



# **The Women's Sports Foundation Report:**

## **The Status of Health and Physical Activity in Chicago Hispanic Girls**



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# The Women's Sports Foundation Report: The Status of Health and Physical Activity in Chicago Hispanic Girls

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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) or AOL Keyword:WSF. 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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# Executive Summary

The health of today's girls is threatened by inactivity. Physical activity plays a significant role to reduce health risks such as obesity, heart disease, osteoporosis, breast cancer, unintended pregnancy and lack of self-esteem among others. Hispanic girls are at greater risk than non-Hispanic girls for most of these health risks and more likely to be sedentary. Very little research has focused on the relationship between physical activity and health within the young Hispanic population, with the exception of the groundbreaking *Women's Sports Foundation Report: Minorities in Sports* (Sabo, Melnick and Vanfossen, 1989). The current report highlights key indicators of the status of both the status of physical activity and health for Hispanic female youth in the Chicago metropolitan area; these indicators are then compared with national averages in order to contextualize the results.

**Physical Activity:** Hispanic female high school students in Chicago are not participating in sufficient amounts of physical activity. Fewer Hispanic female high school students (45.7%) in Chicago participate on one or more sports teams than the national average for high school females (51%). Only 38.7% of Hispanic female high school students in Chicago participate in sufficient vigorous physical activity each week, compared with the national average for high school females of 55%. However, more Chicago Hispanic female high school students (57.3%) attend physical education classes one or more days a week than the national average for female students (52.8%). This rate is due in large part to the daily physical education requirement for the state of Illinois. Finally, a significantly higher number of Hispanic female high school students in Chicago (47.2%) watch three or more hours of television, compared with the national average for female students (37%).

**Health:** Hispanic female high school students in Chicago are at risk for a number of preventable chronic diseases, mostly attributable to obesity and a sedentary lifestyle. While Hispanic female high school students in Chicago (13.4%) are slightly less likely to be at risk overweight than the national average for female students (15.3%), they are more likely to be overweight (12.7%) than the female national average (8.3%). Only 12.4% of Hispanic female high school students in Chicago consume the recommended five or more servings of fruit and vegetables per day, compared with the national average for female students of 20.3%. Twice as many Puerto Rican school-aged children (24.4%) in Chicago suffer from asthma than the national youth average (12%).

**Health-risk Behaviors:** Generally, the trends in Chicago female Hispanic students regarding health-risk behaviors are consistent with national averages: Hispanic female students have higher rates of disordered eating and plans for suicide than other groups; and, the second-highest rates for cigarette smoking, marijuana use, binge drinking and teen pregnancy. However, the current data reveal that sports participation acts as a buffer, decreasing the levels of health-risk behavior in Chicago Hispanic high school females.

Overall, this report indicates that Hispanic female high school students in the Chicago area are not getting sufficient physical activity, either through sports teams, school PE or independent fitness programs. Coupled with poor nutrition and a sedentary lifestyle, the problem is not just about failing to provide more girls with athletic and fitness opportunities—it is about endangering the public health (Figure 1). If trends do not reverse in the coming years, the current high rate of medical costs associated with obesity will continue to rise. The good news is that sports participation does have a powerful protective effect for Hispanic girls in particular, especially with regard to reducing rates of eating disorders, cigarette smoking, marijuana use and binge drinking. Hispanic female athletes are also less likely to be overweight and more likely to consume the daily recommended amount of fruit and vegetables. These results highlight the importance of sports and physical activity for Hispanic females.

**Figure 1: Status of Female Youth Physical Activity and Health in Chicago Metro Area (Compared With U.S. Averages)**

	Sports Team Participation	Vigorous Physical Activity	Phys. Ed. Class Attendance	At Risk Overweight	Overweight	TV Viewing	Nurtition (Fruit & Veg. Servings)	Disordered Eating Patterns	Cigarette Smoking	Asthma	Teen Pregnancy	Marijuana Use	Binge Drinking	Suicide Attempts
<b>Chicago</b>	👍	👍	👍	👍	👎	👎	👎	👍	👍	👎	👍	👎	👍	👍

👍 = Better than U.S. Average; 👎 = Worse than U.S. Average

# Introduction

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This report discusses the current status of health and physical activity of Hispanic girls in the Chicago metropolitan area. Hispanic Americans are the fastest-growing minority group in the United States. Hispanics will be the largest minority group in the United States by 2010. Chicago has the fifth-largest Hispanic population among major cities in the United States. Between 1980 and 1990, the Hispanic population in Chicago increased almost 30%. This unprecedented rate of growth has serious implications for the health status of this medically underserved population. As a group, Hispanics in Chicago tend to be young (41% are less than 20 years old), less educated, poor (24% live below the federally defined poverty level), unemployed (12%, as of 1990) and less likely to be covered by health insurance (Quinn and McNabb, 2000).

Hispanic Americans are at high risk for a number of chronic diseases, such as diabetes, asthma and heart disease. Diabetes is twice as prevalent among Mexican-Americans (24%) and Puerto Ricans (26%) as among non-Hispanic whites (12%), according to the Hispanic Health and Nutrition Examination survey (Ochoa, 2000). Asthma affects more than twice the number of Puerto Rican children (11%) than black non-Hispanics and nearly triple the rate of non-Hispanic whites (AP Report, July 2, 2002). The leading cause of death among Chicago Hispanics in 1990 was heart disease.

Obesity and a sedentary lifestyle are significant contributing factors for many of the chronic diseases that affect Hispanic Americans. The prevalence of overweight among Mexican-American adolescents increased more than 10% during the decade of the 1990s, according to the National Health and Nutrition Examination Survey (NHANES, 1999-2000). The same survey found that high school age Hispanic males have higher levels of obesity (21%) than their black non-Hispanic (18%) or white non-Hispanic counterparts (14%). Among high school girls, Hispanics (11.5%) have higher obesity rates than white non-Hispanics (7%), though both are exceeded by black non-Hispanics (14%) (Fox, Connolly and Snyder, 2005).

Obesity has reached epidemic proportions in the United States; the medical cost of obesity-related diseases alone is up to \$100 billion annually. These expenses account for nearly 5.7% of the total U.S. medical expenditures and 6.1% of expenditures in the state of Illinois – sixth-highest of the 50 states (Finkelstein, Fiebelkorn and Wang, 2004). 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). Yet preventative healthcare services and programs that address the problem of diet and exercise are not readily available or utilized by many Hispanic Americans (Solis et al, 1990). A recent study funded by the Robert Wood Johnson Foundation (2004), identified key barriers to healthier residents in minority communities: lack of funding for physical education, no parks, no programs, no role models and no family engagement.

Poor diet and lack of physical activity are the most prevalent reasons for the recent increase in overweight and obese Chicago residents. The number of obese and overweight children is on a dramatic rise. Recommendations to prevent overweight children need to focus on “improving the balance between caloric intake and energy expenditure” (CDC, 1997). A recent assessment of community programs available to Hispanic Chicago residents reveals an impressive number of programs to address epidemiological problems such as substance abuse, violence prevention, HIV/AIDS and STD prevention and general health promotion. However, a similar survey of Chicago Hispanic community residents indicates an unmet interest in obtaining information regarding nutrition, weight loss and exercise; few programs that specifically address exercise and weight loss currently exist within the Chicago Hispanic community (Quinn and McNabb, 2000).

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. Trends currently indicate that significantly fewer high school females participate in vigorous activity than males (CDC, 2004a). Because Hispanic girls are at greater risk than non-Hispanic girls for numerous diseases, mental health issues and physical inactivity, promoting physical activity becomes a necessary and fundamental health solution. Hispanic girls face the challenge of cultures that are not supportive of girls' sports and physical activity participation, and parental education is difficult because many parents, especially those from lower socio-economic households, are non-English speaking. Research also demonstrates that Hispanic parents have greater obstacles to overcome in providing physical activity opportunities for their children compared to non-Hispanic parents, obstacles that are primarily related to their overrepresentation among lower-

socioeconomic level households (Youth Media Campaign Longitudinal Survey, 2002). Such obstacles include neighborhood safety and availability and access to physical activity programs and community fitness facilities.

**Figure 2: Counties Included in the Chicago Primary Metropolitan Statistical Area (PMSA), 2003**

<u>County</u>	<u>Population</u>
Cook	5,254,295
DeKalb	85,176
DuPage	909,856
Grundy	39,528
Kane	450,692
Kendall	66,565
McHenry	284,572
Will	578,745

\* The counties included in the Chicago metropolitan area account for nearly 68% of the general population of Illinois.

Data Source: Population Division, U.S. Census Bureau, Release Date: April 9, 2004

There are eight counties included in the Chicago Primary Metropolitan Statistical Area (PMSA) (Figure 2). The Chicago PMSA accounts for 67.6% of the total population of Illinois. As of 2003, the Chicago PMSA is slightly younger, more ethnically diverse and more affluent than the general U.S. population (Figure 3); however, this data is not representative of the Chicago Hispanic population. While the Chicago Hispanic population is relatively young, they tend to be less educated (44% did not have a high school diploma, compared to 18% of all households in Chicago PMSA), have lower median incomes (\$41,494 vs. \$51,680 in all Chicago PMSA) and more likely to live in low-to-moderate income (LMI) census tracts (49% of Hispanics live in Chicago LMI vs. 28% of all households in Chicago PMSA) (U.S. Census Bureau, 2000 Census data; American Housing Survey). Current census estimates indicate that the growing Hispanic population in Chicago "accounts for more than 80% of the Chicago area's population growth since 2000 (Associated Press, 2005).

Note: The current report utilizes data from the 2003 Youth Risk Behavior Survey (Appendix A). In this report, the term "Hispanic" refers to Hispanic or Latino students of any race. Any references in this report to Hispanic sub-groups such as Mexican-Americans or Puerto Ricans is due to the fact that the research samples specifically examined these sub-groups.

**Figure 3: Survey Area Demographics**

<b>Variable</b>	<b>U.S.</b>	<b>Illinois</b>	<b>Chicago PMSA</b>
Total Population	282,909,885	12,328,721	8,335,114
Female	48.9%	51%	51%
Male	51.1%	49%	49%
Median Age	36.0	35.3	34.2
Under 19	28%	28%	29%
White	77.8%	75%	68%
Black	12.8%	15%	18%
<b>Hispanic</b>	<b>13.6%</b>	<b>14%</b>	<b>19%</b>
Primary School (grades 1-8)	32,706,140	1,428,318	988,096
Secondary School (grades 9-12)	16,599,058	716,904	501,860
Median household income	\$43,564	\$47,977	\$53,462
Mean household income	\$58,036	\$63,127	\$70,650
Individuals below the poverty line in the past 12 months	12.7%	11.3%	10.6%

Data Source: U.S. Census Bureau, American Community Survey Office, 2003.

# Findings

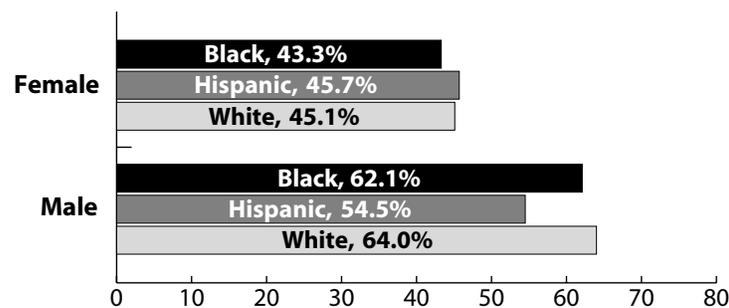
## I. Physical Activity

### 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). The percentage of Chicago female high school students who played on one or more sports teams (44.8%) is lower than the national average (51%) (2003 YRBS). There is no significant difference between racial group participation for females; however, there is a 10% difference between Hispanic male (54.5%) and female (45.7%) students (Figure 4).

**Figure 4: Percent of Chicago High School Students Who Played on One or More Sports Teams During the Past 12 Months**



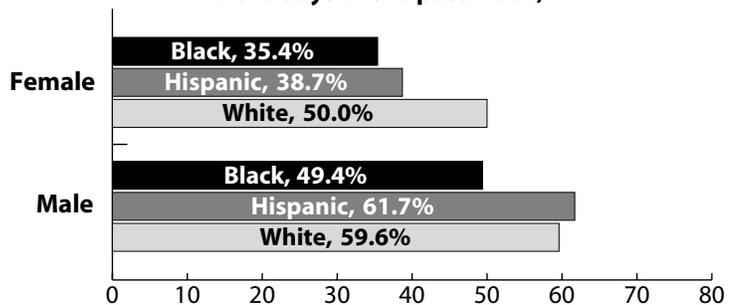
\* Data for non-Hispanic white students may not be representative due to low sample numbers (n<50).

Data Source: 2003 Youth Risk Behavior Survey, Chicago High School Survey

### 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” that makes them sweat or breathe hard (such as basketball, running, swimming laps, fast bicycling, fast dancing or similar aerobic activities) at least three times a week. As of 2003, male adolescents (70%) are far more likely to participate in vigorous activity than female adolescents (55%) nationwide. Data for Chicago reveals that Hispanic females (38.7%) are much less likely to engage in vigorous physical activity than their Hispanic male (61.7%) counterparts (Figure 5).

**Figure 5: Percent of Chicago High School Students Who Participated in Vigorous Physical Activity (20 minutes on 3 or more days in the past week)**

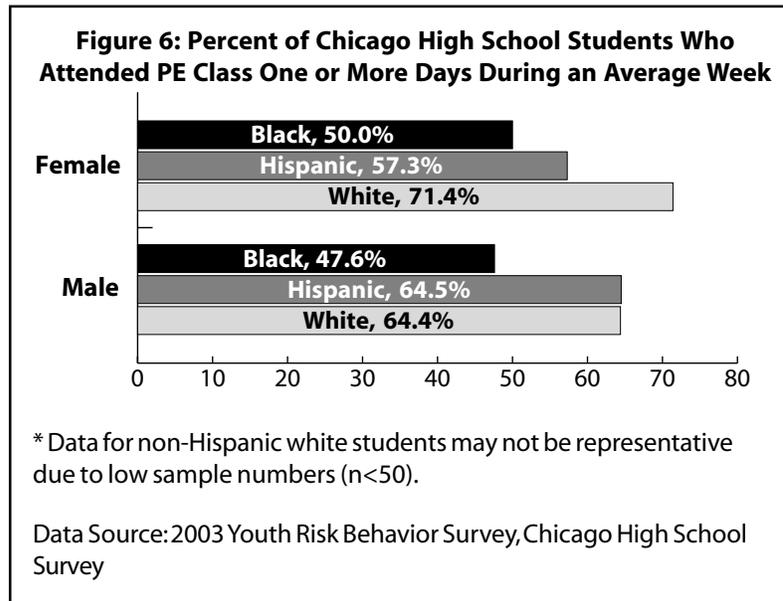


\* Data for non-Hispanic white students may not be representative due to low sample numbers (n<50).

Data Source: 2003 Youth Risk Behavior Survey, Chicago High School Survey

## Physical Education Class Attendance

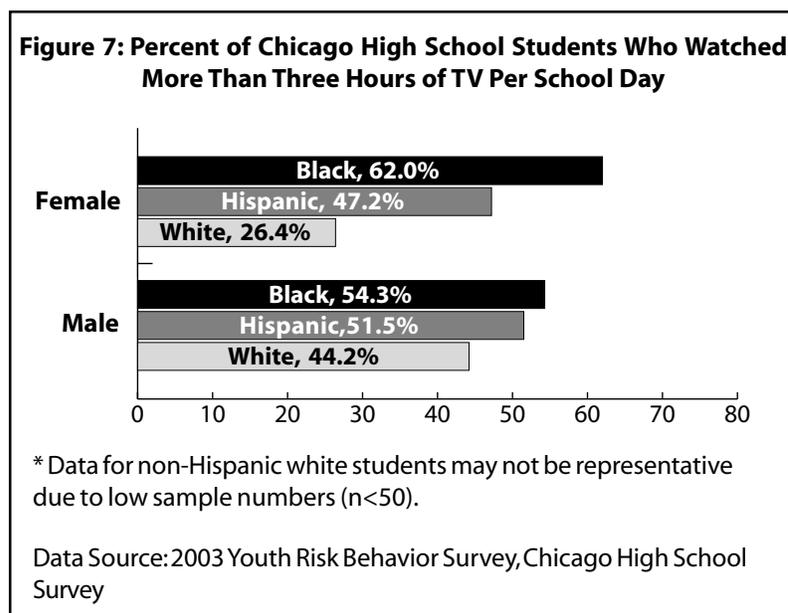
Nationwide 55.7% of male and female students are enrolled in physical education (PE) class. Approximately one-quarter (28.4%) of students nationwide attend PE class daily. There are no significant sex differences in participation in ninth and 10th grade, but male students in grade 11 (30%) and 12 (26.1%) are significantly more likely than female students (15.6% and 14.7%, respectively) to have attended PE classes daily (CDC, 2002). Of Chicago female youth, 57.3% attend physical education classes one or more days a week, compared with the national average of 52.8% (2003 YRBS). In Chicago, significantly fewer Hispanic (57.3%) and black (50%) female students attend weekly high school PE courses than white female students (71.4%) (Figure 6).



Illinois is the only state in the United States that requires enrollment in physical education courses for grades K thru 12. However in 1995, legislation was adopted that allows school districts to apply for waivers if they meet certain criteria. School districts can apply for an exemption if they can address the intent of the mandate in a "more effective, efficient or economical manner, or when necessary to stimulate innovation or improve student performance." Activities such as varsity sports, marching band, cheerleading, health education and ROTC all qualify as substitutes for physical education courses.

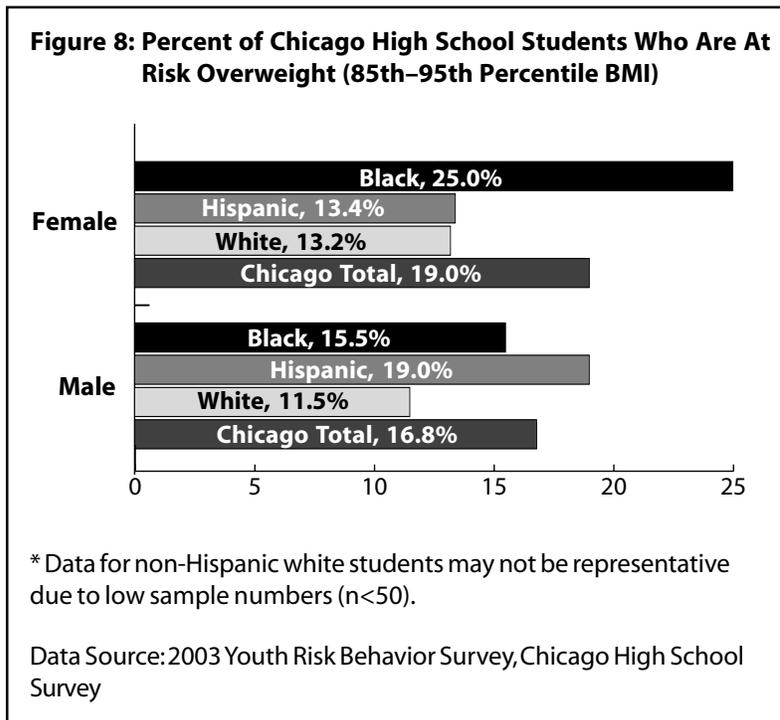
## Television Viewing

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). More than half of female high school students in Chicago (52.5%) watched three or more hours of television a day compared with the national average of 37%. (2003 YRBS) In Chicago, significantly more black (62%) and Hispanic (47.2%) female students watch three or more hours of television per day than white (26.4%) female students (Figure 7).

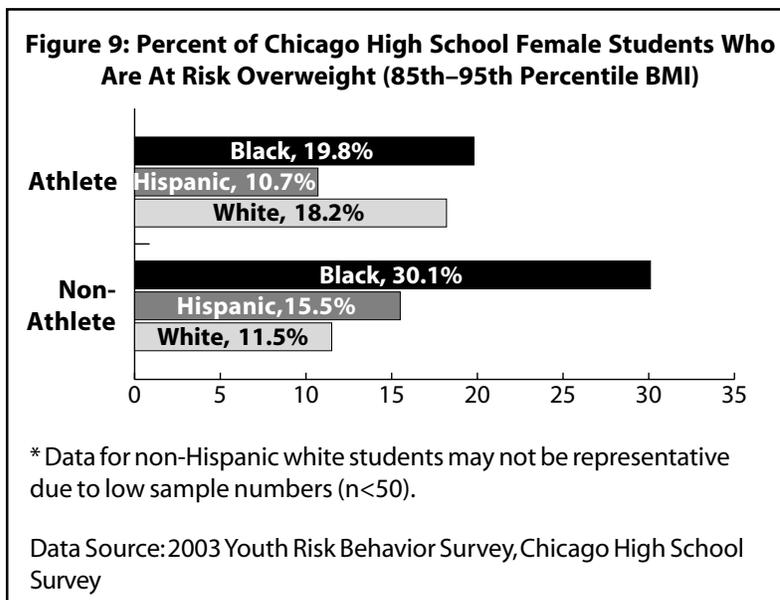


## II. Health

### 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 85th and 95<sup>th</sup> percentile for their age and sex are classified as “at risk overweight.” Chicago female high school students are more likely to be at risk overweight (19%) than the national average of 15.3% (2003 YRBS). Consistent with national data, significantly more black (25%) female students are at risk of overweight than Hispanic (13.4) and white (13.2) female students (Figure 8).



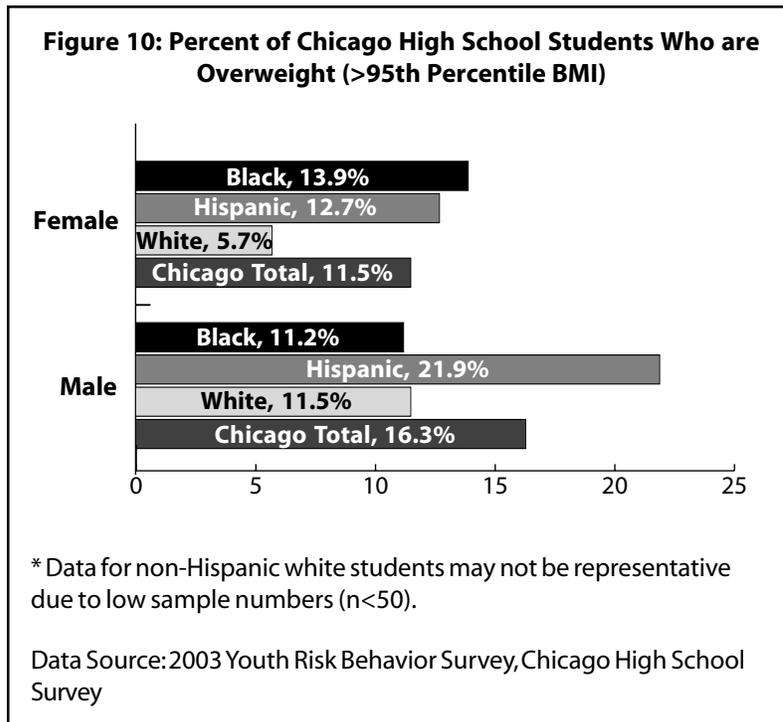
Chicago female high school students who participate in one or more sports are less likely to be at risk of excessive weight (21.9%) than female students who do not participate in one or more sports (16.3%) (Chicago 2003 YRBS). Hispanic (10.7%) female athletes are least likely to be at risk overweight, followed by white (18.2%) and black (19.8%) female athletes; black (30.1%) female non-athletes are more likely to be at risk overweight than Hispanic (15.5%) and white (11.5%) female non-athletes (Figure 9).

## Overweight

Children and adolescents who meet or exceed the 95<sup>th</sup> percentile for their age and sex on the CDC growth chart

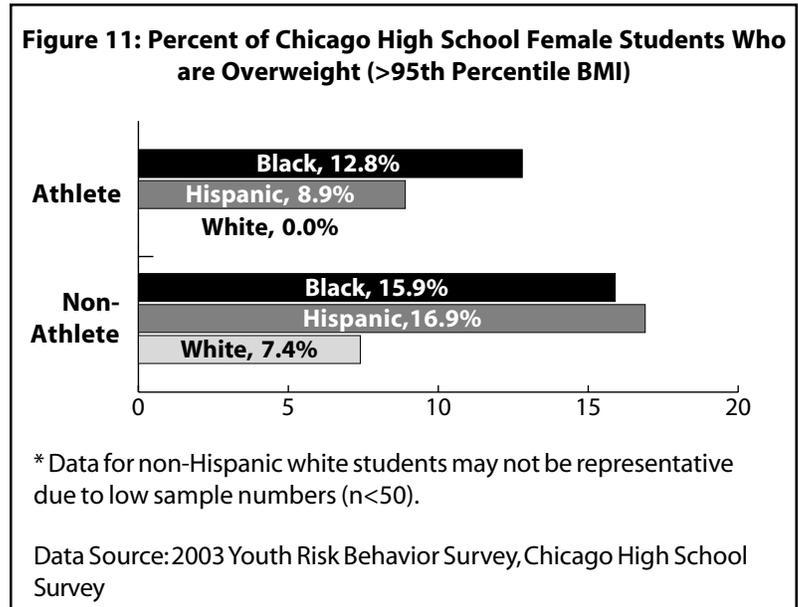
are classified as “overweight.” This percentile range is the functional equivalent of an adult “obese” BMI of 30 or above. Obesity is associated with many chronic health problems that can be reduced by weight loss through calorie reduction and increased physical activity.

A recent study of Chicago public school children aged 3-7 years old revealed that 23% of students are already at or above the 95th percentile BMI for their age and gender and 15% of children are at risk of becoming overweight (between 85th and 94th percentile BMI). The study was conducted by the Consortium to Lower Obesity in Chicago Children (CLOCC) and included 25 public schools in 19 different Chicago community areas (n = 1,208). Chicago-area female high school students are more likely to be overweight (11.5%) than the national average of 9.4% (2003 YRBS).

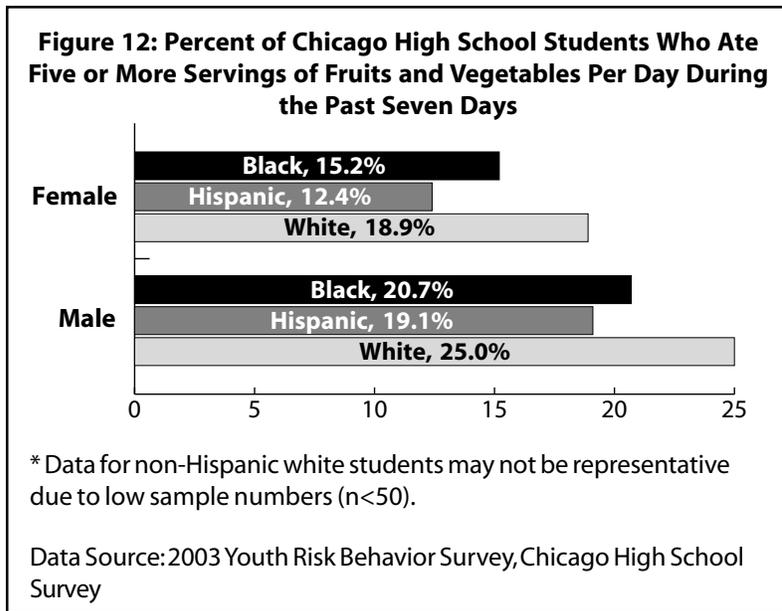


Overall, males and females have similar rates of excessive weight. However, upon closer examination, there is a gender difference when race and ethnic subgroups are investigated. According to the National Health and Nutrition Examination Survey III (CDC, 1997), female black non-Hispanic (23.6%) students are more likely to be overweight than white non-Hispanic (12.7%) and Mexican-American (19.9%) females. Chicago 2003 YRBS data also support this trend, with 13.9% of black non-Hispanic female students being obese, compared to 12.7% of Hispanic students and 5.7% of white students (Chicago 2003 YRBS). Also apparent from this data is that Hispanic males (21.9%) have the highest rates of overweight youth than any other group; again this is consistent with national data (Figure 10).

Chicago female high school students who participate in one or more sports are significantly less likely to be overweight (8.9%) than female students who do not participate in one or more sports (14%) (Chicago 2003 YRBS). Hispanic (8.9%) female athletes are less likely to be overweight than black (12.8%) female athletes; however, Hispanic (16.9%) female non-athletes are more likely to be overweight than black (15.9%) and white (7.4%) female non-athletes (Figure 11).

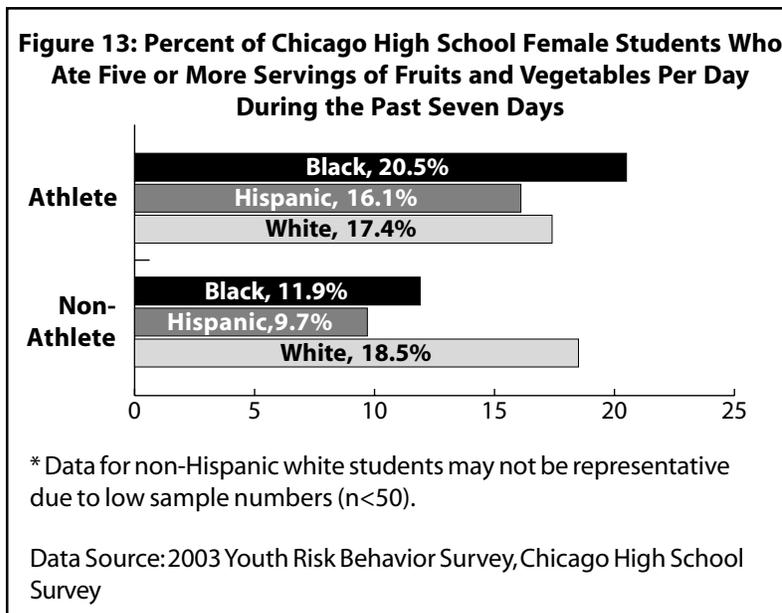


## Nutrition



Chicago-area female high school students are less likely to consume five or more servings of fruits and vegetables per day (15%) than the national average of 20.3% (2003 YRBS). Hispanic girls in Chicago (12.4%) were less likely than their white non-Hispanic (18.9%) or black non-Hispanic (15.2%) peers to consume five or more daily servings of fruits and vegetables (Figure 12).

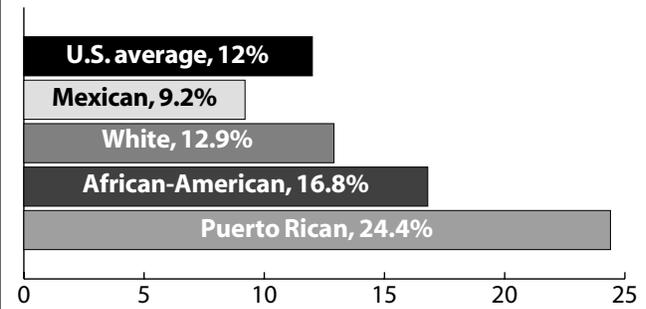
Chicago female high school students who participate in one or more sports are significantly more likely to consume the recommended daily amount of fruits and vegetables (18.8%) than female students who do not participate in one or more sports (12.5%) (Chicago 2003 YRBS). Hispanic female athletes (16.1%) were less likely than their black (20.5%) and white (17.4%) female athlete counterparts to consume at least five servings of fruit and vegetables. Of non-athletes, Hispanic (9.7%) female athletes were least likely to consume at least five servings of fruit and vegetables, followed by black (11.9%) and white (18.5%) female non-athletes (Figure 13).



## Asthma

Chicago has the highest per capita asthma death rate of any U.S. city—more than 475,000 Chicago residents suffer from asthma. The Chicago asthma hospitalization rate is double the national average. Asthma is the leading cause of hospitalization for children in Illinois (Illinois Health Care Cost Containment Council, 1997). Minority groups in Chicago have much higher rates of asthma than the national average. Twice as many Puerto Rican school-aged children (24.4%) in Chicago suffer from asthma than the national average (12%) (University of Illinois at Chicago) (Figure 14). There are several triggers that exist in inner-city communities that could exacerbate the soaring asthma rates in Puerto Rican and black children: cockroach droppings and body parts; high mold counts in poorly maintained housing; secondhand smoke; air pollution; inadequate healthcare; stress; depression; and anxiety (Improving Community Health Survey, 2004).

**Figure 14: Percentage of Chicago School-aged Children With Asthma\***



Data Sources: a. Chicago Data: Dr. Victoria Persky, University of Illinois at Chicago; b. U.S. Data: NCHS, NHIS (2001-2002)—Children under 18

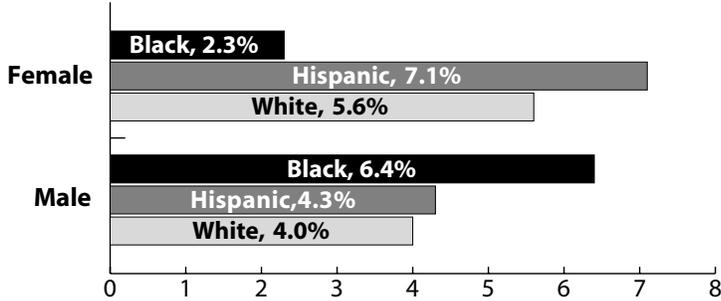
\* As this data indicates, there are differences within the Hispanic population—Hispanics should not always be considered one group, there are many subgroups within the Hispanic population, such as Mexican and Puerto Rican. In cases where environmental factors affect health outcomes, ethnic population clusters can exacerbate certain problems, such as asthma.

### 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, 2004a)."

**Figure 15: Percent of Chicago High School Students Who Vomited or Took Laxatives to Lose Weight or to Keep from Gaining Weight During the Past 30 Days**



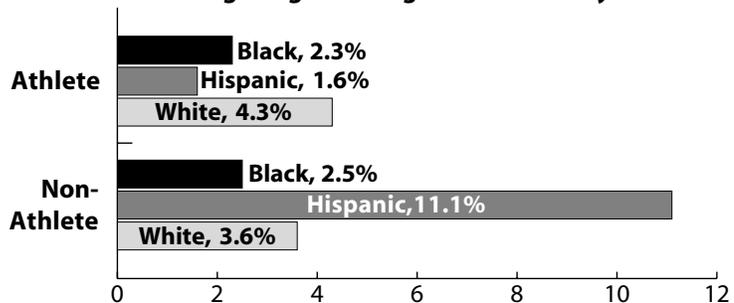
\* Data for non-Hispanic white students may not be representative due to low sample numbers (n<50).

Data Source: 2003 Youth Risk Behavior Survey, Chicago High School Survey

Chicago-area female high school students are less likely to engage in pathogenic weight control techniques (4.4%) than the national average of 8.4% (2003 YRBS). In Chicago, Hispanic (7.1%) female students were more likely to vomit or use laxatives to lose weight than white (5.6%) or black (2.3%) female students (Figure 15).

Chicago female high school students who participate in one or more sports are half as likely to vomit or use laxatives to lose weight (2.5%) as female students who do not participate in one or more sports (5.1%) (Chicago 2003 YRBS). Female Hispanic (11.1%) non-athletes were more than three times as likely to vomit or use laxatives to lose weight as white (3.6%) or black (2.5%) female non-athletes (Figure 16). Additionally, Hispanic female athletes were nearly five times less likely to engage in unhealthy weight control practices than Hispanic female non-athletes. These results indicate the powerful protective effect that sports participation has on reducing disordered eating patterns, particularly for Hispanic females—more so than their black and white counterparts.

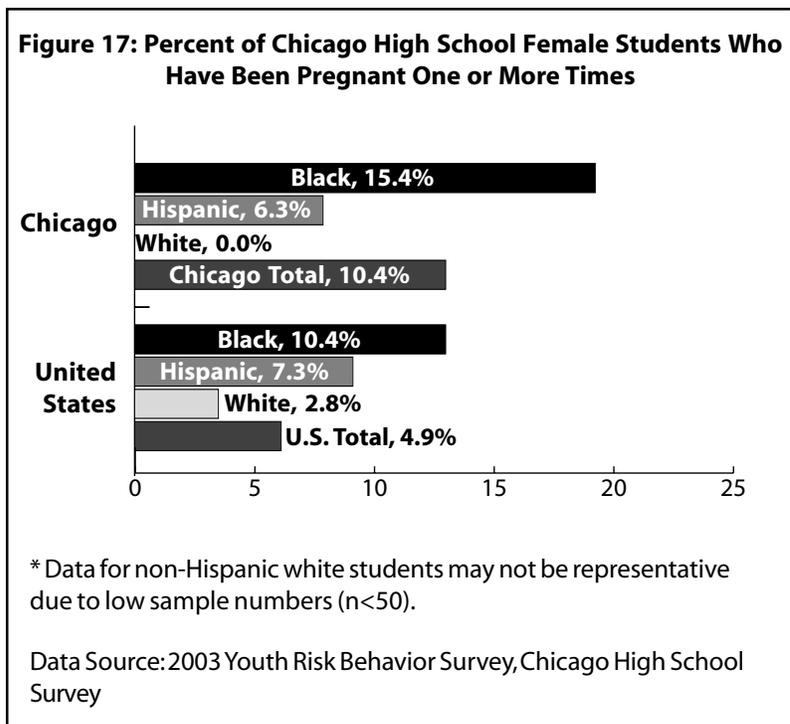
**Figure 16: Percent of Chicago High School Female Students Who Vomited or Took Laxatives to Lose Weight or to Keep from Gaining Weight During the Past 30 Days**



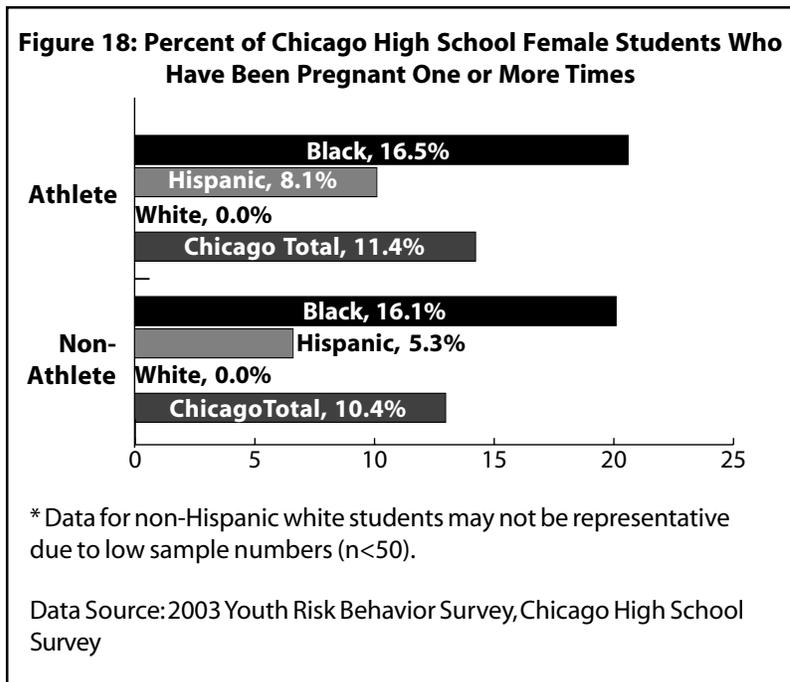
\* Data for non-Hispanic white students may not be representative due to low sample numbers (n<50).

Data Source: 2003 Youth Risk Behavior Survey, Chicago High School Survey

## Teen Pregnancy

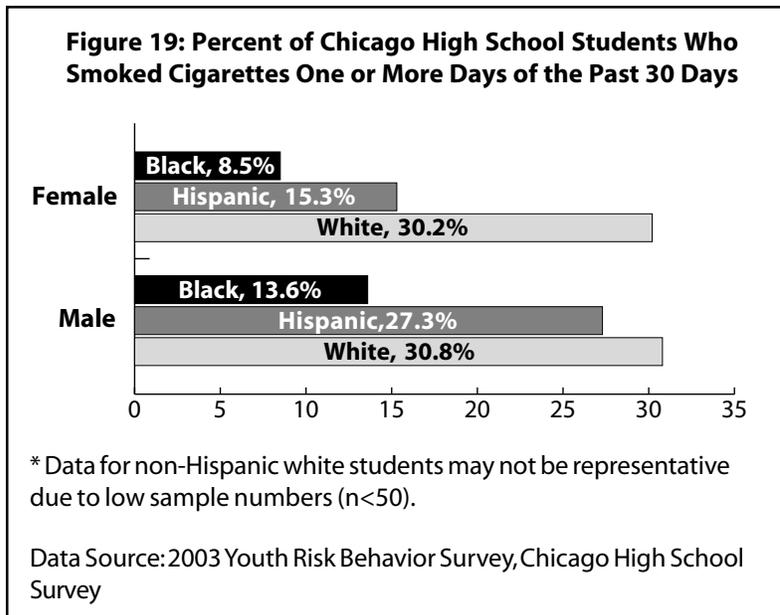


The United States has the highest teen pregnancy and birth rates in the industrialized world. About 80% of teen pregnancies are unintended (National Campaign to Prevent Teen Pregnancy, 2002). “Female athletes are less likely to be sexually active, in part because they tend to be more concerned about getting pregnant than female non-athletes (Dodge & Jaccard, 2002; Sabo et al, 2004a).” According to the National Campaign to Prevent Teen Pregnancy (2000) three in five Latina teens gets pregnant at least once and the teen pregnancy rate for Latinas is 69% higher than the national average. Latinas also have the highest teen birth rate of all major ethnic groups in the United States at 94 per 1,000 girls, compared with 33 per 1,000 white non-Hispanic girls (Martin et al, 2003). Chicago-area females have a higher teen pregnancy rate (10.4%) than the national average of 4.9%; black (15.4%) females are more than twice as likely to become pregnant than Hispanic (6.3%) females (Figure 17).

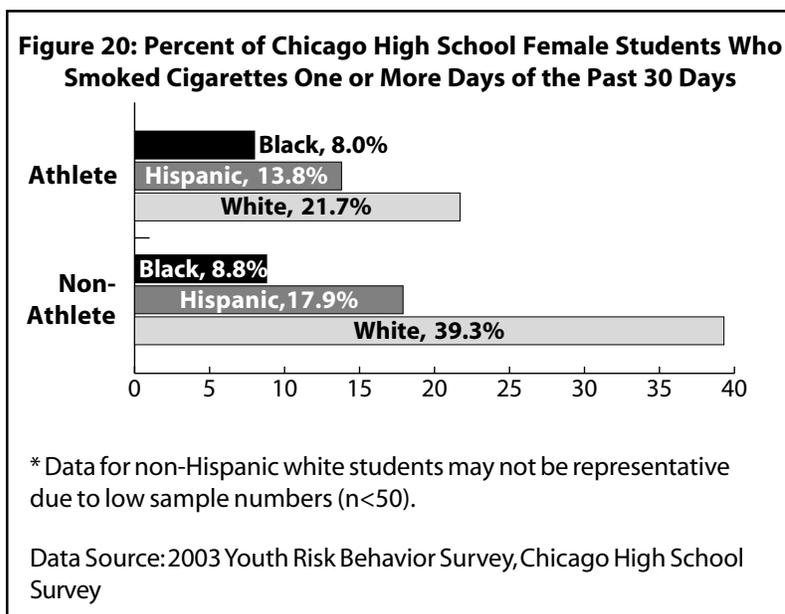


With regard to sports participation and becoming pregnant, the current data reveals a slightly higher rate of teen pregnancy in the athletic group than in the non-athletic group (Figure 18). This is contrary to national trends and should be interpreted with caution. Overall, Hispanic female athletes in Chicago (8.1%) have a slightly higher rate of pregnancy than the national Hispanic average of 7.3%.

## Cigarette Smoking

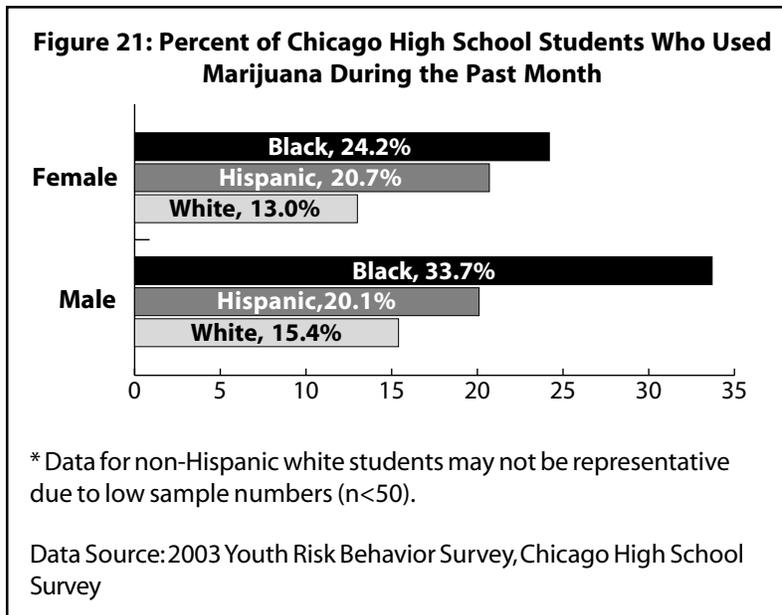


Approximately 80% of adult smokers began smoking before the age of 18. The earlier tobacco use begins, the more likely a lifestyle pattern will develop that includes tobacco use, resulting in increased risk for tobacco-related illnesses. Yet, tobacco use continues to be popular among adolescents and young adults, with nearly 3,000 young people under the age of 18 becoming regular smokers every day. Chicago-area female high school students are less likely to have smoked cigarettes in the past 30 days (14.8%) than the national average of 21.9% (2003 YRBS). White students were more likely to smoke cigarettes for both female (30.2%) and male (30.8%) groups. Hispanic males (27.3%) are nearly twice as likely to smoke cigarettes as Hispanic females (15.3%) (Figure 19).



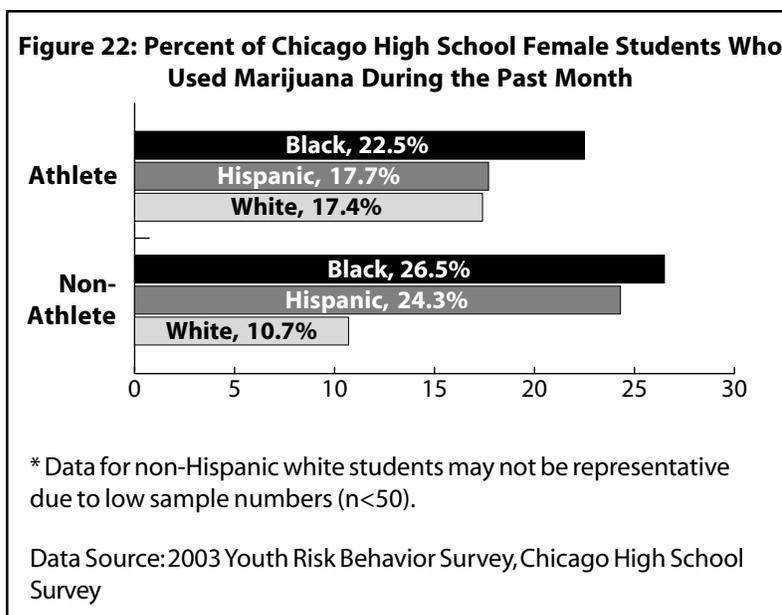
Female athletes on one or two school or community sports teams were significantly less likely to smoke regularly than female non-athletes, and girls on three or more teams were even less likely to smoke regularly (Melnick et al, 2001). Chicago female high school students who participate in one or more sports are less likely to smoke cigarettes (11.2%) than female students who do not participate in one or more sports (15.1%) (Chicago 2003 YRBS). Hispanic female athletes (13.8%) are less likely to smoke cigarettes than Hispanic non-athletes (17.9%); again illustrating the important protective effect sports participation can have with regard to health-risk behaviors (Figure 20).

## Marijuana



According to a recent survey from the University of Michigan, 15.9% of 10<sup>th</sup> graders and 19.9% of 12<sup>th</sup> graders, have used marijuana over the course of the 30 days prior to the survey (Johnston et al, 2005). In the Chicago area, female high school students are slightly more likely to have used marijuana during the past month (21.4%) than the national average of 19.3% (2003 YRBS). Hispanic females were significantly more likely to use marijuana than white (13%) females, and slightly less likely than black females (24.2%); Hispanic males followed a similar pattern (Figure 21).

“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, 2004a; Miller et al, 2000; Pate et al, 2000).”

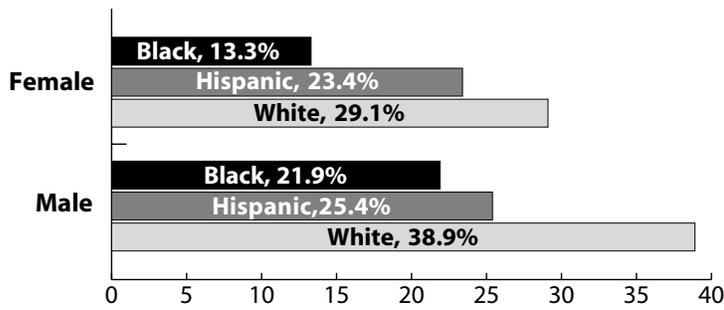


Chicago female high school students who participate in one or more sports are less likely to use marijuana (20.2%) than female students who do not participate in one or more sports (22.8%) (Chicago 2003 YRBS). Hispanic (17.7%) female athletes were less likely to use marijuana than Hispanic (24.3%) female non-athletes (Figure 22). While Hispanic males and females are equally likely to use marijuana, Hispanic female athletes show a significantly lower rate of marijuana use—evidence again of the powerful effects of sports participation, particularly for Hispanic females.

## Binge Drinking

Alcohol is the most widely used 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).

**Figure 23: Percent of Chicago High School Students Who Reported Episodic Heavy Drinking During the Past Month**



NOTE: Episodic heavy drinking: Drank five or more drinks of alcohol in a row on one or more of the 30 days preceding the survey.

\* Data for non-Hispanic white students may not be representative due to low sample numbers (n<50).

Data Source: 2003 Youth Risk Behavior Survey, Chicago High School Survey

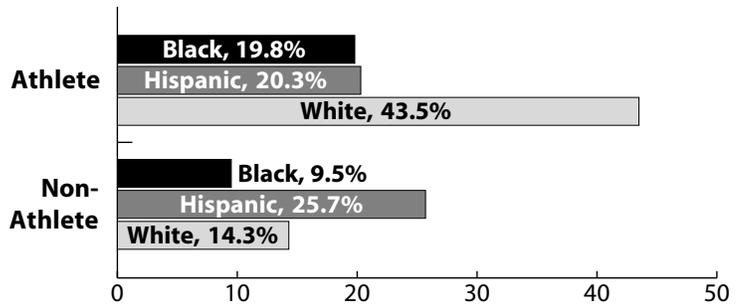
Chicago-area female high school students are less likely to report episodic heavy drinking during the past month (18.2%) than the national average of 27.5% (2003 YRBS). Hispanic females (23.4%) and males (25.4%) were less likely than white female (29.1%) and males (38.9%) to engage in heavy drinking; however, Hispanic females and males were more likely to engage in heavy drinking than black females (13.3%) and males (21.9%) (Figure 23).

“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, 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, 2004a)”

Chicago female high school students who participate in one or more sports are significantly more likely to participate in episodic heavy (or “binge”) drinking (23.3%) than female students who do not participate in one or more sports (14.5%) (Chicago 2003 YRBS). While black and white female athletes are more likely to engage in binge drinking behavior than their non-athletic counterparts, Hispanic female athletes (20.3%) are less likely to engage in heavy drinking than their non-athletic counterparts (25.7%) (Figure 24). These results are further indication of the powerful protective effect sports participation has with regard to health-risk behaviors, particularly with Hispanic females.

**Figure 24: Percent of Chicago High School Female Students Who Reported Episodic Heavy Drinking During the Past Month**



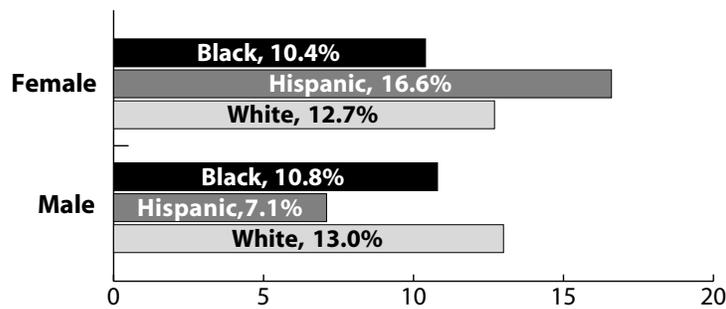
NOTE: Episodic heavy drinking: Drank five or more drinks of alcohol in a row on one or more of the 30 days preceding the survey.

\* Data for non-Hispanic white students may not be representative due to low sample numbers (n<50).

Data Source: 2003 Youth Risk Behavior Survey, Chicago High School Survey

## Suicide Plans

**Figure 25: Percent of Chicago High School Students Who Made a Suicide Plan in the Past 12 Months**



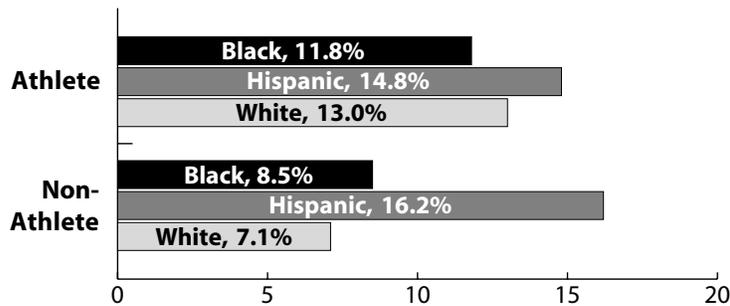
\* Data for non-Hispanic white students may not be representative due to low sample numbers (n<50).

Data Source: 2003 Youth Risk Behavior Survey, Chicago High School Survey

“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, 2004b).” According to data from the 2003 Youth Risk Behavior Survey, Chicago-area female high school students (13%) are less likely to make a suicide plan than the national average (18.9%). In contrast to the national trend, Chicago female high school students who participate in sports are more likely to make a suicide plan (14.1%) than the national average of 10.8% (2003 YRBS). Hispanic females (16.6%) are the most likely to plan a suicide (Figure 25).

Hispanic female non-athletes (16.2%) were most likely to plan a suicide, followed by Hispanic female athletes (14.8%) (Figure 26). Upon preliminary review, it appears that for Hispanic girls, sports participation may have a small buffering effect, whereas the opposite may be true for black and white girls.

**Figure 26: Percent of Chicago High School Female Students Who Made a Suicide Plan in the Past 12 Months**



\* Data for non-Hispanic white students may not be representative due to low sample numbers (n<50).

Data Source: 2003 Youth Risk Behavior Survey, Chicago High School Survey

# Conclusion

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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, McMurray and Popkin, 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, McMurray and Popkin, 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).

In light of the national trends, it is clear from this report that, on average, Hispanic girls in the Chicago area do not get sufficient physical activity in their daily lives. This reality is highlighted by lower participation rates in school sports and inadequate levels of vigorous physical activity. Additionally, poor nutrition and a high rate of sedentary activity (TV viewing) are only going to increase the current rate of overweight Hispanic female students in the Chicago area. As the number of overweight youth increase, we will continue to see 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 good news is that sports participation appears to have a powerful protective effect particularly for Hispanic females with regard to certain general health indicators and risk behaviors. 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.

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 Chicago is already at twice that level. Unless significant changes occur in the schools or communities, Chicago is not going to meet the 2010 goal. While it may seem overwhelming to make changes at the institutional level, there are opportunities at the community and grass-roots level to make a difference. Community organizations, who are involved with youth on a daily basis through after-school and extra-curricular activities, have the chance to educate them 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 a concrete solution, there are other viable opportunities at the grass-roots level. Facilitating programs directly within the community, such as dance classes, organized sports leagues or walk-to-school programs, increase the odds that youth will begin to make exercise a part of their daily routine. But first the opportunities must be made available to them.

# Appendix

## 2003 Youth Risk Behavior Survey: Chicago High School Survey

### Description of Data

In addition to the national 2003 YRBS survey, many states and cities (school districts) also conducted independent YRBS of their own. The local surveys only included public schools within the locally funded school district. All students in the sampled classes were eligible to participate. A two-stage cluster sample design was implemented. In the first stage, "schools were selected with probability proportional to school enrollment size." In the second stage, "intact classes of a required subject or intact classes during a required period were selected randomly." The Chicago Public Schools had an overall response rate over 60%, which allowed their sample to be weighted. This means that the data from the survey can be considered representative of students in grades 9-12 in that jurisdiction. A weight was "applied to each record to adjust for student non-response and the distribution of students by grade, sex, and race/ethnicity in each jurisdiction (CDC, 2004b)."

#### Chicago Public Schools Sample

Total	968
Response rate	77.0%

#### Age

13	0.2%
14	15.3%
15	28.7%
16	23.6%
17	21.4%
18+	10.8%

#### Gender

Female	50.6%
Male	49.4%

#### Grade in School

9 <sup>th</sup>	33.4%
10 <sup>th</sup>	28.2%
11 <sup>th</sup>	21.2%
12 <sup>th</sup>	16.7%

#### Race/Ethnicity

White	10.1%
Black	51.1%
Hispanic	35.0%
Other	3.8%

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