



# The Women's Sports Foundation Report:

## The Status of Health and Physical Activity of Girls in Texas



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# The Women’s Sports Foundation Report: The Status of Health and Physical Activity of Girls in Texas

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# About the Women's Sports Foundation

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Founded in 1974 by Billie Jean King, the Women's Sports Foundation is a national charitable educational organization seeking to advance the lives of girls and women through sports and physical activity. The Foundation's Participation, Education, Advocacy, Research and Leadership programs are made possible by gifts from individuals, foundations and corporations. The Foundation is located in Nassau County, N.Y. For more information, please call the Foundation at (800) 227-3988 or visit [www.WomensSportsFoundation.org](http://www.WomensSportsFoundation.org). The Foundation serves as a center for collecting and sharing information on girls and women in sports and physical activity. The Women's Sports Foundation also produces quality academic research on the psychological, social and physiological dimensions of sport and physical activity in the lives of girls and women.

This educational publication is made possible by the support of our members and donors. The Women's Sports Foundation is a 501(c)(3) nonprofit organization. Donations to the Foundation are tax-deductible to the full extent of the law. Please give generously to support our mission and activities.

## Authorship and Acknowledgments

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This report was authored by Lisa Zurn, Ph.D., Collaborative Initiatives, with the assistance of advisory board members Don Sabo, Ph.D., D'Youville College; Katherine Miller, Ph.D., NY Research Institute on Addictions; and Marjorie Snyder, Ph.D., Women's Sports Foundation. With special thanks to Laura Cabanilla-Cruz for her assistance in data collection and the Texas Department of State Health Services for use of the Texas 2005 Youth Risk Behavior Survey data. Also special thanks to Deana Monahan for her editorial expertise.

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# Executive Summary

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The health of today's girls is threatened by inactivity. Physical activity plays a significant role in reducing health risks such as obesity, heart disease, osteoporosis, breast cancer, unintended pregnancy, and lack of self-esteem among others. The current report highlights key indicators of the status of both physical activity and health for girls in Texas, and public health region #8 (encompassing San Antonio); these indicators are then compared with national averages in order to contextualize the results\*. According to recent health statistics, San Antonio is the third "fattest" city in the United States (Mapping U.S. Obesity, 1997).

**1. Sports team participation:** A similar percentage of Texas girls (50.7%) participate in one or more sports teams as the national average (50.2%); however, this number still remains significantly lower than boys' participation both in Texas (64.1%) and nationally (61.8%). In Texas, the majority of female athletes are white (59.5%), distantly followed by Hispanic (26.3%) and black (14.2%) girls.

**2. Vigorous physical activity:** A similar percentage of Texas girls (56%) participate in sufficient vigorous physical activity as the national average (55.9%); however, a significantly higher percent of boys participate in sufficient vigorous physical activity, both in Texas (71.2%) and nationally (72.3%).

**3. Physical education class attendance:** Girls in Texas (50.2%) attend PE classes slightly more frequently than the national average (48.3%), and about the same frequency as boys in Texas (51.7%).

**4. At-risk overweight and overweight:** The same percent of girls in Texas are at-risk overweight as their national counterparts (15.5%); however, slightly more Texas girls (11.2%) are overweight than the national average (10%). In Texas, Hispanic female non-athletes are the most likely to be at-risk overweight (22.1%) and overweight (15.1%), compared with their black and white counterparts.

**5. Sedentary lifestyle:** Both girls (39.5%) and boys (41.4%) in Texas watch more television than the national average for their counterparts (36.3% and 38% respectively). Female non-athletes (40.3%) in Texas watch more television than their athletic (33.9%) counterparts.

**6. Nutrition:** Fewer girls in Texas (17.6%) consume the recommended amount of fruits and vegetables daily than the national average (18.7%). In Texas, nearly twice as many black female athletes (32.7%) consume five or more servings of fruit and vegetables as their Hispanic (16.9%) and white (16%) counterparts.

**7. Asthma:** There is very little difference between girls and boys and their asthma rates, and slightly more girls in Texas (15.5%) than girls nationally (14.7%) who report current asthma symptoms.

**8. Health-risk behaviors:** In general, a higher percent of girls in Texas vomit or use laxatives to lose weight (7%), "binge" drink (26.2%) and have used marijuana (18.6%) than the national averages (6.2%, 23.5% and 18.2%, respectively). Slightly fewer Texas girls have smoked cigarettes (22%) and made a suicide plan (15.1%) than the national average (23% and 16.2%, respectively). Female athletes in Texas are less likely to plan a suicide, smoke cigarettes and use marijuana than their non-athletic counterparts and slightly more likely to use laxatives or vomiting to lose weight and "binge" drink.

Overall, this report indicates that girls in Texas are participating in similar levels of physical activity as girls nationally; however, girls in Texas are more likely to engage in sedentary behaviors (watch more television), have poorer nutrition and be overweight. If trends do not reverse in the coming years, the current high rate of medical costs associated with obesity will continue to rise.

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\*Currently the CDC has funded the administration of the Youth Risk Behavior Surveillance System in Houston and Dallas, but not in the San Antonio metropolitan area; thus, the data referred to in this report will primarily be statewide. There are some variables that are covered by the School Physical Activity and Nutrition Project (SPAN); however, this data is not specific to the San Antonio metropolitan area, but rather the Public Health Region that encompasses San Antonio and the surrounding 27 counties (<http://www.dshs.state.tx.us/regions/stregctymap.pdf>). School districts participating from this region are: Comal, Eagle Pass, Harlandale, Jourdanton, Judson, Victoria and Yoakum. These results were statistically weighted and can be used as representative data for the region.

**Figure 1: Status of Health and Physical Activity of Girls in Texas (Compared With U.S. Averages)**

	Sports Team Participation	Vigorous Physical Activity	Phys. Ed. Class Attendance	At-risk Overweight	Overweight	TV Viewing	Nutrition (Fruit & Veg. Servings)	Asthma	Disordered Eating Patterns	Teen Pregnancy	Cigarette Smoking	Drug Use (Marijuana)	Alcohol Use	Suicide Attempts
<b>Texas</b>	👍	👍	👍	==	👎	👎	👎	👎	👎	👎	👎	👎	👎	👎

 = Better than U.S. Average  
 = Worse than U.S. Average  
 == = Same as U.S. Average

## Introduction

Obesity has reached epidemic proportions in the United States; the medical cost of obesity-related diseases alone has reached up to \$100 billion annually. A recent study in Texas estimates the costs for obesity alone at \$5.3 billion in 2003 dollars, based on national medical expenditure data (Texas Department of Health, 2003a). An increase in physical activity among children and adults would substantially reduce U.S. healthcare expenditures for the treatment of obesity-related diseases (Colditz, 1999).

The number of obese and overweight children is on a dramatic rise, especially in the South. According to 2005 data collected by the Texas Behavioral Risk Factor Surveillance System (BRFSS), 37.1% of Texas adults are overweight (BMI 25.0-29.9), and 27% are obese (BMI  $\geq$  30). As reported by the Trust for America's Health (TFAH) in its recent 2006 report, *Fas in Fat: How Obesity Policies are Failing America*, Texas ranks as the 10<sup>th</sup> most obese state in the country. Less than half of Texas adults are meeting the recommendations for moderate or vigorous physical activity (DSHS Obesity Data Sheet, 2003). Data collected in the 2005 Youth Risk Behavior Survey (YRBS) indicate that 14% of Texas high school students are overweight, and 15% are at risk for becoming overweight. According to data from the 2004 Pediatric Nutrition Surveillance System (PedNSS), Texas ranks ninth in the country for the percent of obese high school students, and seventh for overweight low-income children ages 2-5. Only about one-third of Texas high school students meet the recommended levels of physical activity (36%). Recommendations to prevent overweight children need to focus on "improving the balance between caloric intake and energy expenditure" (CDC, 1997), because overweight youth have a higher tendency to become overweight adults (Serdula et al, 1993; Must et al, 1992).

Regular physical activity has many benefits, including maintenance of healthy muscles and bones, weight control and positive psycho-social effects. Participation in physical activity also decreases the future risk of heart disease, diabetes and other chronic conditions. According to the Texas Department of Health (2003b), diseases of the heart are the leading cause of death in the state of Texas. Women also report less leisure time for physical activity than men, a trend that can start in childhood, as data indicate that significantly fewer high school females participate in vigorous activity than males (CDC, 2004).

# San Antonio Demographics

Although most of the data compares Texas to the national averages, the San Antonio community was selected as a focal point. San Antonio is a younger and poorer city than the national average. The median age in San Antonio is 32.3 years, versus 36.4 years for a national average. Likewise, the median household income is nearly \$6,000 less than the national average; as a result, San Antonio has more than 5% more individuals living below the poverty line than the U.S. average. Finally, San Antonio has a disproportionately larger Hispanic population compared with the national average. In San Antonio, Hispanics make up 61.2% of the population versus 14.2% nationally.

**Figure 2: Survey Area Demographics**

<b>Variable</b>	<b>U.S.</b>	<b>Texas</b>	<b>San Antonio</b>
Total Population	288,378,137	22,270,165	1,202,223
Female	147,103,173	11,273,079	614,875
Male	141,274,964	10,997,086	587,348
Median Age	36.4	33.2	32.3
Under 19	80,124,541	6,888,686	375,260
White	215,333,394	16,021,256	768,878
Black	34,962,569	2,442,350	73,540
Hispanic/Latino (of all races)	40,870,703	7,903,079	735,458
Primary School (grades 1-8)	32,121,770	2,735,083	150,565
Secondary School (grades 9-12)	17,008,891	1,375,458	74,617
Median household income	\$46,242	\$42,139	\$40,186
Individuals below the poverty line in the past 12 months	13.3%	17.6%	18.7%

Data Source: U.S. Census Bureau, American Community Survey Office, 2005.

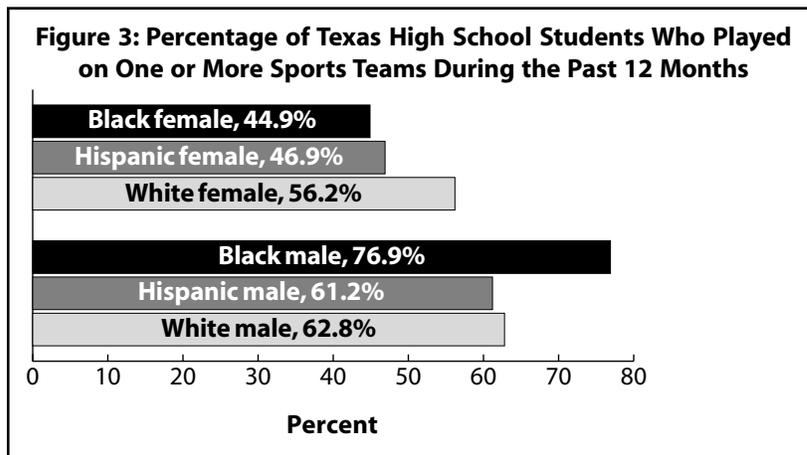
# Findings

## I. Physical Activity

### Sports Team Participation

While the absolute increase in the number of female high school athletes since the early 1970s has been impressive, the percentage of females playing varsity sports has leveled off since 2000 (Sylwester, 2003). This pattern is due to several factors. First, the addition of new sports for girls has slowed down as school districts across the country struggle to overcome dwindling resources. Second, as school enrollments increase, the percentage of students playing sport drops even though team rosters remain full (Brady and Sylwester, 2003). Finally, as school enrollments grow larger, it becomes increasingly more difficult for females to gain membership on varsity teams. Without an expansion of opportunities for female athletes, the percentage of girls in varsity sports is likely to remain flat for the foreseeable future because it is predicted that high school enrollments will continue to rise until peaking in 2007 when 14.8 million students are expected to enroll. Females are less likely than males to participate in school sports at older ages. The gender gap is not significant at eighth and 10th grades, but becomes significant by 12th

grade—60.2% of males participate in high school athletics versus 48.7% of females (Child Trends, 2003b).



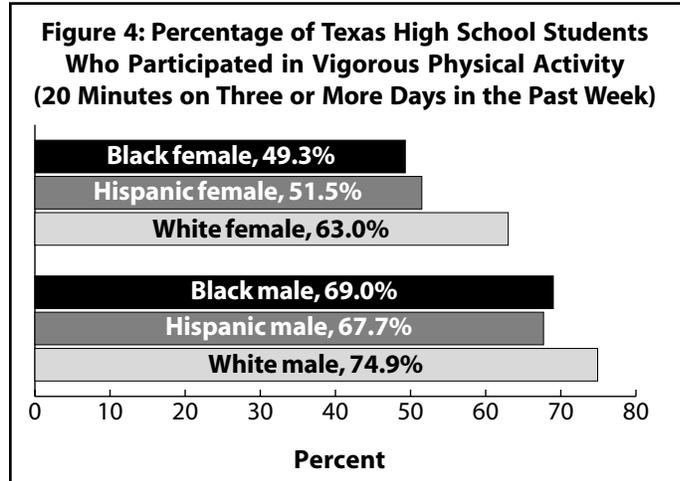
As displayed in Figure 3, white girls in Texas are more likely to participate on one or more sports teams than black or Hispanic girls, which is consistent with national trends. Overall, boys are also more likely to participate on one or more sports teams, again consistent with national data. Girls in Texas (50.7%) are slightly more likely to participate in one or more sports teams than the national average (50.2%).

### Vigorous Physical Activity

In order to maintain optimum health, the U.S. Centers for Disease Control and Prevention recommends that teenagers engage in a minimum of 20 minutes of “vigorous physical activity” on three or more days per week that makes them sweat or breathe hard (such as basketball, running, swimming laps, fast bicycling, fast dancing or similar aerobic activities).

Data from the 2004-05 School Physical Activity and Nutrition Project (SPAN) indicate that 67% of fourth graders, 79% of eighth graders and 66% of 11<sup>th</sup> graders exercised vigorously for 20 minutes at least three days in a week in Public Health

Region #8 (encompassing the San Antonio metropolitan area). Consistent with national trends, more boys participate in vigorous activity than girls. In Texas, white high school girls are more likely to participate in vigorous activity than their black and Hispanic counterparts, as indicated in Figure 4. National data indicate that white and Hispanic girls participate in nearly the same amount of vigorous activity (58.1% and 58.2%, respectively) and black girls participate in the least amount (48%). This is not consistent with the Texas data, which shows that Hispanic girls participate in significantly less vigorous activity than white girls.

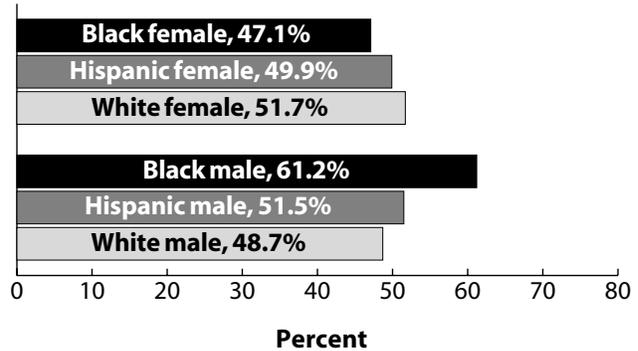


## Physical Education Class Attendance

Nationwide 55.7% of male and female students are enrolled in physical education (PE) class. Approximately one-quarter (28.4%) of students nationwide attend PE class daily. There are no significant sex differences in participation in ninth and 10th grade, but male students in grade 11 (30%) are significantly more likely than female students (15.6%) to have attended PE classes daily. In grade 12, males (26.1%) are significantly more likely than female students (14.7%) to have attended daily PE class (CDC, 2002).

In Texas, girls and boys attend PE classes about the same amount of the time, as displayed in Figure 5. Compared with national data, white and black girls in Texas are about the same (46.1% and 50.5%, respectively); however, Hispanic girls in Texas (49.9%) are less likely to participate in PE than the national average (57.1%) for Hispanic girls.

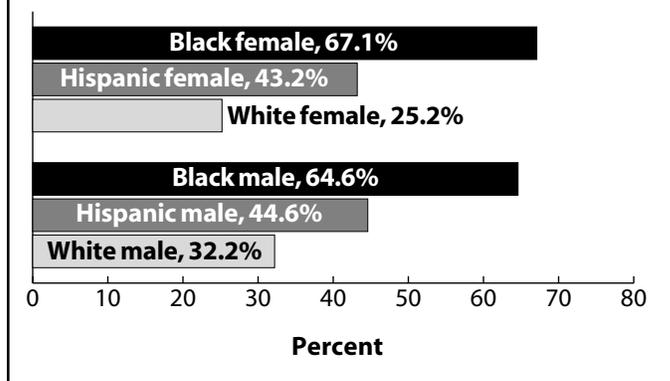
**Figure 5: Percentage of Texas High School Students Who Attended PE Class One or More Days During an Average Week**



## Television Viewing

The amount of television that children view has a direct effect on activity rates and obesity. Children who watch more television tend to exercise less, and low-income children spend more time in front of televisions than their higher-income counterparts (Anderson et al, 1998). Watching television and playing video games are often associated with consuming high-calorie snacks. Additionally, children watching television are more exposed to advertising for fast food, sugared breakfast cereals and snacks (Georgia Department of Human Resources, 2000).

**Figure 6: Percentage of Texas High School Students Who Watched More Than Three Hours of TV Per School Day**



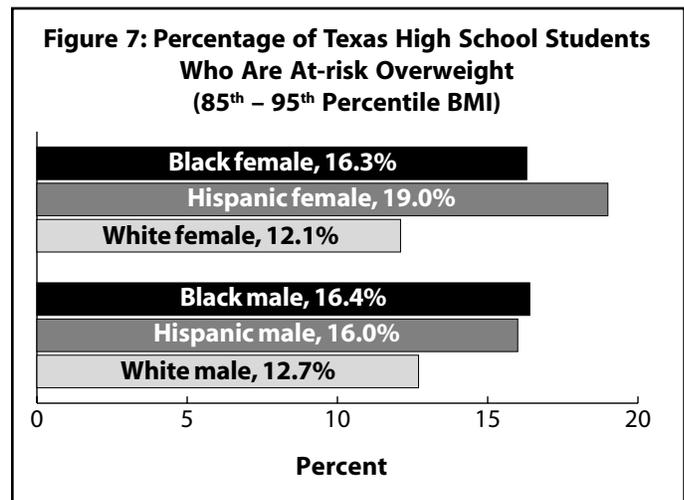
The trends displayed in Figure 6 are consistent with the national trends. Black girls are much more likely to watch three or more hours of television per school day in Texas (67.1%) and nationally (64.5%), than their white and Hispanic counterparts. Data from the 2004-05 School Physical Activity and Nutrition Project (SPAN) indicate that 32% of fourth graders, 58% of eighth graders and 36% of 11<sup>th</sup> graders watched three or more hours of television or videos “yesterday” in Public Health Region #8 (encompassing the San Antonio metropolitan area).

## II. Health

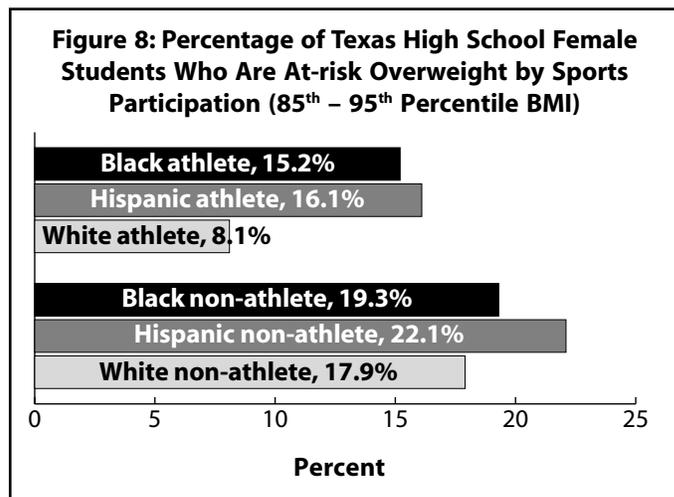
### At-risk Overweight

The criteria for defining “at-risk overweight” are different for youth than they are for adults. For adults, body mass index (BMI) is used (a value derived from height and weight) and is generally consistent throughout adulthood. For children, who are continuing to grow, BMI is not an accurate measurement tool. Instead, the CDC utilizes age-specific growth charts that set percentile cut-offs for excessive weight. Children and adolescents who fall between the 85<sup>th</sup> and 95<sup>th</sup> percentile for their age and sex are classified as “at-risk overweight.”

As indicated in Figure 7, in Texas, Hispanic girls (19%) are more likely to be at-risk overweight than white (12.1%) or black girls (16.3%). This trend is not consistent with national data where 22.6% of black girls are at-risk overweight, and 13.8% of white girls and 16.8% of Hispanic girls are at-risk overweight.



In Public Health Region #8 (encompassing the San Antonio metropolitan area), data from the 2004-05 School Physical Activity and Nutrition Project (SPAN) indicate that 18% of fourth graders, 15% of eighth graders and 17% of



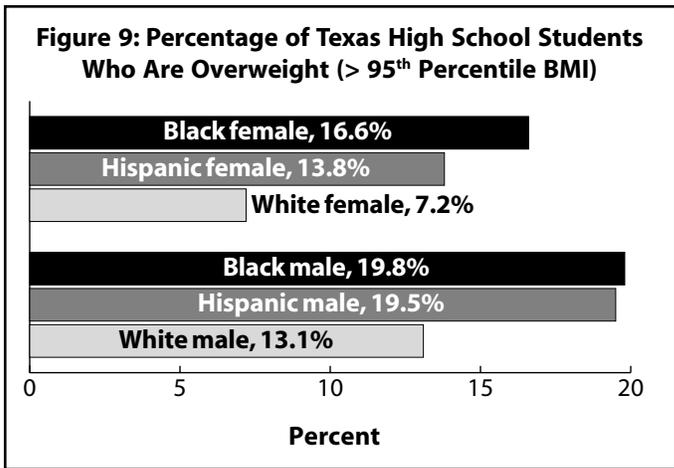
11<sup>th</sup> graders fall into the category of at-risk overweight. In 2001, black girls (27.1%) in 11<sup>th</sup> grade were more likely to be at-risk overweight than their Hispanic (22.4%) and white (8.5%) counterparts (Hoelscher et al, 2004). This trend is consistent with national data, however significantly more black and Hispanic girls in Public Health Region #8 are at-risk overweight than the national averages for those groups.

Of Texas high school girls, both Hispanic female athletes and non-athletes are more likely to be at-risk overweight, as indicated in Figure 8. Of female athletes, white girls are the least likely to be at-risk overweight, with black and Hispanic female athletes nearly twice as likely to be at-risk overweight.

### Overweight

Children and adolescents who meet or exceed the 95<sup>th</sup> percentile for their age and sex on the CDC growth chart are classified as “overweight.” This percentile range is the functional equivalent of an adult “obese” BMI of 30 or above. Obesity is associated with many chronic health problems that can be reduced by weight loss through calorie reduction and increased physical activity.

Overall, males and females have similar rates of excessive weight. However, upon closer examination, there is a gender difference when race and ethnic subgroups are investigated. According to the National Health and Nutrition Examination Survey III (CDC, 1997), female, black, non-Hispanic (23.6%) students are more likely to be overweight than white, non-Hispanic (12.7%) and Mexican-American (19.9%) females. This is also consistent with national YRBS data in 2005. Texas girls follow a similar pattern, with a higher percentage of black girls being overweight than of either Hispanic or white girls, as illustrated in Figure 9.



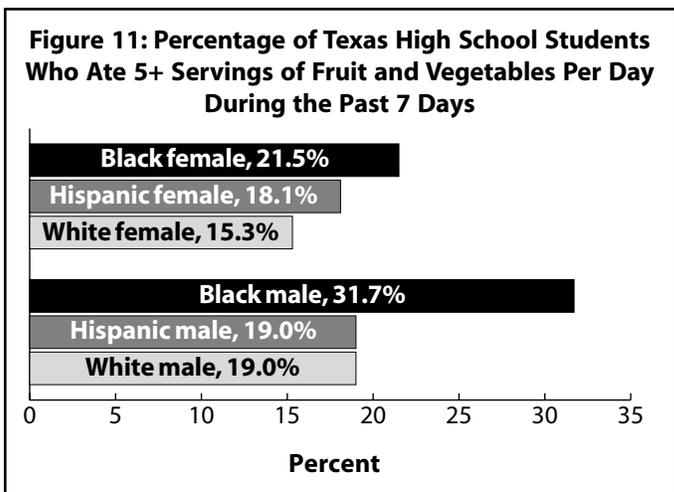
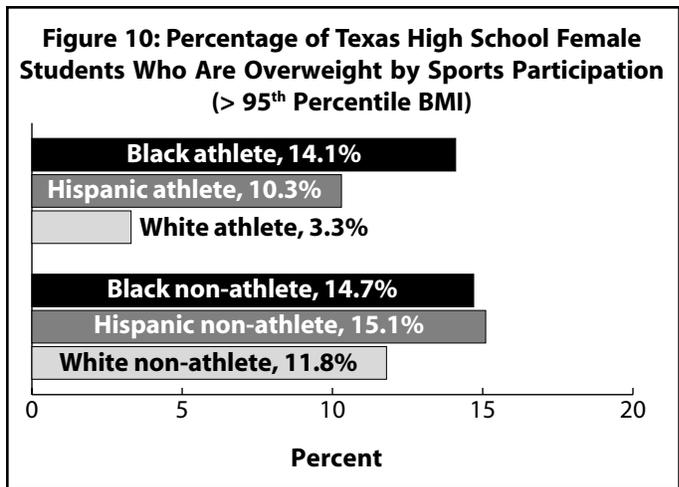
In Public Health Region #8 (encompassing the San Antonio metropolitan area), data from the 2004-05 School Physical Activity and Nutrition Project (SPAN) reveal that 29% of fourth graders, 17% of eighth graders and 21% of 11<sup>th</sup> graders fall into the category of overweight. Since 2000-2002 the percent of Texas eighth and 11<sup>th</sup> graders who are overweight has increased. In 2001, Hispanic girls (19.4%) in 11<sup>th</sup> grade were more likely to be at-risk overweight than their black (17.2%) and white (5.5%) counterparts (Hoelscher et al, 2004). This trend is not consistent with state or national data for high school youth where more black girls are overweight than Hispanic or white girls. However, African-American girls in fourth (26.4%) and eighth (23.1%) grade were more likely to be

overweight than their Hispanic and white peers. Overall, both minority groups are twice as likely to be overweight than white girls, in all age groups.

In Texas, white female non-athletes are more than three times as likely to be overweight than their white athletic peers, as illustrated in Figure 10. Hispanic female non-athletes are much more likely to be overweight than any other group.

## Nutrition

A study of teenage students in Minnesota found that the more often they ate at fast food restaurants each week, the higher the percentage of fat in their average daily diet and the more soft drinks consumed. The fast food restaurant frequenters also ate less fruit, vegetables and milk (French et al, 2001).



Generally there is not a significant difference by gender in the number of servings of fruit and vegetables they consume; however in Texas black high school students, both male and female, consume more servings of fruit and vegetables than their white and Hispanic counterparts, as displayed in Figure 11. This differs from the national data, where Hispanic girls (21.8%) are more likely to consume at least five servings, and white and black girls 17.4% and 19.9%, respectively.

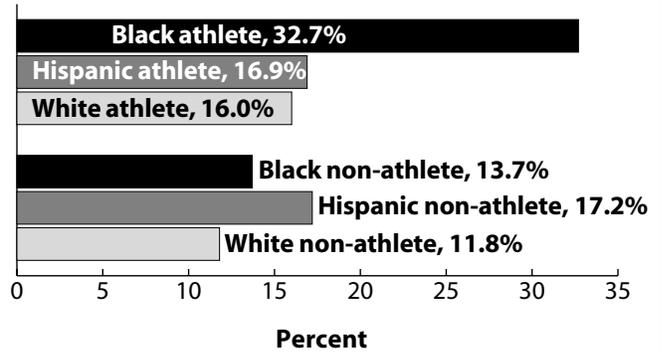
Black female athletes in Texas are much more likely to consume five or more servings of fruits and vegetables than their Hispanic or white counterparts, as indicated in Figure 12; nearly twice as many as black female non-athletes. Female Hispanic athletes and non-athletes are almost equally likely to consume five or more servings, and white female non-athletes are the least likely out of any group.

## Asthma

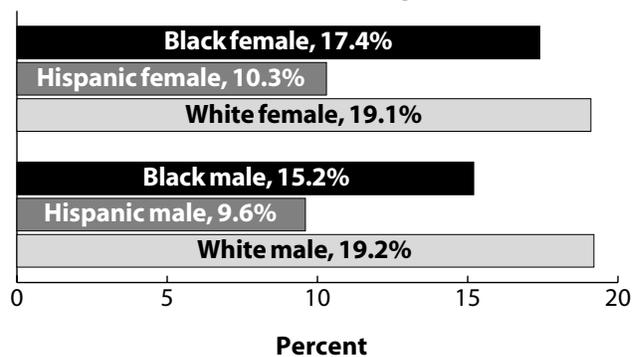
As indicated in Figure 13, there is little difference by gender with regard to current asthma\* reports. However, these trends are not consistent with the national averages. Black and white girls in Texas are much more likely to report current asthma than the national trend (15% and 14.8%, respectively), and Hispanic girls in Texas are less likely to report current asthma than the national female Hispanic average (14.1%).

\* "Current" asthma: Percentage of students who have ever been told by a doctor or nurse that they had asthma and who have asthma but had not had an episode of asthma or an asthma attack during the past 12 months or who had an episode of asthma or an asthma attack during the past 12 months (i.e., current asthma)

**Figure 12: Percentage of Texas High School Female Students Who Ate 5+ Servings of Fruit and Vegetables Per day During the Past 7 Days**



**Figure 13: Percentage of Texas High School Students With "Current" Asthma (Diagnosed as Having Asthma or Had an Asthmatic Attack During the Past 12 Months)**

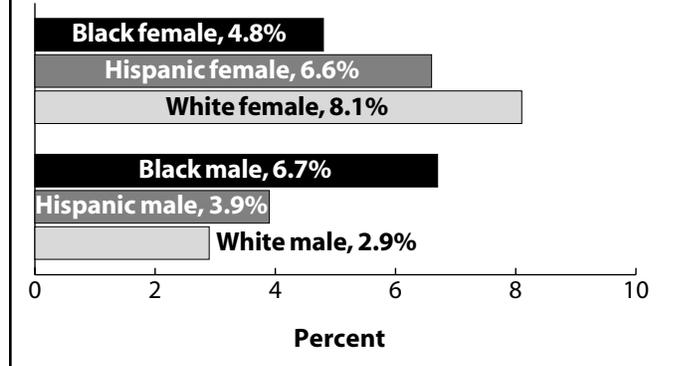


### III. Health-risk Behaviors

#### Disordered Eating Patterns

“Eating disorders are on the rise in the United States, and the highest risk category is adolescent and young adult women (Taub and Blinde, 1992). Over 90% of victims are female, and 86% report onset by age 20 (National Association of Anorexia Nervosa and Associated Disorders, 2004). About 1% of adolescent girls suffer from anorexia nervosa, a condition in which a distorted body image and an intense fear of gaining weight lead to voluntary starvation. Bulimia nervosa, a pattern of binge eating and purging, affects 1-3% of adolescent girls (Hausenblas and Carron, 1999). However, a far higher proportion of girls do not meet the formal criteria for a clinical eating disorder but nevertheless engage in pathogenic weight control techniques, including self-induced vomiting, fasting, use of laxatives, diuretics or diet pills and excessive exercise (Thompson and Sherman, 1999). Pathogenic weight loss behavior is associated with nutritional deficiencies, chronic fatigue, decreased bone density, erosion of tooth enamel, menstrual and reproductive abnormalities, lowered self-esteem, anxiety and depression (Beals, Brey and Gonyou, 1999). (Sabo et al, 2004).”

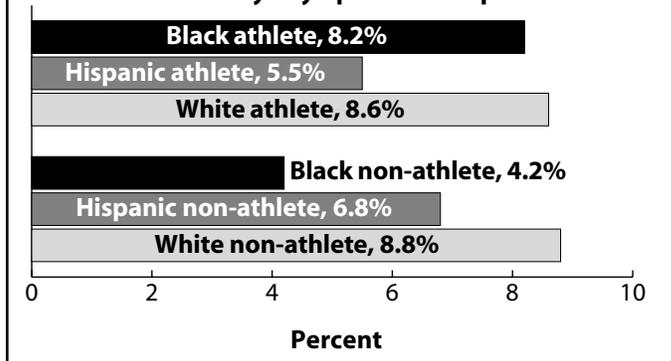
**Figure 14: Percentage of Texas High School Students Who Vomited or Took Laxatives to Lose Weight or to Keep From Gaining Weight During the Past 30 Days**



Consistent with national data, more girls use vomiting or laxatives as a means to keep from gaining weight than

boys, as shown in Figure 14. The rates of such a method are consistent between national trends and Texas data for black (4%) and Hispanic girls (6.8%); however, white girls in Texas (8.1%) are much more likely to use vomiting or laxatives to control their weight than the national average for white girls (6.7%).

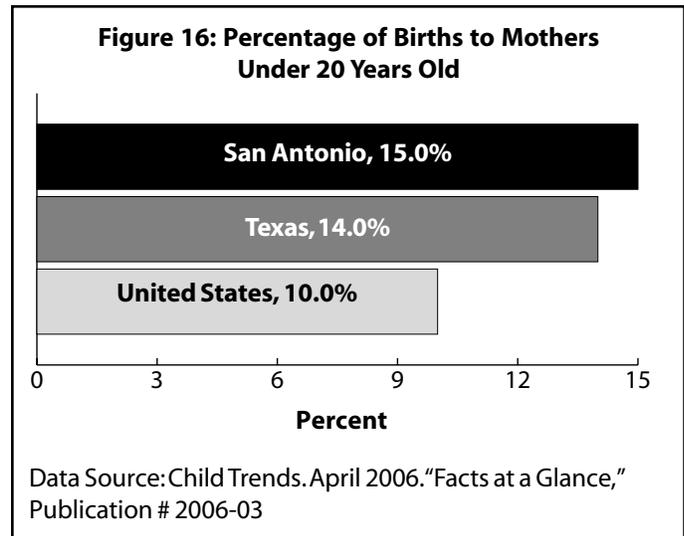
**Figure 15: Percentage of Texas High School Female Students Who Vomited or Took Laxatives to Lose Weight or to Keep From Gaining Weight During the Past 30 Days by Sports Participation**



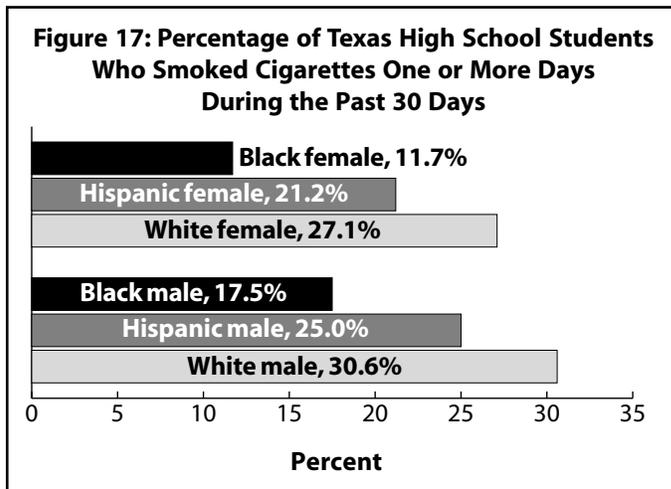
White female non-athletes and athletes are most likely to use laxatives or vomiting to lose weight, followed closely by black female athletes, as described in Figure 15. Black female athletes are nearly twice as likely as black non-athletes to use laxatives or vomiting to lose weight, thus it is important that special efforts are made to educate coaches and athletes so that black female athletes choose more healthy ways to control their weight.

## Teen Pregnancy

The United States has the highest teen pregnancy and birth rates in the industrialized world. About 80% of teen pregnancies are unintended (National Campaign to Prevent Teen Pregnancy, 2002). As indicated in Figure 16, the percent of births to teen moms is much higher in both Texas and San Antonio than the national average. There is no current data to examine the birth rate for female athletes, however previous research has indicated that “female athletes are less likely to be sexually active, in part because they tend to be more concerned about getting pregnant than female non-athletes (Dodge & Jaccard, 2002; Sabo et al, 2004).”



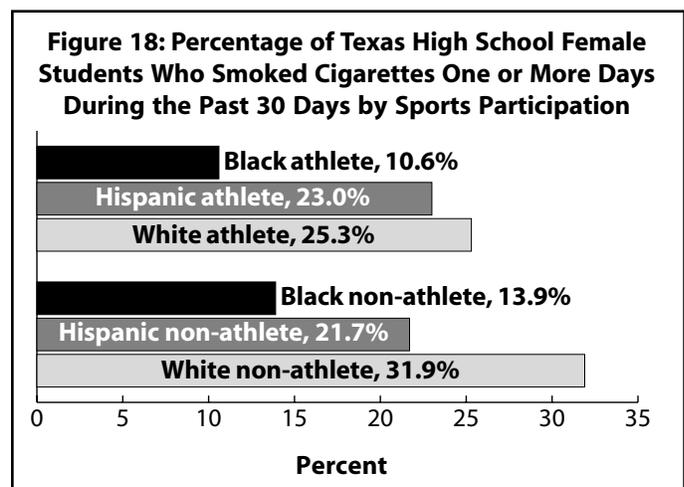
## Cigarette Smoking



Approximately 80% of adult smokers began smoking before the age of 18. The earlier tobacco use begins, the more likely a lifestyle pattern will develop that includes tobacco use, resulting in increased risk for tobacco-related illnesses. Yet, tobacco use continues to be popular among adolescents and young adults, with nearly 3,000 young people under the age of 18 becoming regular smokers every day.

Data for Texas is consistent with the national trends, as displayed in Figure 17. White girls in the United States are more likely to smoke cigarettes (27%) than their black and Hispanic counterparts (11.9% and 19.2%, respectively).

In Texas, female athletes were less likely to smoke than their non-athletic counterparts, except for Hispanic athletes, who were slightly more likely to smoke than their non-athletic counterparts. White female non-athletes and athletes are the most likely to smoke cigarettes than any other group, as illustrated in Figure 18.



## Marijuana

Consistent with national trends, more boys than girls use marijuana in Texas, as indicated in Figure 19. However, at a national level, more white girls (19.2%) have used marijuana in the past month than black (18.8%) and Hispanic girls (18%). This differs from girls in Texas, where black girls are the most likely to have used marijuana in the past 30 days, with white girls using the least of all groups.

“Two nationwide studies found that female school or community athletes were significantly less likely to use marijuana, cocaine or most other illicit drugs, although they were no less likely to use crack or inhalants. This protective effect of sports was especially true for white girls (Sabo et al, 2004; Miller et al, 2000; Pate et al, 2000).” In Texas, a similar buffer effect is indicated, as shown in Figure 20. Fewer female athletes have used marijuana than their non-athletic counterparts. Of female non-athletes, black girls were most likely to have used marijuana, followed by Hispanic and white girls.

## Binge Drinking

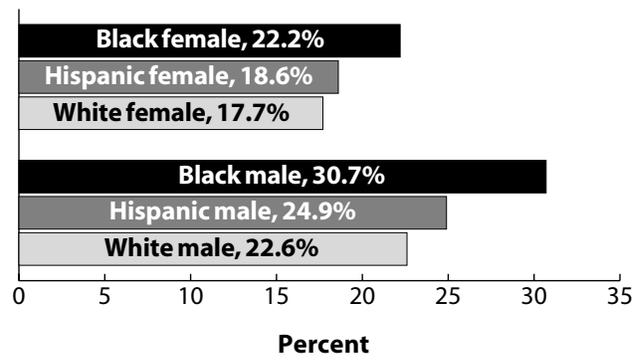
Alcohol is the most widely abused substance among American young people. A recent study conducted by the University of Michigan found that more than a third of 10<sup>th</sup> graders and nearly half of 12<sup>th</sup> graders have participated in episodic heavy drinking. Episodic heavy drinking\*, also known as “binge drinking,” was measured in their study by the number of times the respondent had five or more drinks in a row during the prior two-week interval (Johnston et al, 2005).

Trends indicated in Figure 21 are generally consistent with national data, which indicate that boys are more likely to binge drink than girls. Likewise, Texas data for girls is consistent with national data (28.1% of white girls reporting binge drinking, followed by 21.9% of Hispanic girls and 10.4% of black girls). However, white, Hispanic and black girls in Texas are more likely to binge drink than their respective national groups.

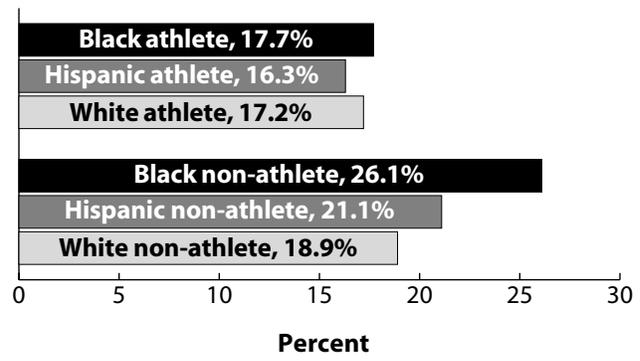
“Research on the relationship between youth sports and drinking is mixed. Some studies find that high school or college female sports participation is associated with alcohol consumption (Aaron et al, 1995; Hildebrand, Johnson and Bogle, 2001; Leichter et al, 1998; Nelson and Wechsler, 2001; Rainey et al, 1996; Thombs, 2000; Wechsler et al, 1997), while others do not (Baumert, Henderson and Thompson, 1998; Carr, Kennedy and Dimick, 1996; Higgs, McKelvie and Standing, 2001; Overman and Terry, 1991; Page et al, 1998; Pate et al, 2000). Several prominent theories have been advanced to explain athlete alcohol use,

\* Episodic (“binge”) heavy drinking: Drank five or more drinks of alcohol in a row on one or more of the 30 days preceding the survey.

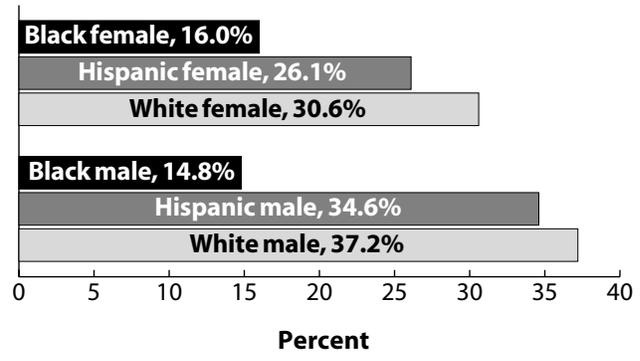
**Figure 19: Percentage of Texas High School Students Who Used Marijuana During the Past Month**



**Figure 20: Percentage of Texas High School Female Students Who Used Marijuana During the Past Month by Sports Participation**

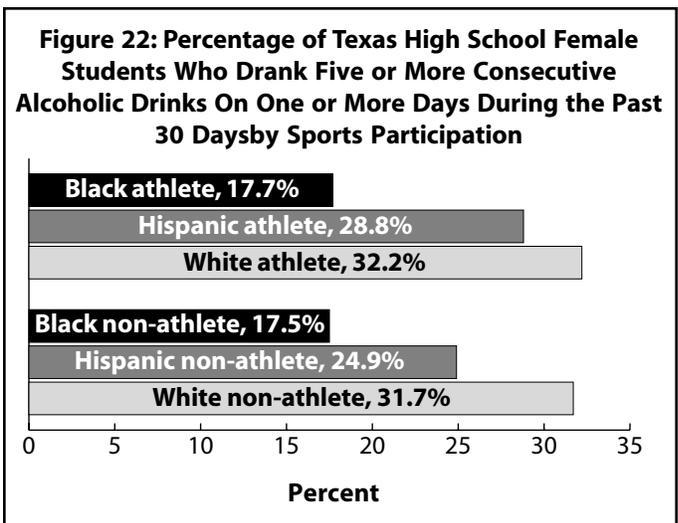


**Figure 21: Percentage of Texas High School Students Who Drank Five or More Consecutive Alcoholic Drinks On One or More Days During the Past 30 Days**

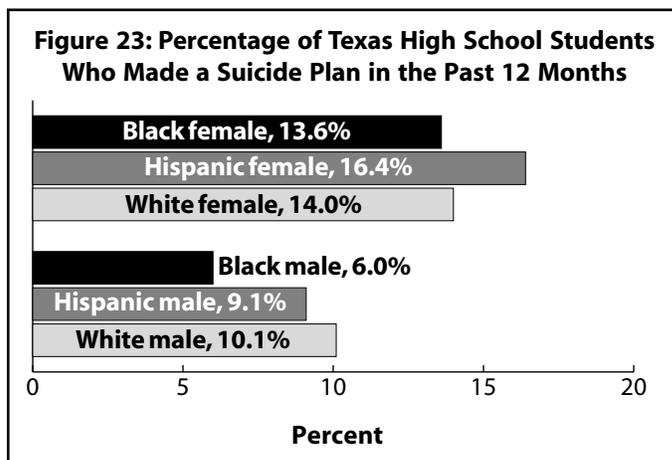


including the idea that athletes drink to self-medicate or reduce the stress of competition and injuries (Heyman, 1996; Leichter et al, 1998; Miller et al, 2002), that the advertising industry reinforces the cultural tradition of drinking to celebrate a win or console a loss (Heyman, 1996; Holman et al, 1997; Madden and Grube, 1994; Slater et al, 1996) or that athletes are exposed to subcultures that are tolerant of, and exaggerate perceived norms of, drinking (Nelson and Wechsler, 2001; Thombs, 2000).” (Sabo et al, 2004)

In Texas, white girls are most likely to have reported episodic heavy drinking (“binge drinking”), followed by Hispanic and black girls, as indicated in Figure 22. Sports participation does not appear to have a buffering effect on this behavior, if anything there is a slight increase in the reports of the athletes versus the non-athletes.

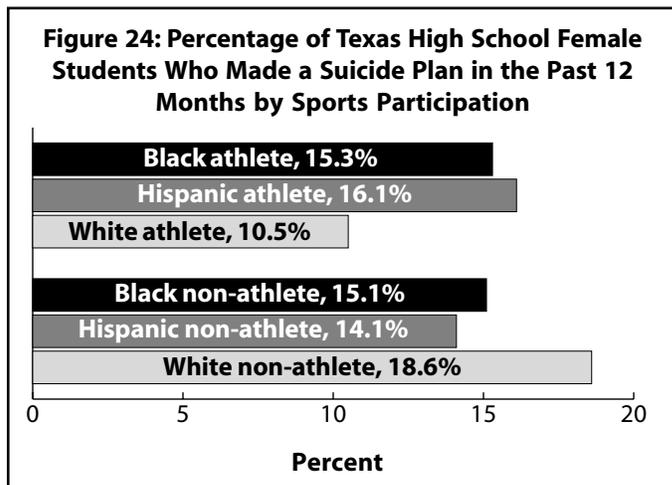


## Suicide Plans



“Female high school athletes, especially those participating on three or more teams, have lower odds of considering or planning a suicide attempt (Sabo et al, 2004).” Data presented in Figure 23 are consistent with national trends where girls are more likely to make a suicide plan than boys, and Hispanic girls (18.5%) are more likely than black (13.5%) and white (15.4%) girls to make a suicide plan.

In Texas, white female non-athletes were most likely, and white female athletes were least likely, to plan a suicide. White female athletes were the only group that had a lower likelihood of planning a suicide than their non-athletic counterparts. Black and Hispanic female athletes and non-athletes were nearly as likely to plan a suicide, as shown in Figure 24.



# Conclusion

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While girls in Texas tend to participate in sports teams and vigorous physical activity at similar rates as the national average, they continue to have poorer nutrition and a higher rate of sedentary activity (TV viewing) than the national average for high school girls. More importantly it is vital that we highlight the high rate of overweight and at-risk overweight minority girls in Texas. Hispanic and black girls in Texas are also less likely to participate in one or more sports team, sufficient vigorous physical activity, and attend PE class at least once a week, than their white peers. Likewise, Hispanic and black girls are more likely to watch three or more hours of television than white girls. This trend is especially relevant to the San Antonio area because the Hispanic population is almost equal to the white population; therefore, obesity rates will likely continue to increase amongst the Hispanic community, which will lead to higher rates of medical problems such as type-2 diabetes, asthma, heart disease and other chronic conditions – not only in youth, but also in adults as the current cohort of youth ages. The significance of this report is extremely relevant as policymakers and community leaders consider the ramifications if new and current initiatives, with regard to physical activity rates, are not supported.

Recent research with regard to adolescent levels of physical activity has revealed a worrisome trend among females and minority groups (Anderson et al, 1998). Nationwide studies confirm that the level of vigorous physical activity for minority youth is significantly lower than non-Hispanic white youth (CDC, 1994; Kann et al, 1993). As a result, female adolescents of color are much more likely to be overweight and obese than their non-Hispanic white female peers. Hispanic youth also have higher reported rates of chronic diseases such as asthma.

Economic, cultural, and environmental factors may have significant effects on the level of physical activity in minority youth. There are many possible barriers to increased participation by minority youth such as lack of a safe place to play, lack of consistent access to healthful food choices (particularly fruits and vegetables), availability of facilities, few parks and lack of appropriate programs (specifically linguistically and culturally appropriate offerings) (Anderson, 1998; Gordon-Larsen et al, 2000; Tanasescu et al, 2000; Committee on Nutrition, 2003). The number of incidents of serious crime in an adolescent's neighborhood was significantly associated with a decrease in physical activity (Gordon-Larsen et al, 2000). Acculturation is another unique factor that has also been investigated with regard to physical activity rates among Mexican-Americans. Research has indicated that those who spoke mostly Spanish at home had higher levels of physical inactivity (Crespo et al 2000).

One possible reason for the current failure to prevent increasing obesity in this country's minority groups is the use of a "blanket approach" that does not address the distinct needs of high-risk populations, such as Hispanic Americans. It is important moving forward that modifiable risk factors are identified so that the creation and implementation of obesity prevention programs are relevant for the minority group. There is a need to improve access to community-based physical activity opportunities, in addition to re-vamping the current status of physical education in schools to include more vigorous and fun activities. Special consideration should be made with regard to minority-preferred activities, such as social dancing, when tailoring culturally appropriate programs.

Two of the main focus areas of Healthy People 2010 (U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion) are Nutrition & Overweight and Physical Activity & Fitness. A specific goal set forth under these objectives is to significantly reduce the proportion of obese and overweight youth to 5%. Currently Texas is already at more than twice that level (15% overweight and 13.9% obese). Unless significant changes occur in the schools or healthcare settings, Texas is not going to meet the 2010 goal. While it may seem overwhelming to make structural changes at the institutional level, there are opportunities at the community and grassroots level to make a difference. Organizations at the community level, who are involved with youth on a daily basis through after-school and extra-curricular activities, have the chance to educate youth about the benefits of good nutrition and physical activity. While more nutritious school lunches, more recess time, more frequent physical education courses and more opportunities for sports participation are the ideal solution, there are alternatives. Physical activity and good nutrition must become a lifestyle habit; if opportunities are increased at the community level—such as dance classes, organized sports leagues or walk-to-school programs—there is more of a chance that youth will begin to make exercise a part of their daily routine. But first the opportunities must be made available to them.

# References

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Aaron, D.J.; Dearwater, S.R.; Anderson, R.; Olsen, T.; Kriska, A.M.; and Laporte, R.E. (1995). "Physical activity and the initiation of high-risk health behaviors in adolescents." *Medicine and Science in Sports and Exercise*, 27(12):1639-1645.

American Housing Survey, available at [www.census.gov/hhes/www/ahs.html](http://www.census.gov/hhes/www/ahs.html).

Anderson, R.; Crespo, C.; et al. (1998). "Relationship of physical activity and television watching with body weight and level of fatness among children: Results from the national health and nutrition survey." *Journal of the American Medical Association*, 279: 28-32.

Bachman, J.G.; Johnston, L.D.; and O'Malley, P.M. "Monitoring the Future: A Continuing Study of American Youth (eighth, 10th, and 12th Grade Surveys), 1976-2002 [Computer files]." Conducted by University of Michigan, Survey Research Center.

Baumert, P.W., Jr.; Henderson, J.M.; and Thompson, N.J. (1998). "Health risk behaviors of adolescent participants in organized sports." *Journal of Adolescent Health*, 22:460-465.

Beals, K.A.; Brey, R.A.; and Gonyou, J.B. (1999). "Understanding the female athlete triad: Eating disorders, amenorrhea, and osteoporosis." *Journal of School Health*, 69(8):337-340.

Brady, E., and Sylwester, M. (2003). "More and more girls got game." *USA Today*, July 1, 2003, p. 2C.

Carr, C.N.; Kennedy, S.R.; and Dimick, K.M. (1996). "Alcohol use among high school athletes." *Prevention Researcher*, 3(2):1-3.

Centers for Disease Control and Prevention (2004a). "Surveillance Summaries, September 24, 2004." *Morbidity and Mortality Weekly Report*, 53 (RR-12)

Centers for Disease Control and Prevention (2004b). "Surveillance Summaries, May 21, 2004." *Morbidity and Mortality Weekly Report*, 53 (SS-2)

Centers for Disease Control and Prevention (2002). "Surveillance Summaries." *Morbidity and Mortality Weekly Report*, 51(SS-4).

Centers for Disease Control and Prevention (1997). "Update: Prevalence of Overweight Among Children, Adolescents, and Adults — United States, 1988-1994." *Morbidity and Mortality Weekly Report*, 46 (9):199-202.

Centers for Disease Control and Prevention (1994). "BRFSS Summary Prevalence Report." Atlanta, GA

Child Trends (2003a). "Vigorous Physical Activity By Youth." Online. Retrived from <http://www.childtrendsdatbank.org/indicators/16physicalactivity.cfm>

Child Trends (2003b). "Participation in School Athletics." Online. Retrived from <http://www.childtrendsdatbank.org/indicators/37schoolathletics.cfm>

Child Trends (2006). "Facts at a Glance," Publication # 2006-03. Online. Retrieved from <http://www.childtrends.org/Files/FAAG2006revised.pdf>

Colditz, Graham A. (1999). "Economic costs of obesity and inactivity. (Physical Activity in the Prevention and Treatment of Obesity and its Comorbidities)" *Medicine and Science in Sports and Exercise*, 31:5663-68.

Community on Nutrition (2003). "Prevention of Pediatric Overweight and Obesity." *Pediatrics*, 112:424-430.

Department of State Health Services (2003) "DSHS Obesity Data Sheet" Online Retrieved at [www.dshs.state.tx.us/phn/pdf/data05.pdf](http://www.dshs.state.tx.us/phn/pdf/data05.pdf)

- Dodge, T., and Jaccard, J. (2002). "Participation in athletics and female sexual risk behavior: The evaluation of four causal structures." *Journal of Adolescent Research*, 17:42-67.
- Finkelstein, E.A.; Fiebelkorn, I.C.; and Wang, G. (2004) "State-level Estimates of Annual Medical Expenditures Attributable to Obesity." *Obesity Research*, 12(1):18-24.
- Fox, M.A.; Connolly, B.A.; and Snyder, T.D. (2005). "Youth Indicators 2005: Trends in the Well-Being of American Youth, (NCES 2005-050). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.
- French, S.A.; Story, M.; et al. (2001). "Fast food restaurant use among adolescents: Associations with nutrient intake, food choices and behavioral and psychosocial variables." *International Journal of Obesity*, 25: 1823-1833.
- Gennuso, J.; Epstein, L.H.; Paluch, R.A.; and Cerny, F. The relationship between asthma and obesity in urban minority children and adolescents. *Archives of Pediatric and Adolescent Medicine*. 1998: 152:1 197-200.
- Gordon-Larsen, P.; McMurray, R.G.; and Popkin, B.M. (2000). "Determinants of Adolescent Physical Activity and Inactivity Patterns." *Pediatrics*, 105:83
- Hausenblas, H.A., and Carron, A.V. (1999). "Eating disorder indices and athletes: An integration." *Journal of Sport and Exercise Psychology*, 21:230-258.
- Hedley, A.; Ogden, C.; Johnson, C.; Carroll, M.; Curtin, L.; and Flegal, K. "Prevalence of Overweight and Obesity Among US Children, Adolescents, and Adults, 1999-2002," *JAMA*, 291 (23): 2847-2850.
- Heyman, S.R. (1996). "Psychological factors in athletes' substance use." *Prevention Researcher*, 3(2):3-5.
- Higgs, S.R.; McKelvie, S.J.; and Standing, L.G. (2001). "Students' reports of athletic involvement as predictors of drinking: A pilot study." *Psychological Reports*, 89:487-488.
- Hildebrand, K.M.; Johnson, D.J.; and Bogle, K. (2001). "Comparison of patterns of alcohol use between high school and college athletes and non-athletes." *College Student Journal*, 35(3):358-365.
- Hoelscher, D.M.; Day, S.; Lee, E.S.; Frankowski, R.F.; Kelder, S.H.; Ward, J.L.; and Scheurer, M.E. (2004) Measuring the Prevalence of Overweight in Texas Schoolchildren" *American Journal of Public Health*, 94 (6): 1002-1008.
- Holman, C.D.J.; Donovan, R.J.; Corti, B.; and Jalleh, G. (1997). "The myth of 'healthism' in organized sports: Implications for health promotion sponsorship of sports and the arts." *American Journal of Health Promotion*, 11:169-176.
- Improving Community Health Survey, Sinai Urban Health Institute (2004)
- Johnston, L.D.; O'Malley, P.M.; Bachman, J.G.; and Schulenberg, J.E. (2005). Monitoring the Future national results on adolescent drug use: Overview of key findings, 2004. (NIH Publication No. 05-5726). Bethesda, MD: National Institutes on Drug Abuse.
- Johnston, L.D.; O'Malley, P.M.; and Bachman, J.G. (2003). Monitoring the Future national survey results on drug use, 1975-2002. Volume I: Secondary school students (NIH Publication No. 03-5375). Bethesda, MD: National Institute on Drug Abuse.
- Johnston, L.D.; O'Malley, P.M.; and Bachman, J.G. (2002). "Demographic subgroup trends for various licit and illicit drugs, 1975-2001." *Monitoring the Future Occasional Paper No. 57*. Ann Arbor, MI: Institute for Social Research.
- Kann, L.; Warren, W.; Cullins, J.L.; Ross, J.; Cullins, B.; and Kolbe, L.A. "Results from the national school based 1991 Youth Risk Behavior Survey and progress towards achieving related health objectives for the nation." *Public Health Rep*. 1993; 108:47 67.
- Leichliter, J.S.; Meilman, P.W.; Presley, C.A.; and Cashin, J.R. (1998). "Alcohol use and related consequences among students with varying levels of involvement in college athletics." *Journal of American College Health*, 46:257-262.

Madden, P.A., and Grube, J.W. (1994). "The frequency and nature of alcohol and tobacco advertising in televised sports, 1990 through 1992." *American Journal of Public Health*, 84(2):297-299.

"Mapping US Obesity." *Tufts University Health Nutrition Letter* (1997), 15:1.

Martin, J.A.; Hamilton, B.E.; Sutton, P.D.; Ventura, S.J.; Menacker, F.I.; and Munson, M.L. (2003). "Births: Final data for 2002." *National Vital Statistics Reports*, 52(10).

Melnick, M.J.; Miller, K.E.; Sabo, D.; Farrell, M.P.; and Barnes, G.M. (2001). "Tobacco use among high school athletes and nonathletes: Results of the 1997 Youth Risk Behavior Survey." *Adolescence*, 36: 727-747.

Miller, B.E., Miller, M.N., Verhegge, R., Linville, H.H., and Pumariega, A.J. (2002). "Alcohol misuse among college athletes: Self-medication for psychiatric symptoms?" *Journal of Drug Education*, 32(1):41-52.

Miller, K.E.; Sabo, D.; Melnick, J.J.; Farrell, M.P.; and Barnes, G.M. (2000). *The Women's Sports Foundation Report: Health Risks and the Teen Athlete*. East Meadow, NY: Women's Sports Foundation.

Must, A.; Jacques, P.F.; Dallal, L.M.; Bajema, C.J.; and Dietz, W.H. (1992). "Long-term morbidity and mortality of overweight adolescence. A follow-up of the Harvard growth study of 1922 to 1935." *New England Journal of Medicine*: 327: 1350-1355.

National Association of Anorexia Nervosa and Associated Disorders (2004). *General information: Facts about eating disorders*. Online. Retrieved from <http://www.anad.org>.

National Campaign to Prevent Teen Pregnancy. (2000). "Hispanic Research Report." *U.S. Hispanic Adult Communications*

National Campaign to Prevent Teen Pregnancy. (2002). *Not just another single issue: Teen pregnancy prevention's link to other critical social issues*. Washington, DC: Author.

National Center for Health Statistics, 2001 Natality Data Set CD Series 21, No. 15

National Federation of State High School Associations 2003-04 High School Athletics Participation Survey (2004)

Nelson, T.F., and Wechsler, H. (2001). "Alcohol and college athletes." *Medicine and Science in Sports and Exercise*, 33(1):43-47.

Overman, S.J., and Terry, T. (1991). "Alcohol use and attitudes: A comparison of college athletes and nonathletes." *Journal of Drug Education*, 21(2):107-117.

Page, R.M.; Hammermeister, J.; Scanlan, A.; and Gilbert, L. (1998). "Is school sports participation a protective factor against adolescent health risk behaviors?" *Journal of Health Education*, 29(3):186-192.

Park, M.K.; Menard, S.W.; and Schoolfield, J. (2001) Prevalence of overweight in a triethnic pediatric population of San Antonio, Texas. *International Journal of Obesity*, 25: 409-416.

Pate, R.R.; Trost, S.G.; Levin, S.; and Dowda, M. (2000). "Sports participation and health-related behaviors among U.S. youth." *Archives of Pediatric and Adolescent Medicine*, 154:904-911.

Rainey, C.J.; McKeown, R.E.; Sargent, R.G.; and Valois, R.F. (1996). "Patterns of tobacco and alcohol use among sedentary, exercising, nonathletic, and athletic youth." *Journal of School Health*, 66(1):27-32.

Robert Wood Johnson Foundation (2004). *Active Living Diversity Project: A look at physical activity and health eating in African Americans, Latino and Native American communities*. Seattle, Washington: Pyramid Communication.

Sabo, D.; Miller, K.E.; Melnick, M.J.; and Heywood, L. (2004). *Her Life Depends on It: Sport, Physical Activity, and the Health and Well-Being of American Girls*. East Meadow, NY: Women's Sports Foundation.

- Sabo, D.; Miller, K.E.; Melnick, M.J.; Farrell, M.P.; and Barnes, G.M. (Forthcoming, 2004). "High school athletic participation and adolescent suicide: A nationwide study." *International Review for the Sociology of Sport*.
- Sabo, D.; Melnick, M.; and Vanfossen, B. (1989). "Minorities in Sports: The Effect of Varsity Sports Participation on the Social, Educational, and Career Mobility of Minority Students." East Meadow, NY: Women's Sports Foundation.
- Serdula, M.K.; Ivery, D.; Coates, R.J.; and Freedman, D.S. (1993). "Do obese children become obese adults? A review of the literature." *Preventative Medicine* 22:167-177.
- Slater, M.D.; Rouner, D.; Murphy, K.; Beauvais, F.; Van Leuven, J.; and Rodriguez, M.D. (1996). "Male adolescents' reactions to TV beer advertisements: The effects of sports content and programming context." *Journal of Studies on Alcohol*, 57:425-433.
- Solis, J.M.; Marks, G.; Garcia, M.; and Shelton, D. (1990) Acculturation, access to care, and use of preventative services by Hispanics: Findings from HHANES 1982-84. *American Journal of Public Health*. 80 (Supplement): 11-19.
- Sylwester, M. (2003). "Taking a head count not as easy as it might appear." *USA Today*, July 1, 2003, p. 2C.
- Tanasescu, M.; Ferris, A.M.; Himmelgreen, D.A.; Rodriguez, N.; and Perez-Escamilla, R. (2000). "Biobehavioral Factors are Associated with Obesity in Puerto Rican Children." *Journal of Nutrition*, 130:1734-1742.
- Taub, D.E., and Blinde, E.M. (1992). "Eating disorders among adolescent female athletes: Influence of athletic participation and sport team membership." *Adolescence*, 27(108):833-848.
- Texas Department of Health (2003a). "The Burden of Overweight and Obesity in Texas, 2000-2040." Online. Retrieved at [http://www.dshs.state.tx.us/phn/pdf/Cost\\_Obesity\\_Report.pdf](http://www.dshs.state.tx.us/phn/pdf/Cost_Obesity_Report.pdf)
- Texas Department of Health (2003b). "Cardiovascular Disease in Texas: A Surveillance Report and Program Strategies." Online Retrieve at: [http://archive.tdh.state.tx.us/legacytdh/wellness/data/cvdsurveillance.ppt#342,1,Cardiovascular Disease \(CVD\) in Texas](http://archive.tdh.state.tx.us/legacytdh/wellness/data/cvdsurveillance.ppt#342,1,Cardiovascular Disease (CVD) in Texas)
- Thombs, D.L. (2000). "A test of the perceived norms model to explain drinking patterns among university student athletes." *Journal of American College Health*, 49: 75-83.
- Thompson, R.A., and Sherman, R.T. (1999). "Athletes, athletic performance, and eating disorders: Healthier alternatives" *Journal of Social Issues*, 55(2): 317-337.
- Trust for American Health (2006). "*F as in Fat: How Obesity Policies are Failing America*" Online. Retrieved at <http://www.rwjf.org/files/research/TFAHObesityReport0806R.PDF>
- U.S. Census Bureau, 2005 Census Data
- U.S. Census Bureau, Population Division; County Population Estimates by Selected Age Categories and Sex: July 1, 2002
- Wechsler, H.; Davenport, A.E.; Dowdall, G.W.; Grossman, S.J.; and Zanakos, S.I. (1997). "Binge drinking, tobacco, and illicit drug use and involvement in college athletics: A survey of students at 140 American colleges." *Journal of American College Health*, 45:95-200.
- Youth Media Campaign Longitudinal Survey, United States, 2002







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