6	33.9	41.4	36.0
<b>Family Income</b>				
<200% FPL	45.2	47.7	29.0	39.4
≥ 200% FPL	38.6	28.7†	32.1	28.2
<b>Child's health status</b>				
Excellent/Very Good Health	42.8	32.4†	27.7	30.3
Good/Fair/Poor Health	43.9*	55.3	51.2	40.2

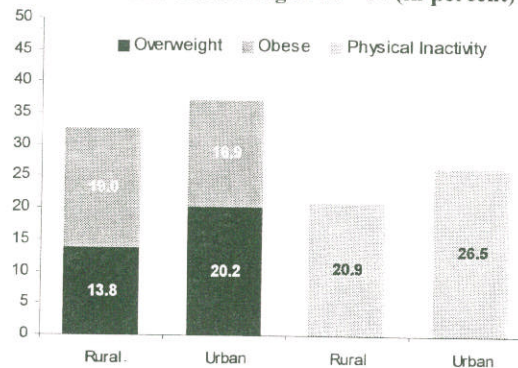
\* Sample size is less than 30  
 † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 917 Kentucky children.



Louisiana

Nearly one-third of rural children in Louisiana aged 10-17 years old were overweight or obese (32.8%), as were 37.1% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 19.0% for rural children and 16.9% for urban children. Physical inactivity was common: more than one-fifth of rural children (20.9%) and more than one-fourth of urban children (26.5%) failed to meet recommended levels for physical activity.

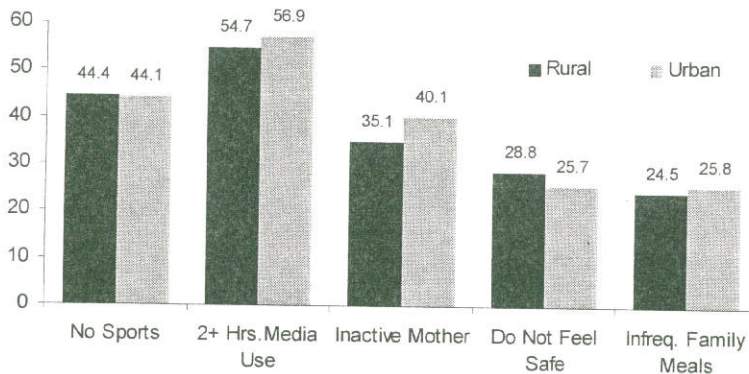
Overweight, obesity and physical inactivity among Louisiana children aged 10 – 17 (in percent)



Highlights

- Nearly one-third of minority rural children in Louisiana were overweight or obese, with similar rates among non-white (32.6%) and white children (33.0%).
- Nearly one-third of rural children (32.1%) in low income families (<200% FPL) were overweight or obese.

Weight-Related Behaviors Among Louisiana Families (in percent)



- More than one-half of Louisiana children spent more than two hours per day using electronic entertainment media (54.7% for rural, 56.9% for urban)
- Rural children were less likely to have physically inactive mothers (35.1%) than urban children (40.1%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	32.8	37.1	20.9	26.5
Race/ethnicity				
White	33.0	31.6	20.3	24.7
Non-White	32.6	44.6	21.7*	29.1
Age (years)				
10-14	37.2	38.9	15.1*	20.7
15-17	26.1	34.0	30.0	37.5
Sex				
Male	39.5	41.7	17.9*	20.2
Female	25.1	32.3	24.2	33.2
Family Income				
<200% FPL	32.1	41.5	21.9*	25.2
≥ 200% FPL	33.9	35.7	19.2	26.8
Child's health status				
Excellent/Very Good Health	30.5	35.6	20.4	25.8
Good/Fair/Poor Health	43.5*	43.2	23.4*	29.8

\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 1,085 Louisiana children.

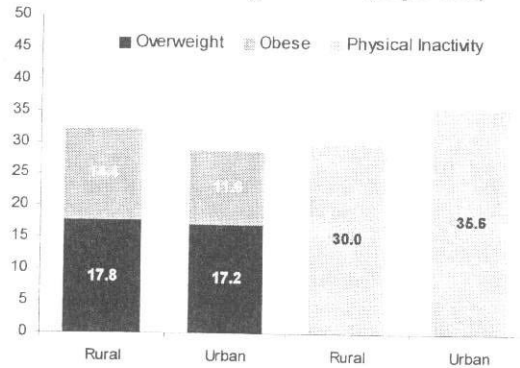
State Profiles: Louisiana



Maine

About one-third of rural children in Maine aged 10-17 years old were overweight or obese (32.2%), as were 28.8% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 14.4% for rural children and 11.6% for urban children. Physical inactivity was common: one out of three rural children (30.0%) and more than one-third of urban children (35.6%) failed to meet recommended levels for physical activity.

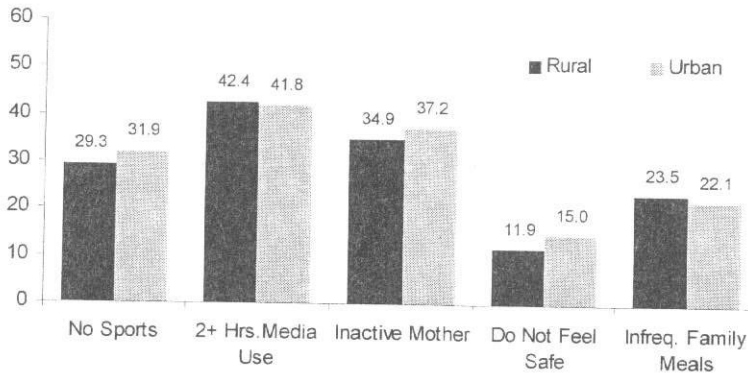
Overweight, obesity and physical inactivity among Maine children aged 10 – 17 (in percent)



Highlights

- Nearly one-half of all Minority rural children in Maine were overweight or obese (47.7%), as were 31.3% of white children.

Weight-Related Behaviors Among Maine Families (in percent)



- More than one-third of rural children (35.4%) in low income families (<200% FPL) were overweight or obese.
- More than one-third of rural children had physically inactive mothers (34.9%).
- Only one out of ten rural children (11.9%) lived in an environment parents perceived as unsafe.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	32.2	28.8	30.0	35.6
Race/ethnicity				
White	31.3	28.0	30.0	35.8
Non-White	47.7*	43.4*	30.6*	31.8*
Age (years)				
10-14	35.4	33.8	21.4	28.3
15-17	26.5	21.3	45.3	46.9
Sex				
Male	40.9	35.7	27.2	28.1
Female	23.2	21.9	32.9	43.1
Family Income				
<200% FPL	35.4	35.8	28.8	34.0
≥ 200% FPL	29.0	26.4	30.8	34.5
Child's health status				
Excellent/Very Good Health	30.9	29.0	27.0	33.4
Good/Fair/Poor Health	39.5*	26.5*	48.9*	56.1*

\* Sample size is less than 30

\* Rural is significantly different than Urban at p<0.05

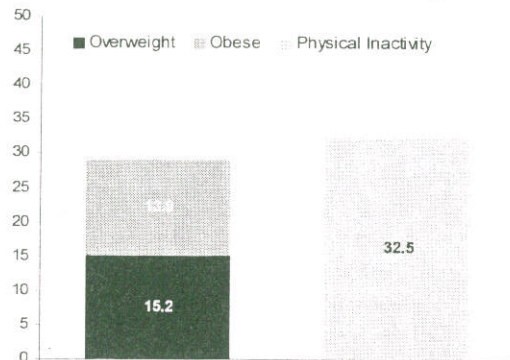
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 935 Maine children.

### Massachusetts

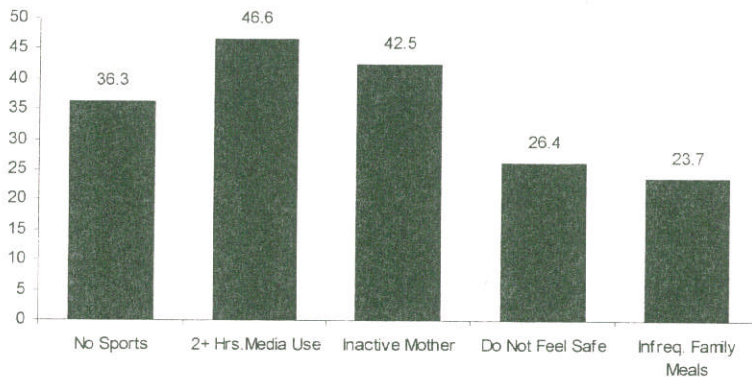
Of the 977 Massachusetts children surveyed by the NCHS, less than 1% lived in rural counties; therefore, estimates could not be developed at the rural level. The data presented below are for the entire survey population.

More than one out of four children in Massachusetts aged 10-17 years old was overweight or obese (28.9%) Obesity, a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 13.7% children. Physical inactivity (not meeting recommended levels for physical activity) was reported in about a quarter of urban children (32.4%)

Overweight, obesity and physical inactivity among Massachusetts children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Massachusetts Families (in percent)



### Highlights

- Two out of five children (40.1%) in low income families (<200% FPL) were overweight or obese.
- More than two out of five children had physically inactive mothers (42.5%).
- More than one-fourth of children (26.4%) did not feel safe in their environment.

	Overweight or Obese	Physically Inactive
	All	All
<b>Overall</b>	28.9	32.4
<b>Race/ethnicity</b>		
White	23.7	29.2
Non-White	45.2	42.2
<b>Age (years)</b>		
10-14	33.3	26.8
15-17	21.3	42.0
<b>Sex</b>		
Male	36.4	26.9
Female	20.8	38.3
<b>Family Income</b>		
<200% FPL	40.1	37.8
≥ 200% FPL	25.6	30.9
<b>Child's health status</b>		
Excellent/Very Good Health	26.2	31.0
Good/Fair/Poor Health	49.0	41.2

\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 977 Massachusetts children.

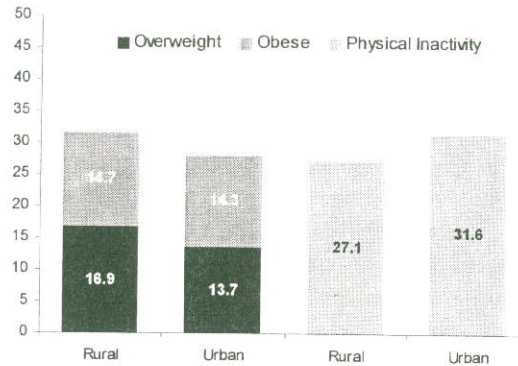


Michigan

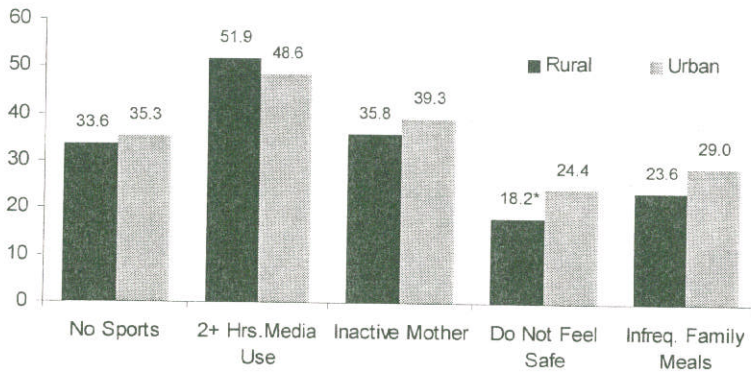
More than one out of three rural children in Michigan aged 10-17 years old were overweight or obese (31.6%), as were 28.0% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 14.7% for rural children and 14.3% for urban children. Physical inactivity was common: more than a quarter of rural children (27.1%) and nearly one-third of urban children (31.6%) failed to meet recommended levels for physical activity.

The 2003 NSCH did not have enough Minority rural respondents in Michigan to make overweight or obesity estimates by race categories.

Overweight, obesity and physical inactivity among Michigan children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Michigan Families (in percent)



Highlights

- Nearly one-half of rural children in lower income families (<200% FPL) were overweight or obese (48.5%).
- More than half of rural Michigan children spent more than two hours per day using electronic entertainment media (51.9%).
- More than one-third of rural children had physically inactive mothers (35.8%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	31.6	28.0	27.1	31.6
Race/ethnicity				
White	32.4	24.9	27.5	29.3
Non-White	n/a	34.7	n/a	36.1
Age (years)				
10-14	29.0	31.5	17.5*	24.7
15-17	35.6*	22.1	41.6	44.2
Sex				
Male	32.3	31.3	20.0*	24.5
Female	30.8*	24.4	33.9	39.7
Family Income				
<200% FPL	48.5*	36.6	35.5*	40.2
≥ 200% FPL	27.3	23.9	22.9	28.2
Child's health status				
Excellent/Very Good Health	31.6	28.9	25.3	29.0
Good/Fair/Poor Health	31.7*	23.4	40.4*	44.7

\* Sample size is less than 30

\* Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 1,032 Michigan children.

Cells marked "n/a" have too few observations to display an estimate

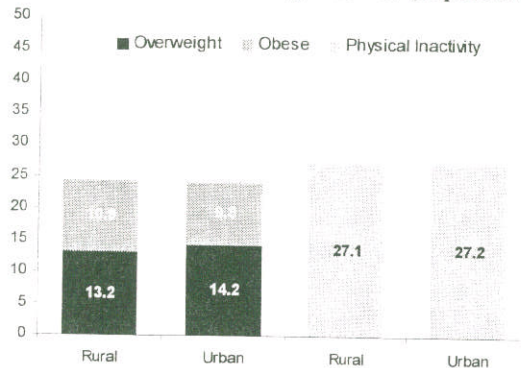
State Profiles: Michigan



Minnesota

About one-fourth of rural children in Minnesota aged 10-17 years old were overweight or obese (24.1%), as were 24.0% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 10.9% for rural children and 9.8% for urban children. Physical inactivity was common: more than a quarter of rural children (27.1%) and nearly one-third of urban children (27.2%) failed to meet recommended levels for physical activity.

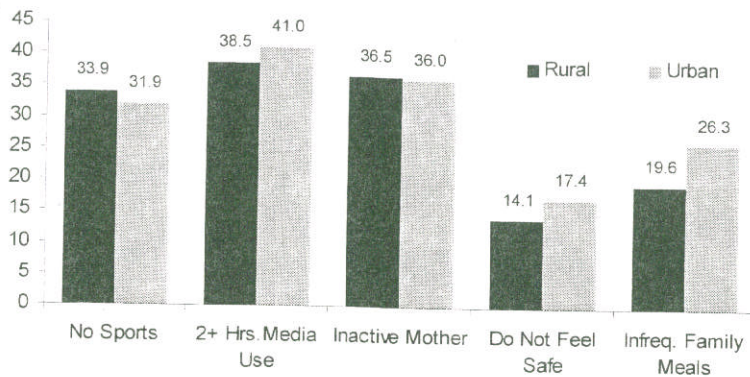
Overweight, obesity and physical inactivity among Minnesota children aged 10 – 17 (in percent)



Highlights

- More than two out of five Minority rural children in Minnesota were overweight or obese (42.0%), compared to 22.4% of white children.

Weight-Related Behaviors Among Minnesota Families (in percent)



- Nearly one-fourth of rural children (24.0%) in low income families (<200% FPL) were overweight or obese.
- Nearly two out of five rural Minnesota children spent more than two hours per day using electronic entertainment media (38.5%).
- Nearly one out of five rural children (19.6%) had infrequent family meals.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
Overall	24.1	24.0	27.1	27.2
Race/ethnicity				
White	22.4	21.7	28.0	26.1
Non-White	42.0*	35.6*	18.8*	32.4*
Age (years)				
10-14	30.0	24.6	19.3*	23.1
15-17	14.6*	23.0	39.6	34.8
Sex				
Male	28.2	27.9	22.9*	21.6
Female	20.4*	19.6	31.0	33.4
Family Income				
<200% FPL	24.0*	27.0*	31.3*	32.1*
≥ 200% FPL	22.9	21.7	23.2	25.5
Child's health status				
Excellent/Very Good Health	23.3	22.7	28.1	24.5
Good/Fair/Poor Health	34.3*	36.3*	n/a	51.1*

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

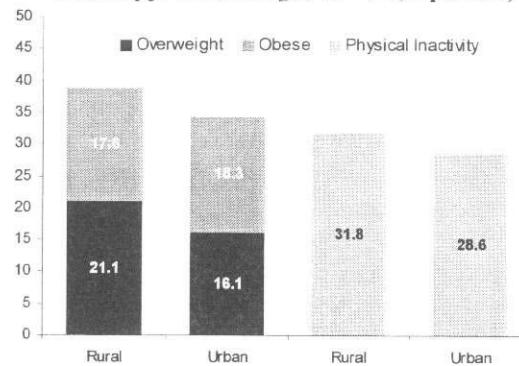
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 861 Minnesota children. Cells marked "n/a" have too few observations to display an estimate



### Mississippi

Nearly two out of five rural children in Mississippi aged 10-17 years old were overweight or obese (38.5%), as were 34.4% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 17.6% for rural children and 18.3% for urban children. Physical inactivity was common: nearly one-third of rural children (31.8%) and 28.5% of urban children failed to meet recommended levels for physical activity.

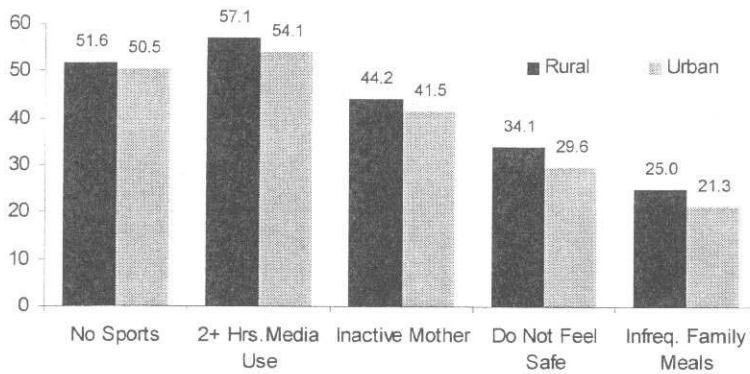
Overweight, obesity and physical inactivity among Mississippi children aged 10 – 17 (in percent)



#### Highlights

- Nearly one-half of all Minority rural children in Mississippi were overweight or obese (45.4%), compared to 29.3% of white children.
- More than two out of five rural children (41.2%) in low income families (<200% FPL) were overweight or obese.

Weight-Related Behaviors Among Mississippi Families (in percent)



- More than one-half of rural Mississippi children spent more than two hours per day using electronic entertainment media (57.1%).
- More than two out of five rural children had physically inactive mothers (44.5%).
- More than one-third of rural children (34.1%) did not feel safe in their environment.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	38.5	34.4	31.8	28.6
<b>Race/ethnicity</b>				
White	29.3	29.9	34.3	30.0
Non-White	45.4	40.2	30.1	26.7
<b>Age (years)</b>				
10-14	39.4	39.8	27.6	23.1
15-17	37.1	25.6	38.9	37.5
<b>Sex</b>				
Male	40.9	33.9	26.5	20.5
Female	35.9	34.9	37.6	35.9
<b>Family Income</b>				
<200% FPL	41.2	40.6	32.0	26.8
≥ 200% FPL	32.7	24.7	28.2	29.6
<b>Child's health status</b>				
Excellent/Very Good Health	37.9	29.9	29.9	25.5
Good/Fair/Poor Health	40.4	60.2	37.8	45.4*

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 977 Mississippi children.

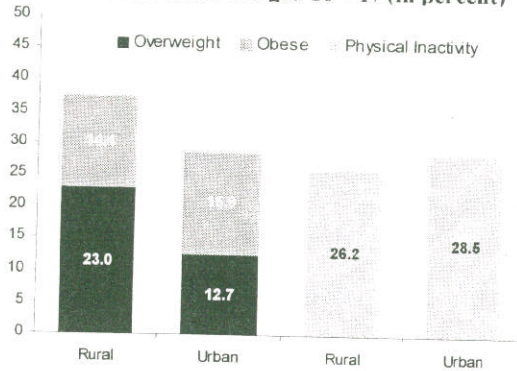
Cells marked "n/a" have too few observations to display an estimate

State Profiles: Mississippi

Missouri

Rural children in Missouri aged 10-17 years old were more likely to be overweight or obese (37.4%), as compared to urban children (28.6%). The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 14.4% for rural children and 15.9% for urban children. Physical inactivity was common: more than a quarter of rural children (26.2%) and urban children (28.5%) failed to meet recommended levels for physical activity.

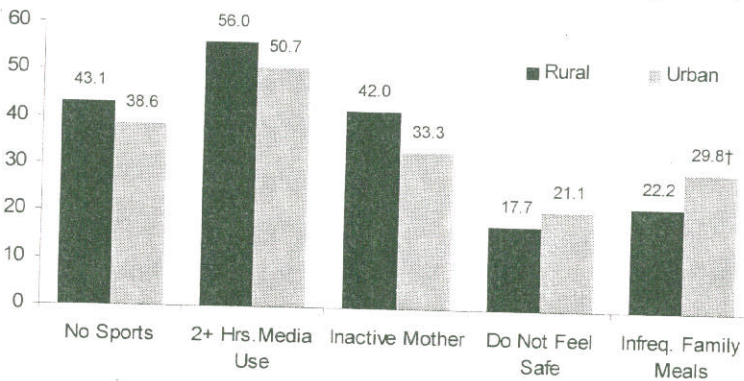
Overweight, obesity and physical inactivity among Missouri children aged 10 – 17 (in percent)



Highlights

- More than half of all minority rural children in Missouri were overweight or obese (60.4%), as were 34.7% of white children. Rural white children (34.7%) were more likely to be overweight than urban white children (25.6%)

Weight-Related Behaviors Among Missouri Families (in percent)



- More than half of rural Michigan children spent more than two hours per day using electronic entertainment media (56.0%).
- Rural children (22.2%) were less likely to not eat meals with their family more than three times per week than urban children (29.8%)

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	37.4	28.6†	26.2	28.5
Race/ethnicity				
White	34.7	25.6†	27.3	25.7
Non-White	60.4*	39.5	n/a	38.2
Age (years)				
10-14	40.3	33.4	26.5	22.1
15-17	32.8	20.2†	25.7	40.0†
Sex				
Male	37.0	32.3	20.3	23.3
Female	37.7	24.5†	31.9	34.3
Family Income				
<200% FPL	51.5	38.5	22.2*	34.3
≥ 200% FPL	24.1	26.1	28.7	24.9
Child's health status				
Excellent/Very Good Health	35.1	27.1	23.3	28.1
Good/Fair/Poor Health	49.6*	37.9	42.2*	31.1

\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 1,088 Missouri children.  
 Cells marked "n/a" have too few observations to display an estimate



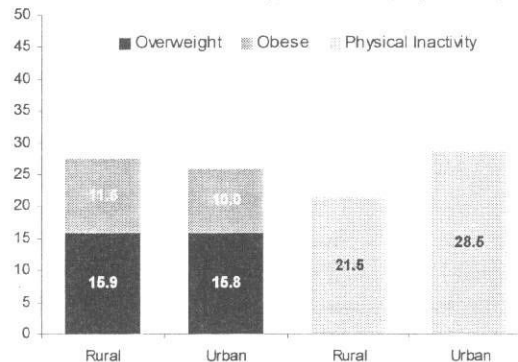
Montana

Less than one out of three rural children in Montana aged 10-17 years old were overweight or obese (27.4%), as were 25.8% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 11.5% for rural children and 10.0% for urban children. Rural children were less likely to fail to meet recommended levels for physical activity (21.5%) than urban children (28.5%).

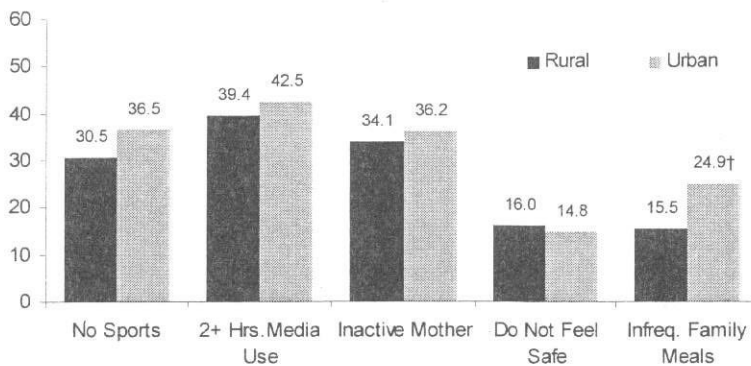
Highlights

- Two-fifths of Minority rural children in Montana were overweight or obese (40.0%), compared to 25.1% of white children.
- One-third of rural children (33.2%) in low income families (<200% FPL) were overweight or obese.

Overweight, obesity and physical inactivity among Montana children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Montana Families (in percent)



- Rural white children (20.9%) were less likely to fail to meet physical activity recommendations than urban children (29.0%)
- Rural children (18.3%) in higher income families (>200% FPL) were less likely to fail to meet physical activity recommendations than urban children (28.3%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
Overall	27.4	25.8	21.5	28.5†
Race/ethnicity				
White	25.1	25.4	20.9	29.0†
Non-White	40.0	29.6*	24.8*	24.7*
Age (years)				
10-14	31.3	25.5	16.3	21.8
15-17	21.3	26.2	29.8	36.2
Sex				
Male	35.3	31.2	18.5	26.9
Female	19.2	19.8*	24.7	30.4
Family Income				
<200% FPL	33.2	30.2*	24.3	30.3*
≥ 200% FPL	23.1	25.5	18.3	28.3†
Child's health status				
Excellent/Very Good Health	26.4	23.9	19.5	25.9
Good/Fair/Poor Health	33.8*	39.3*	35.6*	45.5*

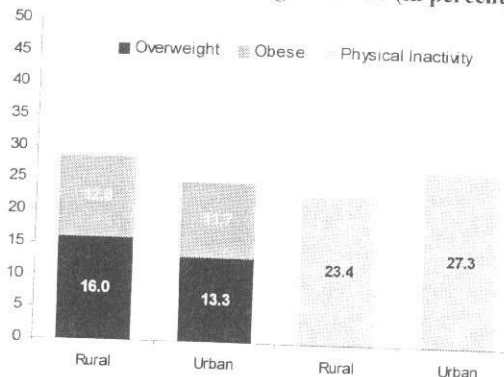
\* Sample size is less than 30 † Rural is significantly different than Urban at p<0.05  
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 985 Montana children.

State Profiles: Montana

Nebraska

Nearly one out of three rural children in Nebraska aged 10-17 years old were overweight or obese (28.6%), as were 25.0% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 12.6% for rural children and 11.7% for urban children. Physical inactivity was common: nearly a quarter of rural children (23.4%), and more than one-fourth of urban children (27.3%) failed to meet recommended levels for physical activity.

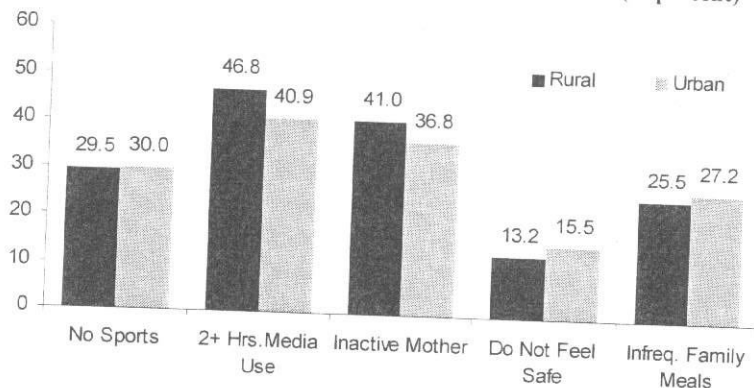
Overweight, obesity and physical inactivity among Nebraska children aged 10 – 17 (in percent)



Highlights

- More than one-third of all Minority rural children in Nebraska were overweight or obese (35.7%), as were 28.1% of white children.

Weight-Related Behaviors Among Nebraska Families (in percent)



- More than one-third of rural children (37.4%) in low income families (<200% FPL) were overweight or obese.
- Nearly one-half of rural Nebraska children (46.8%) spent more than two hours per day using electronic entertainment media.
- More than two out of five rural children had physically inactive mothers (41.0%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	28.6	25.0	23.4	27.3
Race/ethnicity				
White	28.1	22.5	23.7	24.2
Non-White	35.7*	36.5*	20.6*	40.2*
Age (years)				
10-14	29.1	25.8	17.5	26.1
15-17	27.8	23.7	32.8	29.2
Sex				
Male	34.4	27.4	21.6	21.7
Female	22.2	22.3	25.3	33.4
Family Income				
<200% FPL	37.4	31.2*	24.9	37.7*
≥ 200% FPL	22.5	20.1	21.3	23.6
Child's health status				
Excellent/Very Good Health	26.0	22.0	19.1	24.1
Good/Fair/Poor Health	42.2*	45.2*	44.3*	47.5*

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 889 Nebraska children.

State Profiles: Nebraska



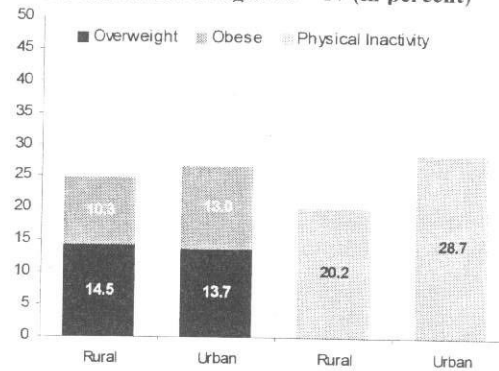
Nevada

Nearly one fourth of rural children in Nevada aged 10-17 years old were overweight or obese (24.8%), as were 26.7% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 10.3% for rural children and 13.0% for urban children. Physical inactivity was common: more than a one fifth of rural children (20.2%) and nearly one-third of urban children (28.7%) failed to meet recommended levels for physical activity.

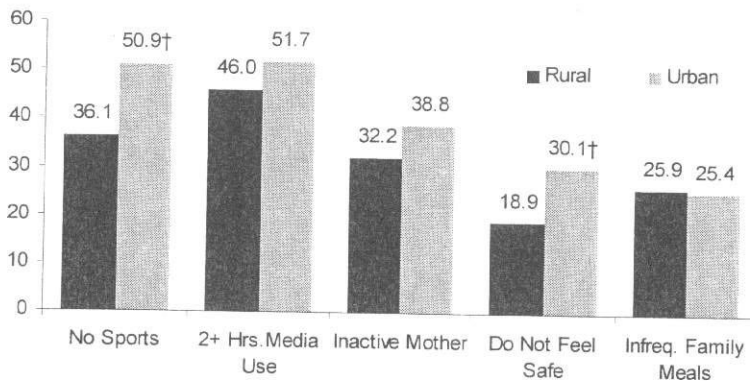
Highlights

- One-fourth of all minority rural children in Nevada were overweight or obese (25.6%).

Overweight, obesity and physical inactivity among Nevada children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Nevada Families (in percent)



- More than one-third of rural children (37.2%) in low income families (<200% FPL) were overweight or obese.
- More than one-third of rural children (36.1%) did not participate in after school sports.
- Nearly one-half of rural Nevada children (46.0%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	24.8	26.7	20.2	28.7†
Race/ethnicity				
White	24.6*	22.7	17.7*	27.1†
Non-White	25.6*	32.5	27.6*	30.7
Age (years)				
10-14	27.5*	29.2	15.2*	23.8
15-17	21.8*	22.0	26.2*	38.8
Sex				
Male	29.1*	30.0	18.9*	23.8
Female	20.4*	23.0	21.6*	34.3†
Family Income				
<200% FPL	37.2*	31.5	22.7*	29.3
≥ 200% FPL	14.9*	24.2	17.3*	26.4
Child's health status				
Excellent/Very Good Health	26.3*	24.3	15.6*	26.6†
Good/Fair/Poor Health	n/a	35.7†	50.1*	35.7

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 902 Nevada children.

Cells marked "n/a" have too few observations to display an estimate

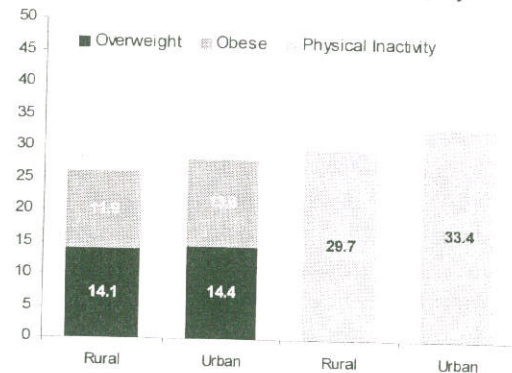
State Profiles: Nevada

### New Hampshire

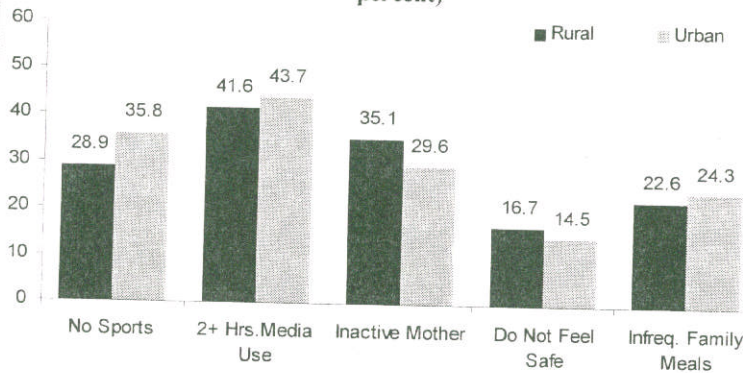
About one out of four rural children in New Hampshire aged 10-17 years old were overweight or obese (26.0%), as were 28.0% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 11.9% for rural children and 13.6% for urban children. Physical inactivity was common: nearly one out of three rural children (29.7%) and more than one-third of urban children (33.4%) failed to meet recommended levels for physical activity.

The 2003 NSCH did not have enough Minority rural respondents in New Hampshire to make overweight or obesity estimates by race categories.

Overweight, obesity and physical inactivity among New Hampshire children aged 10 – 17 (in percent)



Weight-Related Behaviors Among New Hampshire Families (in percent)



### Highlights

- More than one-third of rural children (35.8%) in low income families (<200% FPL) were overweight or obese.
- More than one out of four rural children (28.9%) did not participate in after school sports.
- More than two out of five rural children (41.6%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	26.0	28.0	29.7	33.4
Race/ethnicity				
White	26.3	27.6	30.2	32.8
Non-White	n/a	32.8*	n/a	41.5*
Age (years)				
10-14	25.7	31.3	28.3	26.9
15-17	26.6	22.7	32.1	43.6†
Sex				
Male	32.0	34.7	25.9	26.4
Female	20.0	20.7	33.7	40.8
Family Income				
<200% FPL	35.8*	34.8*	31.2*	33.0*
≥ 200% FPL	22.9	26.3	31.2	33.5
Child's health status				
Excellent/Very Good Health	24.6	26.6	27.9	31.7
Good/Fair/Poor Health	39.1*	41.5*	45.9*	49.7*

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 950 New Hampshire children. Cells marked "n/a" have too few observations to display an estimate.

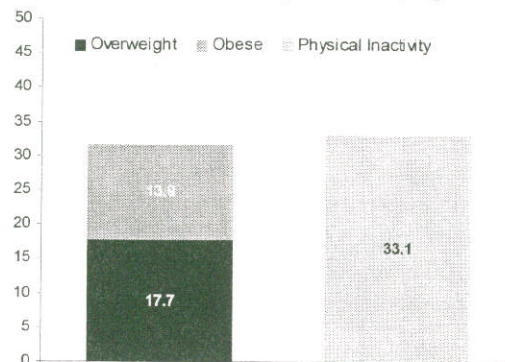


### New Jersey

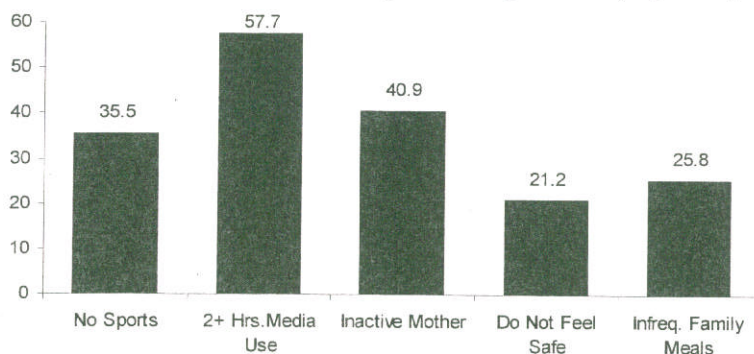
All New Jersey counties are classified as urban; therefore, rural analysis could not be developed. The information presented describes the characteristics of all New Jersey children.

Nearly one third of New Jersey children aged 10-17 years old were overweight or obese (31.6%). Obesity, a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 13.9% of children. Physical inactivity was common, with 33.1% of children not meeting recommended levels for physical activity.

Overweight, obesity and physical inactivity among New Jersey children aged 10 – 17 (in percent)



Weight-Related Behaviors Among New Jersey Families (in percent)



### Highlights

- More than two of every five New Jersey Minority children were overweight or obese (43.5%).
- More than two out of five children had physically inactive mothers (40.9%).
- More than one-half of the state's children spent more than two hours per day using electronic entertainment media (57.7%).

	Overweight or Obese	Physically Inactive
	<i>All</i>	<i>All</i>
<b>Overall</b>	31.6	33.1
Race/ethnicity		
White	25.3	28.2
Non-White	43.5	42.1
Age (years)		
10-14	35.1	32.5
15-17	25.5	34.0
Sex		
Male	36.3	25.4
Female	26.6	41.4
Family Income		
<200% FPL	44.3	43.1
≥ 200% FPL	27.5	30.6
Child's health status		
Excellent/Very Good Health	29.7	30.8
Good/Fair/Poor Health	42.7	45.8

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 930 New Jersey children.

State Profiles: New Jersey



### New Mexico

Rural children in New Mexico aged 10-17 years old were more likely to be overweight or obese (36.0%) than urban children (24.6%). The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was also higher among rural children (21.3%) than urban children (13.9%). Physical inactivity was common: more than a quarter of rural children (27.2%) and nearly one-third of urban children (31.4%) failed to meet recommended levels for physical activity.

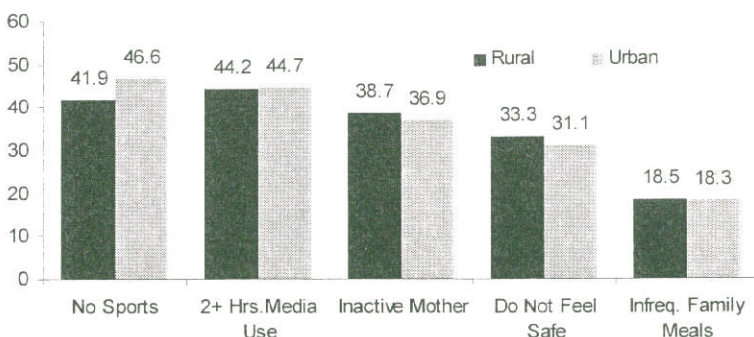
Overweight, obesity and physical inactivity among New Mexico children aged 10 – 17 (in percent)



#### Highlights

- More than two out of five of all Minority rural children in New Mexico were overweight or obese; 40.6% among Hispanics versus 28.7% of white children.
- Rural white children were more likely to be overweight or obese (28.7%) than urban white children (13.9%).

Weight-Related Behaviors Among New Mexico Families (in percent)



- Overweight/obese status was more common among children in low income families (<200% FPL) than those living in high income families.
- Rural children in higher income families (>200% FPL) were more likely to be overweight than their urban counterparts.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	36.0	24.6†	27.2	31.4
Race/ethnicity				
White	28.7	13.9†	32.0	31.9
Hispanic	40.6	31.1	30.8	31.4
Others	42.8*	31.0*	n/a	27.1*
Age (years)				
10-14	44.8	28.3†	21.4	25.7
15-17	23.2*	18.6	36.1	41.2
Sex†				
Male	41.2	25.8†	16.3	26.1†
Female	29.1*	23.5	41.9	36.3
Family Income				
<200% FPL	37.3	30.6	26.9	32.6
≥ 200% FPL	30.9	19.2†	26.8	32.3
Child's health status				
Excellent/Very Good Health	32.9	20.9†	23.1	29.6
Good/Fair/Poor Health	49.0*	42.1	43.4*	38.2

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 856 New Mexico children.

Cells marked "n/a" have too few observations to display an estimate

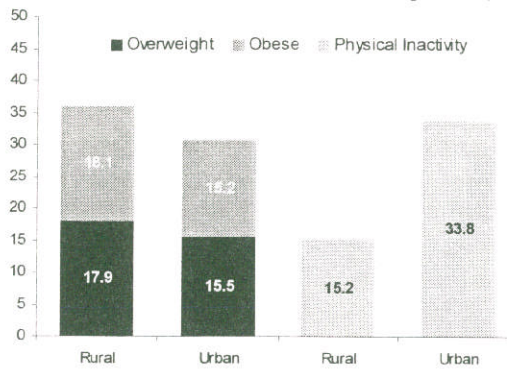


**New York**

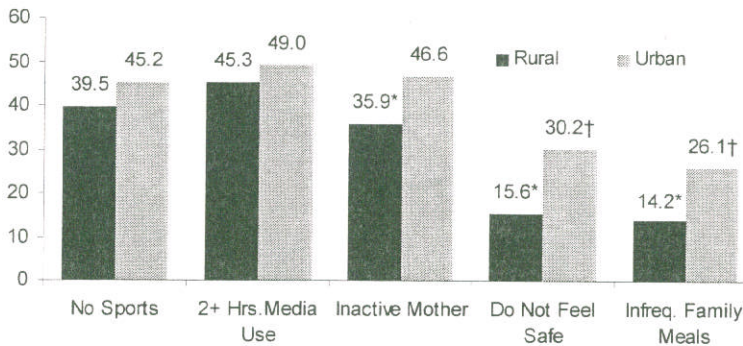
More than one out of three rural children in New York aged 10-17 years old were overweight or obese (36.0%), as were 30.7% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 18.1% for rural children and 15.2% for urban children. Rural children were less likely to not meet recommended levels for physical activity (15.2%) than urban children (33.8%).

*The 2003 NSCH did not have enough Minority rural respondents in New York to make overweight or obesity estimates by race categories.*

**Overweight, obesity and physical inactivity among New York children aged 10 – 17 (in percent)**



**Weight-Related Behaviors Among New York Families (in percent)**



**Highlights**

- More than half of rural children (51.0%) in low income families (<200% FPL) were overweight or obese.
- White rural children (15.0%) were less likely to fail to meet PA recommendations than white urban children (31.5%)
- Nearly one-half of rural children (45.3%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	36.0	30.7	15.2*	33.8†
<b>Race/ethnicity</b>				
White	35.4	25.2	15.0*	31.5†
Non-White	n/a	36.9	n/a	36.4
<b>Age (years)</b>				
10-14	48.9*	37.6	15.6*	32.3†
15-17	16.0*	17.0	14.5*	36.8†
<b>Sex</b>				
Male	47.9*	37.2	13.5*	24.8†
Female	17.1*	24.3	17.9*	42.4†
<b>Family Income</b>				
<200% FPL	51.0*	34.5	n/a	40.8
≥ 200% FPL	31.1*	28.2	19.9*	28.1
<b>Child's health status</b>				
Excellent/Very Good Health	36.9	27.8	12.0*	30.4†
Good/Fair/Poor Health	n/a	42.1	n/a	45.3

\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 935 New York children.  
 Cells marked "n/a" have too few observations to display an estimate

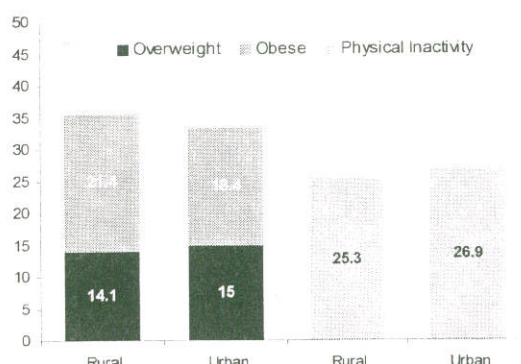
State Profiles: New York



North Carolina

More than one out of three rural children in North Carolina aged 10-17 years old were overweight or obese (35.5%), as were 33.4% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 21.4% for rural children and 18.4% for urban children. Physical inactivity was common: more than a quarter of rural children (25.3%) and urban children (26.9%) failed to meet recommended levels for physical activity.

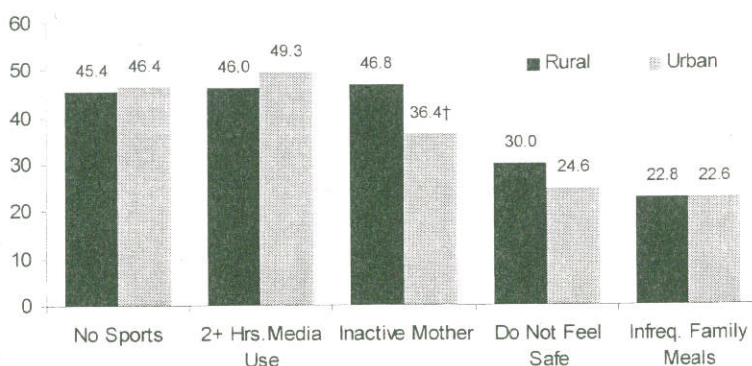
Overweight, obesity and physical inactivity among North Carolina children aged 10 – 17 (in percent)



Highlights

- More than half of all black rural children in North Carolina were overweight or obese (52.6%), compared to 25.5% of white children.

Weight-Related Behaviors Among North Carolina Families (in percent)



- Rural children (38.2%) in low income families (<200% FPL) were less likely to be overweight or obese than their urban counterparts (53.1%).
- Nearly one-half of rural children (45.4%) did not participate in after school sports.
- Almost one-half of rural North Carolina children (46.0%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	35.6	33.6	25.0	26.6
<b>Race/ethnicity</b>				
White	25.5	28.1	28.1	26.6
Black	52.6	45.0	20.1*	24.6*
Others	47.1*	38.2*	23.8*	36.0*
<b>Age (years)</b>				
10-14	42.3	36.3	20.2	21.7
15-17	24.6*	28.2	33.3	36.7
<b>Sex</b>				
Male	34.3	34.9	20.8*	21.4
Female	36.9	32.3	28.8	32.1
<b>Family Income</b>				
<200% FPL	38.2	53.1†	24.3*	31.2
≥ 200% FPL	32.6	23.2	24.9	24.0
<b>Child's health status</b>				
Excellent/Very Good Health	32.1	31.4	24.8	24.6
Good/Fair/Poor Health	51.5*	45.7	25.8*	37.1

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

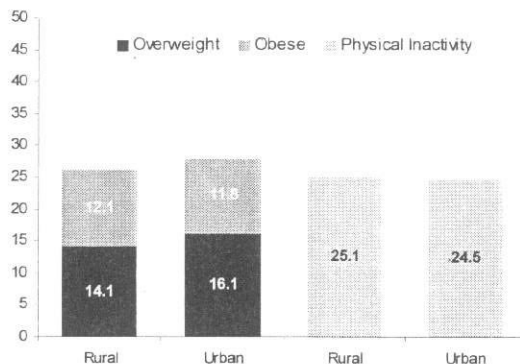
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 945 North Carolina children.



### North Dakota

About one-fourth of rural children in North Dakota aged 10-17 years old were overweight or obese (26.2%), as were 27.9% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 12.1% for rural children and 11.8% for urban children. Physical inactivity was common: about a quarter of rural children (25.1%) and urban children (24.5%) failed to meet recommended levels for physical activity.

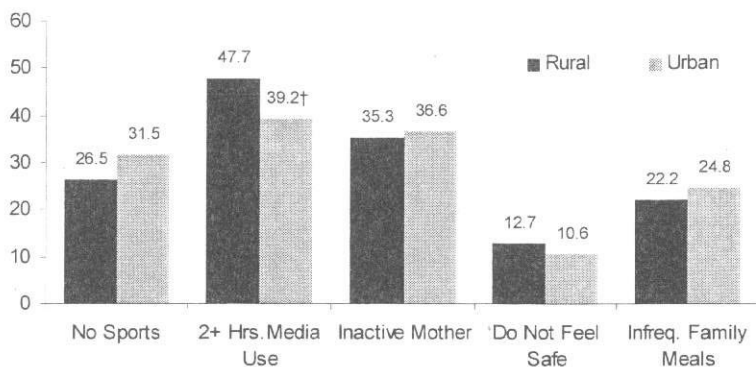
Overweight, obesity and physical inactivity among North Dakota children aged 10 – 17 (in percent)



#### Highlights

- More than half of all Minority rural children in North Dakota were overweight or obese (50.7%), as were 23.0% of white children.

Weight-Related Behaviors Among North Dakota Families (in percent)



- Nearly one-third of rural children (31.7%) in low income families (<200% FPL) were overweight or obese.
- Almost one-half of rural North Dakota children (47.7%) spent more than two hours per day using electronic entertainment media.
- More than one-third of rural children had physically

inactive mothers (35.3%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	26.2	27.9	25.1	24.5
Race/ethnicity				
White	23.0	27.6	22.9	24.2
Non-White	50.7*	30.3*	41.2*	26.6*
Age (years)				
10-14	29.2	34.6	22.2	21.0
15-17	22.5	16.3*	28.8	30.7
Sex				
Male	28.8	28.8	19.1	20.9
Female	23.7	26.9	31.2	28.2
Family Income				
<200% FPL	31.7	39.4*	26.4	16.3*
≥ 200% FPL	23.8	22.7	25.4	28.4
Child's health status				
Excellent/Very Good Health	24.8	28.2	23.1	24.4
Good/Fair/Poor Health	36.3*	25.5*	39.8*	24.8*

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 969 North Dakota children.

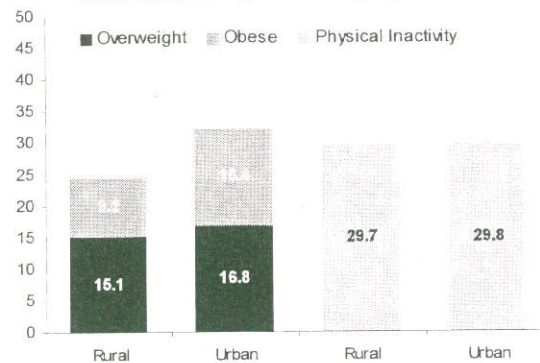
State Profiles: North Dakota

**Ohio**

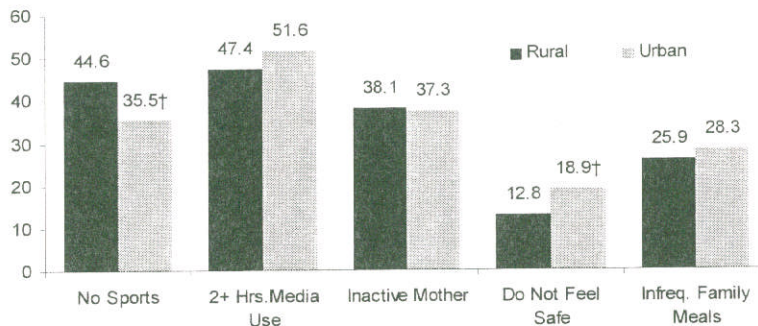
Rural children in Ohio aged 10-17 years old were less likely to be overweight or obese (24.3%) than urban children (32.2%). The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 9.2% for rural children and 15.4% for urban children. Physical inactivity was common: more than a quarter of rural children (29.7%) and urban children (29.8%) failed to meet recommended levels for physical activity.

*The 2003 NSCH did not have enough Minority rural respondents in Ohio to make overweight or obesity estimates by race categories.*

**Overweight, obesity and physical inactivity among Ohio children aged 10 – 17 (in percent)**



**Weight-Related Behaviors Among Ohio Families (in percent)**



**Highlights**

- Rural children in low income families (<200% FPL) were less likely to be overweight or obese (22.4%) than urban children (46.2%).
- Nearly one-half of rural children (44.6%) did not participate in after school sports.
- Almost half of rural Ohio children (47.4%) spent more than two hours per day using electronic entertainment media.
- More than one out of three rural children had physically inactive mothers (41.5%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	24.3	32.2†	29.7	29.8
Race/ethnicity				
White	24.1	30.1	30.2	29.1
Non-White	n/a	40.6	n/a	32.2
Age (years)				
10-14	26.8	34.4	24.3	26.4
15-17	19.5*	28.8	40.5*	34.9
Sex				
Male	32.3	36.2	22.4*	24.1
Female	17.3*	27.9†	36.0	36.0
Family Income				
<200% FPL	22.4*	46.2†	23.7*	35.3
≥ 200% FPL	24.4	25.7	33.2	28.5
Child's health status				
Excellent/Very Good Health	25.2	30.0	26.1	28.1
Good/Fair/Poor Health	18.0*	48.5†	51.9*	41.3

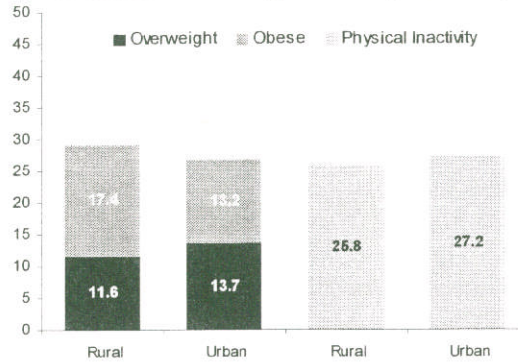
\* Sample size is less than 30  
 † Rural is significantly different than Urban at <0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 1,072 Ohio children  
 Cells marked "n/a" have too few observations to display an estimate.



Oklahoma

Nearly one out of three rural children in Oklahoma aged 10-17 years old were overweight or obese (29.0%), as were 26.9% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 17.4% for rural children and 13.2% for urban children. Physical inactivity was common: more than a quarter of rural children (25.8%) and urban children (27.2%) failed to meet recommended levels for physical activity.

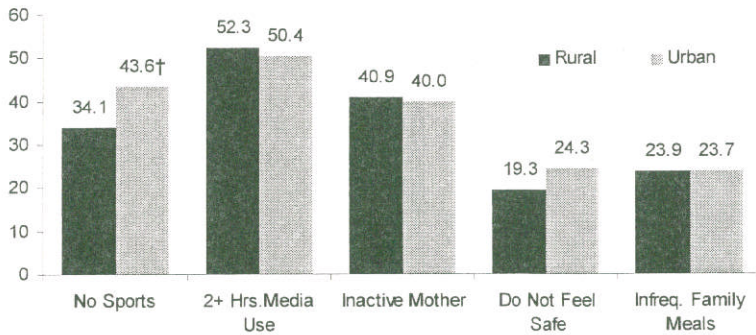
Overweight, obesity and physical inactivity among Oklahoma children aged 10 – 17 (in percent)



Highlights

- More than two out of five minority rural children in Oklahoma were overweight or obese (43.0%), as were 23.0% of white children.
- More than one-third of rural children (33.9%) in low income families (<200% FPL) were overweight or obese.

Weight-Related Behaviors Among Oklahoma Families (in percent)



- More than one-half of rural Oklahoma children (52.3%) spent more than two hours per day using electronic entertainment media.
- Nearly one out of five rural children (19.3%) did not feel safe in their environment.
- Nearly one out of four rural children (23.9%) had infrequent family meals.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	29.0	26.9	25.8	27.2
<b>Race/ethnicity</b>				
White	23.0	24.5	22.2	27.9
Non-White	43.0	31.6	32.6	25.8
<b>Age (years)</b>				
10-14	32.7	29.0	19.4	21.9
15-17	24.3	23.4	33.6	36.4
<b>Sex</b>				
Male	36.4	30.9	19.2	16.8
Female	20.8	22.7	33.0	38.2
<b>Family Income</b>				
<200% FPL	33.9	25.4	29.3	25.4
≥ 200% FPL	22.6	28.0	23.0	26.3
<b>Child's health status</b>				
Excellent/Very Good Health	23.0	24.1	22.7	25.1
Good/Fair/Poor Health	58.4*	42.7	40.7*	37.5

\* Sample size is less than 30 † Rural is significantly different than Urban at p<0.05  
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 919 Oklahoma children.

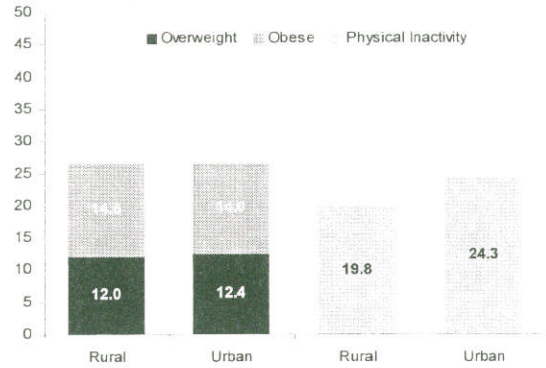
State Profiles: Oklahoma



**Oregon**

More than one-fourth of rural children in Oregon aged 10-17 years old were overweight or obese (26.5%), as were 26.4% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 14.5% for rural children and 14.0% for urban children. Physical inactivity was common: nearly one out of five rural children (19.8%) and nearly one-fourth of urban children (24.3%) failed to meet recommended levels for physical activity.

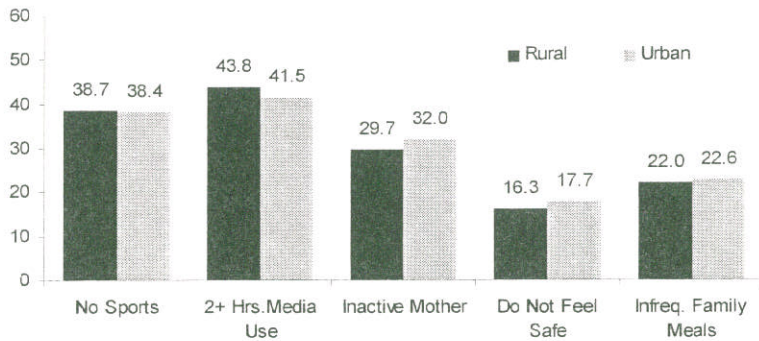
**Overweight, obesity and physical inactivity among Oregon children aged 10 – 17 (in percent)**



**Highlights**

- Nearly one-third of all Minority rural children in Oregon were overweight or obese (29.8%), as were 26.1% of white children.
- More than one-third of rural children (35.1%) in low income families (<200% FPL) were overweight or obese.

**Weight-Related Behaviors Among Oregon Families (in percent)**



- More than two out of five rural Oregon children (43.8%) spent more than two hours per day using electronic entertainment media.
- More than one out of four rural children had physically inactive mothers (29.7%).
- More than one out of five rural children had

infrequent family meals (22.0%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	26.5	26.4	19.8	24.3
Race/ethnicity				
White	26.1	24.7	16.8	24.5
Non-White	29.8*	34.0	34.7*	23.5
Age (years)				
10-14	31.4	29.7	12.6*	21.4†
15-17	19.3*	20.5	30.9*	29.8
Sex				
Male	36.8	28.6	19.5*	20.7
Female	15.1*	24.2	20.2*	27.8
Family Income				
<200% FPL	35.1*	34.2	15.6*	29.5†
≥ 200% FPL	18.9*	22.7	25.2	21.9
Child's health status				
Excellent/Very Good Health	24.5	23.6	17.4	21.1
Good/Fair/Poor Health	40.5*	46.5	33.9*	45.2

\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 963 Oregon children.

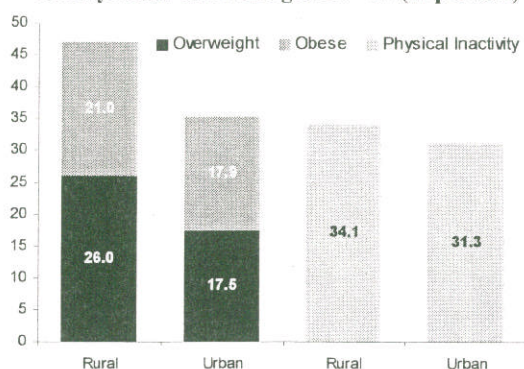


### Pennsylvania

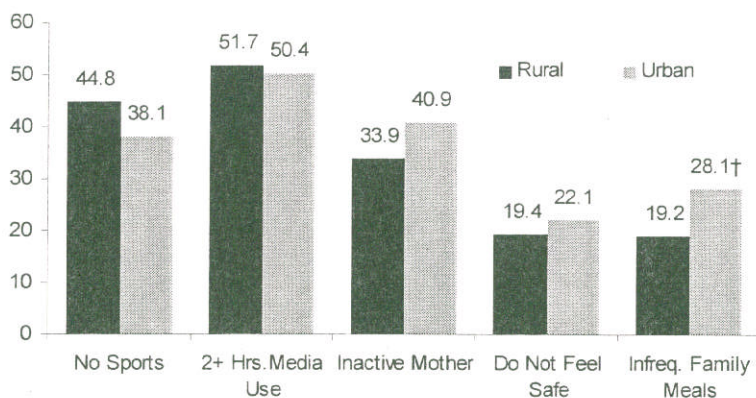
More than one out of four rural children in Pennsylvania aged 10-17 years old were overweight or obese (26.8%), as were 30.2% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 15.5% for rural children and 13.0% for urban children. Physical inactivity was common: more than a quarter of rural children (26.1%) and more than one-third of urban children (33.8%) failed to meet recommended levels for physical activity.

*The 2003 NSCH did not have enough Minority rural respondents in Pennsylvania to make overweight or obesity estimates by race categories.*

Overweight, obesity and physical inactivity among Pennsylvania children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Pennsylvania Families (in percent)



### Highlights

- Nearly one out of three of rural children (30.7%) in low income families (<200% FPL) were overweight or obese.
- Nearly one-half of rural children (44.8%) did not participate in after school sports.
- More than one-half of rural Pennsylvania children (51.7%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	26.8	30.2	26.1	33.8
Race/ethnicity				
White	26.0	27.3	26.1	29.7
Non-White	n/a	39.2	n/a	46.3
Age (years)				
10-14	30.1	34.3	27.2	28.9
15-17	20.2*	23.3	23.7*	42.3†
Sex				
Male	28.8*	33.1	24.3*	26.3
Female	24.9*	27.0	27.8*	42.4†
Family Income				
<200% FPL	30.7*	34.9	32.4*	39.4
≥ 200% FPL	23.0	28.3	24.5	31.4
Child's health status				
Excellent/Very Good Health	27.2	28.2	24.0	31.2
Good/Fair/Poor Health	24.1*	42.8	38.3*	49.4

\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 1,064 Pennsylvania children.  
 Cells marked "n/a" have too few observations to display an estimate

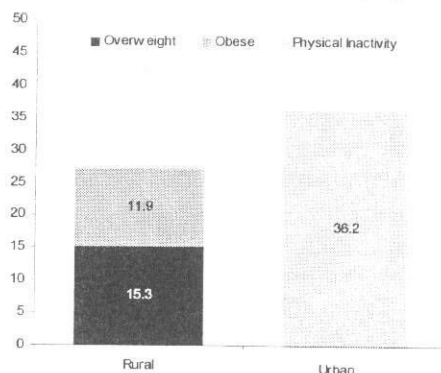
State Profiles: Pennsylvania

Rhode Island

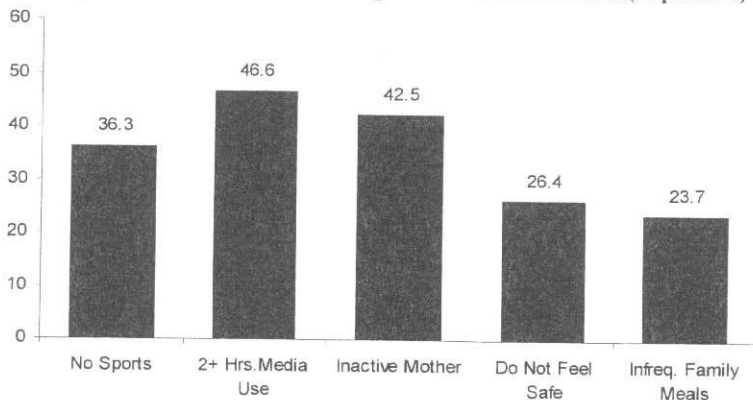
Of the 874 Rhode Island children surveyed by the NCHS, less than 1% lived in rural counties; therefore, estimates could not be developed at the rural level. The data presented describes all Rhode Island children.

More than one out of four urban Rhode Island children aged 10-17 years old were overweight or obese (27.2%) Obesity, a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was present in 11.9% of children. Physical inactivity (not meeting recommended levels for physical activity) was reported in about a third of children (36.2%).

Overweight, obesity and physical inactivity among Rhode Island children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Rhode Island Families (in percent)



Highlights

- More than one-third of children (38.1%) in low income families (<200% FPL) were overweight or obese.
- More than two out of five children had physically inactive mothers (42.5%).
- Nearly one out of four rural children (23.7%) had infrequent family meals.

	Overweight or Obese	Physically Inactive
	All	All
<b>Overall</b>	27.2	36.2
Race/ethnicity		
White	24.6	35.0
Non-White	36.3	40.2
Age (years)		
10-14	32.5	35.1
15-17	18.1	38.4
Sex		
Male	29.6	30.7
Female	24.6	42.2
Family Income		
<200% FPL	38.1	40.1
≥ 200% FPL	23.3	35.0
Child's health status		
Excellent/Very Good Health	25.4	34.3
Good/Fair/Poor Health	40.3	49.4

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

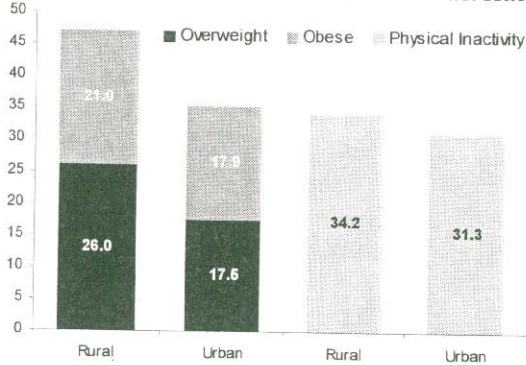
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 874 Rhode Island children.



### South Carolina

More than one out of three rural children in South Carolina aged 10-17 years old were overweight or obese (37.0%), as were 35.4% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 21.0% for rural children and 17.9% for urban children. Physical inactivity was common: more than a third of rural (34.1%) and nearly one-third of urban children (31.3%) failed to meet recommended levels for physical activity.

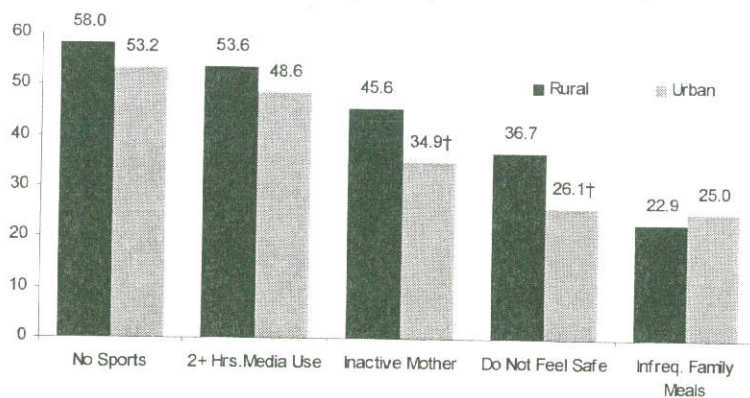
Overweight, obesity and physical inactivity among South Carolina children aged 10 – 17 (in percent)



### Highlights

- Nearly one-half of all black rural children in South Carolina were overweight or obese (47.8%), as were 22.8% of white children.

Weight-Related Behaviors Among South Carolina Families (in percent)



- More than one-third of rural children (36.9%) in low income families (<200% FPL) were overweight or obese.
- More than one-half of rural children (58.0%) did not participate in after school sports, the highest rate in the US.
- More than one-half of rural South Carolina children (53.6%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	37.0	35.4	34.2	31.3
Race/ethnicity				
White	22.8*	29.7	33.9	32.2
Black	47.8	47.8	32.7	27.9
Others	41.6*	23.9*	52.9*	43.5*
Age (years)				
10-14	42.7	39.6	31.0	24.1
15-17	25.2*	27.7	41.2	44.6
Sex				
Male	38.7	39.3	27.1	21.8
Female	35.4	31.4	40.7	41.0
Family Income				
<200% FPL	36.9	42.5	42.8	31.6
≥ 200% FPL	37.1	30.5	24.6	31.6
Child's health status				
Excellent/Very Good Health	33.9	31.1	30.1	28.9
Good/Fair/Poor Health	48.9*	58.6	50.4*	43.2

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 993 South Carolina children.

State Profiles: South Carolina



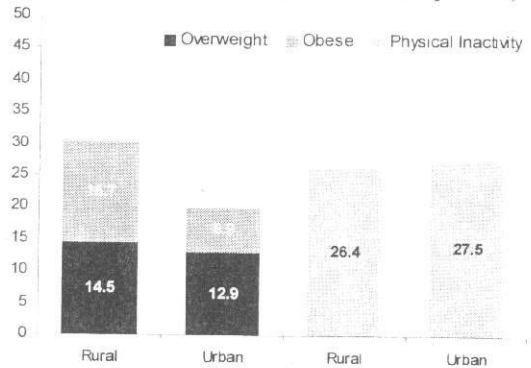
South Dakota

Rural children in South Dakota aged 10-17 years old were more likely to be overweight or obese (30.2%) than were urban children (19.8%). The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was higher among rural children (15.7%) than among urban children (6.9%). Physical inactivity was common: more than a quarter of rural children (26.4%) and urban children (27.5%) failed to meet recommended levels for physical activity.

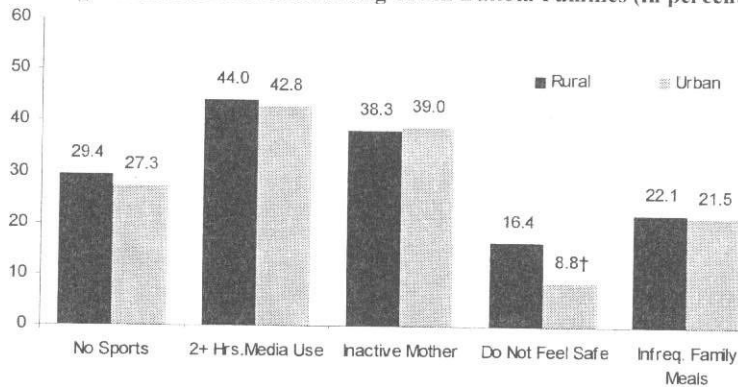
Highlights

- Nearly one-half of all Minority rural children in South Dakota were overweight or obese (47.2%), compared to 24.5% of white children.

Overweight, obesity and physical inactivity among South Dakota children aged 10 – 17 (in percent)



Weight-Related Behaviors Among South Dakota Families (in percent)



- Rural children (38.9%) in low income families (<200% FPL) were more likely to be overweight or obese than their urban counterparts (19.4%).
- Healthier rural children (38.9%) were more likely to be overweight than healthier urban children (19.5%)
- Nearly one-half of rural South Dakota children (44.0%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	30.2	19.8†	26.4	27.5
Race/ethnicity				
White	24.5	17.5	28.1	26.9
Non-White	47.2	38.3*	21.7*	32.7*
Age (years)				
10-14	32.7	21.3†	22.1	22.8
15-17	25.3	17.5*	35.2	34.8
Sex				
Male	37.4	22.7†	22.5	21.8
Female	22.2	17.1*	30.9	33.1
Family Income				
<200% FPL	38.9	19.4*†	26.3	30.2*
≥ 200% FPL	22.7	18.6	26.9	26.7
Child's health status				
Excellent/Very Good Health	29.3	19.5†	25.9	25.4
Good/Fair/Poor Health	35.9*	23.0*	30.0*	48.2*

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

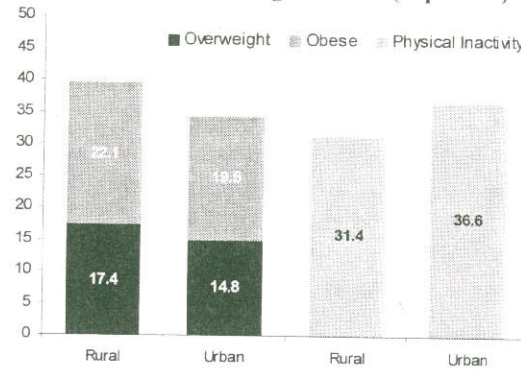
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 932 South Dakota children.



### Tennessee

More than one out of three rural children in Tennessee aged 10-17 years old were overweight or obese (39.5%), as were 34.3% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 22.1% for rural children and 19.5% for urban children. Physical inactivity was common: nearly one-third of rural (31.4%) and more than one-third of urban children (36.6%) failed to meet recommended levels for physical activity.

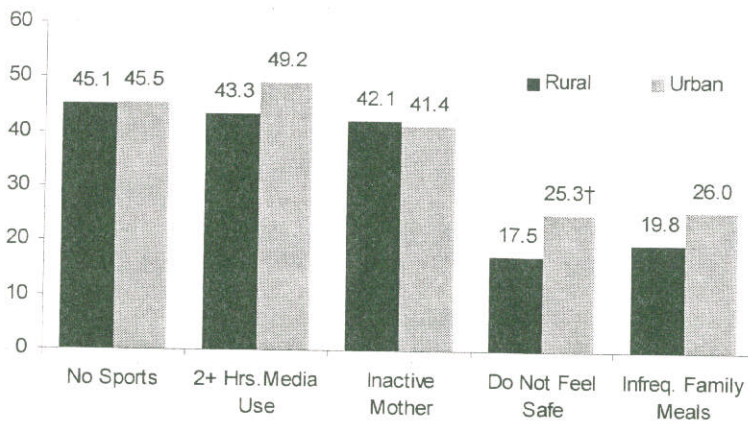
Overweight, obesity and physical inactivity among Tennessee children aged 10 – 17 (in percent)



### Highlights

- Nearly one-half of all Minority rural children in Tennessee were overweight or obese (47.5%), as were 38.6% of white children.

Weight-Related Behaviors Among Tennessee Families (in percent)



- Nearly one-half of rural children (47.0%) in low income families (<200% FPL) were overweight or obese.
- Nearly one-half of rural children (45.1%) did not participate in after school sports.
- More than two out of five rural children had physically inactive mothers (42.1%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	39.5	34.3	31.4	36.6
Race/ethnicity				
White	38.6	33.3	29.7	32.8
Non-White	47.5*	36.7	43.6*	45.3
Age (years)				
10-14	46.3	39.6	27.4	30.2
15-17	29.9	24.8	37.3	48.4
Sex				
Male	43.7	36.7	29.7	27.2
Female	34.9	31.9	33.6	46.4†
Family Income				
<200% FPL	47.0	46.3	31.2*	44.8
≥ 200% FPL	33.6	25.9	31.4	30.9
Child's health status				
Excellent/Very Good Health	36.0	31.8	29.4	35.3
Good/Fair/Poor Health	56.5*	49.9	41.0*	45.0

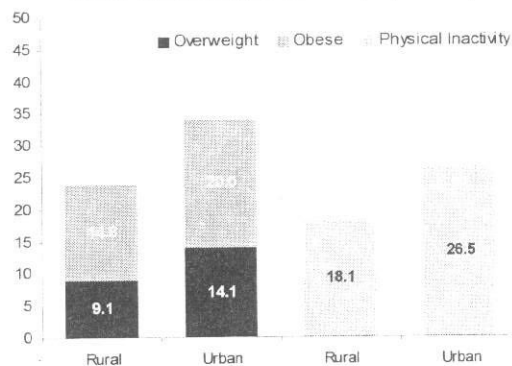
\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 874 Tennessee children.

State Profiles: Tennessee

Texas

Rural children in Texas aged 10-17 years old were less likely to be overweight or obese (23.9%) than urban children (34.1%). The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 14.8% for rural children and 20.0% for urban children. Physical inactivity was common: nearly one-fifth of rural children (18.1%) and more than one-fourth of urban children (26.5%) failed to meet recommended levels for physical activity.

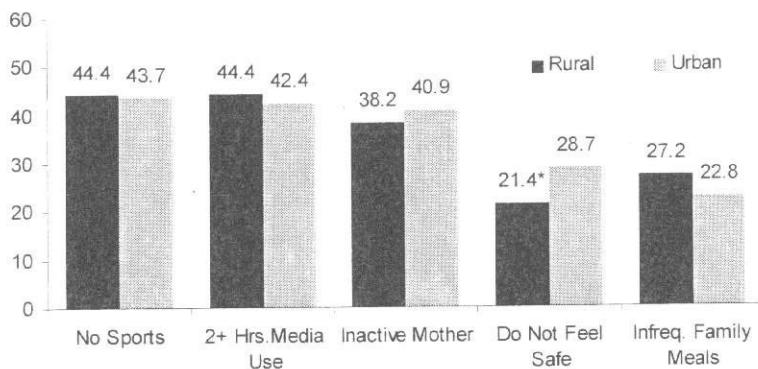
Overweight, obesity and physical inactivity among Texas children aged 10 – 17 (in percent)



Highlights

- More than one-fourth of all Minority rural children in Texas were overweight or obese (28.1%), as were 20.7% of white children.
- More than one-fourth of rural children (26.9%) in low income families (<200% FPL) were overweight or obese.

Weight-Related Behaviors Among Texas Families (in percent)



- Nearly one-half of rural children (44.4%) did not participate in after school sports.
- Rural children (13.6%) in higher income families (>200% FPL) were less likely to fail to meet PA recommendations than their urban counterparts (24.0%).

Nearly one-half of rural Texas children (44.4%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	23.9	34.1†	18.1*	26.5
<b>Race/ethnicity</b>				
White	20.7*	27.6	14.0*	22.1
Non-White	28.1*	39.3	22.5*	29.5
<b>Age (years)</b>				
10-14	22.2*	37.8†	12.5*	22.6†
15-17	26.6*	27.7	28.4*	34.1
<b>Sex</b>				
Male	30.6*	38.0	20.6*	22.7
Female	16.7*	30.5†	15.4*	30.2†
<b>Family Income</b>				
<200% FPL	26.9*	42.6	21.3*	30.1
≥ 200% FPL	21.1*	27.7	13.6*	24.0†
<b>Child's health status</b>				
Excellent/Very Good Health	21.9*	29.8	16.8*	20.7
Good/Fair/Poor Health	29.1*	49.8	21.2*	42.8†

\* Sample size is less than 30 † Rural is significantly different than Urban at p<0.05  
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 948 Texas children.

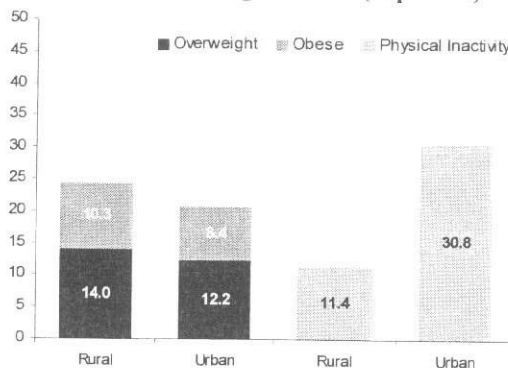


Utah

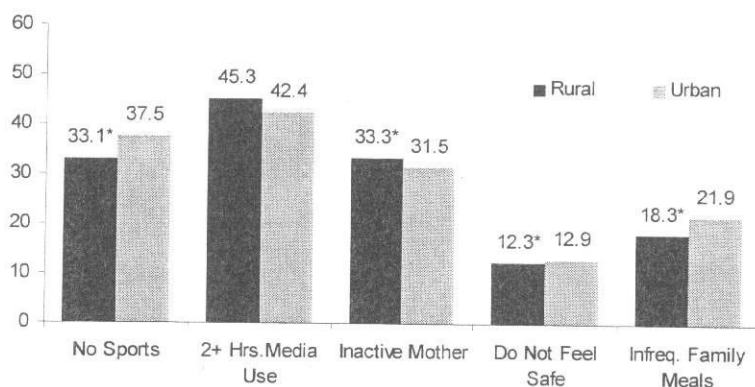
Nearly one out of four rural children in Utah aged 10-17 years old were overweight or obese (24.3%), as were 20.6% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 10.3% for rural children and 8.4% for urban children. Rural children (11.4%) were less likely to not meet recommended levels for physical activity than urban children (30.8%). Utah had the lowest proportion of rural children who failed to meet PA recommendations in the US.

*The 2003 NSCH did not have enough Minority rural respondents in Utah to make overweight or obesity estimates by race.*

Overweight, obesity and physical inactivity among Utah children aged 10 – 17 (in percent)



Weight-Related Behaviors Among Utah Families (in percent)



Highlights

- White rural children (13.2%) were less likely to fail to meet PA recommendations than their urban counterparts (30.8%).
- Rural children (9.1%) in higher income families (>200% FPL) were less likely to fail to meet PA recommendations than their urban counterparts (31.0%)
- Nearly one-half of rural Utah children (45.3%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	24.3*	20.6	11.4*	30.8†
Race/ethnicity				
White	22.9*	17.7	13.2*	30.4†
Non-White	n/a	35.5	n/a	32.9
Age (years)				
10-14	26.9*	24.4	n/a	26.3
15-17	20.3*	14.1	18.1*	39.0†
Sex				
Male	29.8*	22.5	n/a	23.8
Female	20.4*	18.4	13.4*	39.1†
Family Income				
<200% FPL	n/a	19.5*	n/a	31.1
≥ 200% FPL	30.7*	20.8	9.1*	31.0†
Child's health status				
Excellent/Very Good Health	21.8*	18.4	10.1*	29.2†
Good/Fair/Poor Health	n/a	41.1*	n/a	46.0

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 646 Utah children.

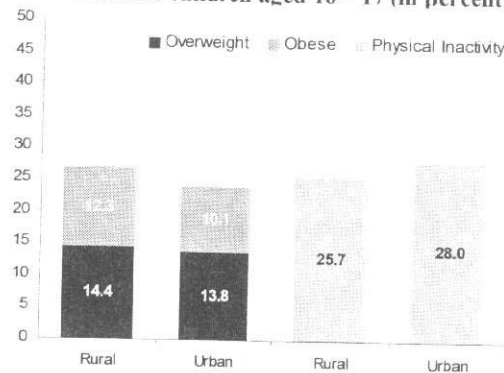
Cells marked "n/a" have too few observations to display an estimate

State Profiles: Utah

**Vermont**

More than one out of four rural children in Vermont aged 10-17 years old were overweight or obese (26.7%), as were 23.9% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 12.3% for rural children and 10.1% for urban children. Physical inactivity was common: more than a quarter of rural children (25.7%) and urban children (28.0%) failed to meet recommended levels for physical activity.

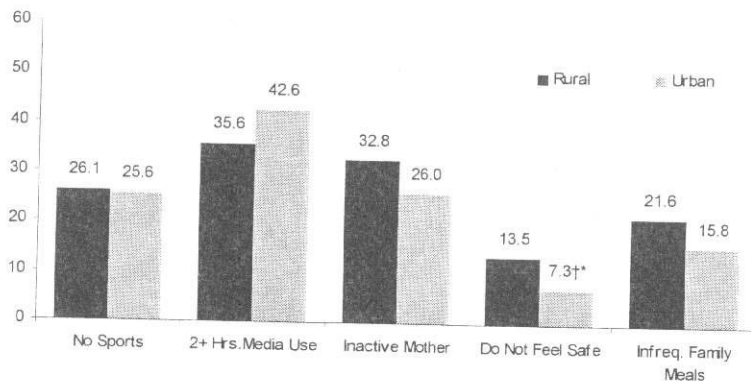
**Overweight, obesity and physical inactivity among Vermont children aged 10 – 17 (in percent)**



**Highlights**

- Only one out of five Minority rural children in Vermont was overweight or obese (20.4%), as were 27.1% of white children.
- More than one-fourth of rural children (29.1%) in low income families (<200% FPL) were overweight or obese.

**Weight-Related Behaviors Among Vermont Families (in percent)**



- More than one-third of rural Vermont children (35.6%) spent more than two hours per day using electronic entertainment media.
- Nearly one-third of rural children had physically inactive mothers (32.8%).
- More than one out of five rural children (21.6%) did not have frequent family meals.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	26.7	23.9	25.7	28.0
Race/ethnicity				
White	27.1	23.5	25.9	26.8
Non-White	20.4*	29.9*	23.4*	49.3*
Age (years)				
10-14	31.0	23.7	17.8	18.6
15-17	20.7	24.1*	37.4	48.0
Sex				
Male	30.3	30.4	19.5	23.3
Female	23.0	17.0*	32.1	32.9
Family Income				
<200% FPL	29.1	34.6*	30.6	39.2*
≥ 200% FPL	24.8	21.1	23.0	25.7
Child's health status				
Excellent/Very Good Health	25.5	24.4	24.2	27.3
Good/Fair/Poor Health	39.3*	--	41.8*	43.7*

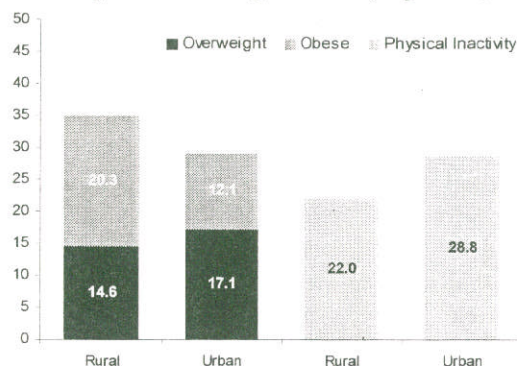
\* Sample size is less than 30  
 \* Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 979 Vermont children.  
 Cells marked "n/a" have too few observations to display an estimate



Virginia

More than one out of three rural children in Virginia aged 10-17 years old were overweight or obese (34.9%), as were 29.2% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 20.3% for rural children and 12.1% for urban children. Physical inactivity was common: nearly a quarter of rural children (22.0%) and more than one-fourth of urban children (28.8%) failed to meet recommended levels for physical activity.

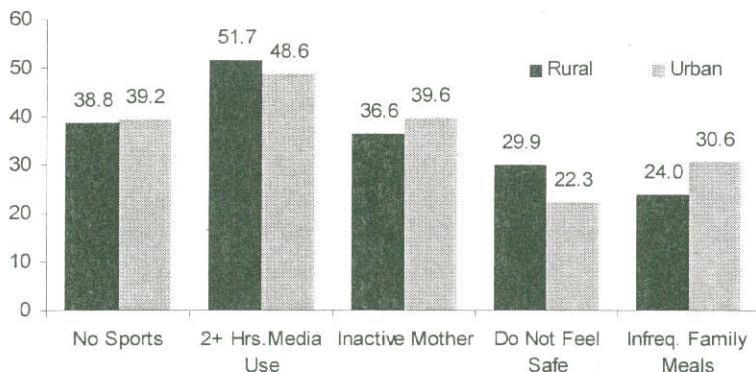
Overweight, obesity and physical inactivity among Virginia children aged 10 – 17 (in percent)



Highlights

- More than two out of five Minority rural children in Virginia were overweight or obese (43.7%), as were 30.8% of white children.

Weight-Related Behaviors Among Virginia Families (in percent)



- More than one-third of rural children (38.5%) in low income families (<200% FPL) were overweight or obese.
- Rural children (18.5%) in low income families (<200% FPL) were less likely to fail to meet PA recommendations than their urban counterparts (36.2%)
- More than one-half of rural Virginia children (51.7%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	34.9	29.2	22.0	28.8
<b>Race/ethnicity</b>				
White	30.8	23.0	20.0*	26.1
Non-White	43.7*	40.1	26.3*	33.4
<b>Age (years)</b>				
10-14	40.9	32.9	18.5*	23.3
15-17	23.6*	22.5	28.7*	39.1
<b>Sex</b>				
Male	48.1	37.0	17.2*	24.4
Female	21.6*	21.6	26.9*	33.2
<b>Family Income</b>				
<200% FPL	38.5*	36.4	18.5*	36.2†
≥ 200% FPL	36.2	27.3	23.2*	24.2
<b>Child's health status</b>				
Excellent/Very Good Health	34.8	27.2	17.6*	26.3
Good/Fair/Poor Health	36.0*	45.5	55.6*	48.3

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

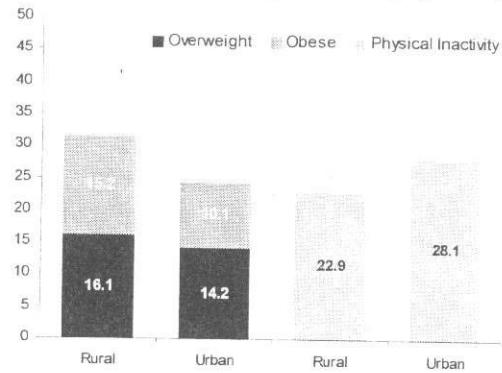
Data were drawn from the 2003 National Survey of Children's Health and are based on information for 1,022 Virginia children.

State Profiles: Virginia

Washington

Nearly one out of three rural children in Washington aged 10-17 years old were overweight or obese (31.3%), as were 24.3% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 15.2% for rural children and 10.1% for urban children. Physical inactivity was common: nearly a quarter of rural children (22.9%) and nearly one-third of urban children (28.1%) failed to meet recommended levels for physical activity.

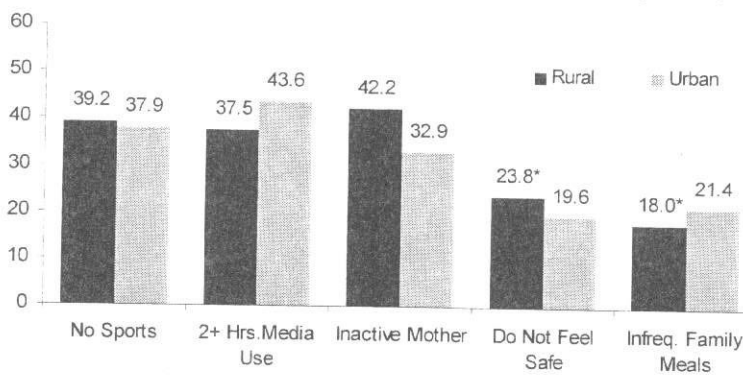
Overweight, obesity and physical inactivity among Washington children aged 10 – 17 (in percent)



Highlights

- Nearly one-half of all Minority rural children in Washington were overweight or obese (45.8%), as were 28.6% of white children.
- Nearly one-third of rural children (32.0%) in low income families (<200% FPL) were overweight or obese.

Weight-Related Behaviors Among Washington Families (in percent)



- Rural children (16.6%) from higher income families (>200% FPL) were less likely to fail to meet PA recommendations than their urban counterparts (29.2%)
- Nearly two out of five rural children (39.2%) did not participate in after school sports.
- More than two out of five rural children had physically inactive mothers (42.2%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	31.3	24.3	22.9*	28.1
Race/ethnicity				
White	28.6*	22.6	23.8*	27.4
Non-White	45.8*	29.6	18.8*	30.2
Age (years)				
10-14	29.8*	30.4	8.1*	23.9†
15-17	33.4*	14.4†	43.0*	35.3
Sex				
Male	35.7*	29.2	17.3*	23.4
Female	27.1*	19.5	28.4*	32.8
Family Income				
<200% FPL	32.0*	28.7	26.7*	26.9
≥ 200% FPL	33.9*	22.2	16.6*	29.2†
Child's health status				
Excellent/Very Good Health	29.9*	22.6	21.7*	27.0
Good/Fair/Poor Health	40.3*	33.7	29.2*	34.6

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 907 Washington children.

State Profiles: Washington

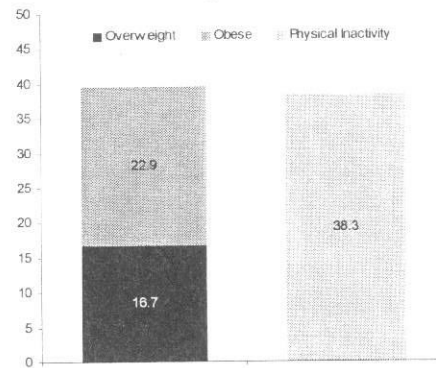


**Washington D.C.**

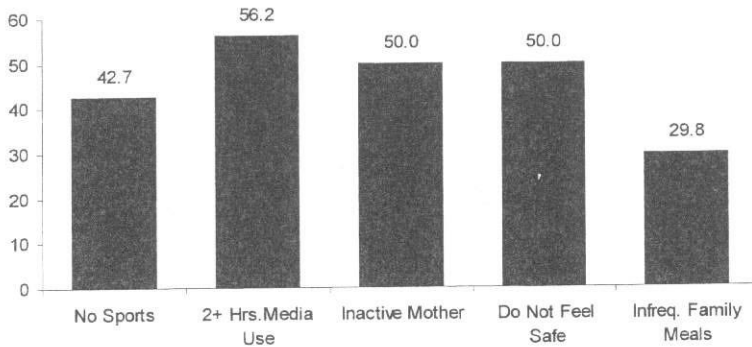
The District of Columbia is entirely an urban area; therefore, rural analysis could not be developed. The information below discusses the characteristics of the District as a whole.

Nearly two out of five of D.C. children aged 10-17 years old were overweight or obese (39.6%), the highest rate in the nation. Obesity (a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender) was present in 22.9% of children. Physical inactivity was common; 38.3% of children failed to meet recommended levels for physical activity.

**Overweight, obesity and physical inactivity among D.C. children aged 10 – 17 (in percent)**



**Weight-Related Behaviors Among D.C. Families (in percent)**



**Highlights**

- More than two of every five D.C. Minority children were overweight or obese (42.5%).
- More than one-half of D.C. children spent more than two hours per day using electronic entertainment media (56.2%).
- One-half of D.C. children (50.0%) did not feel safe in their environment.

	Overweight or Obese	Physically Inactive
	All	All
<b>Overall</b>	39.6	38.3
<b>Race/ethnicity</b>		
White	12.9*	13.6
Non-White	42.5	41.0
<b>Age (years)</b>		
10-14	43.0	37.4
15-17	32.0	40.4
<b>Sex</b>		
Male	41.0	28.9
Female	38.1	47.8
<b>Family Income</b>		
<200% FPL	48.8	46.0
≥ 200% FPL	31.0	28.0
<b>Child's health status</b>		
Excellent/Very Good Health	35.5	35.3
Good/Fair/Poor Health	57.9	49.8

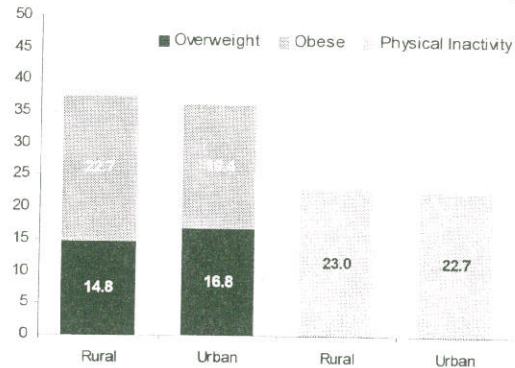
\* Sample size is less than 30  
 † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 874 D.C. children.

State Profiles: Washington, DC

West Virginia

More than one out of three rural children in West Virginia aged 10-17 years old were overweight or obese (37.5%), as were 36.2% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 22.7% for rural children and 19.4% for urban children. Physical inactivity was common: nearly a quarter of rural children (23.0%) and urban children (22.7%) failed to meet recommended levels for physical activity.

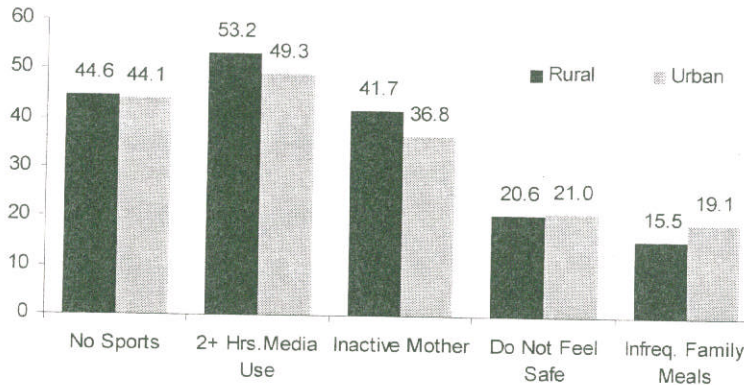
Overweight, obesity and physical inactivity among West Virginia children aged 10 – 17 (in percent)



Highlights

- Nearly one-half of all Minority rural children in West Virginia were overweight or obese (43.6%), as were 37.0% of white children.
- Nearly one-half of rural children (43.7%) in low income families (<200% FPL) were overweight or obese.

Weight-Related Behaviors Among West Virginia Families (in percent)



- Nearly one-half of rural children (44.6%) did not participate in after school sports.
- More than one-half of rural West Virginia children (53.2%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	37.5	36.2	23.0	22.7
Race/ethnicity				
White	37.0	34.1	24.0	22.1
Non-White	43.6*	58.4*	n/a	29.4*
Age (years)				
10-14	40.1	40.1	15.1	19.6
15-17	33.7	27.9	34.9	29.2
Sex				
Male	42.2	45.4	18.8	17.9
Female	32.7	26.5	27.0	27.5
Family Income				
<200% FPL	43.7	44.5	24.9	19.1
≥ 200% FPL	24.5	31.4	19.2	23.3
Child's health status				
Excellent/Very Good Health	36.2	33.8	21.4	21.6
Good/Fair/Poor Health	43.4	54.0	30.0*	29.8*

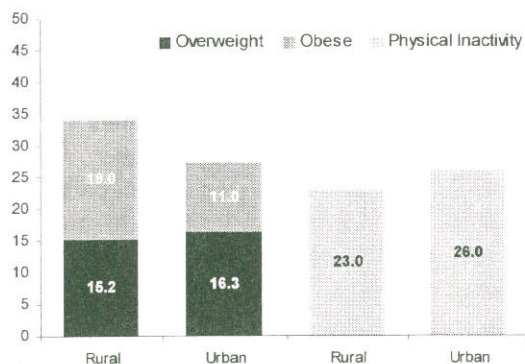
\* Sample size is less than 30  
 \* Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 949 West Virginia children.  
 Cells marked "n/a" have too few observations to display an estimate



### Wisconsin

More than one out of three rural children in Wisconsin aged 10-17 years old were overweight or obese (34.2%), as were 27.3% of urban children. Rural children (19.0%) were more likely to be obese (body mass index exceeding the 95<sup>th</sup> percentile for the age and gender) than urban children (11.0%). Physical inactivity was common: about one-fourth of rural children (23.0%) and more than one-fourth of urban children (26.0%) failed to meet recommended levels for physical activity.

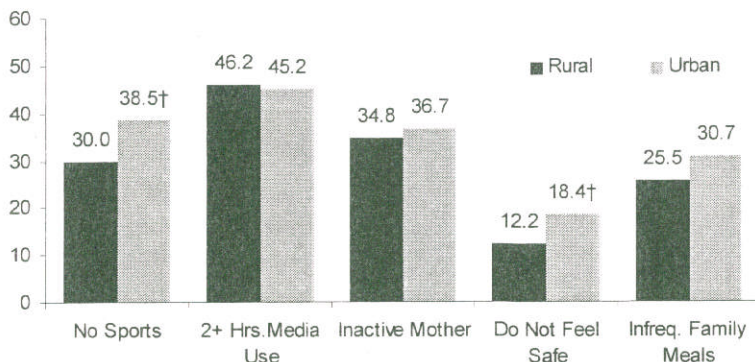
Overweight, obesity and physical inactivity among Wisconsin children aged 10 – 17 (in percent)



### Highlights

- More than two-thirds of all Minority rural children in Wisconsin were overweight or obese (70.9%), as were 31.9% of white children; the rural non-white estimate may be unreliable, however, due to small sample size.

Weight-Related Behaviors Among Wisconsin Families (in percent)



- Nearly one-half of rural children (49.3%) in low income families (<200% FPL) were overweight or obese.
- Nearly one-half of rural Wisconsin children (46.2%) spent more than two hours per day using electronic entertainment media.
- More than one out of three rural children had physically inactive mothers (34.8%).

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	34.2	27.3	23.0	26.0
Race/ethnicity				
White	31.9	24.2	22.4	25.3
Non-White	70.9*	39.1	n/a	28.7
Age (years)				
10-14	40.3	33.6	19.1*	23.3
15-17	24.8*	18.0	28.9	30.0
Sex				
Male	39.4	29.5	15.6*	22.7
Female	28.8*	25.0	30.5	29.4
Family Income				
<200% FPL	49.3*	40.5	30.3*	31.5
≥ 200% FPL	29.9	22.4	19.8	25.1
Child's health status				
Excellent/Very Good Health	32.5	23.9	21.5	23.5
Good/Fair/Poor Health	51.1*	50.4	36.7*	42.9

\* Sample size is less than 30      † Rural is significantly different than Urban at p<0.05  
 Data were drawn from the 2003 National Survey of Children's Health and are based on information for 935 Wisconsin children.  
 Cells marked "n/a" have too few observations to display an estimate

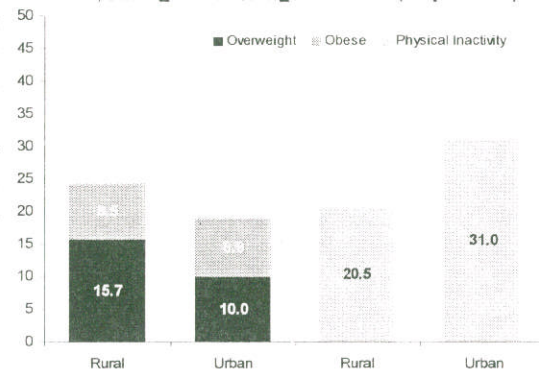
State Profiles: Wisconsin



**Wyoming**

Nearly one out of four rural children in Wyoming aged 10-17 years old were overweight or obese (24.2%), as were 18.9% of urban children. The obesity rate, that is a body mass index exceeding the 95<sup>th</sup> percentile for the age and gender, was 8.5% for rural children and 8.9% for urban children. Rural children (20.5%) were less likely to not meet recommended levels for physical activity than urban children (31.0%)

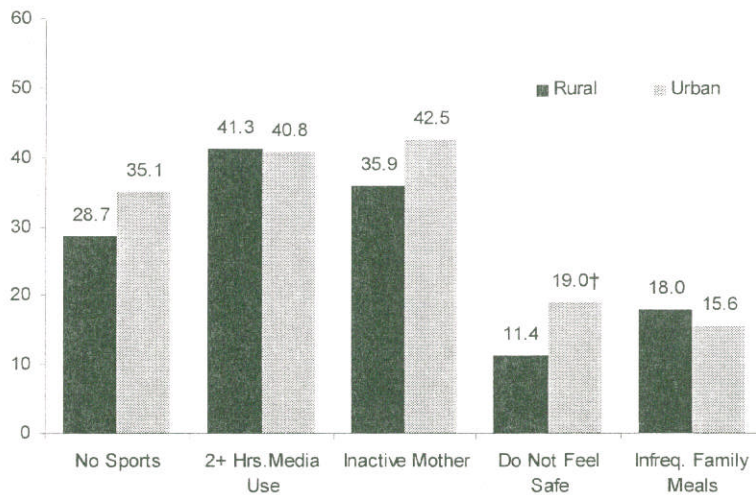
**Overweight, obesity and physical inactivity among Wyoming children aged 10 – 17 (in percent)**



**Highlights**

- More than one-fourth of all Minority rural children in Wyoming were overweight or obese (29.4%), as were 23.5% of white children.

**Weight-Related Behaviors Among Wyoming Families (in percent)**



- Nearly one-third of rural children (32.5%) in low income families (<200% FPL) were overweight or obese.
- Rural white children (20.6%) were less likely to fail to meet PA recommendations than urban white children (32.4%)
- More than two-fifths of rural Wyoming children (41.3%) spent more than two hours per day using electronic entertainment media.

	Overweight or Obese		Physically Inactive	
	Rural	Urban	Rural	Urban
<b>Overall</b>	24.2	18.9	20.5	31.0†
Race/ethnicity				
White	23.5	18.6	20.6	32.4†
Non-White	29.4*	20.7*	20.3*	21.8*
Age (years)				
10-14	30.6	22.1	16.7	25.0
15-17	15.2	14.1*	26.3	40.1†
Sex				
Male	28.8	24.1*	15.0	31.6†
Female	19.2	13.3*	26.7	30.2
Family Income				
<200% FPL	32.5	26.9*	18.0*	42.0*†
≥ 200% FPL	19.9	13.9*	21.3	26.8
Child's health status				
Excellent/Very Good Health	22.6	17.9	20.4	27.1
Good/Fair/Poor Health	38.5*	29.7*	21.7*	71.0*†

\* Sample size is less than 30

† Rural is significantly different than Urban at p<0.05

Data were drawn from the 2003 National Survey of Children's Health and are based on information for 945 Wyoming children.



Technical Notes and References

## Technical Notes

### *About the Survey*

The National Survey of Children's Health (NSCH) was fielded using the State and Local Area Integrated Telephone Survey (SLAITS) mechanism. SLAITS is conducted by the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS). It uses the same large-scale random digit-dial sampling frame as the CDC's National Immunization Survey.<sup>9</sup> Approximately 1.9 million telephone numbers were randomly generated for inclusion in the NSCH. After eliminating numbers that were determined to be nonresidential or nonworking, the remaining numbers were called to identify households with children less than 18 years of age. From each household with children, one was randomly selected to be the focus of the interview. The respondent was the parent or guardian in the household who was most knowledgeable about the health and health care of the children under 18 years of age. For 79 percent of the children, the respondent was the mother. Respondents for the remaining children were fathers (17 percent), grandparents (3 percent), or other relatives or guardians (1 percent).

### *Data Collection*

Data collection began on January 29, 2003 and ended on July 1, 2004, with interviews conducted from telephone centers in Chicago, Illinois; Las Vegas, Nevada; and Amherst, Massachusetts. A computer-assisted telephone interviewing system was used to collect the data. A total of 102,353 interviews were completed for the NSCH, with 87 percent of the interviews completed in 2003. The number of completed interviews varied by State, ranging from 1,848 in New Mexico to 2,241 in Louisiana and Ohio, with one exception: Only 1,483 interviews were completed in Utah. More than 2,000 interviews were completed in 25 states.

The cooperation rate, which is the proportion of interviews completed after a household was determined to include a child under age 18, was 68.8 percent. The national weighted response rate, which includes the cooperation rate as well as the resolution rate (the proportion of telephone numbers identified as residential or nonresidential) and the screening completion rate (the proportion of households successfully screened for children), was 55.3 percent.

Several efforts were made to increase response rates, including sending letters to households in advance to introduce the survey, leaving toll-free numbers on potential respondents' answering machines to allow them to call back, and providing small monetary incentives for those households with children who initially declined to participate.<sup>10</sup>

### *Data Analysis*

Statistical analyses were conducted using SAS-Callable SUDAAN, to account for the weights and the complex survey design. The sampling weights assigned to each data record were based on the probability of selection of each household telephone number within each state, with adjustments that compensate for households that have multiple telephone numbers, for households without telephones, and for nonresponse. With data from the U.S. Bureau of the Census, the weights were also adjusted by age, sex, race,



ethnicity, household size, and educational attainment of the most educated household member to provide a dataset that was more representative of each state's population of noninstitutionalized children less than 18 years of age. For this chartbook, the data were subset to children aged 10-17 because parent-reported height and weight are more reliable for this age group than they are for younger children.<sup>10</sup> Responses of "don't know" and "refuse to answer" were counted as missing data.

Data analysis was performed separately for the national, regional, and state data. The regions were defined according to the CDC classification.<sup>11</sup> Children's areas of residence were classified at the county level using the 2003 Urban Influence Codes from the U.S. Department of Agriculture's Economic Research Service.<sup>12</sup> The 2003 Urban Influence Codes divide the 3,141 counties, county equivalents, and the independent cities in the United States into 12 groups based on population and commuting data from the 2000 Census of Population, in the case of metropolitan counties, and adjacency to metro area in the case of nonmetropolitan counties. Metro-nonmetro definition is based on the official metro status announced by the Office of Management and Budget in June 1, 2003.<sup>13</sup> The 12 UICs were grouped into two categories for the National, Regional and State profiles. UICs of 1 and 2 were classified as "Urban," while all other UICs were classified as rural. Analysis across levels of rurality used three groups: "micropolitan rural" (UICs 3, 5, and 8), "small rural" (UICs 4, 6, and 7), and "small remote rural" (UICs 9, 10, 11, and 12).

The three primary outcome variables are overweight, obesity, and failure to meet physical activity recommendations. Children whose BMI-for-age and -gender is in the 85th percentile or greater but lower than the 95th percentile have been classified as overweight, and those with BMI-for-age and -gender in the 95th percentile or greater have been classified as obese. Percentiles are based on sex and age.<sup>14</sup> Children failed to meet physical activity recommendations if they had less than three days of exercise or physical activity in a week for at least 20 minutes that made them sweat and breathe hard, such as basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or similar aerobic activities.

The prevalence of overweight, obesity, and failure to meet physical activity recommendations is presented by several socio-demographical factors, such as age, gender, race and ethnicity, household income and child's perceived health status. Race / ethnicity of children were classified according to the NSCH definitions. All children identified as Hispanic are classified as such, regardless of their race. Non-Hispanic whites (hereafter "whites") and non-Hispanic blacks (hereafter "blacks") are presented separately. All other races are collectively classified as "other." Race/ethnicity was presented differently by state, depending upon the race distribution and sample size for the minorities in a given state. The classifications for Alaska were white, American Indian/Alaska Native, and other combined races. For States like Alabama and South Carolina that have large African American populations, the race and ethnicity variable was classified as white, black, and other combined races. Similarly, New Mexico had a notably large Hispanic population, thus race / ethnicity was classified as white, Hispanic, and other combined races. For all other states, the race and ethnicity variable was classified as white and non-white. In the national profile, the race and ethnicity has been categorized as Hispanic, white, black, and other races.

The household income value was either the actual dollar amount reported by respondents who reported an exact household income or it was obtained through a series of questions asking respondents whether the household income was below, exactly at, or



level will be more precise than estimates at the urban/rural level, and those for all children will be more precise than estimates for subgroups of children (for example, children 10-14 years of age or children within the same race). Any estimate that had a sample size of 5 or less has been eliminated from this report due to reliability issues. For similar reasons, all estimates based on sample sizes of 30 or less have been marked. A few states, including New Jersey, Massachusetts, and the District of Columbia, have no or an extremely small rural population and, therefore, only urban estimates have been presented for them.

#### *Data Limitations*

The findings presented here are based entirely on parental reports. However, the majority of questions have been tested for validity when reported by parents. In some cases, data are missing for some respondents for some questions. In addition, certain populations of children, such as those with no telephones at home or those living in an institutional setting, are excluded from the survey. Information on main outcomes in this survey was based on the reports from a parent or guardian who was most knowledgeable about the child. This may be more prone for errors than the measured weight and height or the physical activity levels obtained from an objective measure such as pedometers or accelerometers. Although we can not validate these measures, we found the estimates of overweight and obesity from the NSCH were not much different from the estimates from the NHANES data.

#### *Availability of the Data*

All data collected in the NSCH are available to the public on the NCHS ([www.cdc.gov/nchs](http://www.cdc.gov/nchs)) and MCHB ([www.mchb.hrsa.gov](http://www.mchb.hrsa.gov)) Web sites, except for data suppressed to protect the confidentiality of the survey subjects. Data documentation and additional details on the methodology are available from the NCHS: [www.cdc.gov/nchs/slairs.htm](http://www.cdc.gov/nchs/slairs.htm). Interactive data queries are possible through the Data Resource Center on Child and Adolescent Health (DRC) for the NSCH: [www.nschdata.org](http://www.nschdata.org). The DRC provides immediate access to the survey data, as well as resources and assistance for interpreting and reporting findings.



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