



# Nutrition for Family Living

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## April, 2008 Topics

Supermarkets in the 21st Century

Positive Association between Breakfast Consumption and Weight is found among Adolescents

Weight gain in children during the school year and during summer vacation

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## Supermarkets in the 21st Century

By Gayle Coleman

For most of the 20th century, supermarkets were the primary food outlets for most American shoppers. Even the term *supermarket*, defined as “a large self-service shop selling a wide range of groceries and household goods, often one of a chain of stores,” originated in the United States in 1933. However by the end of the 20th century, traditional supermarkets were losing their dominance in the grocery business. A Food Institute study reported that between 1988 and 2006 traditional supermarkets lost 40% of all American grocery sales to new types of retailers such as Wal-Mart and other mass merchandisers; dollar, drug and club stores; and 7-11-type convenience stores.

A variety of factors influenced where consumers purchased their food. Overall, American consumers were cooking less. By 2005, almost half (49%) of American consumers’ food was prepared outside of where they lived. Most of these meals were prepared at fast-food and other restaurants. The trend in cooking less was influenced by the facts that the numbers of women are working outside of the home are increasing, American’s have busy lifestyles, eating patterns are changing (eating and snacking around the clock), and people are eating outside the home for entertainment.

Instead of the once or twice a week trip to the supermarket, American consumers were shopping at a variety of alternate retail stores selling groceries such as Wal-Mart and convenience stores, and shopping more frequently. In 2006, 73% of consumers polled reported using 5 or more different outlets selling food.

Economic and social factors also influenced consumers’ food purchasing behaviors. Static income status for middle and low income consumers made discount retailers such as Wal-Mart and Cosco more financially appealing thereby pulling consumers away from supermarkets. On the other hand, consumers with higher incomes tended to consume more food away from home pulling additional consumers away from supermarkets. American tastes in food have become more diverse and varied as a result of increased exposure to new foods through travel abroad, changing immigration patterns in the United States, and increasing interest in fine cooking by innovative chefs. These changes in American tastes have lead to more foreign restaurants and many boutique stores that sell products such as artisan breads or organically-grown vegetables and fruits.



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The diversity in consumers and their changing needs was and continues to be another challenge facing supermarkets that typically catered to a largely homogeneous consumer base. Consumers were interested in foods with various health attributes, natural and organic foods, and products answering social issues such as environmental and social responsibility. Accommodating this diversity of needs made it difficult for traditional supermarkets to be efficient and compete with more specialized retailers such as health stores and whole food-type retailers.

Supermarkets will probably continue to exist since the American food market is huge and millions of Americans continue to prefer to use them. However, how successful traditional supermarkets will be in the future depends on both their actions and consumers' behaviors.

*Implications for Extension Educators:* Our learners, like all consumers, have diverse interests, needs and lifestyles. Increased awareness of food shopping behaviors can help us better understand these lifestyles, needs and interests. It may help us adapt our educational materials such as Money for Food lessons and lessons using the Food Basics DVD series to better meet the needs of our learners and reflect their realities.

Source: Tillotson, J. Supermarkets in the 21st Century: Part 3. *Nutrition Today*. 2008; 43:29-34.



## **Positive Association between Breakfast Consumption and Weight is found among Adolescents**

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By Julia E. Salomón

An article published in the *Journal Pediatrics* indicated that adolescents who regularly ate breakfast weighed less, had an overall healthier diet and were more physically active than teenagers who skipped breakfast.

Authors of the article were involved in Project EAT (Eating Among Teens) which is a five year longitudinal study of eating patterns, weight, and weight concerns among adolescents. The purpose of the project was to examine the associations between breakfast frequency and relative body weight (and change) during five years in adolescent males and females. The study involved collecting data through a series of surveys and measurements, twice in a period of five years, among adolescents in the Minneapolis/St. Paul area. The first collection of data occurred during the EAT-I survey in 1998-1999 with approximately 4700 middle and high school students participating. The second data collection period was during the EAT-II survey in 2003 -2004. A total of 2216 students (1007 boys and 1215 girls) participated in both the EAT-I and EAT-II surveys, making this study one of the few that has looked at breakfast consumption and weight patterns in a large population of teenagers. The racial breakdown of the total participants was: 63.1% white, 9.9% black, 17.7% Asian, 3.8% Hispanic, 2.7% Native American and 2.85% mixed or other.

Information about breakfast frequency, dietary intake, energy and nutrient intake, weight, weight related concerns and perceptions, whether participants were trying to lose or maintain weight, chronic dieting, physical activity, BMI values, socio demographic variables (age, gender, ethnicity, race, socio economic status, parental education level, etc) and other behaviors with the potential to influence breakfast consumption (smoking, alcohol intake, etc.) were collected in this five year study. These confounding variables were analyzed to examine their impact on breakfast frequency.

The project revealed some interesting results. At the EAT-I data collection time, girls were more likely to skip breakfast than boys. However by the EAT-II data collection time, there was no difference in breakfast frequency between boys and girls, due to a decrease in breakfast consumption frequency among boys. In all the participants (EAT-I and EAT-II) the teenagers who ate breakfast daily were more likely to be white, to be more physically active and to come from a higher socioeconomic status.

In both data collection times, those participants who did not eat breakfast had a higher BMI than their breakfast eating peers. These findings were independent of all confounding variables. Furthermore, those who ate breakfast showed less weight gain than those teenagers who skipped breakfast. This may suggest that teenagers may resort to unhealthy eating practices such as skipping breakfast in an effort to control body weight. These findings mirror results from the National Health and Nutrition Examination surveys from 1971 to 2004 that found that breakfast skipping is one of the contributors to childhood obesity.

In this study, although breakfast eaters consumed a greater amount of energy, carbohydrates, and fiber, they consumed lower percentages of total calories from saturated fat. This dietary intake pattern has been shown to improve energy balance and weight control since fiber rich foods (foods often consumed at breakfast) contribute to better glucose and insulin control which lead to an increased satiety and ultimately lower body weight.



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*Implications for Extension Educators:* This study supports the importance of consistent breakfast consumption in improving overall dietary intake, contributing to healthy weights and promoting a healthy lifestyle in youth. As the rate of breakfast consumption declines throughout the teenage years and early adulthood, the impact of consistent breakfast consumption may be an important indicator of an overall healthful lifestyle pattern in adolescents. Furthermore, the fact that regular consumption of breakfast is associated with a healthier weight and less weight change over time, may serve as an important message to teenagers who are engaging in unhealthy dietary behaviors such as skipping breakfast, in their effort to lose weight. Education on the importance of breakfast whether it is consumed at home or at school is important. In addition, education that promotes healthful breakfast (whole grain cereals, fruits, low fat milk) is important since diets that include nutrient and fiber rich food have been shown to have a positive effect on weight and disease reduction.

Source: Timlin MT, Periera MA, Story, M, Neumark-Sztainer D. Breakfast Eating and Weight Change in a 5-Year Prospective Analysis of Adolescents: Project EAT (Eating Among Teens). *Pediatrics*. 2008;121;3638-e645.



## **Weight gain in children during the school year and during summer vacation**

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By Gayle Coleman

The prevalence of overweight among school-age children continues to be a problem. Although many factors contribute to childhood overweight and obesity, many people have focused on ways that schools might contribute to this problem. Efforts have been made to improve school meals and increase students' opportunities for physical activity during the school day. Less emphasis has been given to influences outside of school.

When researchers looked at the body mass index (BMI) measurements of a subsample of children in the Early Childhood Longitudinal Study, Kindergarten Cohort between the fall of 1998 and spring of 2000, they noticed that growth in BMI was typically faster and more variable during summer vacation than during the school year. The Early Childhood Longitudinal Study, Kindergarten Cohort did not provide an intervention during the school year or during summer vacation. The sample of children used for BMI measurements was a random subsample of the larger study and excluded children who participated in summer school. The 5380 children (in 310 schools) in this subsample were 5 to 7 years old. The average BMI growth during summer vacation was more than twice as fast as during either the kindergarten or first grade school years. The difference between the rates of gain in BMI between school years and summer vacation was especially large for Black children, Hispanic children and children who were already overweight at the beginning of kindergarten.

Other researchers have noticed similar results. The Shape Up Somerville project which focused on children in first through third grades, ages 6 to 9, noticed that growth in BMI was faster for both the intervention and control groups between the end of one school year and the start of the next school year than over the course of the school year. They also noticed that although rate of weight gain slowed during the subsequent school year, it did not make up for the gain over the summer months.

Although neither study looked at why increases in BMI might be greater during the summer months, the researchers suggested things that contribute to this pattern. They suggested that during the summer months children might have less structure including fewer structured physical activities, more time for sedentary activities such as playing video games and more opportunities to eat throughout the day. Environmental factors such as concern for safety if children go outdoors to play and lack of affordable programs and/or child care that provide healthy meals and snacks, and opportunities for children to be active also could contribute to childhood weight gain.

There still are many questions regarding differences among the rates of weight gain in children during the summer months and during the school year. How prevalent is this problem in the United States? How do the results from children in early elementary grades compare to children in other grades? Why might the rate of weight gain be greater during summer vacation? Are there differences in weight gain patterns for children living in urban and rural areas? How might the cumulative weight gain over multiple summer vacations throughout the elementary school years contribute to the overall problem of childhood obesity?

Considering the many factors that contribute to childhood overweight and obesity, it is not surprising that efforts by schools to reduce this problem are not enough. Additional emphasis is needed on factors outside of school and during summer vacations that contribute to this problem.



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*Implications for Extension Educators:* Although our work with schools is important, work that Family Living, including WNEP, and 4-H Educators do to provide programs that promote healthy eating and physical activity, support the establishment of affordable child care for working parents, and help families and communities provide safe environments for their children might be even more important in the summer months when children are missing the structured physical activities and meals that schools provide. These findings might challenge assumptions that children are outside playing and more active in the summer.

Source:

Von Hippel, PT, Powell B, Downy D, Rowland, NJ. The effect of school on overweight in childhood: gain in Body Mass Index during the school year and during summer vacation. *American Journal of Public Health*.2007;97:696-702.

*Catalyzing Communities to Reduce Pediatric Obesity: Shape Up Somerville and Beyond* presentation by Christina Economos as part of the Wisconsin Prevention of Obesity and Diabetes (WiPOD) lectureship series at the University of Wisconsin-Madison, March 12, 2008. [Note: This presentation can be viewed at the following web site, <http://videos.med.wisc.edu/videoInfo.php?videoid=2507>.]