Psychology’s Role in Addressing the Childhood Obesity Epidemic

Suzanne Bennett Johnson
2012 APA President
sbjohnson@apa.org
THE GLOBAL OBESITY PROBLEM

Obese adults in population %
- 30 – 40%
- 20 – 30%
- 10 – 20%
- 5 – 10%
- 0 – 5%
- No data

An obese adult is classified as having a Body Mass Index equal to or greater than 30

SOURCE: World Health Organization, 2005
Obesity: U.S. Leads the World

**Adult Obesity**

**Childhood Obesity**

*Figure 1. Percentage of obese and overweight population by country.*

Obesity Trends in U.S. Children

U.S. Adolescent Obesity: Gender and Ethnicity

NHANES 2007-2008

American Psychological Association
% Overweight and Obesity in 6-9 Year Old Spanish Children

ALADDIN study, 2012
Health Consequences of Obesity

Complications of Childhood Obesity

- Psychosocial
  - Poor self esteem
  - Depression
  - Quality of life

- Neurological
  - Pseudotumor cerebri
  - Risk for stroke

- Cardiovascular
  - Dyslipidemia
  - Hypertension
  - Left ventricular hypertrophy
  - Chronic inflammation
  - Endothelial dysfunction
  - Risk of coronary disease

- Pulmonary
  - Asthma
  - Sleep apnea
  - Exercise intolerance

- Renal
  - Glomerulosclerosis
  - Proteinuria

- Gastrointestinal
  - Pancreatitis
  - Steatohepatitis
  - Liver fibrosis
  - Gallstones
  - Risk for cirrhosis
  - Risk for colon cancer

- Musculoskeletal
  - Forearm fracture
  - Blount’s disease
  - Slipped capital femoral epiphysis
  - Flat feet
  - Risk for degenerative joint disease

- Endocrine
  - Type 2 diabetes
  - Precocious puberty
  - Polycystic ovary syndrome (girls)
  - Hypogonadism (boys)

- Hernia
- DVT/PE
- Stress incontinence
  - Risk of GYN malignancy

Life Expectancy

- 20-yr-old male/BMI = 24
- 20-yr-old male/BMI > 45
Percent Above Normal Weight Individuals’ Annual Health Care Costs by Obesity Status and Gender

Andreyeva et al, Obesity Research, 2004
Obesity in the United States

- Is the second leading cause of death in U.S. and expected to become the leading cause.
- Will result in decreased U.S. life expectancy for first time in a century.
- Is causing a diabetes epidemic.
  - 33% of boys & 39% of girls born in 2000 will develop diabetes in their lifetime.
  - 50% of African-American girls born in 2000 will develop diabetes in their lifetime.
- Is expected to bankrupt the U.S. health care system.
The U.S. Childhood Obesity Epidemic: How Did This Happen?

Bouchard, Int J Obesity, 2007
The Obesogenic Environment: A Socio-Ecological Perspective
Factors Promoting Increased Calorie Consumption: Increase in US Working Mothers

**Figure 1**

Percent of women with children in the paid labor force, 1975-2008

- With Child Under 6

**Figure 2**

The new workforce

Share of mothers who are breadwinners or co-breadwinners, 1967 to 2008

Source: See Table 1.

Notes: Breadwinner mothers include single mothers who work and married mothers who earn as much as or more than their husbands. Co-breadwinners include all breadwinners as well as wives who bring home at least 25 percent of the couple’s earnings. The data only include families with a mother who is between the ages of 18 and 60 and who has children under age 18 living with her.
Factors Promoting Increased Calorie Consumption: Rise of the US Fast Food Industry

- Number of per capita fast food restaurants doubled between 1972 and 1997 in the U.S.
- % family’s food budget spent on dining out:
  - 1960’s: 21%
  - 2008: 42%
- 30% of US children eat fast food every day
- Per capita calories in the U.S.
  - 1970: 3250 per day
  - 1997: 3800 per day
Factors Promoting Increased Calorie Consumption: Rise of the US Soda Industry

Per Capita Consumption of High Fructose Corn Syrup (lbs)

- 1980: 100
- 1998: 900

Annual Per Capita Production of 8 oz Servings of Soft Drinks

- 1942: 100
- 2000: 800

American Psychological Association
Factors Promoting Increased Calorie Consumption: Marketing Fast Food to Youth

**CALORIES VIEWED DAILY IN FAST FOOD TV ADS**

<table>
<thead>
<tr>
<th></th>
<th>Calories Viewed Per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td></td>
</tr>
<tr>
<td>Ages 2–11</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td></td>
</tr>
<tr>
<td>Ages 12–17</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Daily</td>
</tr>
<tr>
<td>Dairy Queen, Dunkin’</td>
<td>Donuts, Sonic, Starbucks &amp; Wendy’s</td>
</tr>
<tr>
<td>Domino’s</td>
<td>Burger King</td>
</tr>
<tr>
<td>Burger King</td>
<td>Subway</td>
</tr>
<tr>
<td>McDonald’s</td>
<td>KFC, Pizza Hut &amp; Taco Bell (YUM! Brands)</td>
</tr>
</tbody>
</table>

Source: The Nielsen Company (ad exposure data) and TV ad nutrition analysis

American Psychological Association
Factors Promoting Increased Calorie Consumption: US Farm Subsidies

- US farm subsidies result in mega farms producing so much corn and soybeans that high fructose corn syrup, hydrogenated fats from soybeans, and corn-based feed is kept artificially low, resulting in low prices for fast food, corn-fed beef and pork, and soda.

- No such subsidies exist for fresh fruits and vegetables which are produced in much lower quantities at higher cost to the public.
Factors Associated with Decreased Physical Activity: Suburban Living

Relationship between Transport and Land Use

A commonly used study of 32 cities by Newman & Kenworthy in 1989 concluded that there was a strong link between urban development densities and petroleum consumption.

Urban Task Force Partnership: Toward an Urban Renaissance, 1999

US Vehicles per 1000 people

1970
2008

US Dept of Transportation, 2008

American Psychological Association
Factors Associated with Decreased Physical Activity: School Transportation

Percent of US Children Walking or Biking to School

- **1969**: 80%
- **2004**: 25%

- **All Children**
- **Children living <1 mile of school**

US School Transportation (1999): Percent of Children

- **walk or bike**: 10%
- **bus**: 30%
- **car**: 50%

CDC, 2005
Decreased Physical Activity at School

Percent of US Schools Requiring Physical Education by Grade

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 8</td>
<td>80</td>
</tr>
<tr>
<td>Grade 10</td>
<td>50</td>
</tr>
<tr>
<td>Grade 12</td>
<td>20</td>
</tr>
</tbody>
</table>

Percent of US High School Students Participating in School Sports

<table>
<thead>
<tr>
<th>Sports</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramural</td>
<td>20</td>
</tr>
<tr>
<td>Varsity</td>
<td>40</td>
</tr>
</tbody>
</table>

Johnson et al, 2007
Factors Associated with Decreased Physical Activity: US Policies

- US Department of Transportation spends most of its money on highways.
- Traffic concerns are one of the primary reasons parents do not allow their children to walk or bike to school.
- No Child Left Behind policy resulted in decreased access to physical education and recess as schools focus on high stakes testing.
Factors Associated with Decreased Physical Activity: Escalating Leisure Time Media Use

Hours Per Day Among 8-18 Year Olds

Rideout et al, 2010
Childhood Obesity Can Be Prevented & Treated

- 2011 Cochrane Review found “strong evidence to support beneficial effects of child obesity prevention programmes on BMI, particularly for programmes targeted to children six to 12 years”
- Particularly promising are interventions that:
  - increase physical activity and improve quality of food at school
  - target environments and cultural practices to increase healthier food consumption and daily physical activity
  - support parents to increase activity, decrease screen time, and eat healthier foods
Psychology’s Role in Addressing the Childhood Obesity Epidemic

- Psychologists are experts in understanding human behavior
  - Developmental perspective
  - Multivariate perspective
- Psychologists are experts in initiating and maintaining behavior change
  - Individual
  - Family
  - Systems
- Psychologists are experts at conducting research to develop the most effective interventions
Psychology’s Role in Addressing the Childhood Obesity Epidemic

- For many psychologists, this will require a paradigm shift from a mental health perspective to a health perspective.
- Many psychologists limit themselves to the mental health arena and do not see physical health as within their purview.
- To address the childhood obesity epidemic, psychologists must expand their role to the larger health arena.
- For the health of our children, psychologists must embrace this new role.