









Chronic Disease in Texas



A Report of the Bureau of Chronic Disease and Tobacco Prevention
Texas Department of Health

Overweight and Obesity Risk Factors in Texas Youth: An Analysis of the 2001 Texas Youth Risk Behavior Survey

Data Highlights

-  About 14 percent of students were overweight. Male students were more likely to be overweight than female students. African American and Hispanic students were more likely than white students to be overweight.
-  About 47 percent of students were trying to lose weight. Females and Hispanic students were more likely to report this behavior.
-  About 60 percent of students had exercised to lose weight or to keep from gaining weight during the 30 days preceding the survey. Females, white and Hispanic students were more likely to have exercised to lose weight.
-  About 43 percent of students had eaten less food, fewer calories, or foods low in fat to lose weight or to keep from gaining weight during the past 30 days preceding the survey. Females, white and Hispanic students were more likely to report this behavior.
-  About 9 percent of students had taken diet pills, powders, or liquids without a doctor's advice to lose weight or to avoid gaining weight during the past 30 days preceding the survey. Females, white and Hispanic students and students at the 12th grade level were more likely to report this behavior.
-  About 6 percent of students had vomited or taken laxatives to lose weight or avoid gaining weight during the past 30 days preceding the survey. Female students were more likely than male students to report this behavior.
-  About 34 percent of students had an insufficient amount of physical activity. Females and Hispanic students were more likely to report an insufficient amount of physical activity. The proportion of students who report an insufficient amount of physical activity increases with increasing grade levels.
-  About 44 percent of students had watched television three or more hours per day during an average school day. Male students were more likely than female students to report this behavior. Also, African American students were more likely than Hispanic and white students to report this behavior. Likewise, Hispanic students were more likely than white students to have watched television three or more hours per day during an average school day.

INTRODUCTION

The importance of promoting physical activity and reducing the proportion of people who are overweight and obese is well underscored in the nation's *Healthy People 2010* objectives.¹ Substantial health benefits of regular participation in physical activity are identified in the *Surgeon General's Report on Physical Activity and*

Health.² Poor diet and physical inactivity together account for an estimated 300,000 deaths per year, second only to tobacco use among preventable causes of death.

The federal Centers for Disease Control and Prevention (CDC) developed the Youth Risk Behavior Surveillance System (YRBSS), which monitors six categories of priority health-risk behaviors among youth and young adults, including

unhealthy dietary behaviors and physical inactivity. The YRBSS includes a national school-based Youth Risk Behavior Survey (YRBS) conducted by CDC as well as state, territorial, and local school-based surveys conducted by education and/or health agencies.³ While the YRBS was first used by 24 states and 8 local education agencies during 1990, efforts to identify health risks among youth and to plan ways to

prevent risky behaviors have been difficult in Texas.⁴ The 2001 Texas YRBS, which was conducted by the Texas Department of Health (TDH) with the assistance of CDC, marks the first time that TDH was able to attain adequate school and student participation for the results to be representative for the entire Texas public high school student population (grades 9 through 12).

The results of the 2001 Texas YRBS provide a benchmark for the state to measure future progress in reducing risky health behaviors among its youth. This report on overweight and obesity risk factors is the first in a series of reports summarizing priority health-risk behaviors that result in the most significant causes of death and disability among Texas youth.

METHODS

The 2001 Texas YRBS is a composite of two samples: schools in the Texas state YRBS (including Dallas and Houston) and schools in the national YRBS that are located in Texas. The Texas YRBS employed a two-stage cluster sample design to produce representative samples of students in grades 9 through 12.

For the 2001 survey, the school response rate was 80 percent (91 of the 114 eligible sampled schools participated) while the student response rate was 79 percent (7,067 of the 8,917 sampled students completed usable questionnaires). Therefore, overall response rate was 63 percent (school response rate times student response rate). SUDAAN was used to compute 95 percent confidence intervals to determine differences among subgroups at the $p < 0.05$ level. Differences between prevalence estimates were considered statistically significant if the 95 percent confidence intervals did not overlap.

DEFINITIONS

Body mass index (BMI) was calculated from self-reported height and weight and then applied to reference data from the National Health and Nutrition Examination Survey to determine the percentage of students who were overweight. Overweight was defined as a BMI $\geq 95^{\text{th}}$ percentile by age and sex. A BMI $\geq 95^{\text{th}}$ percentile by age and sex among youth is approximately equivalent to a BMI

≥ 30 among adults. For an adult, a BMI of ≥ 30 is approximately 30 pounds overweight.⁵

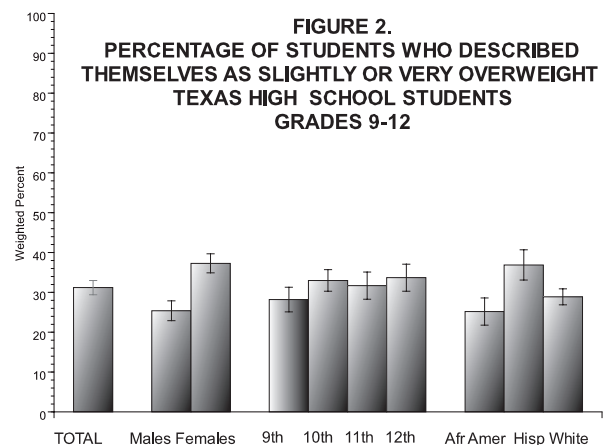
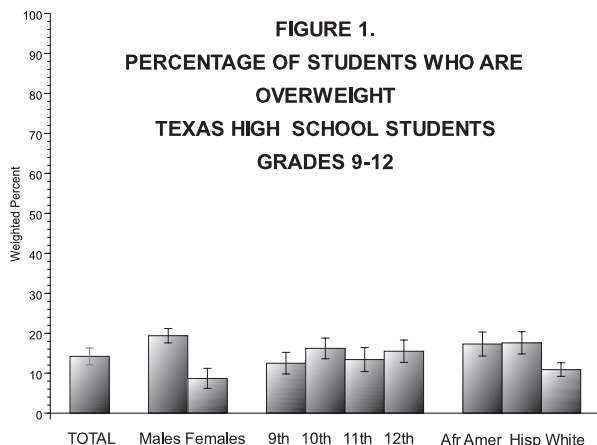
Sufficient vigorous physical activity is defined as participation in an activity that makes one sweat and breathe hard for at least 20 minutes on three or more of the 7 days preceding the survey.

Sufficient moderate physical activity is defined as participation in an activity that does not make one sweat or breathe hard for at least 30 minutes on five or more of the past seven days preceding the survey.

RESULTS

Overweight

About 14 percent (95% CI, 12.1%-16.2%) of students were overweight. Overall, male students (19.4 percent [95% CI, 16.5%-22.3%]) were significantly more likely than female students (8.7 percent [95% CI, 6.4%-10.9%]) to be overweight (see Figure 1). This significant sex difference was identified for white and Hispanic students as well as students in all the grade subpopulations and age groups. Overall, African American (17.3 percent [95% CI, 14.3%-20.4%]) and Hispanic students



(17.6 percent [95% CI, 13.5%-21.7%]) were significantly more likely than white students (10.9 percent [95% CI, 9.2%-12.6%]) to be overweight. White female students (5.3 percent [95% CI, 3.5%-7.1%]) were significantly less likely than African American female students (15.1 percent [95% CI, 10.2%-20.0%]) and Hispanic female students (10.8 percent [95% CI, 7.8%-13.7%]) to be overweight. No differences exist among the grade subgroups.

About 31 percent (95% CI, 29.4%-33.1%) of students thought they were slightly or very overweight (see Figure 2). Overall, female students (37.3 percent [95% CI, 34.9%-39.7%]) were significantly more likely than male students (25.4 percent [95% CI, 22.9%-27.9%]) to consider themselves overweight. This sex difference was identified for all racial/ethnic and grade subpopulations. Overall, Hispanic students (36.9 percent [95% CI, 33.1%-40.7%]) were significantly more likely than white (28.9 percent [95% CI, 26.9%-31.0%]) and African American students (25.2 percent [95% CI, 21.8%-28.6%]) to consider themselves overweight. Hispanic female students (42.8

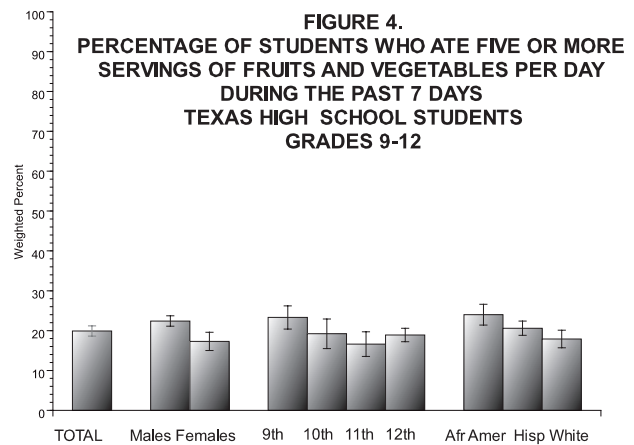
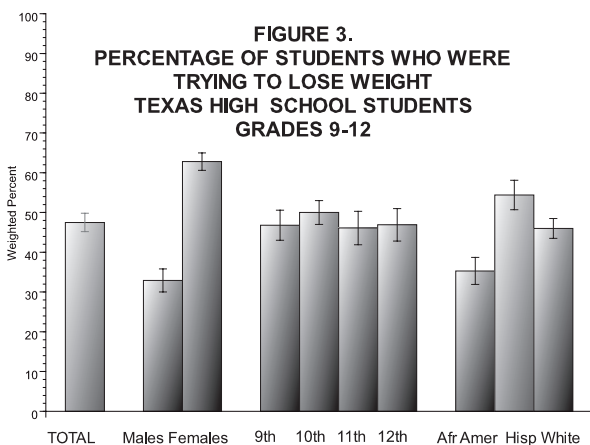
percent [95% CI, 39.0%-46.6%]) were significantly more likely than white female students (34.5 percent [95% CI, 30.3%-38.6%]) and African American female students (31.7 percent [95% CI, 28.1%-35.3%]) to consider themselves overweight. Although no significant differences exist among the grade subgroups, the proportion of students who considered themselves overweight increases with increasing grade levels.

About 47 percent (95% CI, 45.2%-49.8%) of students were trying to lose weight (see Figure 3). Overall, female students (62.8 percent [95% CI, 60.6%-65.0%]) were significantly more likely than male students (32.9 percent [95% CI, 30.0%-35.8%]) to be trying to lose weight. This sex difference was identified for all racial/ethnic and grade subpopulations. Overall, Hispanic students (54.4 percent [95% CI, 50.7%-58.2%]) were significantly more likely than white (46.0 percent [95% CI, 43.5%-48.4%]) and African American students (35.3 percent [95% CI, 31.9%-38.7%]) to be trying to lose weight. White students (46.0 percent [95% CI, 43.5%-48.4%]) were significantly more likely than

African American students (35.3 percent [95% CI, 31.9%-38.7%]) to be trying to lose weight. Hispanic male students (44.1 percent [95% CI, 39.5%-48.7%]) were significantly more likely than African American (22.6 percent [95% CI, 16.9%-28.2%]) and white male students (27.8 percent [95% CI, 24.9%-30.7%]) to be trying to lose weight. Hispanic female students (64.5 percent [95% CI, 60.1%-69.0%]) and white female students (65.5 percent [95% CI, 62.6%-68.3%]) were significantly more likely than African American female students (50.0 percent [95% CI, 44.8%-55.2%]) to be trying to lose weight. No differences exist among the grade subgroups.

Consumption of Fruits and Vegetables

Results of the survey showed that about 19.9 percent (95% CI, 18.6%-21.2%) of students had eaten five or more servings per day of fruits and vegetables during the past seven days preceding the survey (see Figure 4). Overall, male students (22.4 percent [95% CI, 21.1%-23.7%]) were significantly more likely than female students (17.3 percent [95% CI, 15.0%-19.5%]) to



have eaten five or more servings per day of fruits and vegetables. Overall, African American (24.0 percent [95% CI, 21.4%-26.7%]) students were more likely than white students (17.9 percent [95% CI, 15.7%-20.2%]) to have eaten five or more servings per day of fruits and vegetables. While no significant differences exist among the grade subgroups, the proportion of students who had eaten five or more servings per day of fruits and vegetables was higher at the ninth grade level compared to the other grade levels.

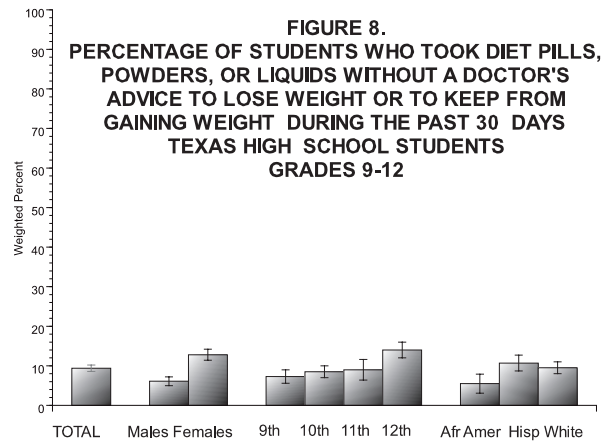
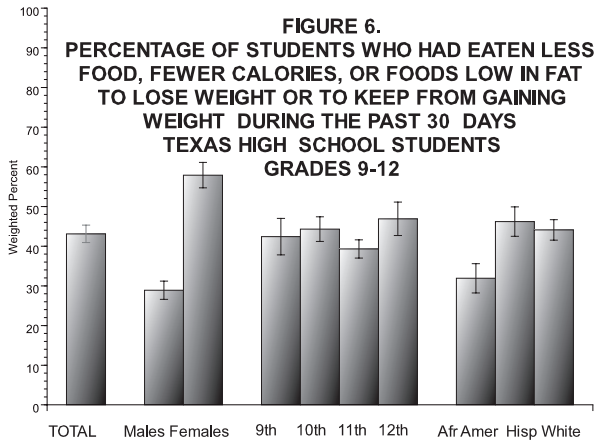
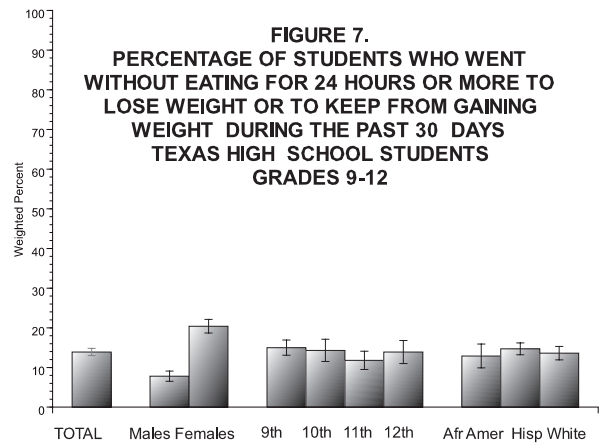
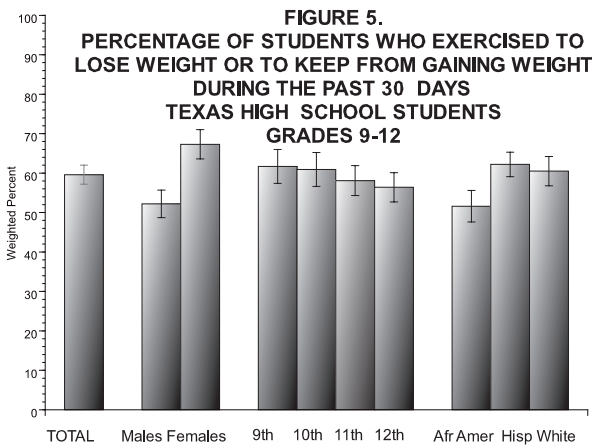
Attempted Weight Control

Results of the survey showed that about 60 percent (95% CI, 57.2%-62.1%) of students had

exercised to lose weight or to keep from gaining weight during the 30 days preceding the survey (see Figure 5). Overall, female students (67.3 percent [95% CI, 63.6%-71.0%]) were significantly more likely than male students (52.2 percent [95% CI, 48.7%-55.7%]) to have exercised to lose weight or to keep from gaining weight. This sex difference was identified for white students and students in all the grade subpopulations. Overall, white (60.5 percent [95% CI, 56.8%-64.1%]) and Hispanic students (62.2% [95% CI, 59.1%-65.3%]) were significantly more likely than African American students (51.6% [95% CI, 47.6%-55.5%]) to have exercised to lose weight or to avoid gaining weight. Among males, Hispanic students

(61.2% [95% CI, 57.3%-65.0%]) were significantly more likely than white (47.0% [95% CI, 42.4%-51.6%]) and African American students (49.1% [95% CI, 42.3%-55.9%]) to have exercised to lose weight or to avoid gaining weight. However, among females, white students (74.6% [95% CI, 70.4%-78.9%]) were significantly more likely than Hispanic (63.3% [95% CI, 58.6%-67.9%]) and African American students (54.3% [95% CI, 48.1%-60.4%]) to have exercised to lose weight or to avoid gaining weight. No significant differences exist among the grade subgroups.

About 43 percent (95% CI, 40.9%-45.3%) of students had eaten less food, fewer calories, or foods low in fat to lose weight or to keep from gaining weight during the past 30



days preceding the survey (see Figure 6). Overall, female students (57.9% [95% CI, 54.7%-61.2%]) were significantly more likely than male students (28.9% [95% CI, 26.6%-31.2%]) to have eaten less food, fewer calories, or foods low in fat to lose weight or to keep from gaining weight. This sex difference was also noted for all the racial/ethnic and grade subpopulations. Overall, white (44.1% [95% CI, 41.5%-46.7%]) and Hispanic students (46.2% [95% CI, 42.5%-49.9%]) were significantly more likely than African American students (31.9% [95% CI, 28.2%-35.6%]) to have eaten less food, fewer calories, or foods low in fat to lose weight or to keep from gaining weight. Among males, Hispanic students (36.3% [95% CI, 32.6%-40.1%]) were significantly more likely than white (25.2% [95% CI, 22.5%-27.9%]) and African American students (23.0% [95% CI, 18.6%-27.5%]) to have eaten less food, fewer calories, or foods low in fat to lose weight or to keep from gaining weight. Among females, white (64.6% [95% CI, 61.1%-68.0%]) and Hispanic students (55.5% [95% CI, 49.6%-61.4%]) were significantly more likely to have eaten less food, fewer

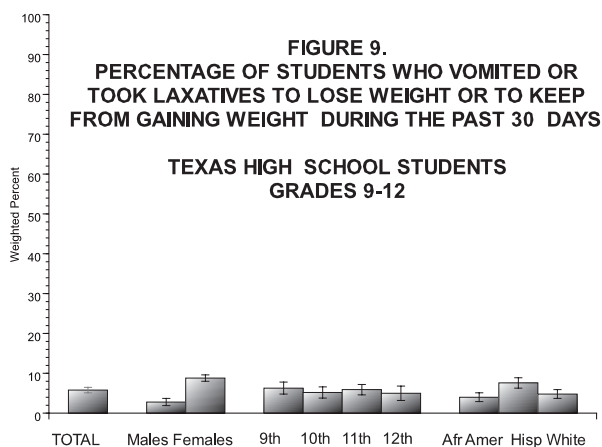
calories, or foods low in fat to lose weight or to keep from gaining weight. No significant differences exist among the grade subgroups.

About 14 percent (95% CI, 13.0%-14.9%) of students had gone without eating for 24 hours or more to lose weight or to avoid gaining weight during the past 30 days preceding the survey (see Figure 7). Overall, female students (20.4% [95% CI, 18.7%-22.0%]) were significantly more likely than male students (7.8% [95% CI, 6.5%-9.0%]) to have gone without eating for 24 hours or more to lose weight or to avoid gaining weight. This sex difference was identified for white and Hispanic students and all the grade subpopulations. In addition, white female students (22.0% [95% CI, 18.5%-25.4%]) were significantly more likely than African American female students (15.4% [95% CI, 12.5%-18.3%]) to have gone without eating for 24 hours or more to lose weight or to avoid gaining weight. No significant differences exist among the grade subgroups.

About 9 percent (95% CI, 8.6%-10.3%) of students had taken diet pills, powders, or liquids without a doctor's advice to lose

weight or to avoid gaining weight during the past 30 days preceding the survey (see Figure 8). Overall, female students (12.8% [95% CI, 11.4%-14.2%]) were significantly more likely than male students (6.1% [95% CI, 5.0%-7.3%]) to have taken diet pills, powders, or liquids without a doctor's advice to lose weight or to avoid gaining weight. This sex difference was also noted for whites and Hispanic students and students in grades 9 through 11. Overall, white (9.5% [95% CI, 8.0%-10.9%]) and Hispanic students (10.7% [95% CI, 9.7%-11.7%]) were significantly more likely than African American students (5.5% [95% CI, 3.1%-7.9%]) to have taken diet pills, powders, or liquids without a doctor's advice to lose weight or to avoid gaining weight. Among the grade subgroups, students in the grade 12 level (14.0% [95% CI, 12.0%-16.1%]) were significantly more likely than students in the lower grade levels (grade 9: 7.3% [95% CI, 5.6%-9.0%]; grade 10: 8.5% [95% CI, 7.0%-9.9%]; grade 11: 9.0% [95% CI, 7.4%-10.6%]) to have taken diet pills, powders, or liquids without a doctor's advice to lose weight or to avoid gaining weight.

About 6 percent (95% CI, 5.1%-6.5%) of students had vomited or taken laxatives to lose weight or avoid gaining weight during the past 30 days preceding the survey (see Figure 9). Overall, female students (8.8% [95% CI, 8.0%-9.7%]) were significantly more likely than male students (2.8% [95% CI, 1.9%-3.7%]) to have vomited or taken laxatives to lose weight or to avoid gaining



weight. This significant sex difference was identified for white and Hispanic students and students in grades 9 through 11. Overall, Hispanic students (7.6% [95% CI, 6.3%-8.8%]) were significantly more likely than white (4.8% [95% CI, 3.7%-5.9%]) and African American students (4.0% [95% CI, 2.9%-5.2%]) to report this behavior. Among females, Hispanic (11.2% [95% CI, 9.1%-13.3%]) and white students (8.3% [95% CI, 7.0%-9.7%]) were significantly more likely than African American students (3.4% [95% CI, 1.6%-5.2%]) to also report this behavior. No significant differences exist among the grade subgroups.

PHYSICAL ACTIVITY

Vigorous and Moderate Physical Activity

Results of the survey showed that about 62 percent (95% CI, 59.2%-64.3%) of students had participated in sufficient vigorous physical activity (or activities that made them sweat and breathe hard for at least 20 minutes on three or more of the 7 days preceding the survey) (see Figure 10). Overall, male students (70.5% [95% CI,

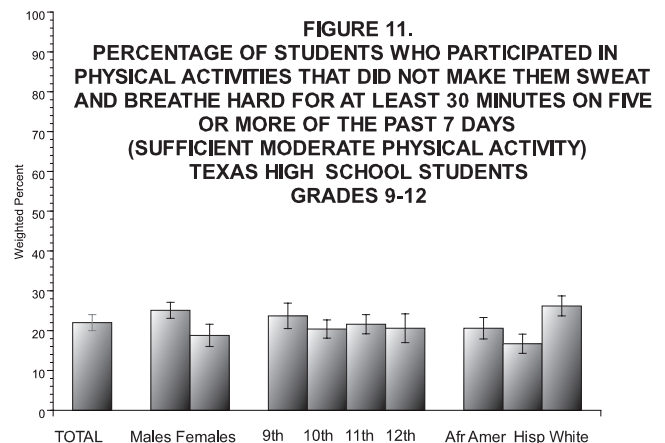
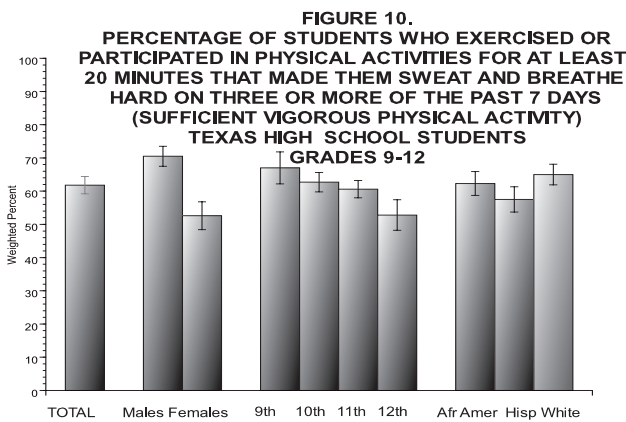
9.7%-11.7%]) were significantly more likely than female students (52.6% [95% CI, 48.4%-56.9%]) to report sufficient vigorous physical activity. This significant sex difference was identified for all racial/ethnic and grade subpopulations. White students (65.0% [95% CI, 61.9%-68.1%]) were more likely than Hispanic students (57.5% [95% CI, 53.7%-61.3%]) to report sufficient vigorous physical activity. No race differences exist among African American and Hispanic students or African American and white students. Overall, students in grade 9 (67.0% [95% CI, 62.2%-71.9%]), grade 10 (62.7% [95% CI, 59.8%-65.6%]), and grade 11 (60.6% [95% CI, 58.0%-63.3%]) were significantly more likely to report sufficient vigorous activity than students enrolled in grade 12 (52.8% [95% CI, 48.2%-57.3%]).

About 22 percent (95% CI, 20.0%-24.0%) of students had participated in sufficient moderate physical activity (activities that did not make them sweat or breathe hard for at least 30 minutes on five or more of the past seven days preceding the survey) (see Figure 11). Overall, male students (25.1%

[95% CI, 23.1%-27.1%]) were significantly more likely than female students (18.8% [95% CI, 16.0%-21.5%]) to report sufficient moderate physical activity. This significant sex difference was identified only among students in grade 10. Overall, white students (26.2% [95% CI, 23.7%-28.7%]) were more likely than Hispanic (16.7% [95% CI, 14.3%-19.1%]) and African American students (20.6% [95% CI, 17.9%-23.3%]) to report sufficient moderate physical activity. Among males, white students (29.6% [95% CI, 26.8%-32.5%]) were significantly more likely than Hispanic students (19.2% [95% CI, 16.5%-21.9%]) to report this behavior. Likewise among females, white students (22.7% [95% CI, 18.6%-26.8%]) were significantly more likely than Hispanic students (14.4% [95% CI, 10.8%-17.9%]) to report this behavior. No significant differences exist among the grade subgroups.

Insufficient Physical Activity

About 34 percent (95% CI, 31.5%-37.1%) of students had an insufficient amount of physical activity (defined as not participating

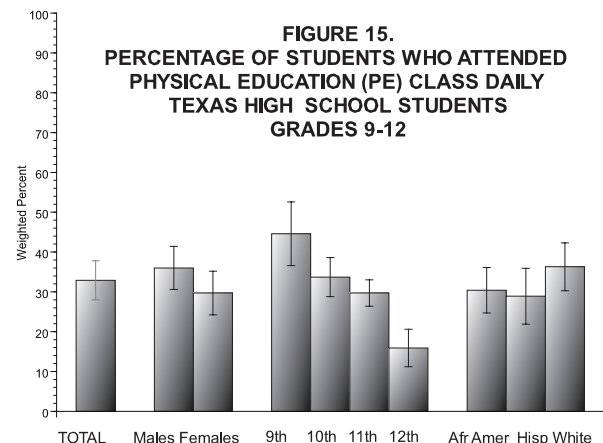
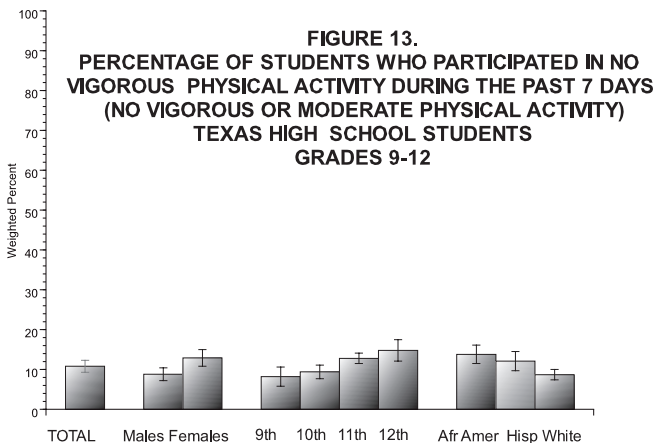
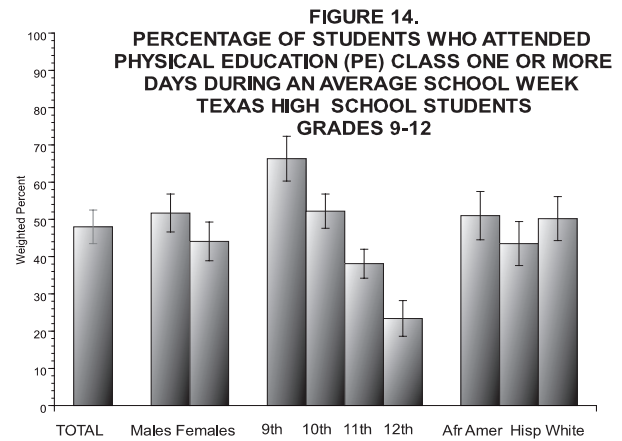
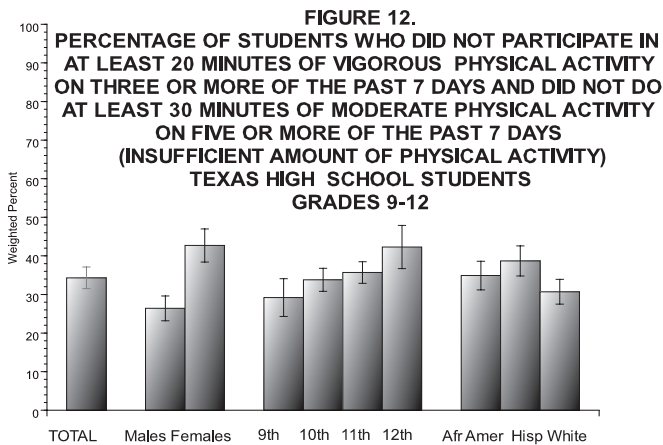


in vigorous activity for at least 20 minutes on three or more of the past seven days preceding the survey and not participating in moderate physical activity for at least 30 minutes on five or more of the past seven days preceding the survey) (see Figure 12). Overall, female students (42.7% [95% CI, 38.4%-46.9%]) were significantly more likely than male students (26.4% [95% CI, 23.2%-29.5%]) to report an insufficient amount of physical activity. This significant sex difference was identified for all the racial/ethnic and grade subpopulations. Hispanic students (38.7% [95% CI, 34.8%-42.6%]) were significantly more likely than white students (30.7% [95% CI,

27.5%-34.0%]) to report an insufficient amount of physical activity. No significant difference exists between Hispanic and African American students or African American and white students. Students in grade 12 (42.3% [95% CI, 36.7%-47.8%]) were significantly more likely to report an insufficient amount of physical activity than students in grade 9 (29.2% [95% CI, 24.3%-34.2%]). Overall, the proportion of students reporting an insufficient amount of physical activity increases with increasing grade levels.

An additional 11 percent (95% CI, 9.3%-12.3%) of students had not participated in any vigorous or moderate physical activity on any of the seven days preceding the survey

(not participating in vigorous physical activity for at least 20 minutes or moderate physical activity for at least 30 minutes) (see Figure 13). Overall, female students (12.9% [95% CI, 10.8%-15.0%]) were significantly more likely than male students (8.8% [95% CI, 7.2%-10.4%]) to report no vigorous or moderate physical activity. This significant sex difference was identified in African American and Hispanic students and students in grade 12. Overall, African American students (13.8% [95% CI, 11.5%-16.2%]) were significantly more likely than white students (8.7% [95% CI, 7.4%-9.9%]) to report this behavior. Students in grade 12 (14.8% [95% CI, 12.1%-17.5%]) were significantly more likely to



have not participated in vigorous or moderate physical activity on any of the seven days preceding the survey than students in grade 9 (8.2% [95% CI, 5.8%-10.6%]) and grade 10 (9.4% [95% CI, 7.7%-11.1%]). Overall, the proportion of students who did not participate in vigorous or moderate physical activity increases with increasing grade levels.

Participation in Physical Education Class

Results of the survey showed that about 48 percent (95% CI, 43.5%-52.5%) of students were enrolled in a physical education (PE) class (see Figure 14). Students in grade 9 (66.3% [95% CI, 60.3%-72.4%]), grade 10 (52.2% [95% CI, 47.6%-56.8%]) and grade 11 (38.1% [95% CI, 34.2%-42.0%]) were significantly more likely than students in grade 12 (23.4% [95% CI, 18.6%-28.2%]) to be enrolled in a PE class. Overall, the proportion of students who were enrolled in a PE class decreases significantly with increasing grade levels.

About 33 percent (95% CI, 28.0%-37.7%) of students attended PE class daily (see Figure 15). Students in grade 9 (44.6% [95%

CI, 36.6%-52.6%]) were significantly more likely than students in grade 11 (29.7% [95% CI, 26.4%-33.1%]) and grade 12 (15.9% [95% CI, 11.2%-20.6%]) to have attended PE class daily. Overall, the proportion of students who attended PE class daily decreases with increasing grade levels.

Of the 48 percent of students enrolled in PE class, 86 percent (95% CI, 83.0%-88.7%) exercised more than 20 minutes during an average PE class (see Figure 16). No significant differences were identified for sex, race/ethnic or grade subpopulations.

Participation on Sports Teams

Results of the survey showed that about 57 percent (95% CI, 53.9%-59.6%) of students had played on one or more sports teams during the 12 months preceding the survey (see Figure 17). Overall, male students (63.5% [95% CI, 60.5%-66.5%]) were significantly more likely than female students (49.7% [95% CI, 46.0%-53.5%]) to have played on sports teams. This significant sex difference was identified for all racial/ethnic groups and for students in grades 10 and

12. Overall, white (62.4% [95% CI, 58.7%-66.1%]) and African American students (60.2% [95% CI, 56.5%-63.9%]) were significantly more likely than Hispanic students (48.1% [95% CI, 45.0%-51.3%]) to have played on sports teams. Students in grade 9 (63.5% [95% CI, 58.4%-68.5%]) were significantly more likely to have played on sports teams than students in grade 10 (55.5% [95% CI, 52.0%-59.0%]), grade 11 (52.9% [95% CI, 49.0%-56.8%]) and grade 12 (51.7% [95% CI, 48.3%-55.1%]). Overall, the proportion of students who had played on one or more sports teams during the 12 months preceding the survey decreases with increasing grade levels.

Strengthening Exercises

About 52 percent (95% CI, 49.1%-54.7%) of students had done strengthening exercises on at least three of the seven days preceding the survey (see Figure 18). Overall, male students (60.6% [95% CI, 57.8%-63.4%]) were significantly more likely than female students (42.9% [95% CI, 38.6%-47.2%]) to have participated in strengthening activities. This significant sex

FIGURE 16.
OF STUDENTS ENROLLED IN PHYSICAL EDUCATION CLASS,
THE PERCENTAGE WHO EXERCISED OR PLAYED SPORTS
MORE THAN 20 MINUTES DURING AN AVERAGE PE CLASS
TEXAS HIGH SCHOOL STUDENTS
GRADES 9-12

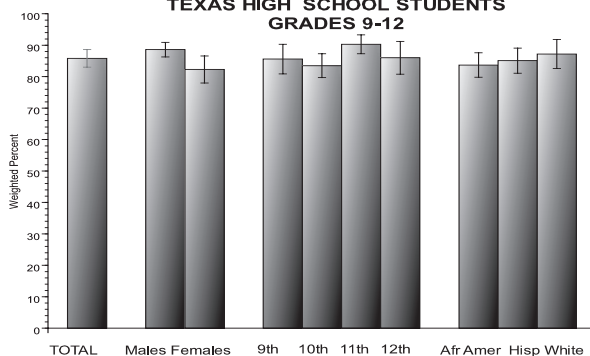
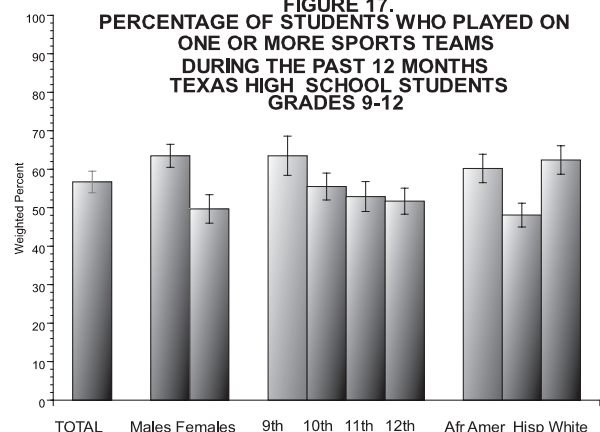


FIGURE 17.
PERCENTAGE OF STUDENTS WHO PLAYED ON
ONE OR MORE SPORTS TEAMS
DURING THE PAST 12 MONTHS
TEXAS HIGH SCHOOL STUDENTS
GRADES 9-12



difference was identified for all the racial/ethnic and grade subpopulations. Students in grade 9 (55.4% [95% CI, 49.9%-60.8%]), were significantly more likely to have participated in strengthening activities than students in grade 12 (46.0% [95% CI, 42.4%-49.7%]). Overall, the proportion of students who had done strengthening exercises on at least three of the seven days preceding the survey decreases with increasing grade levels.

Watching Television

About 44 percent (95% CI, 40.6%-48.3%) of students had watched television three or more hours per day during an average school day (see Figure 19). Overall, male students (49.0% [95% CI, 45.1%-52.8%]) were significantly more likely than female students (39.6% [95% CI, 35.0%-44.2%]) to have watched television for three or more hours per day. This significant sex difference was identified for white students and students in grade 9. Overall, African American (70.4% [95% CI, 66.0%-74.7%]) and Hispanic students (50.2% [95% CI, 46.9%-53.4%]) were significantly more likely than white

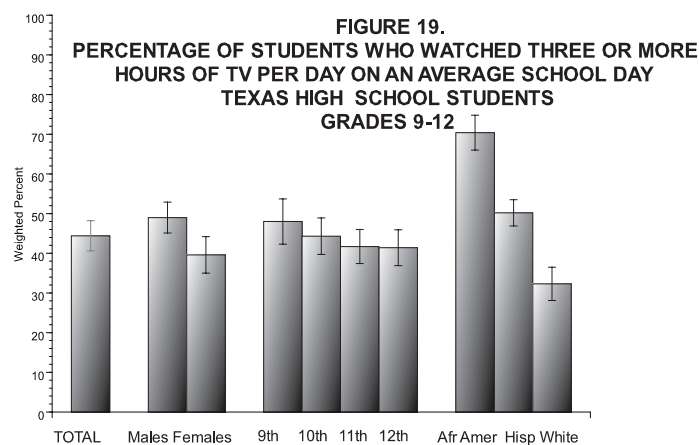
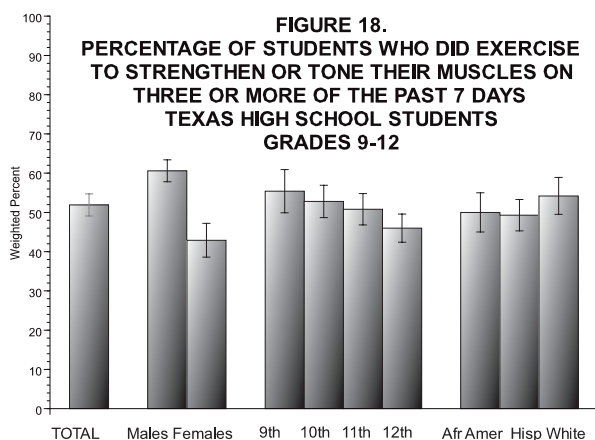
students (32.3% [95% CI, 28.1%-36.4%]) to have watched television for three or more hours, and African American students (70.4% [95% CI, 66.0%-74.7%]) were significantly more likely than Hispanic students (50.2% [95% CI, 46.9%-53.4%]) to report this behavior. No significant differences exist among the grade subgroups although the proportion is higher in lower grade levels.

DISCUSSION

In Texas and in the U.S., nearly two thirds of all deaths among persons aged ≥ 25 years result from only two causes — cardiovascular disease and cancer.³ The majority of risk behaviors associated with these two causes of death are initiated during adolescence. Results of the 2001 Texas YRBS showed that too many high school students statewide practice behaviors that place them at risk for serious acute and chronic health problems, including heart disease and cancer. For example, 14 percent were overweight, about 80 percent had not eaten five or more servings of fruits and vegetables per day during the past 7 days preceding the survey, and 67 percent did not attend PE class daily.

When compared with the national YRBS results, the study also showed that Texas high school students were significantly more likely to be overweight than U.S. high school students in general.⁵ Furthermore, they were significantly less likely to indulge in sufficient moderate physical activity when compared with their US counterparts. These results support the CDC finding that an epidemic of childhood obesity, including the appearance of type 2 diabetes among adolescents, exists in Texas and the U.S. today.⁶ Furthermore, these Texas results substantiate the contention of “the reality of a generation of young people that is, in large measure, inactive, unfit, and increasingly overweight.”⁶ Enhancing efforts to promote participation in regular physical activity and healthy eating among young people is, therefore, an essential, if not critical, state priority.

The findings in this report are subject to several limitations. First, the data apply only to youth who attend school and, therefore, are not representative of all persons in this age group. Second, the extent of underreporting or overreporting of behaviors cannot be determined, although the survey questions



demonstrate good test-retest reliability.⁷ Third, body mass index is calculated based on self-reported height and weight and, therefore, tends to underestimate the prevalence of overweight.

Data from the 2001 Texas YRBS will provide a wealth of data for state and local health and education officials to: a) implement or modify programs to address the risky behaviors of young people including physical inactivity, obesity and overweight; b) create awareness of the extent of these risky behaviors among young people; c) promote state-level changes that support specific health education curricula and coordinated school health programs; and d) provide evidence-based data to support the need for health education.³ Data from the 2001 Texas YRBS also serve as a valuable tool for legislators and other policy makers as they make decisions about health related policies, services, programs, and educational activities.

OVERALL SUMMARY

Overweight

- About 14 percent of students were overweight. Male students were more likely to be overweight than female students. African American and Hispanic students were more likely than white students to be overweight.
- About 47 percent of students were trying to lose weight. Females and Hispanic students were more likely to report this behavior.

Consumption of Fruits and Vegetables

- Only 20 percent of students reported eating five or more servings of fruits and vegetables per day during the past seven days preceding the survey. Males were more likely than females to have had eaten five or more servings of fruits and vegetables per day.

Attempted Weight Control

- About 60 percent of students had exercised to lose weight or to keep from gaining weight during the 30 days preceding the survey. Females, white and Hispanic students were more likely to have exercised to lose weight.
- About 43 percent of students had eaten less food, fewer calories, or foods low in fat to lose weight or to keep from gaining weight during the past 30 days preceding the survey. Females, white and Hispanic students were more likely to report this behavior.
- About 14 percent of students had gone without eating for 24 hours or more to lose weight or to avoid gaining weight during the past 30 days preceding the survey. Female students were more likely than males to report this behavior.
- About 9 percent of students had taken diet pills, powders, or liquids without a doctor's advice to lose weight or to avoid gaining weight during the past 30 days preceding the survey. Females, white and Hispanic students and students at the 12th grade level

were more likely to report this behavior.

- About 6 percent of students had vomited or taken laxatives to lose weight or avoid gaining weight during the past 30 days preceding the survey. Female students were more likely than male students to report this behavior.

FINDINGS RELATED TO PHYSICAL ACTIVITY

Physical Activity

- About 62 percent of students reported sufficient vigorous physical activity. Male and white students were more likely to report this behavior. The proportion of students who report sufficient vigorous physical activity decreases with increasing grade levels.
- About 22 percent of students participated in sufficient moderate physical activity. Male and white students were more likely to report this behavior.
- About 34 percent of students had an insufficient amount of physical activity. Females and Hispanic students were more likely to report an insufficient amount of physical activity. The proportion of students who report an insufficient amount of physical activity increases with increasing grade levels.
- About 11 percent of students had not participated in either vigorous physical activity for at least 20 minutes or moderate physical activity for at least 30 minutes on any of the seven days preceding the survey. Females

and African American students were more likely to report this behavior. The proportion of students who report this behavior increases with increasing grade levels

proportion of students who had done strengthening exercises decreases with increasing grade levels.

Participation in Physical Education Class

- About 48 percent of students were enrolled in a physical education (PE) class. The proportion of students who were more likely to be enrolled in PE class decreases with increasing grade levels.
- About 33 percent of students attended PE class daily. The proportion of students who were more likely to attend a PE class daily decreases with increasing grade levels.

Watching Television

- About 44 percent of students had watched television three or more hours per day during an average school day. Male students were more likely than female students to report this behavior. Also, African American students were more likely than Hispanic and white students to report this behavior. Likewise, Hispanic students were more likely than white students to have watched television three or more hours per day during an average school day.

Chronic Disease in Texas is published by the Bureau of Chronic Disease and Tobacco Prevention at the Texas Department of Health, 1100 West 49th Street, Austin, Texas 78756-3199

Phone: (512) 458-7200

An electronic version of this publication can be found at <http://www.tdh.state.tx.us/bdip>

Prepared by:

Celan J. Alo, M.D., M.P.H.
Epidemiologist

Philip Huang, M.D., M.P.H.
Chief, Bureau of Chronic Disease and Tobacco Prevention

Richard Kropp
Editor

Participation on Sports Teams

- About 57 percent of students had played on one or more sports teams during the 12 months preceding the survey. Males were more likely than females to have played on one or more sports teams during the 12 months preceding the survey. The proportion of students who were more likely to have played on one or more sport teams decreases with increasing grade levels.

Strengthening Exercises

- About 52 percent of students had done strengthening exercises on at least three of the seven days preceding the survey. Males were more likely than females to report this behavior. The

	OVERWEIGHT			THINK THEY ARE SLIGHTLY OR VERY OVERWEIGHT			TRYING TO LOSE WEIGHT			ATE FIVE OR MORE SERVINGS OF FRUITS AND VEGETABLES		
	95% CI			95% CI			95% CI			95% CI		
	%	Low	High	%	Low	High	%	Low	High	%	Low	High
MALES	19.4	16.5	22.3	25.4	22.9	27.9	32.9	30.0	35.8	22.4	21.1	23.7
FEMALES	8.7	6.4	10.9	37.3	34.9	39.7	62.8	60.6	65.0	17.3	15.0	19.5
WHITES	10.9	9.2	12.6	28.9	26.9	31.0	46.0	43.5	48.4	17.9	15.7	20.2
AFR AMER	17.3	14.3	20.4	25.2	21.8	28.6	35.3	31.9	38.7	24.0	21.4	26.7
HISPANICS	17.6	13.5	21.7	36.9	33.1	40.7	54.4	50.7	58.2	20.6	18.8	22.3
9th	12.5	9.4	15.5	28.2	25.1	31.4	46.8	43.0	50.6	23.3	20.4	26.2
10th	16.2	13.0	19.3	33.0	30.3	35.7	50.0	47.0	53.0	19.2	15.5	22.8
11th	13.4	10.8	16.1	31.7	28.3	35.2	46.1	41.9	50.3	16.6	13.5	19.7
12th	15.5	13.2	17.7	33.7	30.3	37.1	46.9	42.8	51.1	18.9	17.2	20.7
TOTAL	14.2	12.1	16.2	31.2	29.4	33.1	47.5	45.2	49.8	19.9	18.6	21.2

	SUFFICIENT VIGOROUS PHYSICAL ACTIVITY			SUFFICIENT MODERATE PHYSICAL ACTIVITY			INSUFFICIENT AMOUNT OF PHYSICAL ACTIVITY			NO VIGOROUS OR MODERATE PHYSICAL ACTIVITY		
	95% CI			95% CI			95% CI			95% CI		
	%	Low	High	%	Low	High	%	Low	High	%	Low	High
MALES	70.5	67.5	73.5	25.1	23.1	27.1	26.4	23.2	29.5	8.8	7.2	10.4
FEMALES	52.6	48.4	56.9	18.8	16.0	21.5	42.7	38.4	46.9	12.9	10.8	15.0
WHITES	65.0	61.9	68.1	26.2	23.7	28.7	30.7	27.5	34.0	8.7	7.4	9.9
AFR AMER	62.3	58.7	65.9	20.6	17.9	23.3	34.9	31.2	38.6	13.8	11.5	16.2
HISPANICS	57.5	53.7	61.3	16.7	14.3	19.1	38.7	34.8	42.6	12.1	9.7	14.5
9th	67.0	62.2	71.9	23.7	20.5	26.9	29.2	24.3	34.2	8.2	5.8	10.6
10th	62.7	59.8	65.6	20.4	18.1	22.7	33.8	30.8	36.9	9.4	7.7	11.1
11th	60.6	58.0	63.3	21.6	19.2	24.1	35.7	32.9	38.6	12.8	11.5	14.1
12th	52.8	48.2	57.3	20.6	17.0	24.2	42.3	36.7	47.8	14.8	12.1	17.5
TOTAL	61.8	59.2	64.3	22.0	20.0	24.0	34.3	31.5	37.1	10.8	9.3	12.3

REFERENCES

- 1) U.S. Department of Health and Human Services. Healthy People 2010: Understanding and Improving Health. Washington, DC: U.S. Department of Health and Human Services, Government Printing Office, 2000.
- 2) U.S. Department of Health and Human Services. Physical Activity and Health: A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 1996.
- 3) Centers for Disease Control and Prevention. Assessing Health Risk Behaviors Among Young People: Youth Risk Behavior Surveillance System. <http://www.cdc.gov/nccdphp/dash/yrbs/yrbsaag.htm>
- 4) Texas Department of Health. Assessing and Addressing Youth Risk Behaviors in Texas. *Disease Prevention News*; Vol. 59, No. 9., April 26, 1999.
- 5) Centers for Disease Control and Prevention. Youth Risk Behavior Survey – United States 2001. Mortality and Morbidity Weekly Report, in press.
- 6) Centers for Disease Control and Prevention. Promoting Better Health for Young People Through Physical Activity and Sports: A report to the President from the Secretary of Health and Human Services and the Secretary of Education. <http://www.cdc.gov/nccdphp/dash/presphysactrpt/>
- 7) Brener ND, JKann L, McManus T, Kinchen SA, Sundberg EC, Ross JG. Reliability of the 1999 Youth Risk Behavior Survey Questionnaire. *Journal of School Health*, in press.

	ENROLLED IN PE CLASS			ATTENDED PE CLASS DAILY			PARTICIPATE IN SPORTS TEAMS			WATCHED 3 OR MORE HOURS OF TV		
	95% CI			95% CI			95% CI			95% CI		
	%	Low	High	%	Low	High	%	Low	High	%	Low	High
MALES	51.7	46.6	56.9	36.0	30.6	41.5	63.5	60.5	66.5	49.0	45.1	52.8
FEMALES	44.1	38.9	49.3	29.7	24.2	35.1	49.7	46.0	53.5	39.6	35.0	44.2
WHITES	50.2	44.3	56.1	36.3	30.3	42.4	62.4	58.7	66.1	32.3	28.1	36.4
AFR AMER	51.0	44.5	57.6	30.4	24.7	36.1	60.2	56.5	63.9	70.4	66.0	74.7
HISPANICS	43.5	37.6	49.3	28.9	21.9	35.8	48.1	45.0	51.3	50.2	46.9	53.4
9th	66.3	60.3	72.4	44.6	36.6	52.6	63.5	58.4	68.5	48.0	42.3	53.6
10th	52.2	47.6	56.8	33.7	28.8	38.6	55.5	52.0	59.0	44.3	39.7	48.9
11th	38.1	34.2	42.0	29.7	26.4	33.1	52.9	49.0	56.8	41.7	37.4	45.9
12th	23.4	18.6	28.2	15.9	11.2	20.6	51.7	48.3	55.1	41.4	36.9	45.8
TOTAL	48.0	43.5	52.5	32.9	28.0	37.7	56.7	53.9	59.6	44.4	40.6	48.3