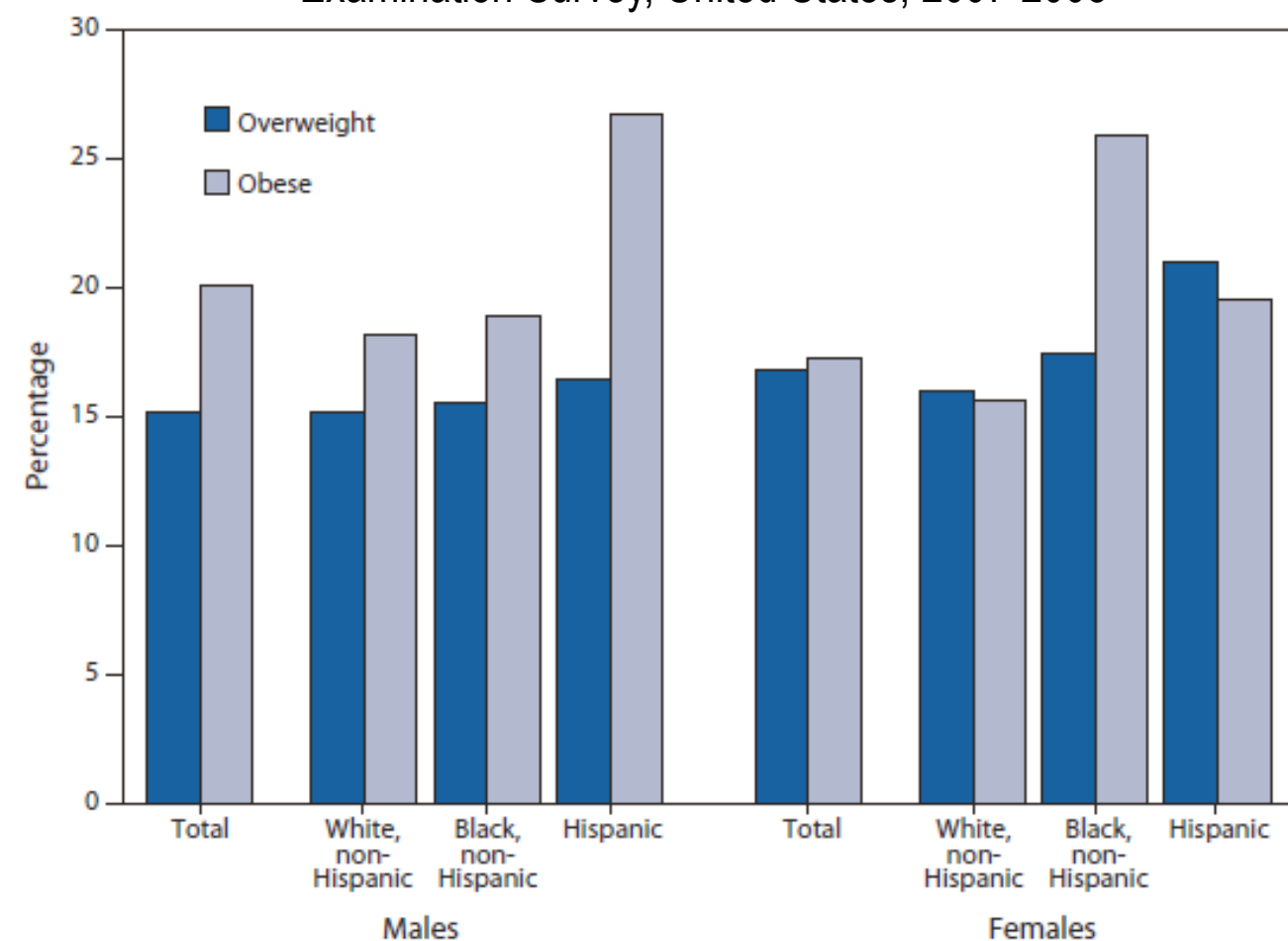


Childhood Obesity

- Childhood obesity has more than tripled in the past 30 years, with prevalence rates increasing from 6.5% in 1980 to 19.6% in 2008 among children aged 6 to 11 years, and from 5.0% to 18.1% among adolescents aged 12 to 19.
- According to the 2007 DHHS Youth Risk Behavior Survey, 16% of Texas high school students were obese (vs 13% nationally).
- Minorities suffer from more pronounced overweight and obesity problems, with 21 percent higher prevalence of obesity among Hispanics and 51 percent higher among African Americans compared with non-Hispanic white population between 2006 and 2008.

Prevalence of Overweight and Obesity Among Youths Aged 6-19 Years, by Race/Ethnicity and Sex--National Health and Nutrition Examination Survey, United States, 2007-2008



Source: Ogden CL, Carroll MD, Curtin LR, Lamb MM, Flegal KM. Prevalence of high body mass index in U.S. children and adolescents, 2007-2008. JAMA 2010;303:242-9.

Laredo Independent School District

District Characteristics

- 20 elementary schools, 4 middle schools, 4 high schools, 3 magnet schools, and 1 Early College high school
- Primarily Hispanic students (99.5%)
- Economically disadvantaged (96.5% vs. 56.7% statewide.)
- At-Risk (82.2% vs. 48.3% statewide)

County Characteristics

- Low per capita income (\$13,610 county-wide vs. \$27,466 nationwide)
- Low educational attainment (61.9% of county population has completed high school or higher vs. 84.5% nationwide)
- High rates of obesity (34% countywide vs. 26% nationwide)
- High prevalence of diabetes (17% countywide vs. 8% nationwide).

Research Objective

To assess the impact of a coordinated school-based intervention on obesity rates among Hispanic children in Texas-Mexico border communities.

Intervention Context: Local Wellness Policy

District Goal:

Laredo ISD shall be recognized for programs which support health and wellness for employees and students.

Wellness Policy:

- Is developed in consultation with School Health Advisory Council
- Is adopted by School Board
- States wellness goals (advance student health, reduce childhood obesity, promote general wellness)
- Sets nutrition guidelines for meals, parties, and after hour events
- Establishes school-wide nutrition education program
- Sets minimum level for physical activity at elementary and middle schools, promotes physical activity for all students and staff
- Defines school-based activities to promote healthy eating and physical activity, and wellness for all LISD stakeholders
- Names district employee charged with implementation and accountability

Timeline of Implemented Policies:

- Diabetic risk and BMI screening by School Nurses, 1999
- Texas Public School Nutrition Policy Regulations, 2004
- District review and approval of any competitive food sales, 2005
- Elementary Snack and Party Rules, 2005
- Fresh fruits and vegetables daily, 2005
- Food Court Concept at Secondary Campuses, 2005
- Diabetes prevention program in selected elementary schools, 2006
- Local Wellness Policy adopted, 2006
- Physical activity expanded beyond state minimum, 2007
- Closed campuses implemented at all campuses, 2007
- Healthy TAKS snacks, 2007
- District-wide implementation of Bienestar Coordinated School Health Curriculum, 2008
- Foods of minimum nutritional value not allowed at any time, 2009

Measures

- Demographics: date of birth, gender, grade level.
- Anthropometric data: height and weight used to calculate an age- and gender-specific body mass index (BMI) percentile.
- Children were classified according to BMI percentile for age and gender in accordance with the Centers for Disease Control and Prevention standardized groups:
 - Normal weight (BMI < 85th percentile)
 - At risk for overweight (85th percentile ≤ BMI < 95th percentile)
 - Obese (BMI ≥ 95th percentile)

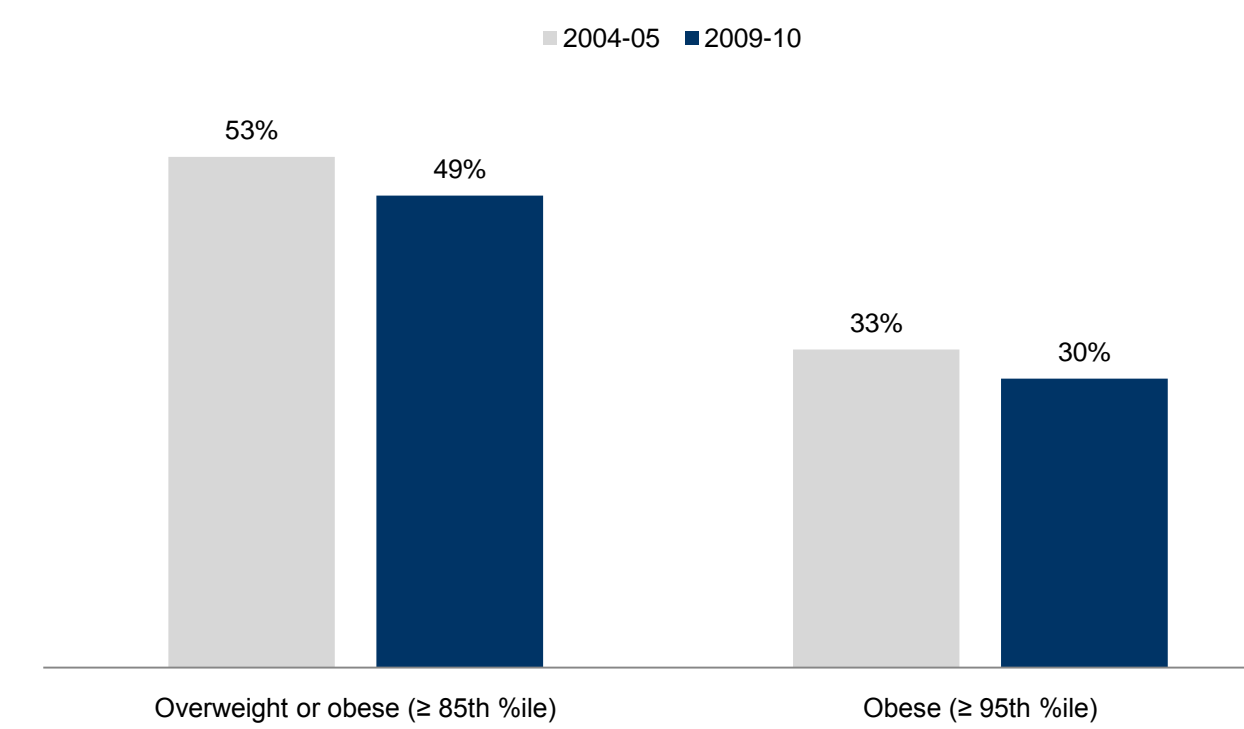
Sample

Year	Male	Female	Total
2004-2005			
7 th grade	645	603	1248
9 th grade	687	719	1406
2009-2010			
7 th grade	858	834	1692
9 th grade	991	940	1931

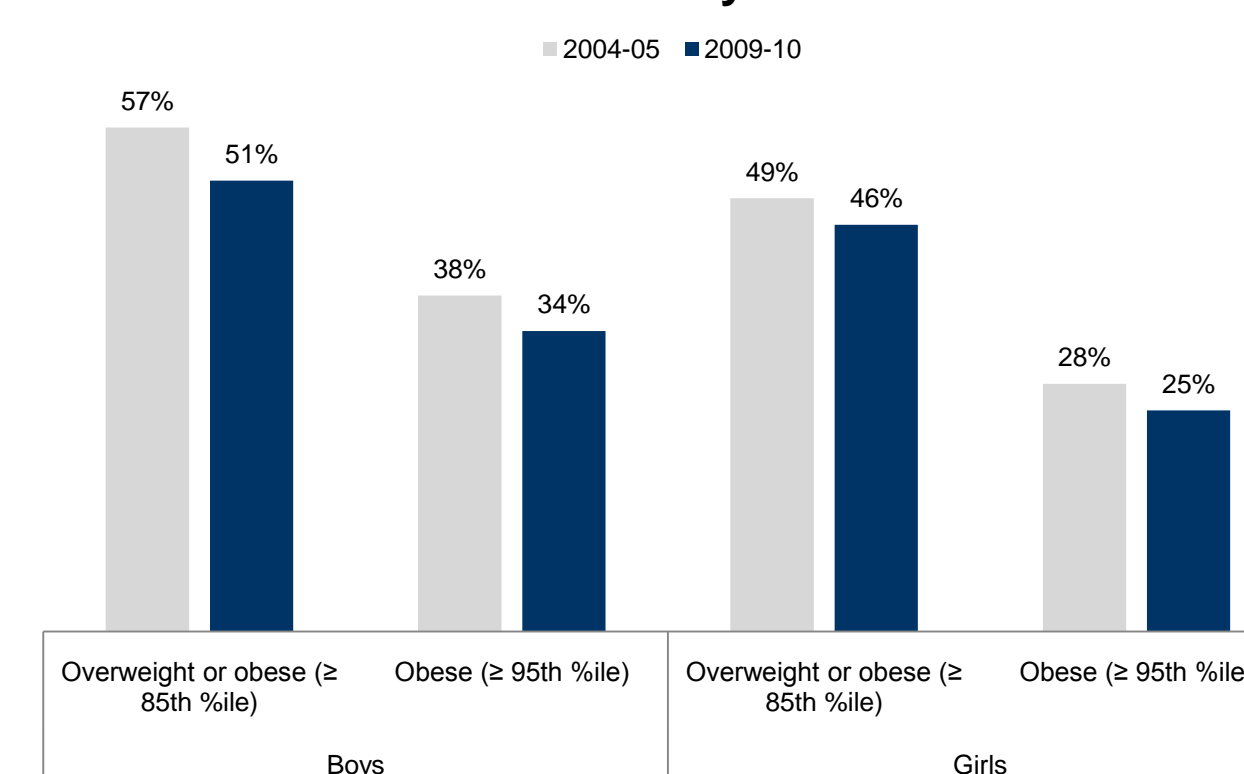
Results

7th Graders

N = 1248 (2004-05), 1692 (2009-10)

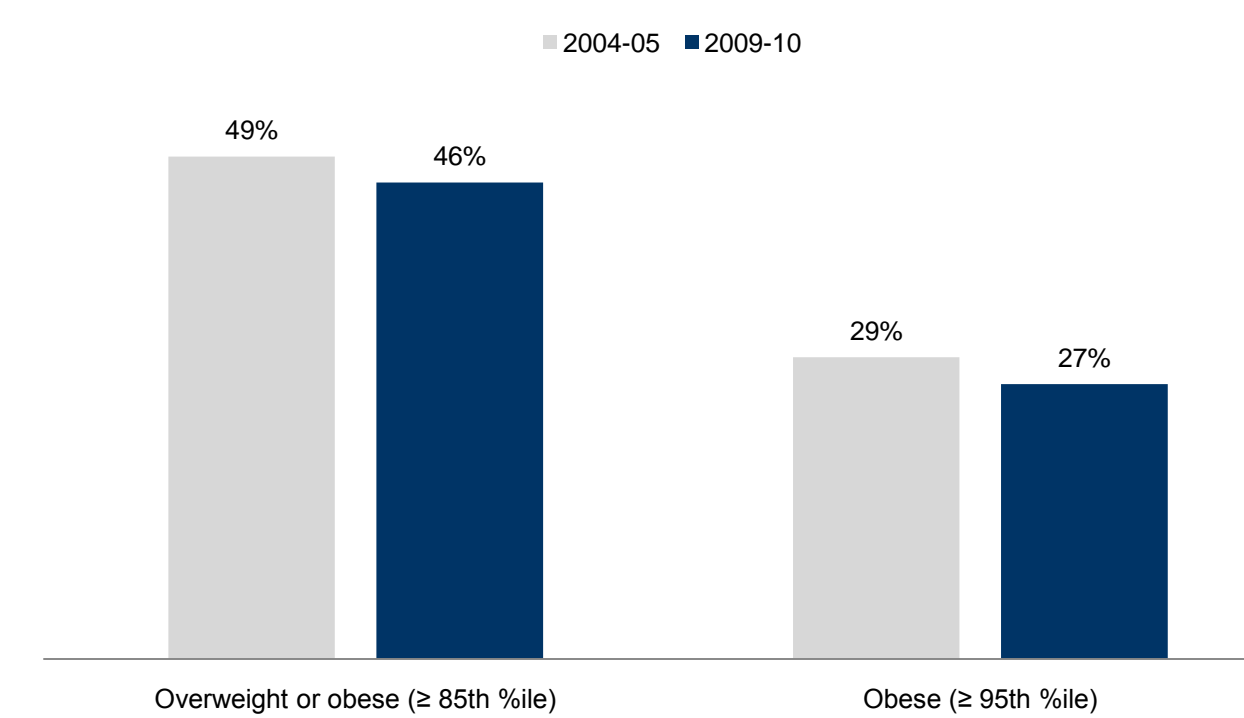


7th Graders by Gender

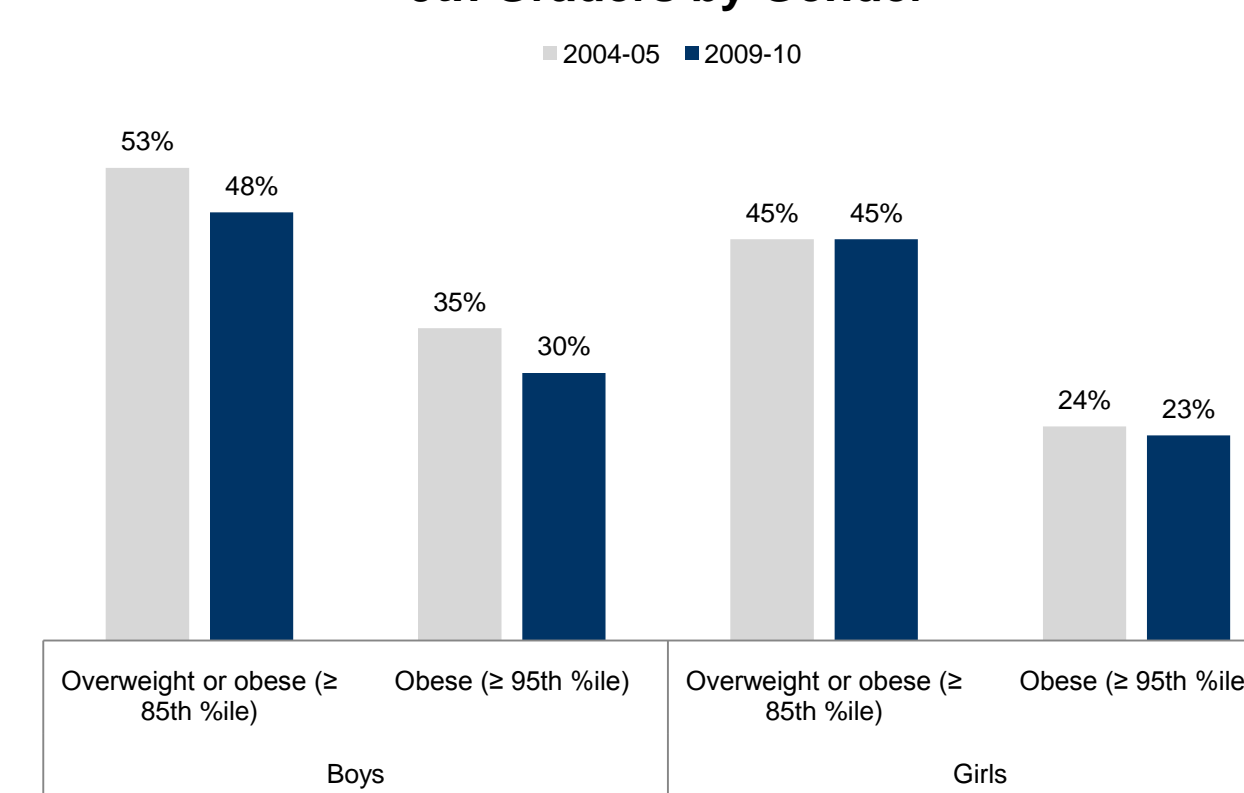


9th Graders

N = 1406 (2004-05), 1931 (2009-10)



9th Graders by Gender



Conclusion

- Overall, boys had higher overweight and obesity rates than girls.
- Overweight and obesity rates significantly decreased between the academic years 2004-2005 and 2009-2010 among cross-sectional samples of 7th and 9th graders.
- Among 9th graders, decreases in overweight and obesity rates were primarily driven by reductions in the corresponding rates among boys. Rates for girls were more or less similar across the two time periods.
- It is possible that 9th grade boys may be more responsive to an altered school environment than 9th grade girls, with respect to nutritional and activity behaviors.
- A Comprehensive School-based Wellness Policy may be a critical component of interventions that successfully reverse the childhood obesity epidemic.
- As a system-level intervention strategy, school district wellness policies are promising initiatives to address population-based health issues such as childhood obesity.

Limitations

- Limited number of control variables.
- No comparison group.
- Difficult to know with certainty the extent to which policies were followed in practice consistently in the district over time.

Future Research

- Studies that examine the synergistic impact of multi-level interventions to prevent childhood obesity, including individual-, community-, and system-level (e.g., wellness policy) components.
- Longitudinal analysis of the same group of students.
- Inclusion of contextual factors into future analysis, such as socioeconomic status, parents' educational attainment, family structure, etc.
- Examination of stakeholder perceptions of the Wellness Policy and the extent to which it is consistently implemented (e.g., students, parents, school staff).

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