THE NEW FACE OF POVERTY

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Professor in Epidemiology
Director of the Nutrition Center
How is poverty different today than it was in the 1950s?

<table>
<thead>
<tr>
<th>1950s</th>
<th>Today</th>
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<tbody>
<tr>
<td>• Emaciated</td>
<td>• Obese</td>
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<tr>
<td>• Wasting</td>
<td>• Overweight</td>
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<td>• Gaunt</td>
<td>• Rotund</td>
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Data Collection – Muscatine Youth

Method:
- 18 one-on-on interviews (~ 60 minutes each)

<table>
<thead>
<tr>
<th></th>
<th>Overweight/Obese Boys</th>
<th>Overweight/Obese Girls</th>
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<tr>
<td></td>
<td>Hispanic: 2</td>
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<td>Caucasian: 3</td>
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<td>5 Overweight/Obese</td>
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<td>Boys</td>
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<td>4 Normal Weight</td>
<td>Hispanic: 1</td>
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<td>Boys</td>
<td>Caucasian: 3</td>
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<td>3 Normal Weight</td>
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<td>Girls</td>
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Findings

• Nutrition
  – ‘Healthy Eating’ defined as eating fruits & vegetables

  – School Lunch:
    • Lines for healthy foods are too long
    • Lunch period is too short to wait for health food
    • 2 lines for fried foods; 1 line for healthy foods
    • Perception salads are only for faculty/staff
    • Very few students bring own lunch

  – Barriers:
    • Lack of healthy options when dining out
    • Peer/family pressure to choose unhealthy foods
    • Healthy foods are more expensive
    • Lack of food at home due to family’s financial situation
    • Give into cravings; junk food tastes better & is easier/quicker to prepare
Findings

• Physical Activity
  – Family, friends, teachers, doctors, coaches, community resources, and tween/teen culture are BOTH facilitators & barriers to PA
  – When asked, ‘How much PA?’: ‘just do whatever they feel like doing’ was response
  – PA Barriers:
    • Winter
    • lack of transportation/ living in country
    • video games
    • too tired/too busy/too expensive
    • not aware of events/not interested in what is available
    • friends persuade them not to be active
  – PA Preferences
    • free space to be active w/peers
    • try out a variety of activities
    • girls like to walk during PE
    • be involved in decision making process
The Muscatine Heart Study
What’s happened to Iowa children’s health over the past 30 years?
Snapshot of Muscatine middle school students -
What does the data tell us?
School Survey Examination and Student Participation

- **Survey Components:**
  - Fasting Finger Stick Blood Sample
  - Height & Weight
  - Waist & Hip Circumference
  - Body Composition
  - Questionnaires about Health & Physical Activity

- **Students Received:**
  - Information about their Health
  - $20 Chamber Dollars

Participation by Middle School and Gender

68% Overall Participation
812 of 1,194 registered students
Prevalence of Overweight & Obese Muscatine Middle School Students (ages 11 to 14) between 1970 and 2010

Overweight: $85^{th} \leq$ age-gender-specific BMI percentile $< 95^{th}$ percentile
Obese: age-gender-specific BMI percentile $\geq 95^{th}$ percentile

44% of male and 43% of female Muscatine middle school students were Overweight or Obese – compared to 31% in a U.S. sample
Prevalence (%) of the Metabolically Unhealthy Middle School Students, by BMI Group and Ethnicity (N = 792)

<table>
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<tr>
<th>BMI Group</th>
<th>%</th>
<th>By Race/Ethnicity</th>
<th>%</th>
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<tbody>
<tr>
<td>Overall</td>
<td>15.4</td>
<td>Non-Hispanic White</td>
<td>13.3</td>
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<td>BMI &lt; 85&lt;sup&gt;th&lt;/sup&gt; percentile</td>
<td>1.8</td>
<td>Hispanic</td>
<td>22.7</td>
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<td>85&lt;sup&gt;th&lt;/sup&gt; ≤ BMI &lt; 95&lt;sup&gt;th&lt;/sup&gt; percentile</td>
<td>10.7</td>
<td>Multi-racial</td>
<td>20.6</td>
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<td>BMI ≥ 95&lt;sup&gt;th&lt;/sup&gt; percentile</td>
<td>52.4</td>
<td>Other</td>
<td>21.4</td>
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A cluster of abnormalities including:
- High waist circumference
- High blood pressure
- High triglycerides
- Low HDL cholesterol
- High glucose

If a student had three or more of these five characteristics they were classified as having being metabolically unhealthy.
BMI of Offspring Vs. Parents at Same Age

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Environmental and Social Changes Affect Health Behavior

During the last 20 years, what changes in our environment and lifestyle have contributed to the obesity epidemic?
Environmental and Social Change Affect Health Behavior

- More food available
- Growth of the food industry and advertising
- More meals away from home
- More sugar-sweetened beverages
- Large serving sizes
- More TV/video games
- More car travel
- Fewer PE classes
- Fewer students walking and biking to school
- Lower perception of safety
How do these environmental trends fit with the governor’s Healthiest State Initiative?
What predicts most closely a person’s health status at age 40?

Level of income
Promoting Health and Reducing Obesity in Children: A Community-Based Project in Iowa
CHAMPS

Choosing Healthy Actions in Muscatine Public Schools
Schools as Part of the Solution
CHAMPS

Individual behaviors and choices

Environment

Policies

- Family
- School
- Community
Healthy Eating/Physical Activity Critical to Learning and Achievement

- Eating breakfast increases academic test scores, daily attendance, concentration, and class participation.
- Children learn through movement.
- Physically fit kids perform better academically.
- Gross motor development is an important precursor for the fine motor skills needed for writing and the eye coordination needed for smooth tracking during reading.
- Children spend more time reading and doing homework when parents set limits on TV viewing.
CHAMPS Overview

Curriculum
• Planet Health

Enhance School Wellness Environment
• School wellness teams
• Wellness policy
• Community partners

Research Component
• Medical Screenings
• Behavioral Questionnaires
What Is *Planet Health*?

- An interdisciplinary health curriculum for middle school students that teaches students about nutrition and physical activity.
- A curriculum that builds skills and competencies in language arts, math, science, social studies, and physical education.
**Planet Health Goals**

**Nutrition and Fitness**

**Eat Well**
- Eat five or more fruits and veggies per day
- Eat more whole grains and less added sugar
- Limit saturated fat and avoid trans fat

**Keep Moving**
- Be physically active every day
- Limit screen time to no more than two hours per day
Why THIS Program?
Planet Health has been evaluated and shown to be effective in a scientific study.

- It improves student knowledge of nutrition and physical activity.
- It reduces TV viewing time in both boys and girls.
- It increases fruit and vegetable consumption in girls.
- It reduces obesity in girls.
Teachers report that …

• They felt competent teaching the health content.

• They were able to choose lessons that fit into their curriculum.

• They enjoyed the student-centered teaching techniques.

• *Planet Health* had a positive effect on their own health.

• *Planet Health* helped them to connect with their students.
Implementing the *Planet Health* Curriculum
Self Determination Theory
Essential Human Needs

These work in all cultures…

- Competence
- Autonomy
- Relatedness
Planet Health Book Organization

Section 1: Implementing *Planet Health* in Your School

Section 2: Classroom Lessons
• Foundation lessons
• Language arts
• Math
• Science
• Social studies

Section 3: Physical Education Microunits

Appendices
Planet Health’s Educational Approach
Active learning

is

Student centered

encourages

Critical thinking

uses

Constructivist approach

Problem solving

Inquiry

Cooperative learning

A variety of learning styles
Contact

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