

# Weighing in:

Helping Girls Be  
Healthy Today,  
Healthy Tomorrow



Research Review

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Inquiries related to the Research Review of *Weighing in: Helping Girls Be Healthy Today, Healthy Tomorrow* should be directed to the Girl Scout Research Institute, Girl Scouts of the USA, 420 Fifth Avenue, New York, N.Y. 10018-2798.

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# Introduction

In 1912, when Juliette Gordon Low founded Girl Scouts, she encouraged girls to “eat well and get their heart and blood in working order.” Since then, Girl Scouts of the USA has offered generations of girls innovative programs in sports, nutrition, and health. Doing this has sometimes meant breaking with tradition: in order to

play basketball, for example, the nation’s first Girl Scouts traded in their long skirts for short bloomers. Today, 92 years later, GSUSA remains as dedicated as ever to providing girls unlimited opportunities in sports and fitness, and to supporting them in learning to “eat well.”

## Childhood Obesity Epidemic

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Many girls today, however, are not eating well or exercising enough and are exposed to environmental influences that are causing their health to suffer. One symptom of this is the epidemic of childhood obesity. According to the American Academy of Pediatrics, *obesity is now the most chronic health problem among American children*. This issue has received major media attention and is a primary concern of many organizations that work with youth. Because the foundation for adult chronic illnesses is usually established in childhood, it is essential to look at children’s health issues early on.

According to the Centers for Disease Control, in the 1960s and 1970s the rates for childhood obesity were fairly stable, at around 5 percent for children and adolescents. In the last two decades, however, *obesity rates have doubled in children and tripled in adolescents*. Shockingly, among children and adolescents ages 6 to 19 years old, 15 percent, or about 9 million, are considered overweight. Additionally, 10 percent of preschoolers are obese, according to the National Center for Health Statistics. A recent study conducted by the Department of Human Services found that U.S. teens are more likely to be overweight than teens from 14 other industrialized nations.

This research review will address various underlying causes leading to this epidemic of obesity among children and adolescents and the lifestyles, culture, and behavior that have contributed to this condition. We will also look at the issue of overweight in this same group.

*Weighing In* will identify key research trends for youth in the areas of health, nutrition, and physical activity as they relate to child obesity and weight issues. It will also focus on gender and cultural issues in the research, especially with regard to girls’ body image. The main social environments in which girls participate will be explored (school, home, etc.) as well as the significant role of media and marketing. This information is presented to empower youth development organizations, such as Girl Scouts, to make a difference in the lives of young people.

### The Physical and Emotional Toll

Risky medical problems accompany obesity and excess weight. The Academy of Pediatrics has found that obesity increases the chance of developing disorders like Type 2 diabetes (once uncommon among children),

hypertension, cancer, cholesterol abnormalities, orthopedic problems, and asthma, as well as symptoms of depression and other psychological problems.<sup>1</sup> Overweight children are also more likely to become overweight adults, and thus more likely to suffer from these problems later in life. According to the Center for Science in the Public Interest (2003), these chronic issues take decades to develop, and are often rooted in childhood, when disease processes begin and eating habits are formed. The CDC estimates that three out of four overweight children will become overweight adults and will suffer at earlier ages than previous generations from obesity-related diseases.

In addition to the physical harm that results from being overweight, research suggests that related social and emotional issues have an impact on children's quality of life and adjustment. Compared with children of healthy weight, those who are severely overweight experience greater fear and sadness, reduced quality of relationships with their peers, and less ability to pay attention in school and do their schoolwork.

Research published in *Pediatrics* indicates that by the time an obese child is thirteen or fourteen, her or his self-esteem is already significantly less than half that of normal-weight children.

In addition, research by the American Academy of Pediatrics (2001) and others has documented possible links between obesity and early onset of puberty in girls. This is a significant finding, because earlier physical and sexual development has implications both for how girls are perceived by others and how they perceive themselves.

<sup>1</sup> It is important to remember that specific biological problems like a malfunctioning thyroid or pituitary gland can also cause obesity. Others may be severely limited by physical problems or disabilities in their ability to perform exercise, strenuous work, and other physical activity.



# Defining the Terms: Obesity, Overweight, and BMI

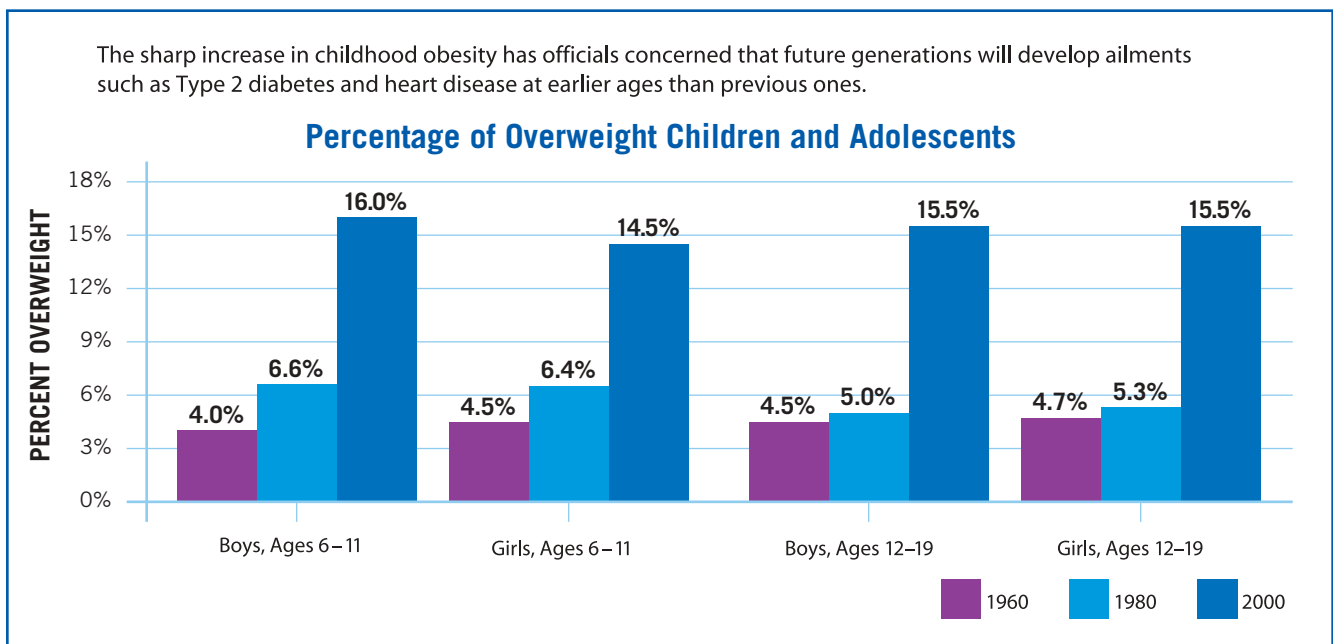
To most people the term *obesity* means to be very overweight. But according to the National Institute of Diabetes & Digestive & Kidney Diseases, health professionals define *overweight* as an excess amount of body weight that includes muscle, bone, fat, and water, while *obesity* specifically refers to a long-term (chronic), complex disease in which having too much body fat (adipose tissue) increases your risk for developing other health problems.

According to the Centers for Disease Control:

- the proportion of children ages 6 to 18 who were overweight increased from 6 percent in the years 1976-1980 to 15 percent between 1999 and 2000;

- more boys (17 percent) than girls (14 percent) are overweight;
- from 1999 to 2000, Black (non-Hispanic) girls, and Mexican American boys were at particularly high risk of being overweight (24 percent and 29 percent, respectively);
- more Hispanic girls than Caucasian girls are overweight (23 percent and 18 percent, respectively).

The Federal Interagency Forum on Child and Family Statistics (2003) cautions that this amount of change in a relatively short time—attributable, they say, to lack of exercise and poor diet—is cause for alarm.



Source: *American Demographics*, December 2003/January 2004. Copyright 2004 PRIMEDIA Business Magazines & Media Inc. All rights reserved.

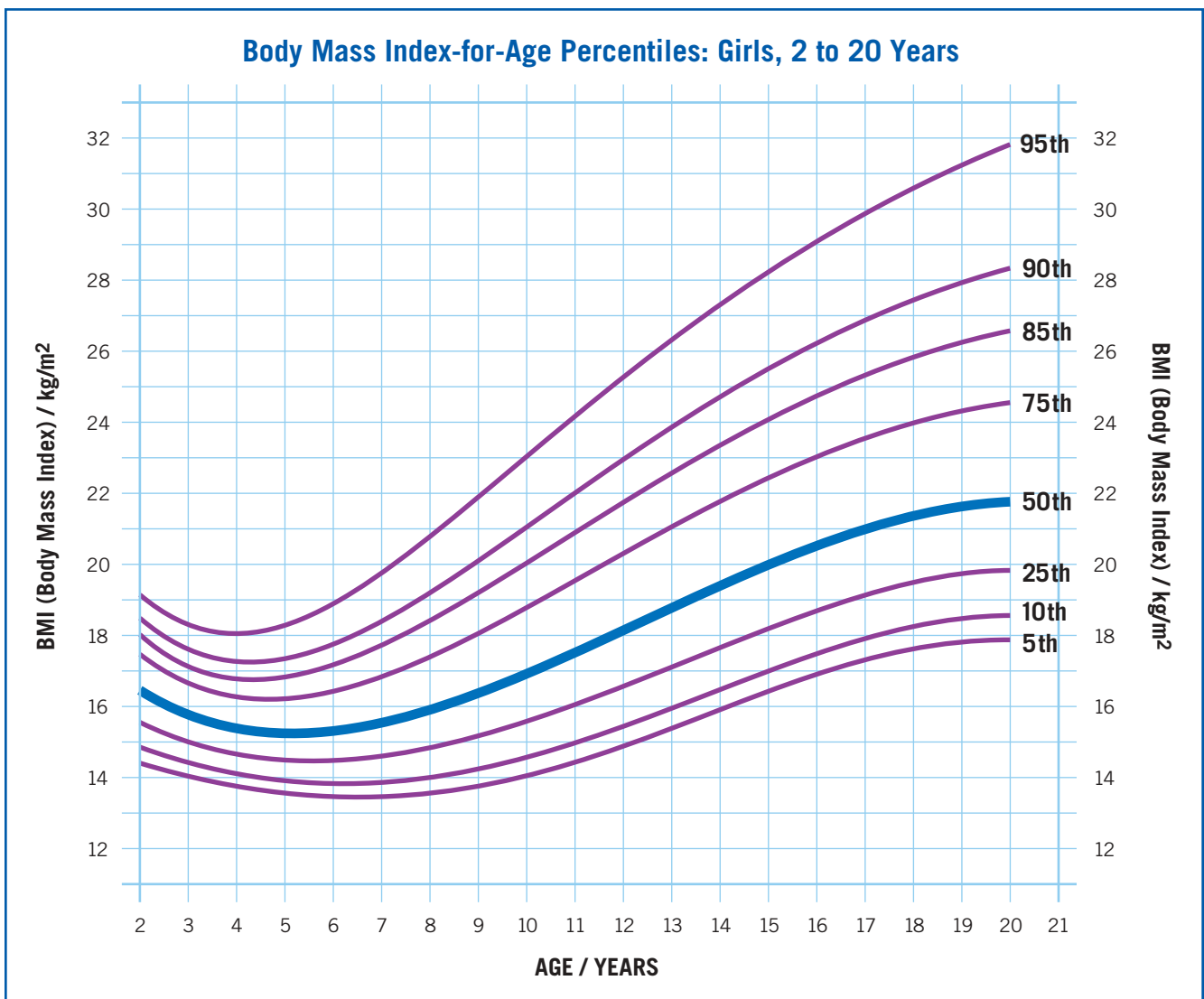


# Classifying Obesity for Children, Teens, and Adults

For adults, body mass index is a simple measure of weight for height; it does not measure body fat. Two people can have the same BMI but a different percent body fat. For example, a short bodybuilder with a large muscle mass and a low percent body fat may have the same BMI as a taller person who has more body fat.

Because children and teens grow at different rates, the Centers for Disease Control use a measurement for

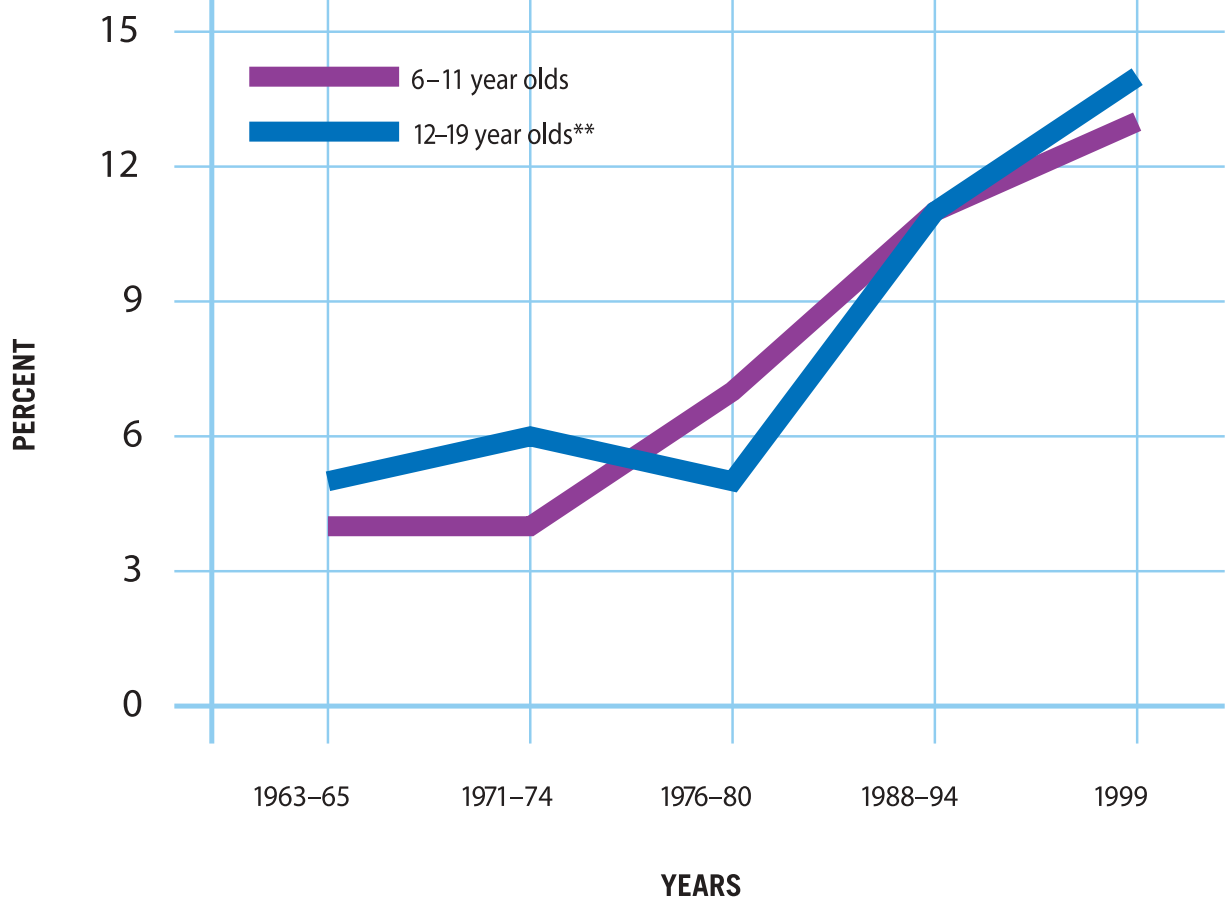
these age groups called BMI-for-Age (body mass index for age) in order to gauge patterns of underweight, overweight, and risk for overweight. Since children's body fatness changes as they grow, and girls and boys differ in their body fatness as they mature, the BMI-for-Age is gender and age-specific. A child whose BMI-for-Age is at or above the 95th percentile is considered overweight by the CDC.



Published May 30, 2000.

Source: Developed by the National Center for Health Statistics in Collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).

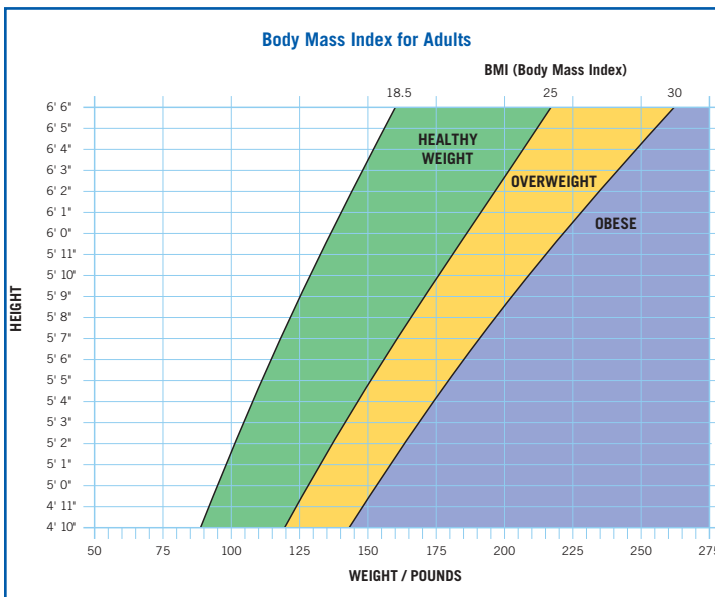
## Obesity\* in Children



\*Obese is defined by the 95th percentile of the sex-specific 2000 CDC BMI-for-age-growth charts by the American Obesity Association.

\*\* Data for 1966-70 is for adolescents ages 12-17

Source: Adapted from *Wallet to Waistline—The Hidden Costs of Super-Sizing*. The National Alliance for Nutrition and Activity, (June 2002). Original source: Ogden C, et al. "Prevalence and Trends in Overweight among U.S. Children and Adolescents, 1999-2000." *Journal of the American Medical Association* 2002, vol. 288, pp. 1728-1732.



Source: The National Institute of Diabetes & Digestive & Kidney Diseases.  
[www.niddk.nih.gov/health/nutrit/pubs/unders.htm#bodymass](http://www.niddk.nih.gov/health/nutrit/pubs/unders.htm#bodymass)



# Schools: The Problem and the Solution

## Nutrition Education and Mis-Education

According to the Center for Science in the Public Interest, only 2 percent of children eat a healthy diet consistent with the USDA Food Guide Pyramid (see page 14). Measured against these standards, children's diets are poor—too high in calories, saturated fat, refined sugar, and salt and too low in fruits, vegetables, whole grains, calcium, and fiber.

Children are exposed to various kinds of information about food in their schools. In health class, if offered, they learn about healthy food choices; but in the cafeteria and hall-ways, they have an opportunity to make food choices of their own, including the chance to opt for low-nutrition foods marketed to them through vending machines.

According to the Center for Science in the Public Interest, there are vending machines in approximately 1.4 million schools, work-sites, colleges, hospitals, public buildings, and other locations. The CDC (2000) reports that vending machines, school stores, canteens, or snack bars are in almost half of elementary schools, three-quarters of middle schools, and virtually all high schools. Profits from vending machines on sales of carbonated beverages and snack foods, such as chips, candy, and cookies, contribute money to many schools' budgets.

Of all the product sales in schools, exclusive soft-drink contracts are the fastest growing ventures. The U.S. Department of Agriculture reports that since 1978, soft drink consumption has doubled among children 6 to 11 years old. Consumption of non-citrus juice has

increased by 300 percent in young children. Since studies demonstrate that liquid calories are key in contributing to weight gain, these statistics are directly related to the rise in childhood obesity. For example, 12 ounces of iced tea or regular soda are about 150 calories, with little additional food value. One serving per day in excess of that amount can lead to 15 pounds per year of weight gain.

### Schools with Vending Machines, Stores, Snack Bars\*

SCHOOL LEVEL	PERCENTAGE
Elementary	43%
Middle/Junior High	74%
High School	98%

\*CDC, 2000b

Source: *Pestering Parents: How Food Companies Market Obesity to Children*. Center for Science in the Public Interest. (November 2003). From the Centers for Disease Control, 2000b.

Additionally, schoolchildren are exposed to advertising for low-nutrition, high calorie food brands by other sources. These include the National School Lunch Program, posters, book covers, school newspapers, calendars, scoreboards, and other venues such as corporate-sponsored school contests and educational material.

Researchers at the Yale Center for Eating Disorders and Weight Disorders cite that in a typical year a child sees 10,000 advertisements—95 percent of which are for candy, soft drinks, fast food, and sugared cereal. Since younger children lack the cognitive and decision-making skills to understand the complexities of nutrition and the health risks associated with choosing the products that are marketed to them, they are far more vulnerable than teens to the negative effects of this kind of advertising.

According to the Center for Science in the Public Interest, the U.S. Department of Agriculture spent \$10 million in FY 2003 on school-based nutrition education for children, and the Centers for Disease Control's Division of Physical Activity and Nutrition had a budget of \$34 million. However, advertising budgets of fast food companies totaled hundreds of millions of dollars in 2003.

## Decline in Physical Activity in Schools and Communities

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Researchers believe that whether or not a person remains physically active into adulthood is often determined by whether she or he develops an “athletic identity” in childhood. The largest drop in physical activity takes place as youth move from middle school to high school, when kids get busier and school team sports become more exclusive. Students who do not make sports teams are often labeled as not “cut out” for sports and athletics and too often are not directed to other physical activities as an alternative.

However, according to research conducted by the National Institutes of Health, youth at this age level have a notion of what it means to be athletic that reaches beyond just team sports, and includes activities such as swimming, biking, jogging, and playing with their friends outside after school. It is important to encourage youth to engage in a variety of physical activities like these.

Recent studies indicate that only half of U.S. children participate in vigorous physical activity and that less than 1 in 3 adolescents currently get a passable level of regular physical exercise. For example, according to the CDC's 1999 Youth Risk Behavior Study, more than one-third of high school students do not regularly participate in vigorous physical activity (at least three 20-minute sessions per week).

Physical activity is not only crucial in helping girls stay physically healthy, but also very important in their social and emotional development. *Physical Activity & Sport in the Lives of Girls: The President's Council on Physical Fitness and Sports Report (1997)* offers several explanations:

- Physical activity is associated with enhanced self-esteem and body image. (Female adolescents in general report greater body dissatisfaction than do males.)
- Exercise and sports participation can enhance mental health, tangible experiences of competency and success, and increased self-confidence.
- Physical activity is an effective tool for reducing the symptoms of stress and depression among girls, as well as promoting overall health.

The Melpomene Institute reports that the two primary reasons adolescent girls participate in physical activity are to have fun and stay in shape. Girls want to be active, fit, and healthy. In the Girl Scout Research Institute report *The Ten Emerging Truths: New Directions for Girls 11–17* (2002), girls expressed a strong interest in:

- self-defense (57%)
- exercise and fitness (48%)
- sports (41%)
- healthy eating habits (36%)
- cooking (36%).

Given this strong interest on the part of young people, it is especially unfortunate that at school, in every grade level, they do not get enough physical activity. The National Association for Sport and Physical Education (NASPE), the nation's largest organization for physical education teachers, reports that in recent years more and more schools have eliminated gym classes and recess.

According to the CDC's 1999 Youth Risk Behavior Survey:

- during the past decade, the number of U.S. high school students attending daily physical education classes dropped from 42 to 29 percent.
- currently, nearly half of all students and 75 percent of high school students do not attend any physical education classes.
- Only one-half of high school students regularly engage in stretching and strengthening exercises.

The survey also showed that physical activity declines sharply as students get closer to graduation, and that the amount of physical activity is lower among high school girls, particularly African-American and Hispanic girls. *Girls who are overweight face additional barriers to participating in sports: often they are excluded from physical activity or experience inhibiting social pressures, such as feeling uncomfortable changing in front of their peers.* Other research with young people suggests many do not enjoy physical education class because it lacks variety.

In addition, research suggests that cuts in physical education result not so much from lack of funding as from time constraints that develop with the addition of new curriculums, such as those generated by the current wave of standards-based reform. Recommendations to increase physical activity suggest that it be introduced in a more integrated way, linked with health education, and not presented as secondary to other school subjects.

## Girls' Interest Is Increasing

The decline in physical education and recess in schools parallels the decline in physical activity in after-school programs. However, *girls' interests are not driving this change.* In the last decade, as a result of Title IX, the federal law that bans sex discrimination in schools receiving federal funds, preteen and teen girls have become increasingly involved in club and team sports. And in focus groups conducted by the Girl Scout Research Institute, when girls talk about sports, soccer often surfaces as a top interest. This echoes national trends:

- In the 2002-2003 school year, about 52 percent of 18,000 schools surveyed by the National Federation of State High School Associations reported offering girls' soccer, up from 25 percent in the early 1990s.

In community leagues and youth programs, girls as young as four years old can start playing soccer, and there are many teams with players of every age. When girls begin playing at younger ages, it gives them the skills that boys, starting at an earlier age, have always had. In focus groups, girls shared that they especially liked the benefit of belonging to a team of girls.

## Implications

As of 2003, nineteen states had laws and regulations addressing commercial activities in schools. The issue is also beginning to take hold at the national level; studies demonstrate that media campaigns aimed at promoting healthy eating and exercise choices are an effective way to start countering the widespread food marketing that is currently dominant in the schools and in the media.

In addition, several initiatives seek to improve the general food environment that children grow up in by making nutrition information more available and improving the nutritional content of school foods. For example, the federal government is currently looking at updating the food pyramid and its accompanying dietary guidelines. One aim of this update is to help consumers personalize their diets based on their age, gender, weight, and height, and on how much they exercise. Schools in turn rely on these guidelines for planning lunches. Other recommendations include:

- improving the selection of school foods by setting nutritional standards for vending machines, snack bars, fundraisers, school stores, and cafeterias.
- improving the general nutritional content of school meals and nutrition education.
- promoting fruit and vegetable intake by requiring that fresh fruits and vegetables be sold or otherwise available on school grounds, perhaps even subsidizing their cost or giving them to students free of charge.
- supporting the opposition or repeal of exclusive marketing contracts with soft-drink and other vending companies.

Other measures are also being explored, including placing a tax on unhealthy or junk food, initiating litigation against food manufacturers, and holding them accountable for aggressive marketing and nutritional content.

As well, the Surgeon General's Report on Children and Physical Activity outlines several factors that lead to increased physical activity. The most important determinant is **enjoyment of the activity**. Other factors include:

- social influences like parental and peer support and encouragement, and parental and peer activity.
- active role models.
- opportunities to be outdoors.
- self-efficacy and perceived competence.

Recommendations to increase physical activity include:

- supporting and/or re-introducing daily activity to the school curriculum.
- conducting outreach to high school students, especially African-American and Hispanic girls, who are under-represented in physical activities.
- providing after-school programs and physical activity.
- introducing "Walk to School Days" or other programs that make it safer for kids to walk or bicycle to school.
- encouraging youth to develop skills in "everyday" sports like jogging, swimming, tennis, or golf. These sports can provide a life-long exercise outlet, and help girls identify themselves as physically active.

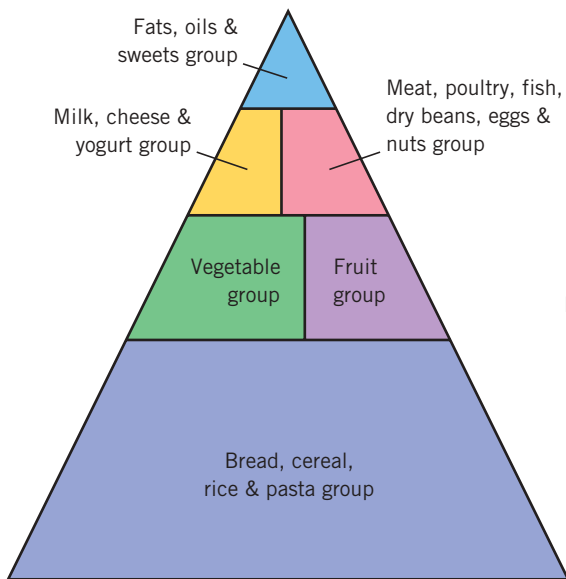


# Parents Supporting Healthy Habits at Home

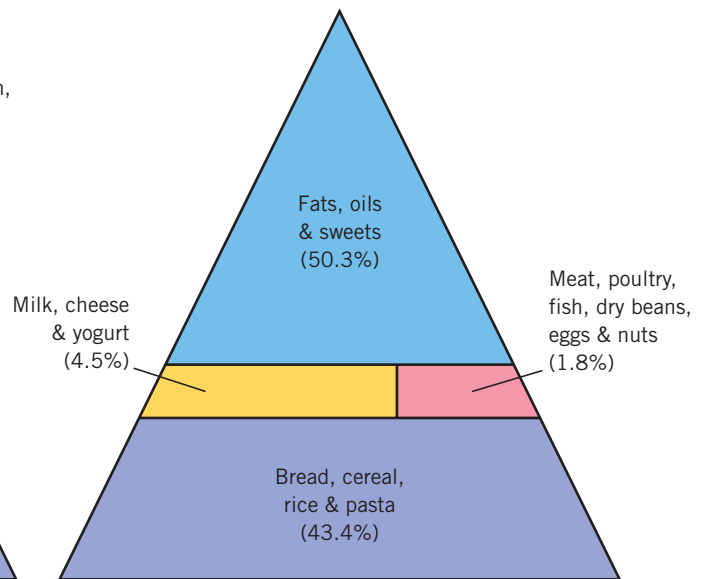
Sedentary leisure activity dominates girls' and boys' lives outside as well as inside of school. For instance, the Centers for Disease Control report that 62 percent of 9 to 13 year olds do not participate in any organized physical activity during non-school hours.

Researchers from the National Parent Teachers Association maintain that it's more than the schools that are falling short of their responsibility when it comes to adequately promoting physical activity among young people; parents play a significant role in the problem.

**USDA Food Guide Pyramid**



**Saturday Morning Pyramid**



Reprinted from the *Journal of the American Dietetic Association*, Kotz and Story, "Food advertisements during children's Saturday morning television programming: Are they consistent with dietary recommendations?" Pages 1296-1300. Copyright, 1994 with permission from the American Dietetic Association.

## More Time Indoors

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One explanation for this deficiency is that children are spending more time indoors at earlier ages, where they sit in front of a television, video game, or computer. A 2003 report from Harris Interactive and Teenage Research Unlimited found that young people 13 to 24 spend an average of 16.7 hours a week online (which does not even include time girls spend on email) and 13.6 hours watching TV. In addition to the Internet and TV, they spend an average of 7.7 hours talking on the phone and 6 hours reading books and magazines.

According to *The Net Effect: Girls and New Media* (2002) study, 58 percent of girls consider themselves to be the “savviest computer user in their household,” and report going online two to three times a week, with dedicated users going online several times a day. Preteens and teens today often engage in play with their neighborhood friends not in backyards, parks, playgrounds, and local streets, but through instant messaging and chat rooms.

Also problematic are the amount and types of commercials a child sees on television. Studies of Saturday morning and weekday afternoon programming found that half of ads during children’s television shows are for food and a clear majority of them for foods high in sugar, fat, and salt. Only 2 percent of advertising by food manufacturers promotes fruits, vegetables, grains, and beans.

As will be discussed in the next section, the degree of indoor-related activity can be attributed in part to parents limiting any activities by their children outside of the home that are not controlled and supervised, or to the simple lack of a place to play. In any event, the fact remains that children are more engaged indoors than outdoors, with serious implications for their levels of physical exercise and overall health.

### Implications

Some parents simply fail to recognize and understand obesity and the necessity to take health measures for their children. In a recent study in *Pediatrics*, nearly a third of mothers surveyed did not realize that their children were overweight, a result of either an inability to recognize overweight status, a reluctance to admit it, or a lack of understanding about what “overweight” means. Also, how parents and caregivers deal with

their own weight issues, and how they talk to their children about health, directly affect the way children deal with and think about obesity and health.

Some of the steps parents can take to promote a healthier lifestyle in their children include:

- balancing sedentary and physical activities; for example, limiting TV-watching and computer and video game use when outdoor or other physical activity is possible.
- promoting the consumption of healthy food alternatives and healthy eating habits, such as exercising portion control; eating high nutrition snacks and fresh fruits and vegetables instead of foods with high sugar or high unhealthy fat content; and choosing more nutritious options at fast-food outlets.
- encouraging children to walk more, play outdoors, and participate in physical activities.
- modeling and engaging in physical activity with children.





## Social Scene: The Super-Sized and Sedentary Culture

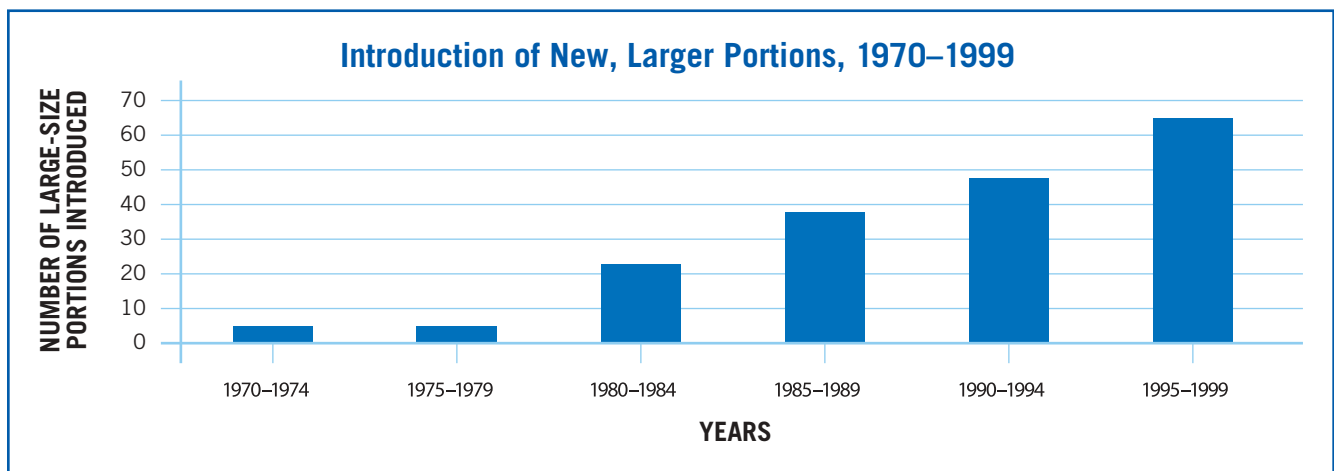
Girls today navigate in a world that has been dubbed a “gorge-yourself environment” in a country that is fundamentally “obesity enabling.” Researchers are finding a host of social factors that can influence the personal choices and amount of food that children consume, as well as their levels of physical activity. According to a recent *New York Times*/CNN poll, about a quarter of Americans attribute the growing obesity problem among children to factors such as a less active lifestyle and more electronic diversions.

Some researchers point to the prevalence and access of “big food” and an increasing trend toward eating out as a culprit in the obesity problem; studies link eating out with higher body weights and caloric intake. In 1970, Americans spent 26 percent of their food dollars on restaurant food and other foods prepared outside the home. Today that figure is 46 percent. This means that the average American now consumes fully one third of her or his calories from restaurants and other food-service establishments. Food portion size has also

grown. For instance, a typical bagel used to weigh in at 2 to 3 ounces, compared to the 4 to 7 ounce version sold today. A “family-sized” bottle of soda in the 1950s was 26 ounces; now, a *single* serving is 20 ounces.

Research documents that environmental factors have a powerful effect on the type and amount of food a person will consume. Experiments show that when presented with more food, even if it is not necessarily tasty, people will eat more. Also, while portion sizes have increased, prices have remained relatively low, permitting one to eat substantially more food at lower costs.

Food size and availability certainly aren’t entirely to blame for a child’s unhealthy eating habits, but these factors can exert a strong influence on the kinds of choices children make.



Young LR, Nestle M. *American Journal of Public Health* 2002, vol.92, pp. 246–249.

Source: Adapted from *Wallet to Waistline—The Hidden Costs of Super-Sizing*. The National Alliance for Nutrition and Activity; (June 2002).

## What Children See

Estimates indicate that food marketing expenditures increased by 50 percent in the last decade and that overall marketing aimed directly at children doubled from \$6.9 billion in 1992 to \$15 billion in 2002. Food (including beverages, sweets, and restaurants) is the third most advertised product in the U.S., behind cars and retail/department/discount stores. In 2000, food advertising and promotional expenditures exceeded those from the previous decade by 50 percent.

Advertising of products to children occurs not only in commercials shown in schools and as a result of exclusive contracts between schools and soft drink and other vending companies. Products are also advertised constantly during the tv shows children watch at home and through product placement within the movies and television shows themselves. Studies show that advertising influences children's food preferences and choices and in turn causes children to "pester" their parents to buy the marketed product.

### Purchases by Children (4 to 12 Years)\*

CATEGORY	SPENDING (billions \$)	PERCENT
Food & Beverages	\$7.7	33%
Toys	\$6.5	28%
Clothing	\$3.6	15%
Movies/Sports	\$2.0	8%
Video Arcades	\$1.3	6%
Other	\$2.3	10%

\*McNeal, 1998

Source: *Pestering Parents: How Food Companies Market Obesity to Children*. Center for Science in the Public Interest. (November 2003).

## Barriers in the Physical Environment

Although parents recognize the importance of increased physical activity for their children, they sometimes cite external barriers to participation, such as transportation, lack of opportunity for children to participate in physical activities in their area, parents' lack of time, and concerns about neighborhood safety. Children who indicate an interest in becoming more physically active have their own list of obstacles, like lack of time and not knowing what to do. These barriers can be compounded by socioeconomic status, especially when it comes to organized sports, to which low-income children have significantly less access than their higher-income peers.

Children's decrease in activity levels outdoors can also be attributed to a physical environment that has become increasingly inhospitable for play. Activities that children used to participate in freely, like walking to school or playing outdoors, are less common. Walking and bicycling among children ages 5 to 15 declined 40 percent between 1977 and 1995, and a survey in Atlanta, Georgia revealed that only 1 in 5 children living less than a mile from school walk there

regularly. According to the CDC, only part of this decline in walking or bicycling to school can be attributed to school policies prohibiting such behavior (less than 10 percent); far more common reasons are traffic (40 percent) and crime (18 percent), especially in low-income urban neighborhoods.

An additional dilemma is that in many places there is simply no place to walk or play. In many suburbs, sidewalks don't exist. The automobile is the primary means of transportation. Some research suggests that suburban life and the growing dependency on cars contribute to a less active lifestyle, and therefore to the percentage of overweight children. Recent issues of the *American Journal of Public Health* and the *American Journal of Health Promotion* have discussed the link between suburban sprawl and obesity. Cities are also structured in a way that is inhospitable to outdoor recreation: there is just no place to play. Research on New York City elementary school students shows that New York's children are actually more likely to be obese than children around the country.

# The Price and Availability of Food

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Food price and availability of food choice are important factors in the child’s environment. While nutritional content of food is an important criterion in selection, research increasingly shows the effects of price on choice. A series of studies conducted by the University of Minnesota show that it is the relative cost of different products, not their nutritional value, that has influence over food selection. In other words, lower cost foods are purchased more often, independent of their nutritional value.

Also, the availability of healthy food has a significant impact on what people choose to eat. The limited availability of healthy food is even more pronounced in low-income neighborhoods. A 1995 analysis of 21 major U.S. metropolitan areas showed that low-income areas have 30 percent fewer supermarkets than high-income areas. Access to a full-line supermarket is both a quality of life and health issue. Since low-income consumers are also less likely to possess cars, their food choices and their access to the variety of products offered at supermarkets is limited. Other research directly links supermarket access and healthy diets, finding that residents in neighborhoods with higher supermarket concentration eat higher amounts of fruits and vegetables.

The paradox of hunger co-existing with obesity often shows up in families with low incomes. A report from the Center on Hunger and Poverty at Brandeis University points out that children in low-income families do not consume enough nutritional calories, and these families often cope with having fewer dollars to spend on food by buying less expensive items with higher fat content. Both food insecurity—which exists when there is either limited or uncertain access to healthy food choices—and lower income are associated with a lower intake of fruits and vegetables. Children in low-income families also consume fewer dairy products, which are needed for healthy development.

## Implications

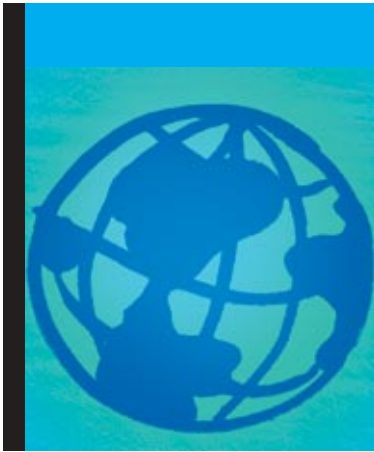
There are many things that can be done and are under consideration to promote an overall healthier environment for children. These include:

- providing more physical activity in after-school programs.
- introducing “Walk to School Days” or other programs that seek to make it safer for kids to walk or bicycle to school. For instance, the CDC has launched a community-based Walk to School program to encourage communities to work together so that children can walk to school in groups with an adult.
- requiring chain restaurants to provide calorie labeling on menus and menu boards (some provide this information voluntarily).
- promoting the consumption of healthier food by making it more accessible at school and other public venues.
- creating an understanding of what constitutes healthy food choices, such as the nutritional benefits of eating fresh fruits and vegetables rather than the canned, processed versions.
- being an advocate for the availability of nutritional food choices.

In addition, the Kaiser Family Foundation has defined a series of policy options to alter the media environment children grow up in, including:

- reducing or regulating food ads targeted to children.
- expanding public education campaigns to promote healthy eating and exercise.
- incorporating messages about healthy eating into TV storylines.
- supporting interventions to reduce the time children spend with the media.

Measures to improve the safety of neighborhoods and make them more accessible for play and outdoor activities, through building playgrounds or sidewalks, could greatly improve the quality of life of children, while helping them to maintain healthy bodies as well.



## Cultures: One Size Does Not Fit All

Obesity is a national health crisis that crosses the boundaries of culture and ethnicity. While a person may have a genetic predisposition toward a certain body type, the fact that, for the past 20 years, each succeeding generation has been heavier than the last strongly supports the belief that broader factors play a key role in this disturbing health trend, and that increased eating and a sedentary lifestyle affect every segment of the population. Hispanics or Latinos, who number 37.4 million, are the largest minority population in the United States (13.3 percent), with Mexican-Americans comprising 66.9 percent of that number. A recent article in *Hispanic Online* reported that for Hispanics, the increase in obesity is likely due to Hispanics' social conditions and habits—namely, getting less exercise and eating fatter, more bountiful meals.

In addition to the broad-sweeping, cross-cultural factors that contribute to obesity, others persist *within* ethnic communities, particularly those newly immigrated to the United States and those of low socio-economic status. These factors, discussed in *The Permanente Journal* (2003, Spring), are:

- poverty
- acculturation
- maternal nutritional practices, and
- language/communication issues.

## Cultures: Keeping Mine, Accepting Yours

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While economic, information, and communication barriers can inhibit communities from making and acting upon informed, healthy food choices, acculturation is a less obvious but powerful force influencing obesity. Acculturation is the social process undergone by individuals who have left their country of origin and gradually accepted the culture (shared beliefs, social forms, customs, arts, and practices) of another. The more acculturated girls and women are in the U.S., the more vulnerable they may be to the harmful dietary trends and often distorted aesthetic ideals of mainstream society.

Dealing with the stressors of acculturation is an issue not only for Hispanic girls and young women, but for Asian American and American Indian girls and young women as well. The Office on Women's Health found that for Asian American girls acculturation can lead to feelings of isolation, low self-esteem, and the devaluation of native cultural identity, which can increase their vulnerability to eating disorders. For American Indian girls, increased contact with the mainstream culture that equates thinness with beauty seems to contribute to higher rates of disordered eating. In fact, the journal *Psychiatry* cited a significant correlation between acculturation and abnormal eating patterns.

# Nutritional Changes

Nutritional changes resulting from dietary acculturation include a decline in the consumption of traditional foods, new ways of utilizing traditional foods, and above all, the adoption of new foods—for better or worse. According to the Julian Samora Research Institute, both healthy and unhealthy nutritional changes have occurred for Mexican Americans trying to acculturate to U.S. mainstream culture. Healthy changes include a moderate increase in the consumption of vegetables (salads and cooked vegetables) and fruits and a large decrease in the consumption of lard and Mexican cream.

However, a greater number of unhealthy changes have developed, including an increased use of fat in the form of salad dressing, mayonnaise, cooking oil, margarine, and American sour cream, and the decreased con-

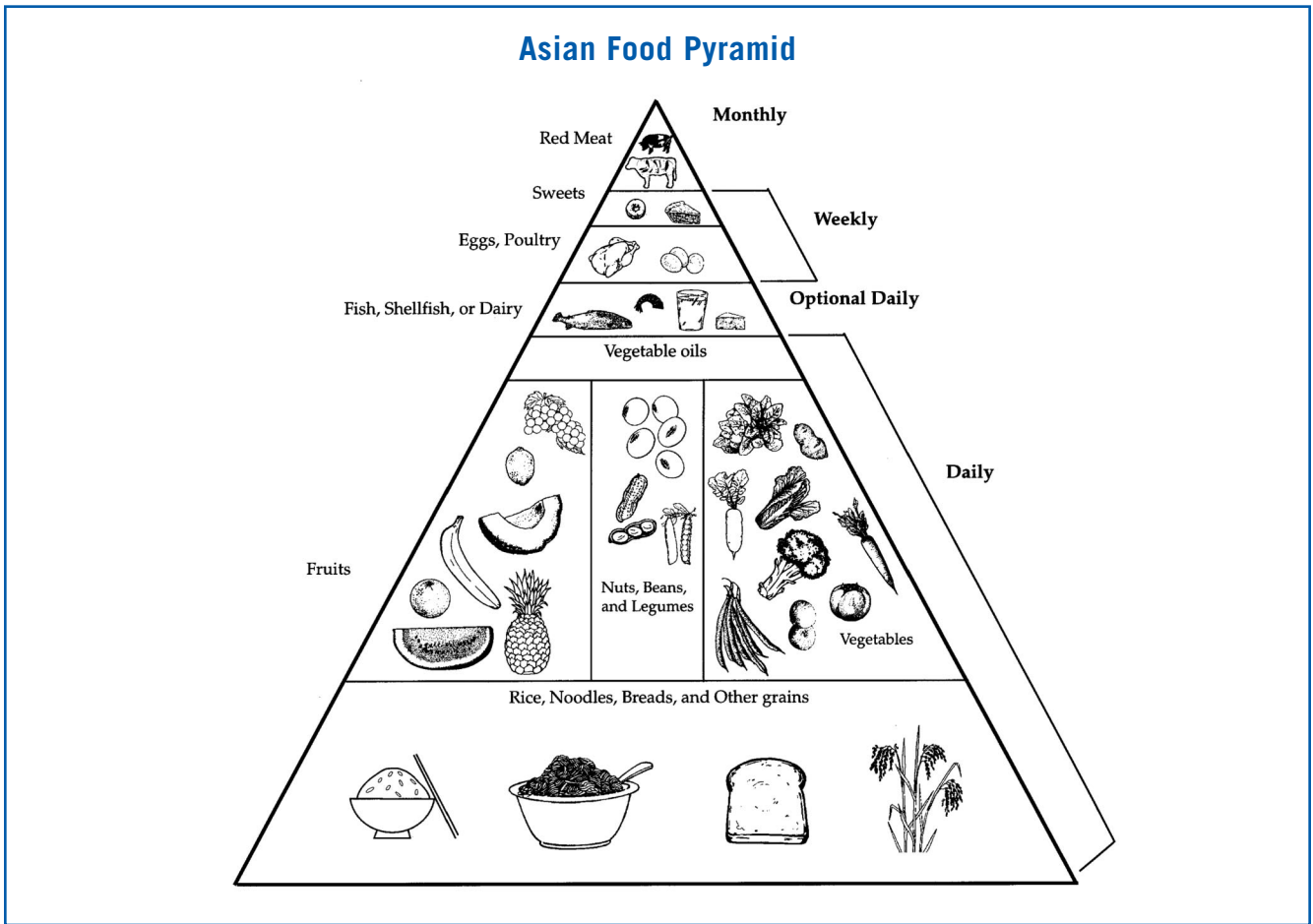
sumption of traditional fruit-based beverages in favor of high-sugar products such as sodas and ready-to-eat breakfast cereals. There has also been a changed meal pattern, with the heaviest meal now consumed at night instead of mid-afternoon. In a culture that traditionally took an afternoon break or siesta during the heat of the day, eating heavier meals during mid-afternoon gave the body ample time to digest. Furthermore, eating heavier meals at night without the opportunity of physical activity afterward increases the chance of weight gain.

Changes have also occurred for Asian Americans. According to an article on dietary acculturation in the *Journal of the American Dietetic Association*, rice remains an important staple among many Asian immigrants, but cereal, sandwiches, and milk may be replac-

## The Latin American Food Pyramid



Developed by the Nutrition Education for New Americans Project of the Department of Anthropology and Geography at Georgia State University, Atlanta, Georgia. Funded by the United States Department of Agriculture Food and Consumer Service for Food Stamp Program families.



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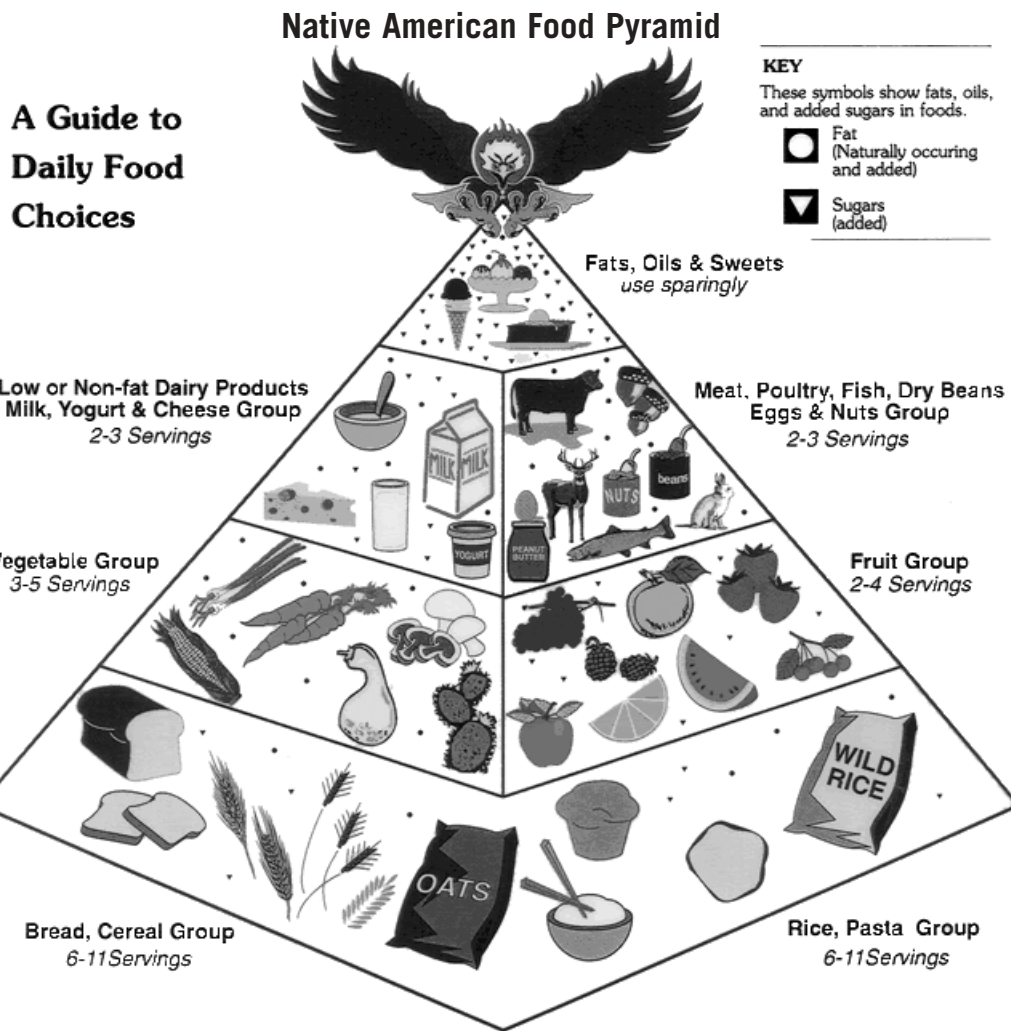
ing other traditional foods. For example, many first-generation Chinese immigrants in Nebraska reported that they used U.S. foods (e.g., canned U.S. vegetables), which are less healthy than using fresh vegetables, for preparation of Chinese dishes. Finally, some immigrants fully adopt the dietary patterns of the host country, including those unhealthy patterns leading to overweight and obesity.

Food pyramids are general guides that illustrate how much of each food group one should eat to maintain a healthy weight. To combat unhealthy nutritional changes and maintain sound traditional diets, culturally relevant food pyramids have been created--like those on pages 20-22. In these pyramids, traditional and non-traditional foods across cultures are categorized by food group and serving size, so that healthy nutritional habits can be practiced as part of dietary acculturation.

## Limitations to Body Mass Index

As discussed earlier, the body mass index (BMI) measures obesity. However, the meaning of a BMI score can vary according to race and ethnicity. The *International Journal of Obesity*, reported that the relationship between BMI and body fat percentage differs among different ethnic groups, and that BMI cut-off points for

obesity need to be population-specific. For example, for the same level of body fat, age, and gender, African Americans and Polynesians have higher BMIs than Caucasian Americans, while Chinese, Ethiopians, Indonesians, and Thais have lower BMIs than Caucasian



Source: CANFit Youth Leadership Committee & Project Staff, Escondido Community Health Center, funded by the California Adolescent Nutrition and Fitness Program, Berkeley, California.

Americans. Other such variations in BMI, according to *Obesity Reviews*, are linked to aging, infancy and childhood, military and civil status, physical training, and special clinical circumstances. For example, with aging, body fat increases and muscle diminishes. Body weight and BMI can stay the same during these changes, but will not tell us whether the increase is natural or disease-related.

Girls and their families need to understand not only BMI, but also its limitations and the limitations of other health measurements, so they can make informed decisions.

## Implications

Unhealthy nutritional practices affect girls and young women of all cultures and populations. Families, youth development organizations, and community services and leaders can help girls and young women in a variety of ways to address nutrition and obesity issues. The

*Permanente Journal* suggests the following:

- In communicating and working with girls, young women, families, community groups, and organizations, understand cultural differences and use strategies that are culturally competent—that acknowledge and respect the culture of the person or organization being served.
- Incorporate culturally based food preferences, and reinforce healthy food choices and appropriate substitutions.
- Consider the food pyramids only in relation to the foods of cultural communities. The mainstream food pyramid may not be culturally relevant or appropriate for ethnic and cultural communities such as Hispanics or Asians.
- When developing nutrition practices, work with entire families (nuclear and extended, children

and adults) instead of focusing on individual family members.

The World Health Organization recommends a larger scale approach that includes:

- Community-based approaches to strengthen household food security (continuous household supply of nutritious, safe, and culturally appropriate foods) with emphasis on nutritional adequacy for adolescent girls.
- Mass information and awareness programs to alert government agencies and communities to the importance of health and nutrition for adolescent girls.





# Looking Inside and Out: Girls and Body Image

In *Beyond Appearance, A New Look at Adolescent Girls* (2002) developmental psychologists agree that it is normal for adolescent girls to experience body image dissatisfaction when confronted with weight gain that accompanies puberty and with changing gender role expectations as they enter the teen years. However for some girls, a negative body image coupled with behavior to achieve extreme thinness can lead to the devel-

opment of an eating disorder. Along with the increase of obesity among girls in this country are problems like anorexia nervosa and bulimia, a major health concern among adolescent girls. While only 1 to 3 percent of girls meet the diagnostic criteria for anorexia and bulimia, many girls demonstrate symptoms of disordered eating (binge eating, extreme dieting, etc.) that are cause for concern.

## Body Dissatisfaction

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An alarming situation exists regarding the issue of body dissatisfaction among girls. In a recent study of 4,746 junior high and high school students, 57 percent of the girls had fasted, gone on diets, used food substitutes, or smoked more cigarettes to lose weight. Another 12 percent resorted to extreme measures like diet pills, vomiting, laxatives, or diuretics. Furthermore, findings from *Teens Before Their Time* (2000) suggest that:

- dissatisfaction with body image increases as girls progress into adolescence. While 75 percent of third graders agree with the statement “I like the way I look,” only 56 percent of seventh graders agree.

- one-third of all girls in grades 9 to 12 think they are overweight and 60 percent are trying to lose weight.

In *The International Journal of Eating Disorders*, a recent analysis of studies examining body dissatisfaction, eating disorders, and mass media found that participants with body dissatisfaction issues were more adversely affected by media stimuli using thin models (in advertisements, video clips, television commercials, and other images) than participants without body dissatisfaction issues. In addition, participants below college age were more adversely affected by the presentation of such media than participants aged 19 and older.

## Self-Image Across Cultures

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Research on ethnicity, social class, and adolescent self-esteem suggests a difference in self-image and self-esteem across different ethnic groups. ACT for Youth Upstate

Center of Excellence, in its *Research Facts and Findings*, reported that, compared to other groups, Caucasian girls appeared most vulnerable to a drop in self-esteem

in adolescence. Studies of African-American girls indicated that they do not experience the same decline in body image as their white female peers. A number of nonclinical studies reviewed in the journal *Psychiatry* have also demonstrated that African Americans have different attitudes about weight, body size, and attractiveness than Caucasians, with overall less drive for thinness and greater acceptance of larger body proportions.

In another study conducted by the CDC, African-American focus group participants revealed that feeling good on the inside and having high self-esteem were more important than being the right weight according to the scale. African-American and Mexican-American participants believe that being a few pounds overweight is healthy and acceptable. A person with a healthy weight was described as having “meat” or “curves.”

Interestingly, in a study of Mexican American mothers and their daughters, the daughters tended to prefer thinner figures than did mothers; they ranked their ideal figures thinner than their perceived figures; and their overall self-concept was predicted by age, their body size, and their mothers’ size. In a study of Latina women in New York City, the Latina women studied preferred a thin figure for themselves, but a plumper figure for their children.

Asian Americans comprise 4.2 percent of the U.S. population (11.9 million people), with the largest Asian groups being Chinese and Filipino. The Office on Women’s Health reported that Asian American girls are as concerned or more concerned than white girls about their weight and shape. Recent research on Asian Americans suggests that body dissatisfaction is increasing due to the promotion of the Western beauty ideal. As with other ethnicities, adapting to a new culture creates a set of stressors that for Asian American girls trying to acculturate to mainstream society may cause confusion about personal identity, roles, and values.

Not being able to recognize unhealthy weight status may also make it more difficult to recognize disordered eating. For instance, according to the Web site *AsianWeek.com*, anorexia nervosa and bulimia nervosa are still unfamiliar in the household lexicon of many Asian American families, despite these disorders having received much press in recent years.

## Parental Roles Across Cultures

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Parents across ethnicity and culture are concerned about their children’s health, nutrition, weight, and self-image and want to help them. However, according to the Pro Health Network, a mother’s perception of her overweight child can be tainted by gender-based concepts. A study by the Chronic Disease Nutrition Branch of the Centers for Disease Control and Prevention polled mothers of overweight children. Fourteen percent reported their sons as overweight, while 29 percent reported their daughters as overweight, suggesting a possible difference in the mothers’ concepts of acceptable body size for males versus females. In addition, because girls often mature physically earlier than boys, their mothers may view them as heavier. According to the journal *Pediatrics*, how parents handled their own weight issues was as important a factor as what they say to their children when discussing weight issues and nutrition.

Furthermore, several studies have revealed that negative reinforcement by parents can increase a child’s risk of eating disorders and poor body image. Parents and caregivers themselves need to have healthy perceptions of weight, nutrition, and body image. Encouragement for healthy eating and physical activity should be provided sensitively in order to protect a child’s self-esteem, probably the biggest factor influencing body image.

“Body and Image: How to Talk to Teenage Girls About Weight? Very Carefully,” a recent *New York Times* news article, encourages parents and other caring adults to consider the following when talking to girls and young women about weight issues:

- First, be knowledgeable, supportive, and honest. Intervention programs for children are unlikely to be successful without parental knowledge and support.

- Treat weight issues (like overweight and underweight) like any other medical problem—not as an image or social problem. Distinguish the person from her weight, and make it clear that no personal judgment is being made.
- Encourage small changes that can result in the achievement of longer-lasting and less painful benefits.
- Help teenagers understand and accept what they can and cannot change about their bodies.

## Implications

Because girls' self-image is determined not only by their self-perceptions but also by the perceptions of others, it is imperative that the adults in girls' lives be positive, honest, supportive, and clear about their own personal issues in discussions of health, beauty, and self-image.

Girls and young women need to strengthen cultural beliefs and practices that enhance self-esteem and self-concept. This can be accomplished through a culturally competent approach to dealing with distorted body image and eating disorders. Along with the need to strengthen ethnic identity is the need to strengthen female identity, with broader options for role definition, identification, achievement, and ideals of feminine attractiveness. As well, it is important to promote, acknowledge, and encourage girls' abilities, such as their creativity and intelligence, not just their appearance.

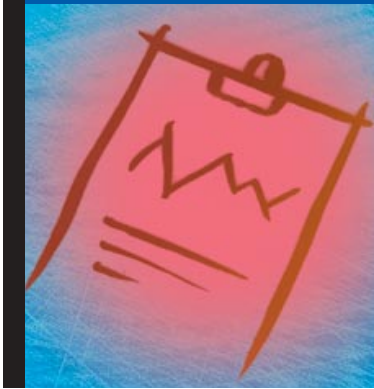
Adults need to be aware of signs and symptoms of distorted body image. For example, it is normal teenage behavior to spend a lot of time in front of a mirror thinking about specific body parts and perceived flaws. However, when this behavior seems obsessive and interrupts everyday life function, more serious issues may be at play.

The Dairy Council of California relates that other behavior to look for includes:

- weighing oneself multiple times per day;
- hiding one's body with oversized clothing;
- refraining from enjoyable activities because one feels ashamed or self-conscious about one's body;
- obsessing about food, weight, and level of fitness in private and in public.

The Office on Women's Health suggests the following regarding girls, body image, and eating disorders:

- Provide adolescents with information on the benefits of healthy eating and regular physical activity.
- Educate parents and teachers about eating disorders so they can more easily detect how girls' everyday behavior might be affected.
- Do not tolerate sexual harassment or teasing about another person's body shape, weight, or race.
- Conduct media literacy activities that explore the images of thinness as beauty in television, magazines, and advertisements targeting girls.
- Help girls understand cross-cultural differences regarding body image and weight control. Incorporate culturally appropriate materials, curricula, and interventions and include ethnically diverse role models.
- Recognize the great diversity among individuals within ethnicities, whether they are American Indian, African, Middle Eastern, or Asian, as well, as the tremendous differences across nations with respect to cultural traditions and heritage.



## Conclusions and Next Steps

Social policies to address health have long focused on the individual as the chief agent of change. However, efforts to address children's overall health and well-being through environmental changes are also becoming prominent, in tandem with efforts to change individual behavior.

Various local, state, and national policies, objectives, and goals have been laid out or are under consideration to seek increased funding and enact legislation to promote improved nutrition, increased physical activity, and prevention of obesity in children. Others lay the general groundwork for recommendations. For instance, the

U.S. Public Health Service has released *Healthy People 2010*, which outlines objectives and goals for obesity reduction and increasing general nutrition efforts in schools and workplaces; these include increasing the proportion of schools that teach essential nutrition topics and increasing the proportion of workplaces that offer nutrition education and/or weight management services to its employees.

There are also numerous guidelines on how to change individual behavior and parental monitoring. The Surgeon General has issued a call to action that offers suggestions in the areas of physical activity and nutrition. (See p.29.)

## Areas for Future Research

### ■ **Girls' Attitudes and Perceptions about Nutrition, Physical Activity, and Weight**

Much of the information that has received media attention about obesity and weight issues is focused on the medical implications for youth and the increased risks they face as adults. However, additional research is needed to assess the social and emotional effects that weight issues have on girls and the links between the obesity epidemic and other eating disorders, especially given that girls are starting to diet at a younger and younger age.

### ■ **Cultural Differences about Body Image**

Further research is needed to explore the differences among girls from various backgrounds with regard to weight, body image, and self-perceptions. Many of the recent studies on obesity do not distinguish differences in experiences between or within genders. How do girls from different racial, ethnic, geographic, socioeconomic

and immigrant populations, and from "at-risk" environments, develop healthy behaviors, attitudes, and beliefs about body image?

### ■ **Role Models and Sources of Health Information**

Parents, teachers, and other caregivers are central to preteen girls' lives. They are the people girls go to for care and support. What role do parents and other caregivers play, both as models and instillers of health behaviors, especially among elementary school girls? More research is needed to explore how parents and other caregivers model healthy behavior for youth and how this matches the advice they give to young people. How does this vary for girls and families from diverse demographic profiles? Other role models are also powerful in girls' lives in adolescence, such as athletes and celebrities. What role do they play? What role do friends play, particularly as girls move into adolescence?

## ■ Physical Activity and Play Beyond Organized Sports

Many studies have documented the role of team sports in the lives of youth. However, with the decline of team sports, as girls get older and physical education classes are cut in greater numbers, it is important to explore other means girls can use to remain fit and healthy. Some of the activities adults and other caregivers can encourage young people to adopt are dance, aerobics, yoga, rollerblading, and games at recess. Additional research is needed to document what constitutes physical play in the lives of girls and how this impacts their self-image and overall health.

## ■ Making the Connection: Healthy Today, Healthy Tomorrow

In focus groups conducted by the Centers for Disease Control, young people were unaware that their current choices for food and exercise impact their health into adulthood. How knowledgeable are girls and their parents about the long-term health implications of childhood and teenage health behaviors? Working together in various areas of society, we can help girls be healthy today, healthy tomorrow. Following is a list of Girl Scout programs that work toward this end.

## Girl Scout Initiatives

GSUSA has created a strong social environment that encourages health and physical activity through a mix of fitness and fun. The organization has created sports curricula that are used in troop and group settings and even in some schools. Many of the program activities and events involve families, establishing positive health behaviors as a family affair. And, most importantly, by instilling these values during childhood, the positive habits formed are very often carried well into adulthood.

Many of GSUSA's resources are the result of strong partnerships with key health, fitness and sports organizations, corporations, and government agencies that have provided subject matter expertise and financial support. Following is a sample of some of GSUSA's signature projects:

**GirlSports.** Keeping America Fit: A Healthy Lifestyle for Girls 5 to 17. The **GirlSports** initiative offers opportunities for girls to participate in health, sports, and fitness activities and to become educated about the benefits of exercise, proper diet, and making healthy choices. Most importantly, by instilling these values during childhood, the positive habits formed are very often carried well into adulthood.

**GirlSports Basics.** Teaches girls 5 to 8 entry-level sports skills to boost self-confidence and success in sports. Skills include throwing, catching, kicking, batting, volleying, and dribbling. The Basics kit contains 96 activity cards, a colorful poster, Leader's Guide, and Council Guide.

**GirlSports Fit&Fun.** Sports skills development for girls 9 to 11. Skills include batting, kicking, volleying, passing, fitness fun, and teambuilding games. The basic materials include an Adult Guide with activity cards and a Council Guide.

**GAME FACE: What Does a Female Athlete Look Like?** Based on the traveling exhibition of the same name, this patch project encourages all girls, whatever their ability, to participate in sports; includes inspiring photographs and interdisciplinary activities.

**In the Zone: Living Drug Free.** Age-level booklets with facts, stories, and activities to encourage sound decision-making and healthy behaviors.

**Strong Bones, Strong Girls.** Booklet and video project that encourages girls 9 to 12 to increase calcium consumption and physical activity to build and maintain strong bones.

**uniquely ME! The Girl Scout/Unilever Self-Esteem Program.** Facts, quizzes, and activities to help girls 8 to 14 foster self-esteem. Topics cover body image, nutrition, and positive thinking.

# The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity in Children and Adolescents (Adapted)

## GENERAL SUGGESTIONS

- Let your child know s/he is loved and appreciated whatever her/his weight.
- Focus on your child's health and positive qualities, not your child's weight.
- Try not to make your child feel different if s/he is overweight, but focus on gradually changing your family's physical activity and eating habits.
- Be a good role model for your child. If your child sees you enjoying healthy foods and physical activity, s/he is more likely to do the same now and for the rest of her/his life.
- Realize that an appropriate goal for many overweight children is to maintain their current weight while growing normally in height.

## PHYSICAL ACTIVITY SUGGESTIONS

- Be physically active. It is recommended that Americans accumulate at least 30 minutes (adults) or 60 minutes (children) of moderate physical activity most days of the week.
- Plan family activities that provide everyone with exercise and enjoyment.
- Provide a safe environment for your children and their friends to play actively; encourage swimming, biking, skating, ball sports, and other fun activities.
- Reduce the amount of time you and your family spend in sedentary activities, such as watching TV or playing video games. Limit TV time to less than 2 hours a day.

## HEALTHY EATING SUGGESTIONS

- Follow the Dietary Guidelines for healthy eating ([www.health.gov/dietaryguidelines](http://www.health.gov/dietaryguidelines)).

- Guide your family's choices and eat meals together as a family as often as possible.
- Carefully cut down on the amount of fat and calories in your family's diet.
- Don't place your child on a restrictive diet.
- Avoid using food as a reward or punishment.
- Encourage children to drink water and to limit intake of beverages with added sugars, such as soft drinks, fruit juice drinks, and sports drinks.
- Plan for healthy snacks.
- Stock the refrigerator with fat-free or low-fat milk, fresh fruit, and vegetables instead of soft drinks or snacks that are high in fat, calories, or added sugars and low in essential nutrients.
- Promote the eating of a healthy breakfast as a way to start the day, which may be important in achieving and maintaining a healthy weight.

## IF YOUR CHILD IS OVERWEIGHT

- Weight loss should be gradual, even with extremely overweight children.
- Many overweight children who are still growing will not need to lose weight, but can reduce their rate of weight gain so that they can "grow into" their weight.
- Your child's diet should be safe and nutritious. It should include all of the Recommended Dietary Allowances (RDAs) for vitamins, minerals, and protein and contain the foods from the major food groups.
- Crash diets and diet pills can compromise growth and are not recommended by many health care professionals.

Source: "The Surgeon General's call to Action to Prevent and Decrease Overweight and Obesity." September 2003.

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# Resources

## Body Image

### About-Face Theatre Company

Promotes positive self-esteem in girls and women of all sizes, races and backgrounds. [www.about-face.org](http://www.about-face.org)

### AdiosBarbie.com

Works to inspire girls and women to love their body through thick and thin, no matter what their size or background. [www.adiosbarbie.com](http://www.adiosbarbie.com)

### BodyPositive.

Looks at ways to boost body image at any weight. [www.bodypositive.com](http://www.bodypositive.com)

### National Association for Self-Esteem

Works to fully integrate self-esteem into American society so that every individual experiences personal worth and happiness. [www.self-esteem-nase.org](http://www.self-esteem-nase.org)

### ¡Soy Unica! ¡Soy Latina!

Encourages cultural pride and positive self-esteem, mental health, decision-making and assertiveness skills in girls. [www.soyunica.gov](http://www.soyunica.gov)

## Eating Disorders

### Eating Disorders Coalition

Advances the federal recognition of eating disorders as a public health priority. [www.eatingdisorderscoalition.org](http://www.eatingdisorderscoalition.org)

### National Association of Anorexia Nervosa and Associated Diseases

Provides hotline counseling, a national network of free support groups, referrals, and education and prevention programs. [www.anad.org](http://www.anad.org)

### National Eating Disorders Association

Answers questions about eating disorders, offers support for food issues, provides treatment and counseling referrals. [www.edap.org](http://www.edap.org)

### The Alliance for Eating Disorders Awareness

Establishes nation-wide programs that help youth learn about eating disorders and positive effects of healthy body image. [www.eatingdisorderinfo.org](http://www.eatingdisorderinfo.org)

### We Insist on Natural Shapes (WINS)

Educates adults and children about the dangers of excessive dieting and eating disorders. [www.winsnews.org](http://www.winsnews.org)

## Nutrition

### Center for Health Promotion International Life Sciences Institute

Advances the understanding of scientific issues related to nutrition, food safety, toxicology, and the environment. [www.ilsa.org](http://www.ilsa.org)

### CDC Division of Nutrition and Physical Activity

Addresses nutrition and physical activity in improving the public's health and preventing and controlling chronic diseases. [www.cdc.gov/nccdphp/dnpa/about.htm](http://www.cdc.gov/nccdphp/dnpa/about.htm)

### CDC Division of Adolescent and School Health National

Seeks to prevent the most serious health risk behaviors among children, adolescents and young adults. [www.cdc.gov/nccdphp/dash/index.htm](http://www.cdc.gov/nccdphp/dash/index.htm)

### The Healthy School Meals Resource System School

Provides information to persons working in USDA's Child Nutrition Programs. [www.healthfinder.gov](http://www.healthfinder.gov)

### The Nutrition Education for New Americans Project

Helps low income immigrants, refugees, and children

learn about healthy eating practices to include culturally traditional and American foods.

[multiculturalhealth.org](http://multiculturalhealth.org)

### USDA Food and Nutrition Service

Increases food security and reduces hunger by providing children and low-income people access to food, a healthful diet, and nutrition education. [www.fns.usda.gov/fns](http://www.fns.usda.gov/fns)

## Physical Activity/Fitness

### American Alliance for Health, Physical Education, Recreation and Dance

Promotes healthy lifestyles through high quality programs in health, physical education, recreation, dance, and sport. [www.aahperd.org](http://www.aahperd.org)

### CDC Division of Nutrition and Physical Activity

Addresses nutrition and physical activity in improving the public's health and preventing and controlling chronic diseases. [www.cdc.gov/nccdphp/dnpa/about.htm](http://www.cdc.gov/nccdphp/dnpa/about.htm)

### CDC VERB Campaign

Encourages tweens to be physically active on a continued basis and provides access to fun, physically inspiring events, and activities throughout the year.

[www.cdc.gov/youthcampaign](http://www.cdc.gov/youthcampaign)

### National Association for Girls and Women in Sport

Develops equitable sport opportunities for ALL girls and women through research, advocacy, leadership, education, and programs. [www.aahperd.org/nagws](http://www.aahperd.org/nagws)

### National Association for Health and Fitness

Promotes physical fitness, sports, and healthy lifestyles through Governor's and State Councils on physical fitness and sports. [www.physicalfitness.org](http://www.physicalfitness.org)

### National Association for Sport and Physical Education

Develops and supports quality sport and physical activity and education programs that promote healthy behaviors and well-being. [www.aahperd.org/naspe](http://www.aahperd.org/naspe)

### National Center on Physical Activity and Disability

Promotes the substantial health benefits that can be gained from participating in regular physical activity.

[www.ncpad.org](http://www.ncpad.org)

### The President's Council on Physical Fitness and Sports

Promotes, encourages and motivates Americans of all ages to become physically active and participate in sports [www.fitness.gov](http://www.fitness.gov)

## Obesity

### American Obesity Association

Leading organization on advocacy and education on obesity. Acts as an agent of change to move society to deal with the epidemic. [www.obesity.org](http://www.obesity.org)

### Obesity Research

A peer reviewed journal on obesity published by The North American Association for the Study of Obesity. [www.obesityresearch.org](http://www.obesityresearch.org)

### North American Association for the Study of Obesity (NAASO)

Committed to encouraging and disseminating research on the causes and treatment of obesity, and to keeping the medical community and public informed of new advances. [www.naaso.org](http://www.naaso.org)

### About Obesity

Discusses the physical and psychological causes and risks of obesity. [www.about-obesity.com](http://www.about-obesity.com)



# About the Girl Scout Research Institute

The Girl Scout Research Institute (GSRI), a center for research and public information on the healthy development of girls, is committed to ensuring that the complex and ever-changing needs of girls will continue to be addressed.

The GSRI is engaged in the preparation and release of original research and review publications on topics of interest to those in the youth development field, and conducts outcomes measurement and program development research.

The GSRI originates projects and initiatives that bolster knowledge about girls, and synthesizes existing research on the healthy development of girls. These efforts not only support the development of the Girl Scout program, but also supply relevant information to educational institutions, not-for-profits, government agencies, public policy organizations and research centers; to parents seeking ways to support their daughters, and directly to girls themselves.

The GSRI operates under the auspices of the GSUSA Research Department with the support of GSUSA and Girl Scout council staff members with expertise in child development. The GSRI also includes advisors on projects who are recognized experts in academia, government, business and the not-for-profit sector. These advisors review research projects, offer recommendations and serve as spokespersons for GSRI announcements.

## Contact Us

For more information on GSRI studies and publications, please visit the GSRI Web page: <http://www.girlscouts.org/research/>. You may also reach us by calling 1-800-GSUSA4U (478-7248), or by sending an e-mail message to [gsresearch@girlscouts.org](mailto:gsresearch@girlscouts.org).







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