

# **A Comparison of Childhood Obesity, Technology, Exercise and Academic Habits Among Urban and Suburban Students in Ohio**

***Don Martin, PhD***

Professor and Director, Urban School Counseling Program  
Youngstown State University, Youngstown, Ohio, USA

***Magy Martin, Ed.D***

Professor, Clinical Psychology Doctoral Program  
Walden University, Minneapolis, MN, USA

---

## **Abstract**

Nearly 40% of children in the U.S. are overweight or obese and there has been a need to determine what factors contribute to these obesity rates among children. The authors examined over 600 children in Ohio, grades K-8, in two urban and four suburban school districts regarding their behavioral patterns in relation to childhood obesity, exercise and academic habits. A questionnaire was administered to each student by a school counseling intern. The authors interviewed children and asked questions related to their eating habits, exercise, family dynamics, use of technology and study habits. From their results, the authors propose a number of interventions that they believe can be helpful for these children.

---

**Keywords:** Childhood Obesity, Urban/ Suburban Schools

## **Introduction**

Obesity rates are increasing at alarming rates in the United States with over 27% of all children and adolescents identified as obese with nearly an additional 10% of children considered overweight. The purpose of our study was to interview approximately 600 children in both urban and suburban schools in Ohio in order to examine behavioral patterns related to exercise, food consumption, technology use, and academic study.

## **Literature Review:**

The dominance of obesity among children, adolescents and young adults has reached epidemic proportions globally. The Centers for Disease Control and Prevention define overweight in two to nineteen year old children as a body-mass index (BMI) at or above the 85th percentile for

children of the same age and sex, and obesity as a BMI at or above the 95th percentile (Lee et al., 2012). Lee and colleagues (2012) found that approximately 1 in 10 infants/toddlers continue to be at or above the 95th percentile on weight-by-height growth charts, and 1 in 6 older children or adolescent is obese. In 2008, obesity prevalence was approximately 21% among Hispanic children, 15% among Caucasian children, and 20% among African-American children (Lee et al, 2012). Furthermore, 1 in 7 low-income children younger than 5 years of age is obese.

As stated, the issue of overweight and obese youth is a global issue. It is estimated that there are currently 18,000,000 overweight children worldwide (Ebbelung, Pawlak, & Ludwig, 2002). The following table displays percentages of overweight and obese children according to their age group and their residing nation.

Nation	Age	Percentage of overweight/obese children
Hungary	11-14	6
Poland	11-14	18
Australia	6-13	30
New Zealand	6-13	30
United States of America	6-13	25.5
Israel	6-13	13.9
Ireland	6-13	24.7
France	6-13	11.4
Greece	6-13	28.7

(Lobstein & Frelut, 2003; McCarthy, 2004; WHO 2005)

### Contributing Factors

There are various factors that contribute to a child being overweight or obese. Behaviors that increase obesity potential are often acquired through role modeling. Children often mimic their primary caregivers' behaviors. Thus, if the parent or guardian of a child over eats, it is likely that the child will also over eat. Broedsgaard (2006) found that children with one or two obese parents are respectively either 40% or 80% more likely to develop obesity.

Exercise is also an important factor because it helps a child maintain an appropriate metabolic rate, improves the overall psychological outlook, and it may be an aid in controlling one's appetite (Roberts, 2000). When a child repeatedly consumes more calories than recommended, and does not engage in any type of physical activity, weight gain will likely occur. McMurray, Hurrell, & Deng (2000) found that video games, cell phones, computers, and other technology devices were debilitating to the physical health of the youth population.

Many studies concur that the largest contributing factor to a child being overweight is their caloric intake. The youth population in the U.S.

often consumes lunch that has been prepared by the school. Madden and his associates (2013) reported that school lunches contain high levels of saturated fats. In addition, school lunches rarely incorporate fresh fruits and vegetables into meals. Schools are known to classify food items like ketchup and tomato puree found on pizza as vegetables. The Food Research and Action Center (2010) reported that there are 29 million children in more than 98,347 schools and residential childcare institutions in the United States. 19.6 million children are involved in the school lunch program, and receive free and reduced lunches. Thus, more than half of the children that attend a school or institution in the United States consume school lunches on a daily basis.

**Method**

School counseling interns interviewed 600 children (340 urban, 260 suburban) in grades K-8 in two urban and four suburban school districts in Ohio from the years 2012-2015. A standard questionnaire was used for all questions and items were explained if there was any confusion on the part of the student or there were language difficulties. Percentages of response per question were determined and compared between urban and suburban students.

**Results Summary**

Family Household

	Urban %	Suburban %
Students who only had a mother in their family household	82	11
Students who had a mother and father in their family household	18	83
Students who were in good health	35	85
Students who were in fair/poor health	57	13

Ethnic Background

African-American students	83	3
Caucasian students	4	89
Latino students	10	2

Family System Nutrition

Student who were part of the school lunch program	100	23
Students who had a parent/guardian that smoked tobacco	53	17
Students who had a parent/guardian that cooked meals	86	92
Students who had a parent/guardian that worked outside of home	82	87
Students who did not have a parent/guardian that worked outside the home	17	13
Students who had a parent/guardian that was a high school graduate	55	83

Students who had a parent/guardian that took them to the dentist once a year	72	87
Students who had a parent/guardian that took them to the doctor once a year	79	93
Students who had a parent/guardian that complained about not having enough money for food	48	13

#### Student's Nutritional System

Students who were hungry most of the time	35	13
Students who missed a meal	67	32
Students who ate school meals	71	55
Students who liked school meals	20	65
Students who thought they were overweight	35	32
Students who did not think they were overweight	60	69
Students who did not like how their body looked	49	78
Students who got teased or bullied about their weight	10	13
Students who get teased or bullied about how they looked	28	21
Students who ate fruit every day	64	68
Students who ate vegetables every day	39	63
Students who ate cookies, chips, crackers, candy (junk food) every day	57	53
Students who had been on a diet	42	18
Students who thought they were sick more than their friends	17	5
Students who missed many days of school	32	17

#### Family Reading/TV/Computer use

Students who did liked to read	35	53
Students who studied at home each day	21	65
Students who liked math	46	86
Students who did not have a parent/guardian that helped with homework	21	85
Students who played a sport	54	72
Students who exercised each day for 30 minutes	46	63
Students who had a regularly scheduled bedtime	35	82
Students who watched TV every day	53	77
Students who played video games every day	28	33
Students who used a computer at home	38	70
Student who had their own personal computer	40	62
Student who had their own personal cell phone	32	53
Student who used Facebook or Twitter	55	81
Students who had a family member that read a newspaper	34	68
Students who helped cook meals	55	71
Students who helped with grocery shopping	35	73

#### References:

Ben-Sefer, E.E., Ben-Natan, M.M., & Ehrenfeld, M. M. (2009). Childhood obesity: current literature, policy and implications for practice. *International Nursing Review*, 56(2), 166-173. doi:10.1111/j.1466-7657.2008.00708.x

Broedsgaard, A. (2006). *Obese mothers experiences and assessments of their own obesity and their children's risk of developing overweight-a qualitative phenomenological study.*

Presented at Western European Nurses' Research Meeting, Copenhagen, October 12, 2006 Buttriss, J.L. (2006). Stark reality-statistics on childhood obesity. *Nutrition Bulletin* 31(3), 175-177. doi:10.1111/j.1476-3010.2006.00569.x

Ebbelung, C.B., Pawlak, D.B., & Ludwig, D.D. (2002). Childhood obesity: public health crisis, common sense curve. *The Lancet*, 360(10), 473-482

Food Research and Action Center. (2010). *National school lunch program.* Retrieved from <http://frac.org/federal-foodnutrition-programs/national-school-lunch-program/>

Kalavainen, M.P., Korppi, M.O., & Nuutinen, O.M. (2007). Clinical efficacy of group-based treatment for childhood obesity compared with routinely given individual counseling.

*International Journal Of Obesity*, 31(10), 1500-1508. doi:10.1038/sj.ijo.0803628

Lee, J.Y., Caplan, D.J., Gizlice, Z., Ammerman, A., Agans, R., & Curran, A.E. (2012). US

Pediatric Dentists Counseling Practices in Addressing Childhood Obesity. *Pediatric dentistry*, 34(3), 245-250

Lobstein, T. & Frelut, M. (2003). Prevalence of overweight among children in Europe. *Obesity Review*, 4, 195-200

Madden, A.M., Harrex, R.R., Radalowicz, J.J., Boaden, D.C., Lim, J.J., & Ash, R.R. (2013). A kitchen-based intervention to improve nutritional intake from school lunches in children aged 12-16 years. *Journal of Human Nutrition & Dietetics*, 26(3), 243-251. doi:10.1111/jhn.12037

McCarthy, M. (2004). Curbing the obesity epidemic. *The Lancet*, 376, 1549.

McFarlin, B., Johnston, C.J., Carpenter, K.C., Davidson, T., Moreno, J.L., Strohacker, K., & Foreyt, J.P. (2013). A one-year school-based diet/exercise intervention improves non-traditional disease biomarkers in Mexican-American children. *Maternal & Child Nutrition*, 9(4), 524-532. doi: 10.1111/j.1740-8709.2011.00398.x

McMurray, R., Hurrell, J., & Deng, S. (2000). The influence of physical activity, socioeconomic status, and ethnicity on the weight status of adolescents. *Obesity Research*, 8, 130-139

Roberts, S. (2000). The role of the physical activity in the prevention and treatment of childhood obesity in childhood. *Pediatric Nursing*, 26(1), 33-41

WHO (2005). Fact sheet Copenhagen 2005, the challenge of obesity in the WHO European region. 3