



**Bridging the Gap:
Research Informing Practice
and Policy for
Healthy Youth Behavior**

Frank J. Chaloupka

Healthy Eating Research Annual Meeting

St. Paul, MN, October 17, 2008



Bridging the Gap is ...

- A collaborative effort to assess the impacts of *policies, programs & other environmental factors* on a variety of adolescent health-related behaviors
- An RWJF initiative begun in 1997 with focus on adolescent alcohol, tobacco, and other drug use and related outcomes
- More recently expanded to include youth eating practices, physical activity, and weight outcomes
- Linked to the ongoing, NIDA-funded, *Monitoring the Future* study

YES!

Youth,
Education,
& Society

University of Michigan

Lloyd Johnston, Project Director
Institute for Social Research

Monitoring the Future
(MTF)

Youth, Education and
Society (YES!)

University of Illinois at Chicago

Frank Chaloupka, Project Director
Health Policy Center

ImpacTeen

impacTEEN

*A Policy Research Partnership
for Healthier Youth Behavior*



YES!

Youth,
Education,
& Society

Co-Investigators and key staff include:

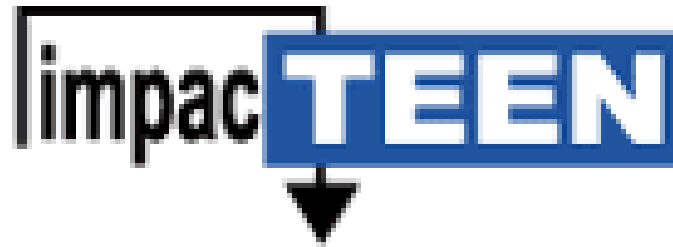
Patrick O'Malley, Jorge Delva

Jerald Bachman, John Schulenberg

Shelly Yee, Yvonne Terry-McElrath,

Deborah Kloska, Jonathan Brenner

and others.....



*A Policy Research Partnership
for Healthier Youth Behavior*

Co-Investigators and key staff include:

Leah Rimkus, Lisa Powell,
Sandy Slater, Jamie Chriqui,
Lindsey Turner, Dianne Barker,
Sherry Emery, Glen Szczypka,
Euna Han, Peggy Loudermilk,
and others.....



Bridging the Gap integrates across ...

Multiple behaviors

Multiple disciplines

Multiple levels of social organization

Multiple centers and collaborators

Multiple funders

Multiple data sources



Bridging the Gap - Obesity

State and National

Annual collection of state policies and commercial data (UIC)

Local and Community

Planned annual community data collection and ongoing district wellness policy collection and coding (UIC)

School and Organizational

Annual YES (ISR-UM) and Food & Fitness surveys (UIC)

Individual and Household

Annual MTF surveys (ISR-UM) Commercial data (UIC)

Self-reported height and weight, physical activity, and measures of healthy eating
Household food expenditures

Frequency and length of physical education and recess

Implementation of school district wellness policies

Availability and accessibility of healthy food and beverages in stores and restaurants

Characteristics of the built environment that impact on physical activity

Awareness and implementation of Alliance for a Healthier Generation Guidelines

Availability of various foods/beverages in the school environment

Marketing of food/beverages at school

Local zoning codes, regulations, and ordinances that can impact on healthy eating and physical activity

Marketing of healthy/unhealthy foods and beverages in communities

State policies related to healthy eating and physical activity

National food and beverage television advertising

Market-level PSAs related to healthy eating, physical activity, and obesity

State policies related to school district wellness policies

Availability and accessibility of physical activity opportunities

Comprehensiveness of school district wellness policies

Information on healthy eating and physical activity opportunities from key informant interviews

State taxation of beverages, snack foods, and restaurant food

State level policies addressing the built environment

State level policies and legislation around Safe Routes to School

Public
Health
Practice
Policy
Research
Education
Promotion
Prevention
Practice
Policy
Research
Education
Promotion
Prevention

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Bridging the Gap
Research Informing Practice and
Policy for Healthy Youth
Behavior

Guest Editors

Frank J. Chaloupka, Lloyd D. Johnston, Ross C. Brownson,
and Antronette K. Yancey

Bridging the Gap data include ...

- *Monitoring the Future Surveys of adolescents*
- *Household food purchases*
- *Surveys of primary and secondary school administrators*
- *School district wellness policies*
- *Community-level observations*
- *Community key informant surveys*
- *Community-level ordinances and regulations*
- *Market and national level television advertising exposure*
- *State-level policies and regulations*
- *Variety of archival data*



Monitoring the Future

Student Surveys



Monitoring the Future Surveys

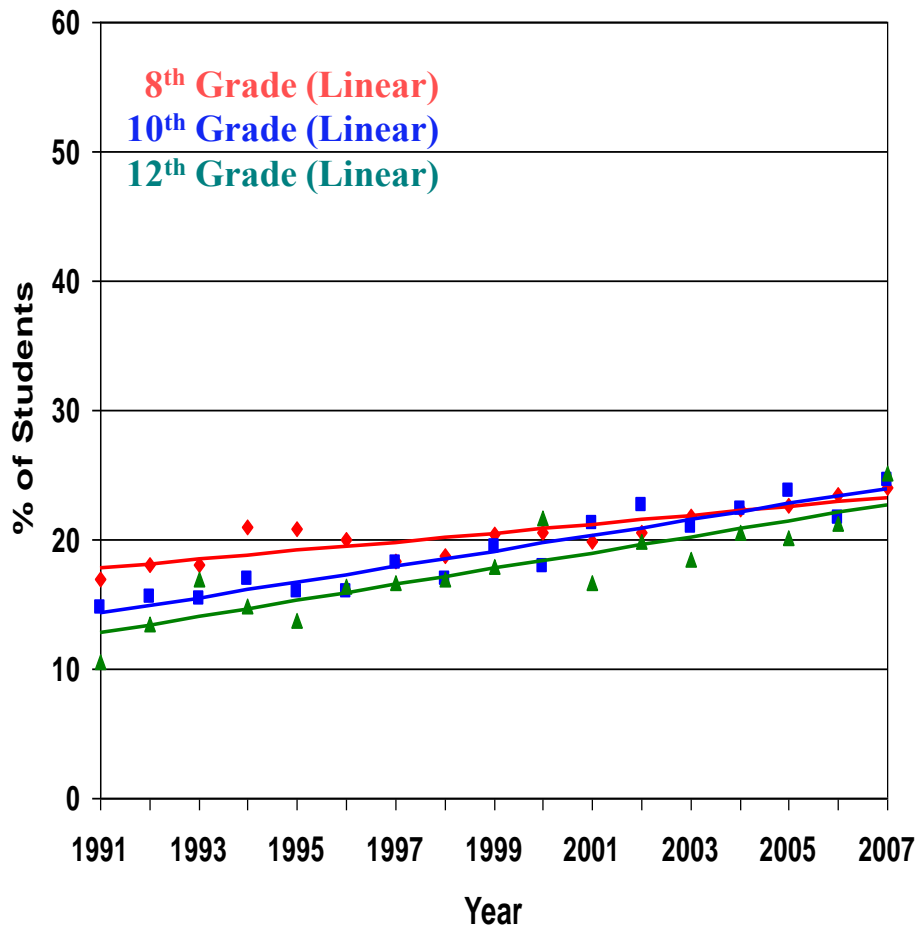
- Funded by NIDA (c. \$6.5 million/year)
- Annual, nationally representative, school based surveys of ~50,000 adolescents
- Students surveyed in ~420 secondary schools
- Focus on adolescent alcohol, tobacco, and illicit drug use
- Confidentiality protection limits analytic access

Monitoring the Future Surveys

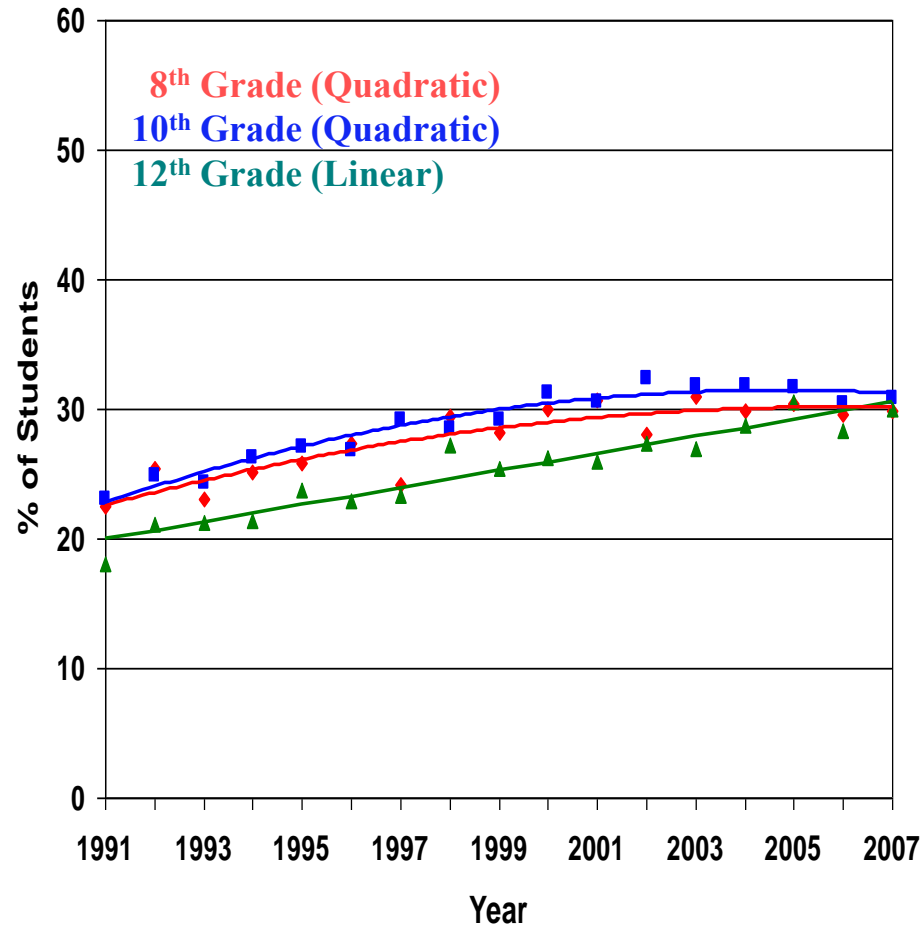
- Variety of questions relevant to adolescent healthy eating, physical activity, and weight outcomes added over time
- Information collected on height, weight, dietary practices, physical activity, sedentary behaviors, and other obesity-related issues
- Variety of information on youth and family characteristics

Trends in the Percent of Students Who are At Risk of Overweight or Overweight by Gender, 1991-2007

Females



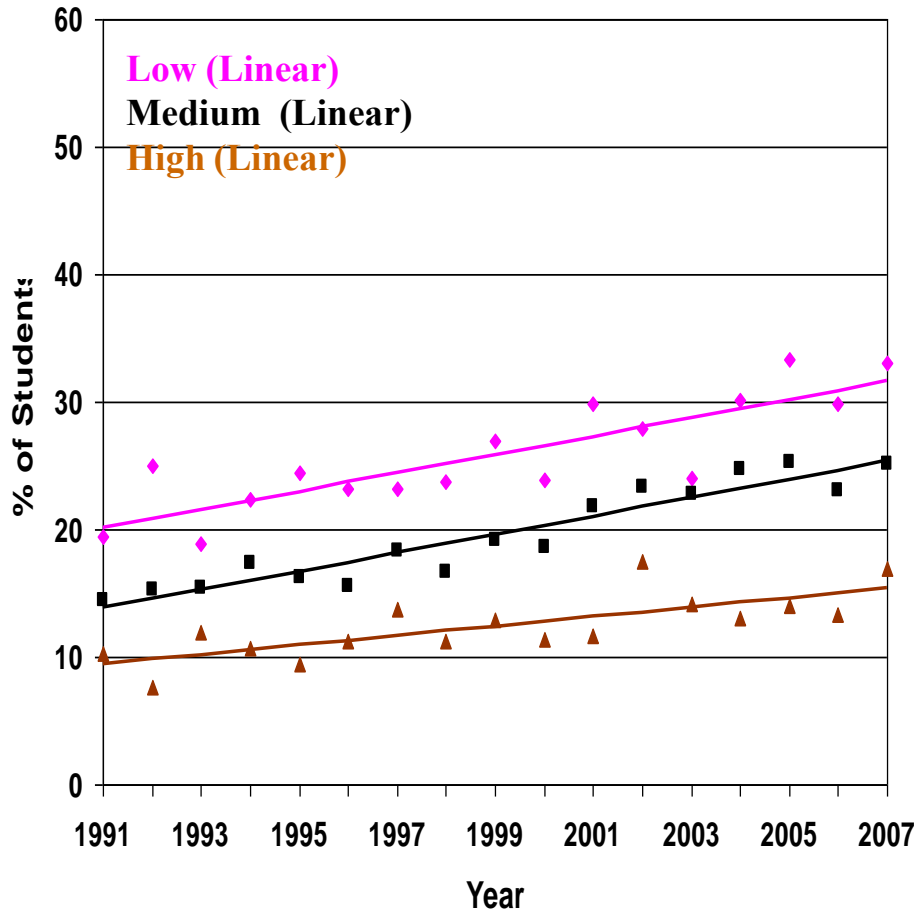
Males



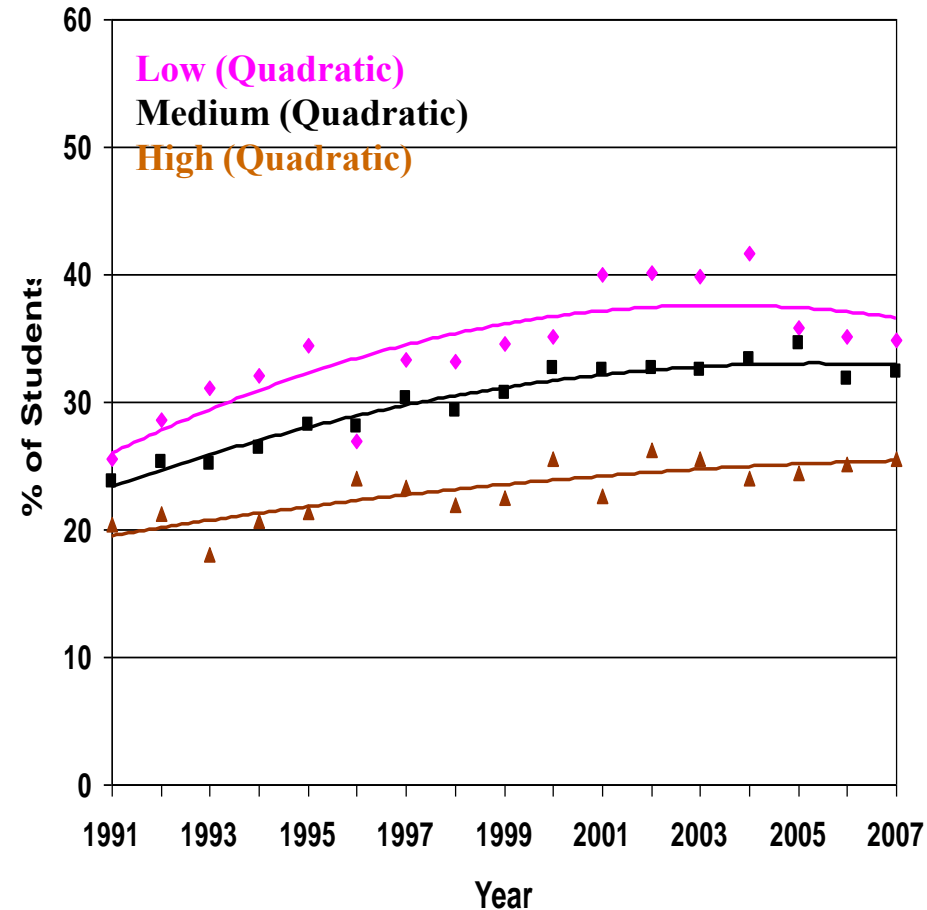
At risk of overweight defined as BMI at or above the 85th percentile; overweight defined as BMI at or above the 95th percentile.

Trends in the Percent of Students Who are At Risk of Overweight or Overweight by SES and Gender - 10th Grade, 1991-2007

Females



Males



At risk of overweight defined as BMI at or above the 85th percentile; overweight defined as BMI at or above the 95th percentile.



**Core YES School Administrator
Survey**

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MTF Schools



YES – Core Administrator Survey

- First implemented in 1998
- Initial focus on school-based substance use prevention and treatment activities
- Administered in nationally representative, second-year MTF half sample
- Response rates consistently well above 80 percent

YES – Core Administrator Survey

Obesity-related content added in 2003, expanded over time, and includes questions on:

- Soft drink contracts
- Soft drink availability
- Physical Education
- Sports participation
- Physical fitness testing
- Measuring BMI



Beverages & Foods at School

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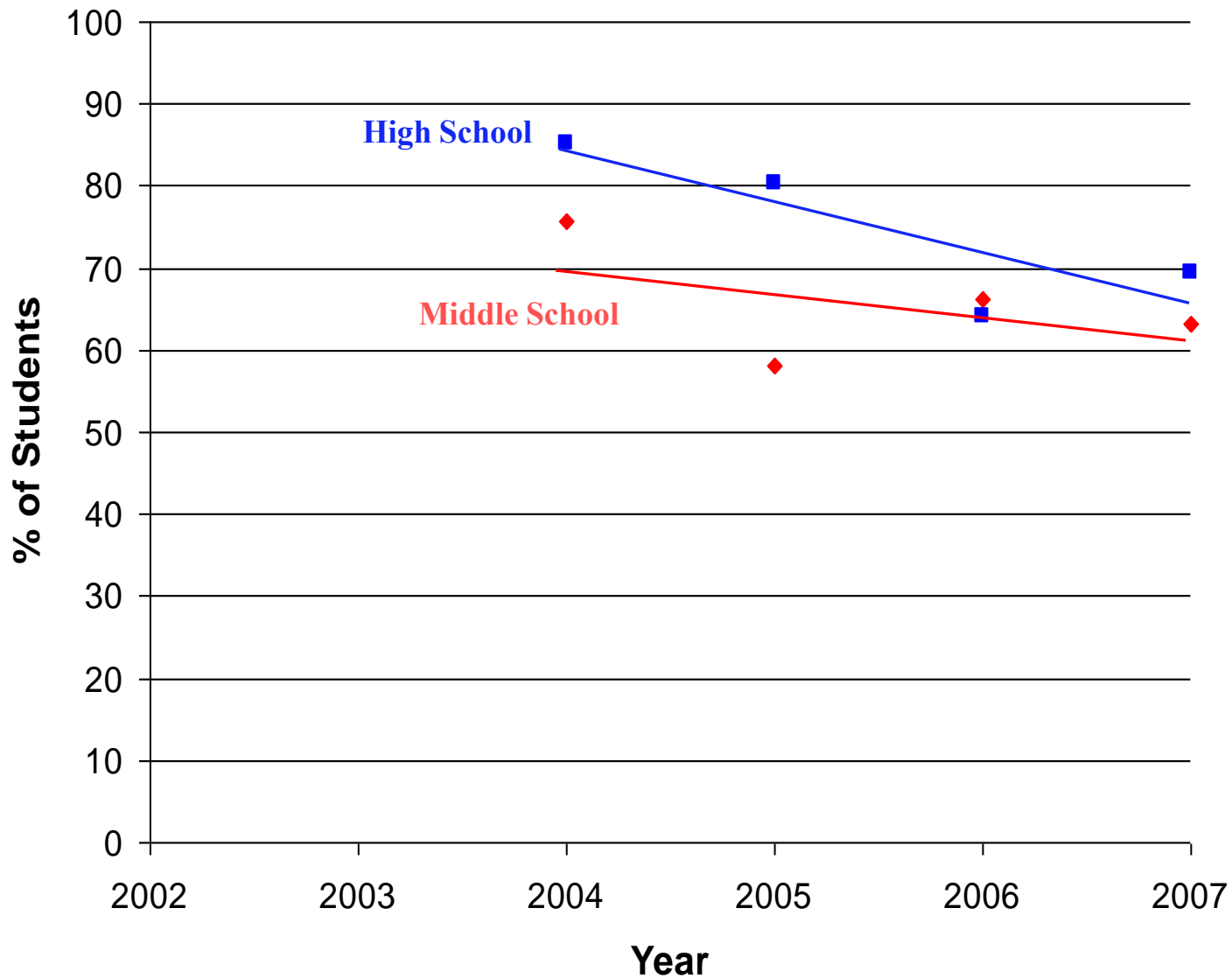
**Core YES School Administrator
Survey**

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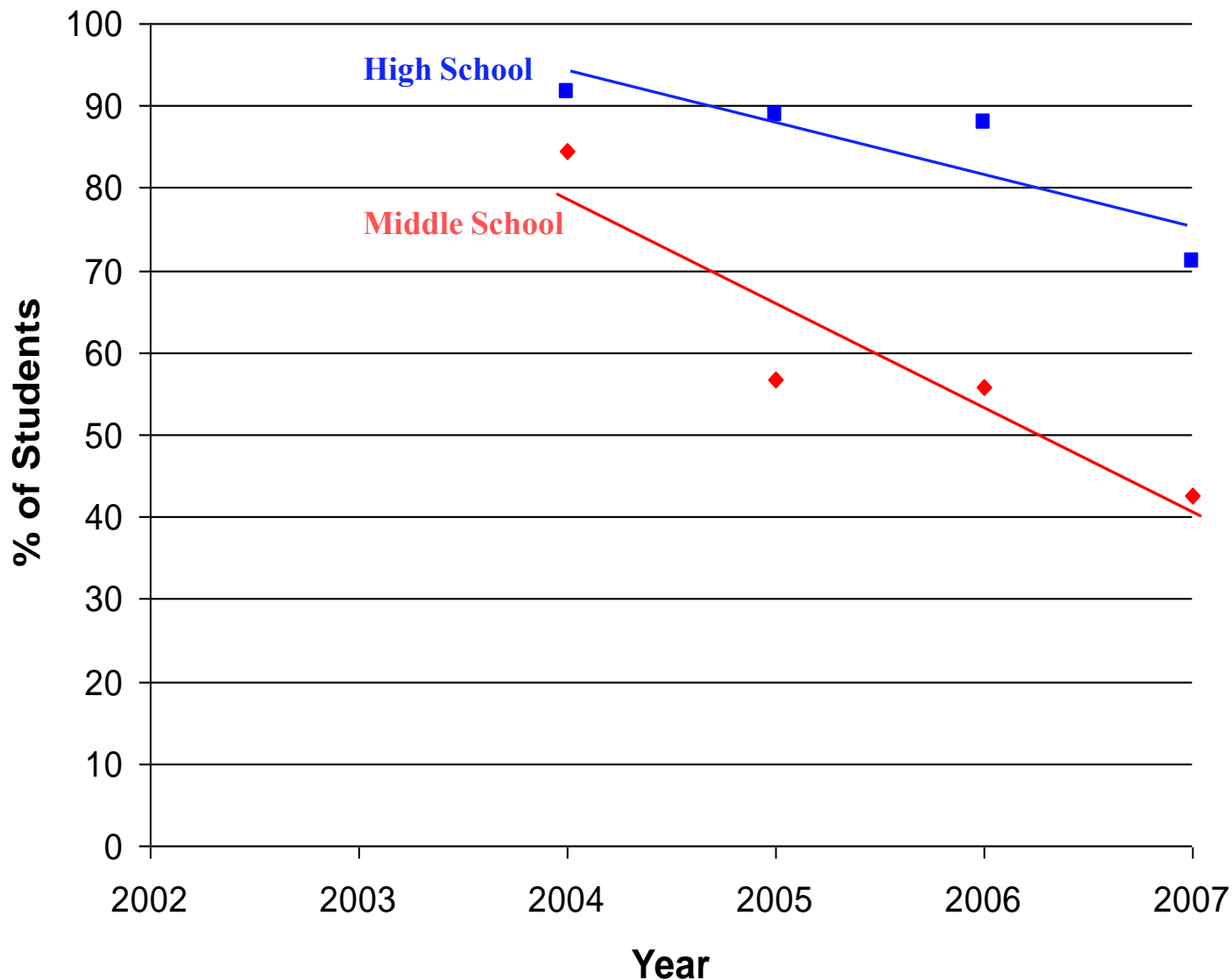
MTF Schools



Trends in the Percent of Students in Schools/School Districts with Soft Drink Bottler Contracts, 2004-2007

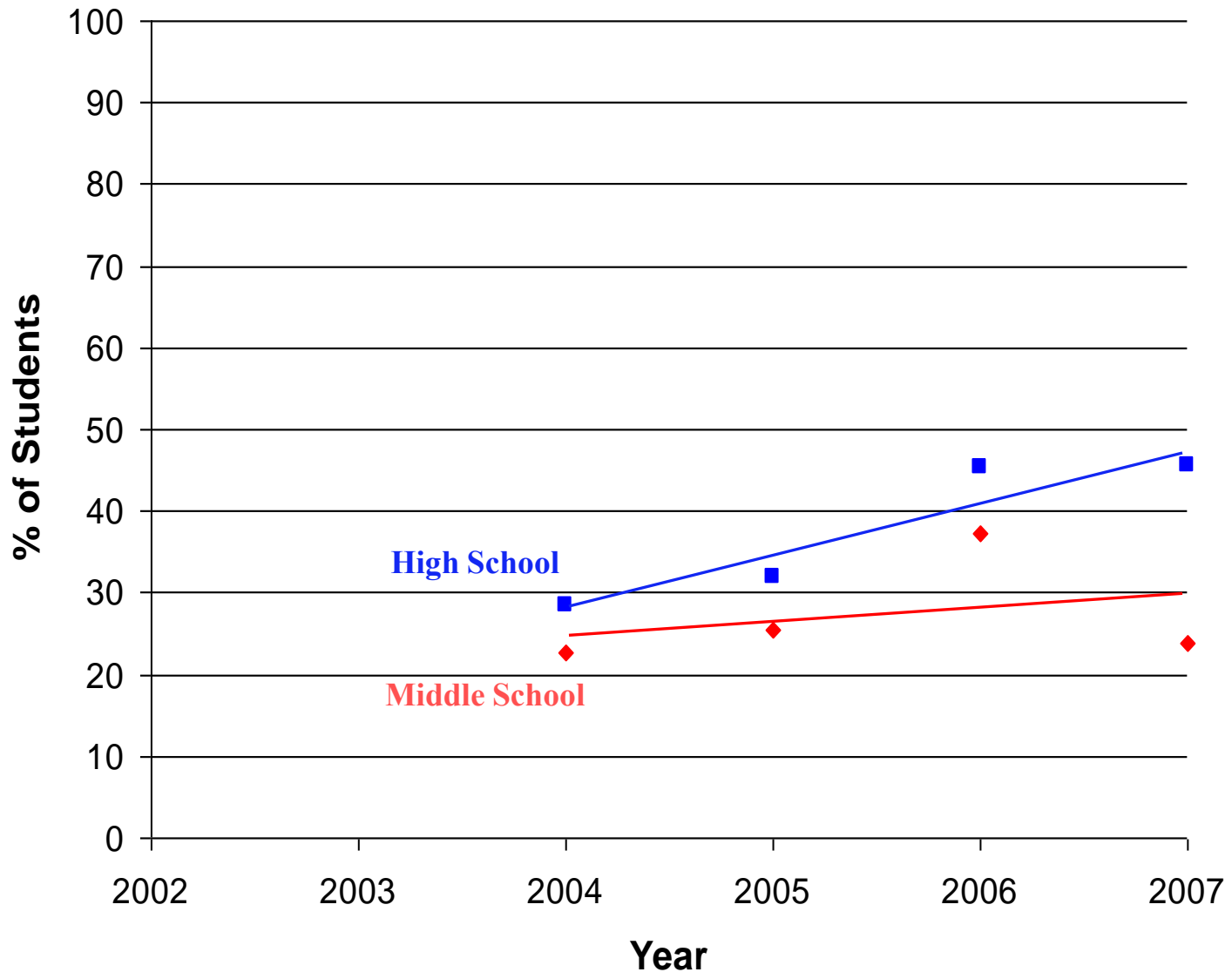


'Less Healthy' Foods: All-Day Availability in Any Venue, 2004-2007



“Less healthy” includes candy, salty snacks, cookies/crackers/ cakes/other baked goods, or ice creams/frozen yogurts that are high in fat sold in vending machines, school stores, snack bars/carts (not à la carte foods offered in cafeteria during lunch).

Three 'More Healthy' Foods: Available at Lunch, 2004-2007



“More healthy” includes all of the following 3 items: low-fat salty snacks, low-fat cookies/crackers/pastries/other baked goods, or low- or non-fat ice cream/frozen yogurt/sherbet/yogurt.



**YES Supplemental Secondary
School Administrator Survey**

&

**Food & Fitness Primary School
Administrator Survey**



YES & F&F Administrator Surveys

- Obesity-focused adaptations of Core YES survey, first implemented in 2006/07 academic year
- Expanded sets of questions on:
 - Student physical education and other physical activity
 - Foods and beverages available at schools
 - School policies and programs relevant to obesity
- New questions on the Alliance for a Healthier Generation's guidelines for beverages and competitive foods
- F&F survey includes questions on issues more relevant to primary school students (e.g., recess time, classroom snack policies)

YES & F&F Administrator Surveys

- Integrated, nationally representative samples of public elementary (F&F), and secondary schools (YES)
 - Approximately 1,050 primary schools and additional 500 secondary schools in 579 school districts
- Additional nationally representative sample of ~400 private primary schools
- Currently using a longitudinal design, mail survey
- Developing a web-based version of the survey for use in future waves



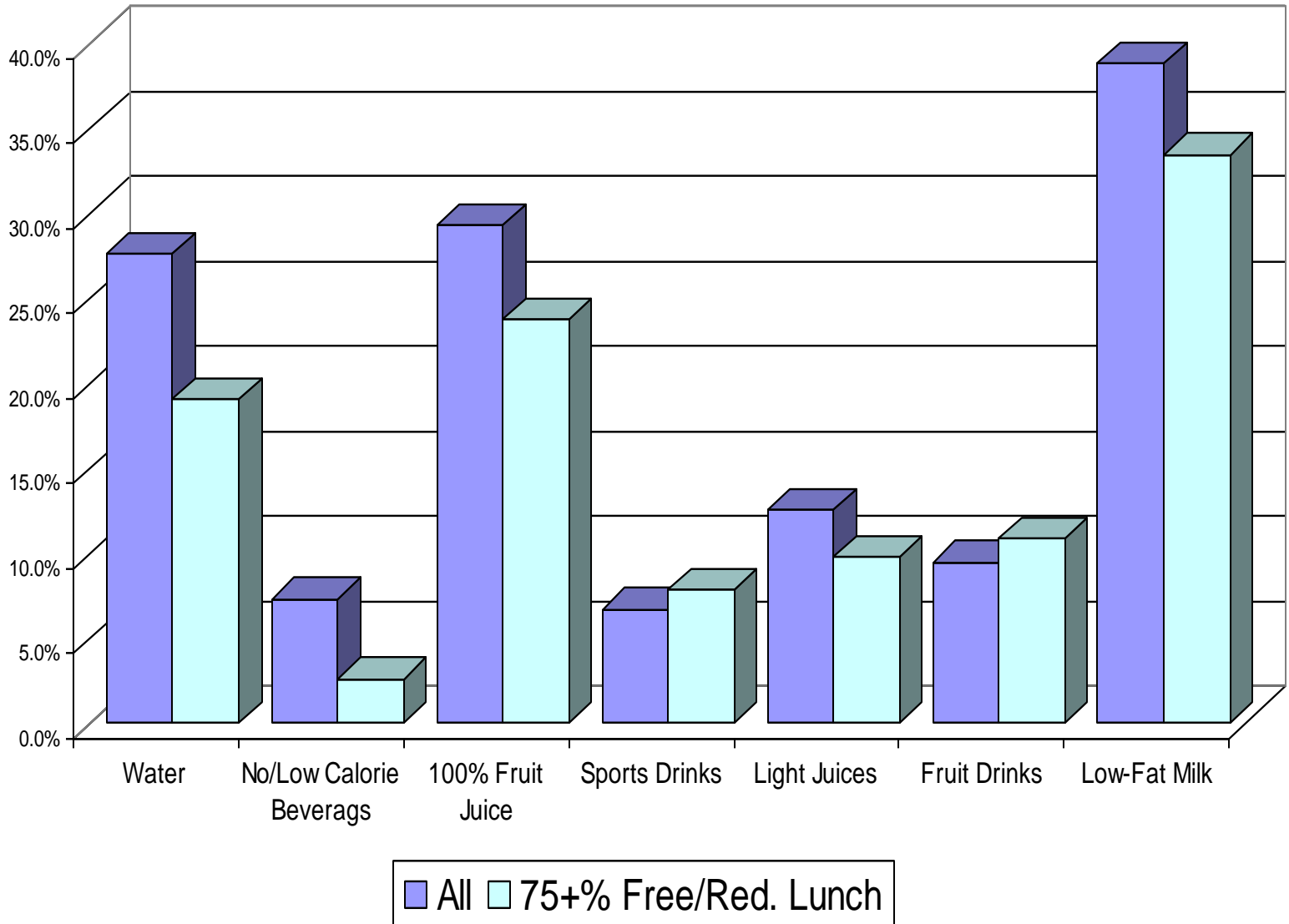
**Food & Fitness School
Administrator Survey**

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**Public Primary Schools
2006/07 Academic Year**

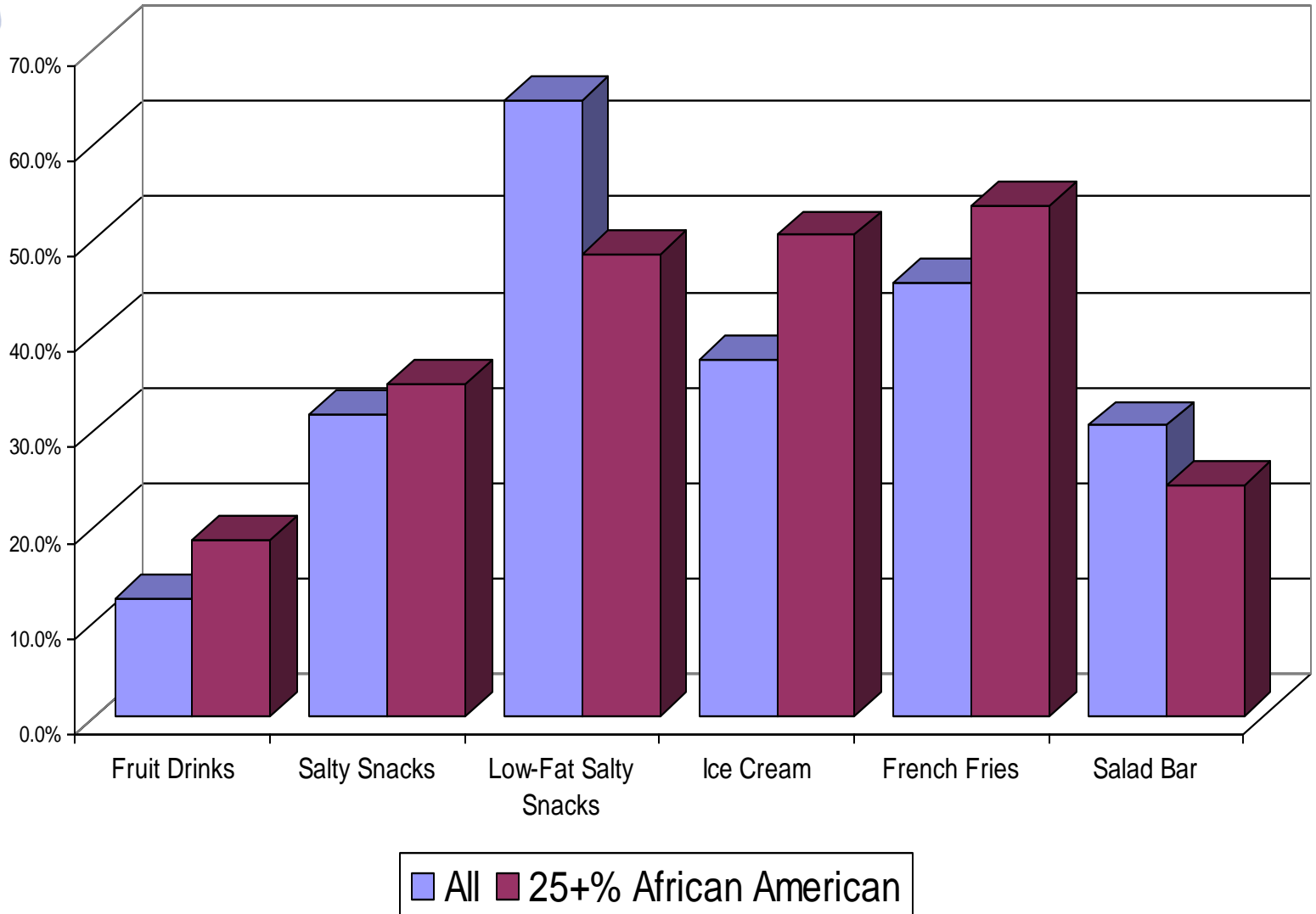


À la Carte Beverage Availability, Public Primary Schools, 2006/07



Student level, weighted estimates

Food and Beverage Availability as part of School Lunch, Public Primary Schools, 2006/07



Student level, weighted estimates; at least some days



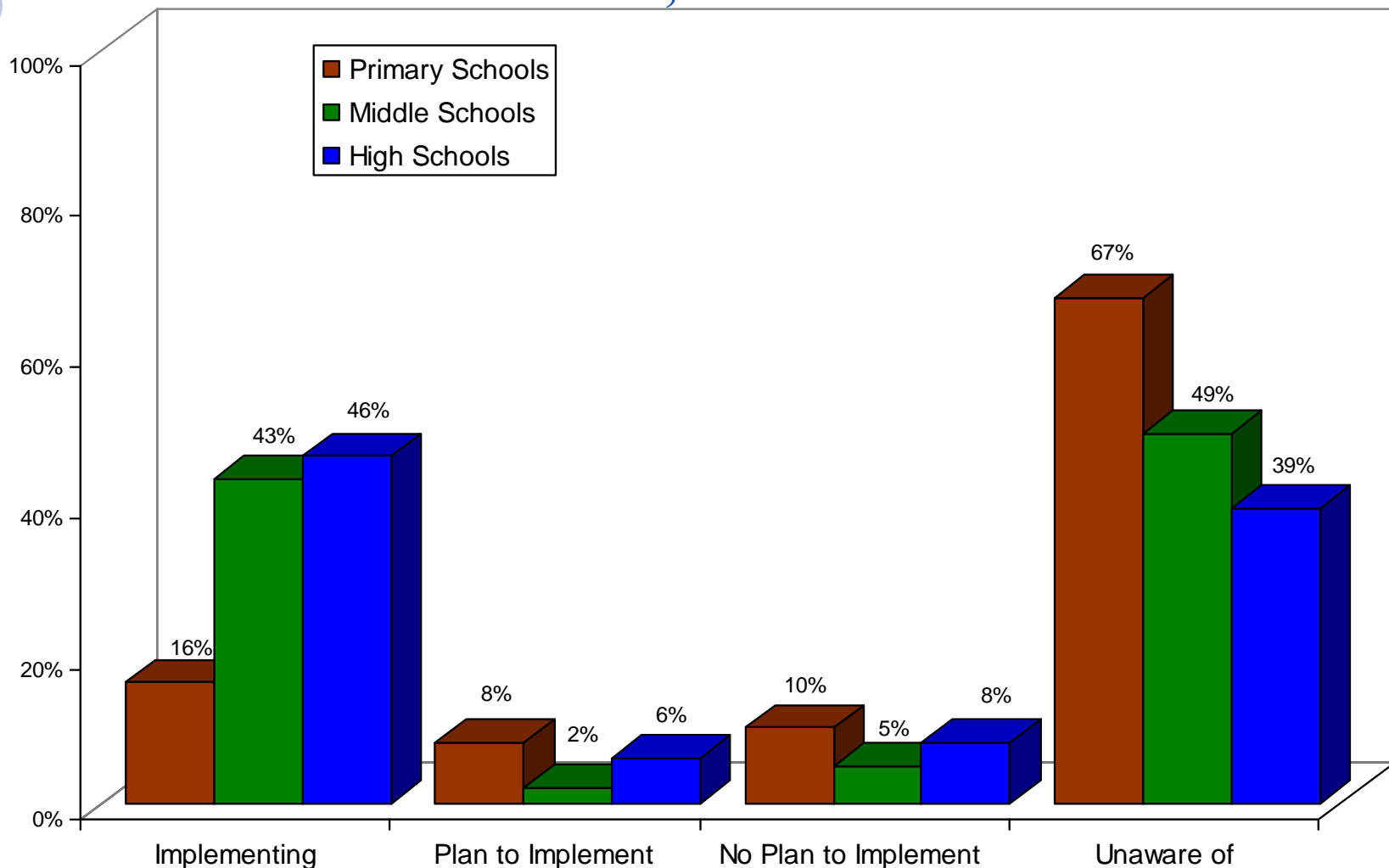
**Food & Fitness and YES School
Administrator Surveys**

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**Public Primary and Secondary
Schools, 2006/07 Academic Year**

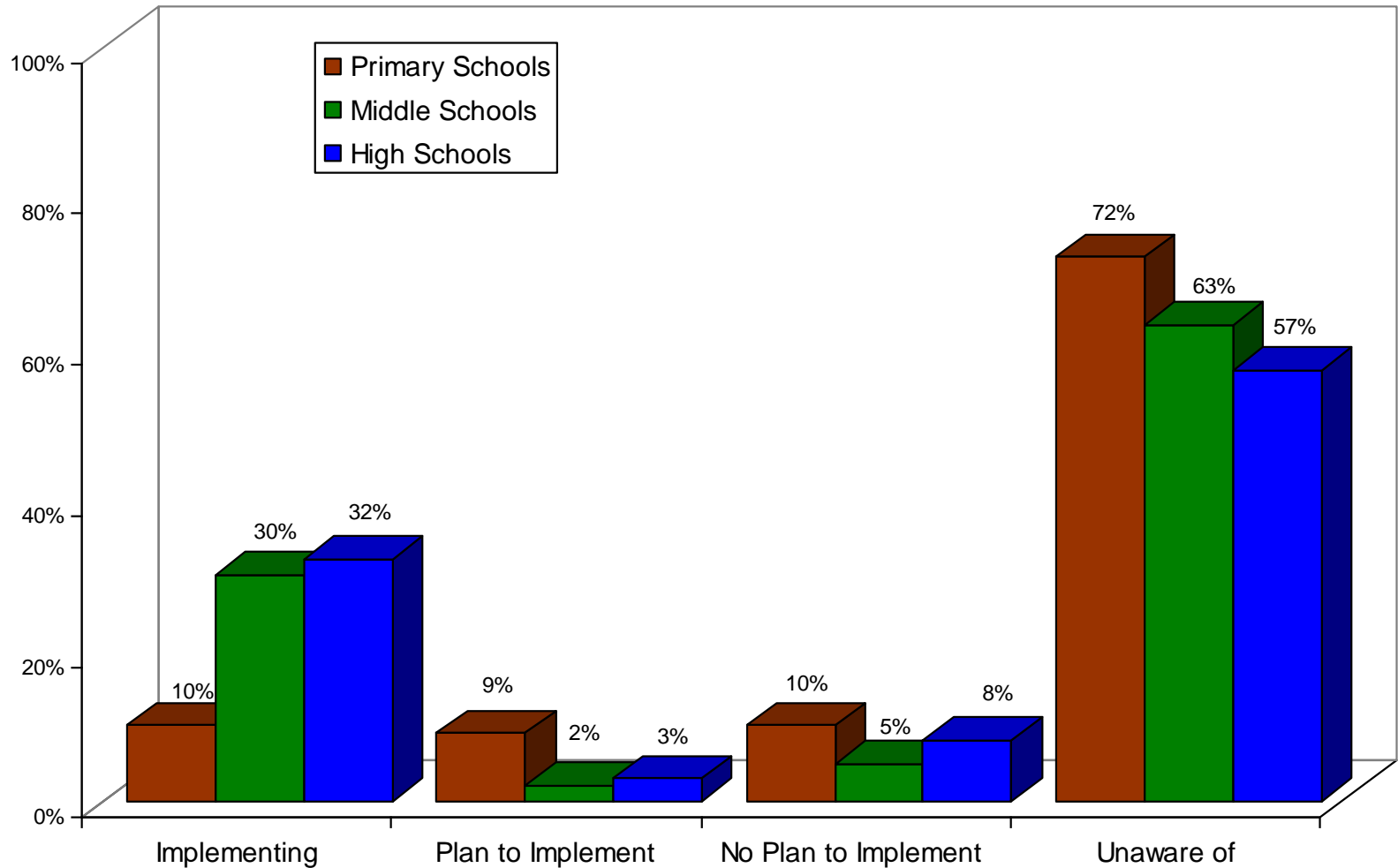


Awareness and Implementation of the Alliance for a Healthier Generation's Beverage Guidelines, Public Schools, 2006/07



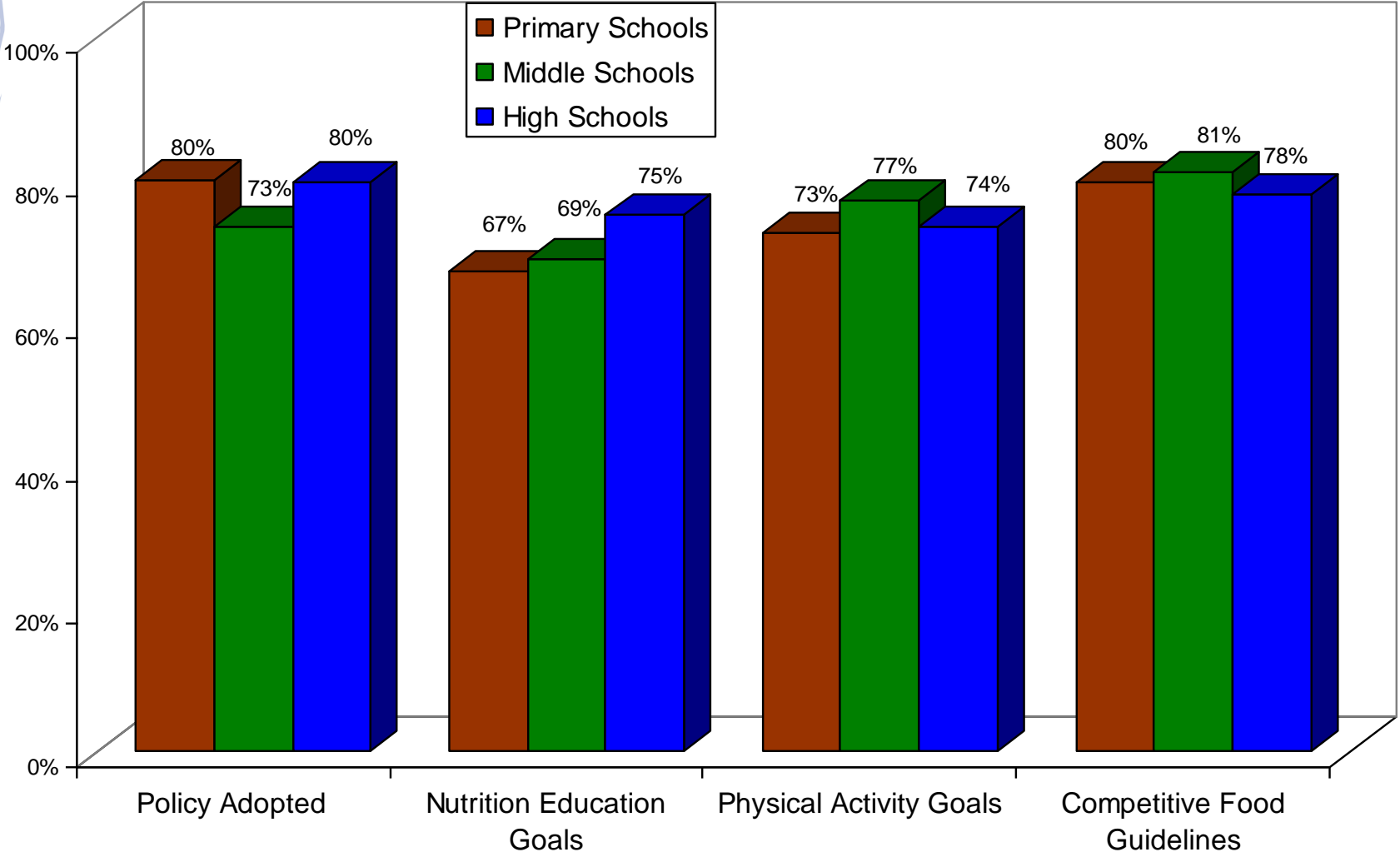
School level, weighted estimates

Awareness and Implementation of the Alliance for a Healthier Generation's Competitive Food Guidelines, Public Schools, 2006/07



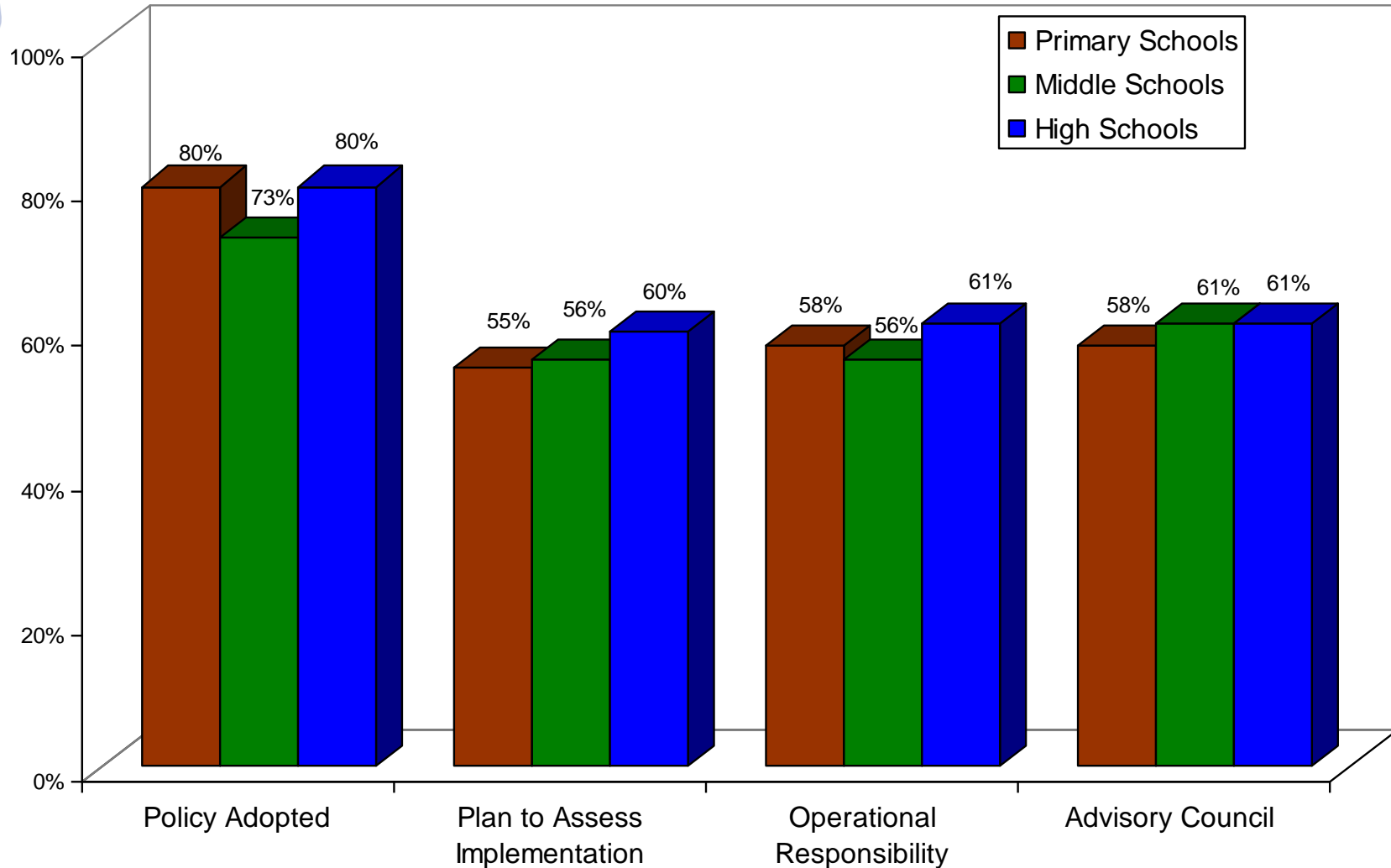
School level, weighted estimates

School Administrator Reports of District Wellness Policy Adoption and Implementation, 2006/07



School level, weighted estimates

School Administrator Reports of District Wellness Policy Adoption and Implementation, 2006/07



School level, weighted estimates



School District Wellness Policy

Collection & Coding



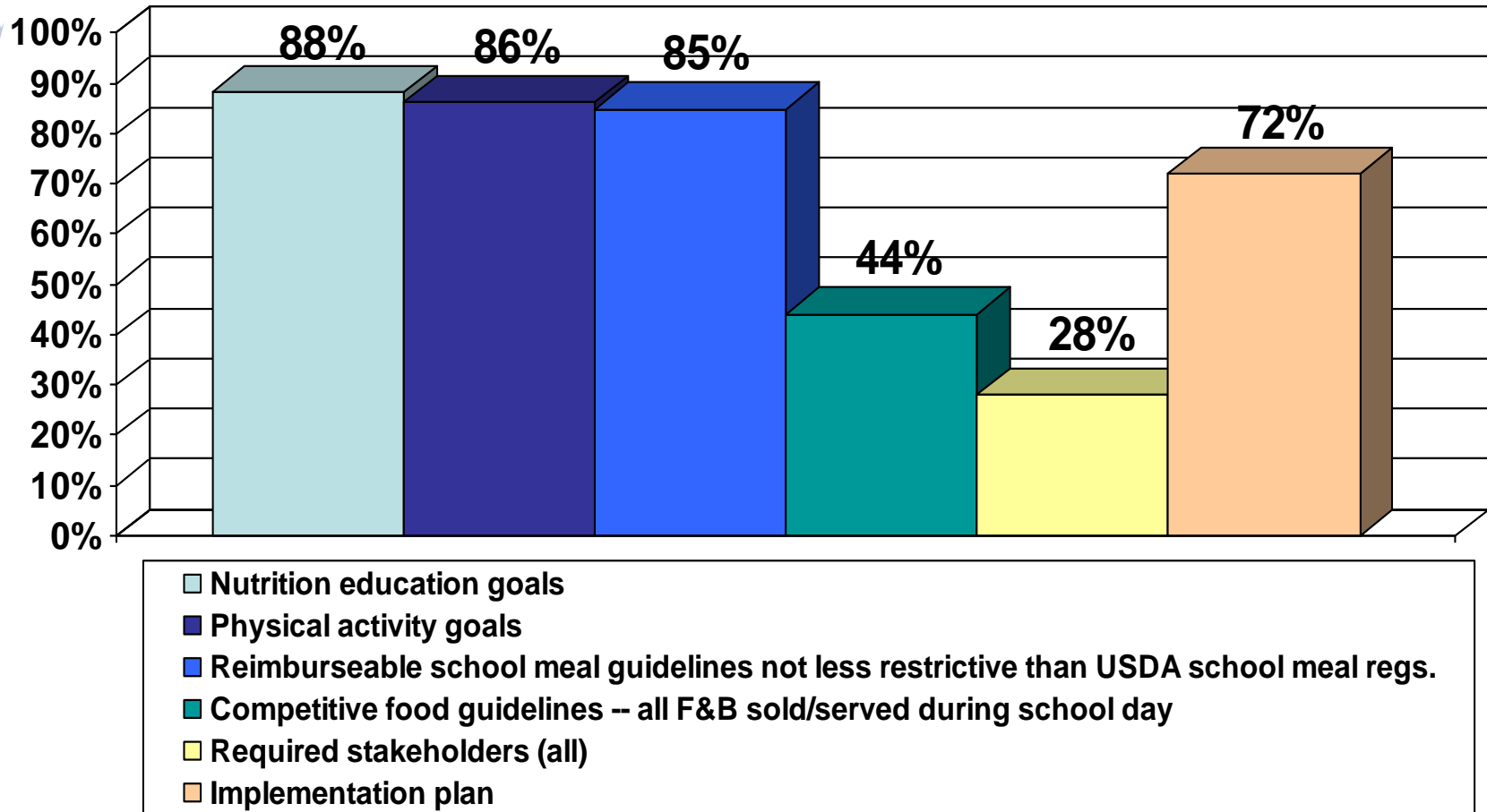
School District Wellness Policy Collection

- Mandated by PL 108-265; required by 1st day of school year following June 30, 2006
- Sample of school districts integrated with primary and secondary school administrator survey samples
- Mixed methods for collecting district policies
- >93% response rate for 2006/07 sample
- 5% of districts confirmed to have no policy

School District Wellness Policy Coding

- Coding tool adapted from 96-item tool developed by Healthy Eating Research Grantees
- Includes a few additional items and grade specific coding
- Collection and coding of relevant district and state policies, regulations, and guidelines
- Collection and coding of other national guidelines (e.g. NANA, CSPI, AFHK, others)
- Collection and coding of limited set of other district policies

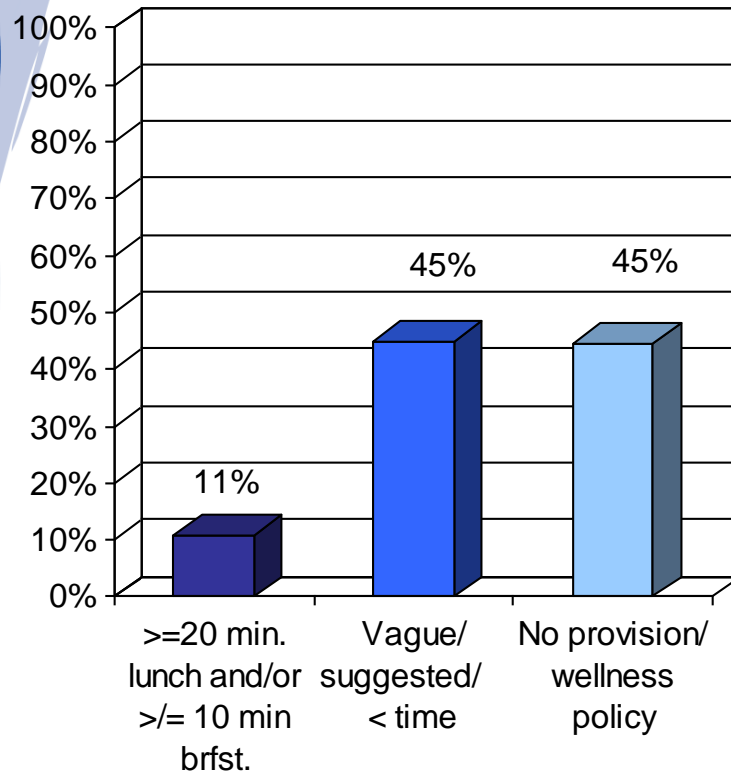
Percentage of District Policies Containing Mandatory Wellness Policy Components, Public Primary Schools, 2006/07



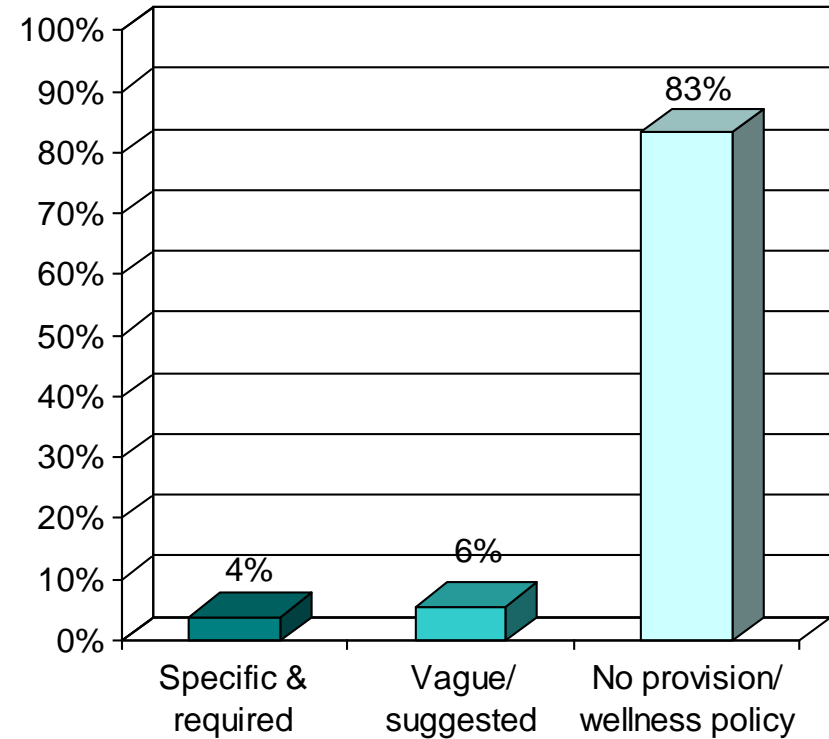
*Preliminary data; partial sample - data for 408/579 districts included in 06-07 sample

District Wellness Policies: Selected School Meal-Related Provisions, Public Primary Schools, 2006/07

Adequate time to eat



Specifies use of low-fat cooking methods/items for school meals (beyond USDA reqs.)



*Preliminary data; partial sample - data for 408/579 districts included in 06-07 sample



State Obesity-Related Policy Collection & Coding



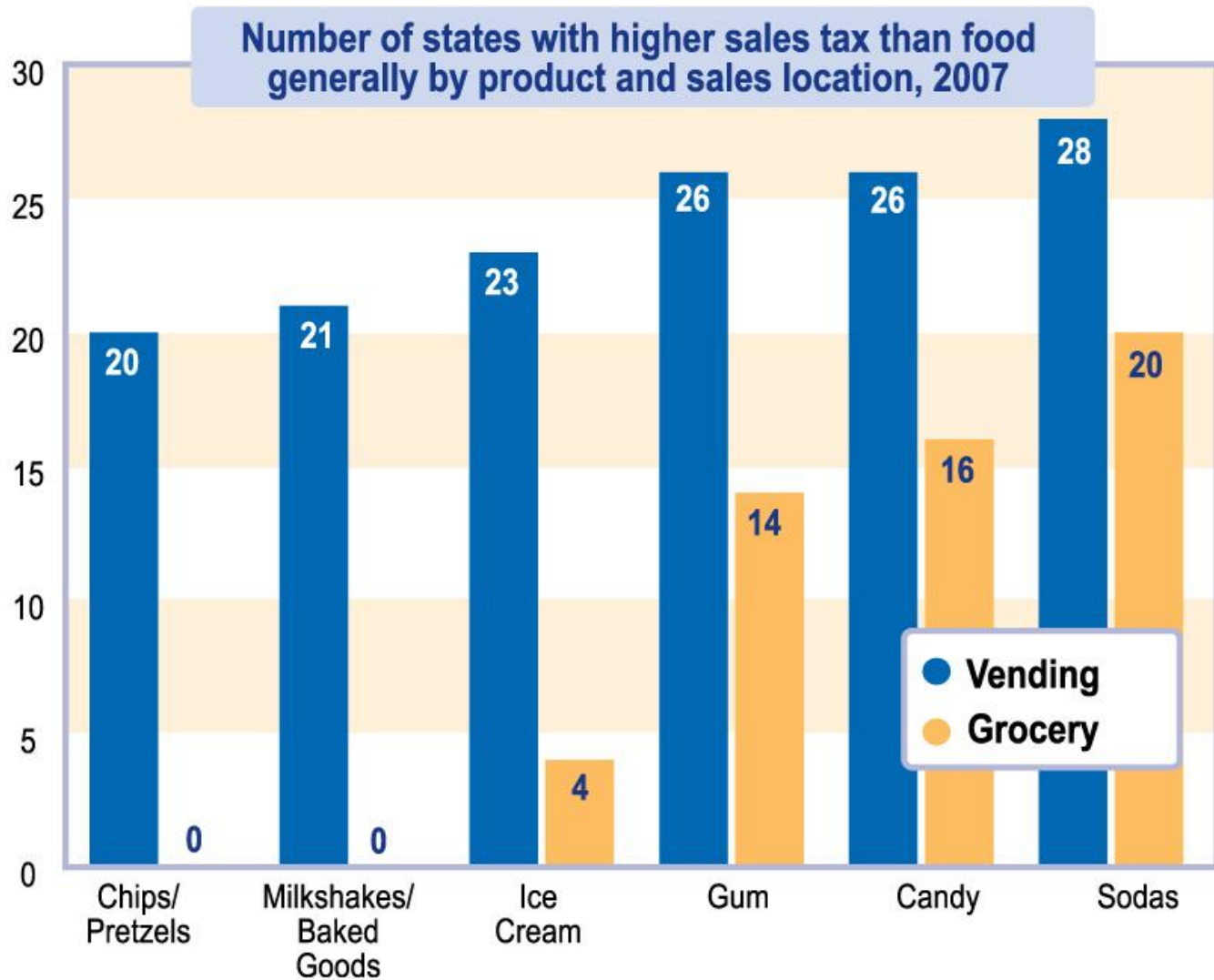
State Policy Measurement

- Follows BTG's successful efforts to measure and monitor state policies on alcohol, tobacco, and illicit drugs
- Complement to NCI's State Policy Classification Systems for Physical Education and Nutrition
- Informed by and a complement to other efforts to monitor state obesity-related policies (e.g., RWJF's *BALANCE Report*)

BTG State Obesity Policy Data

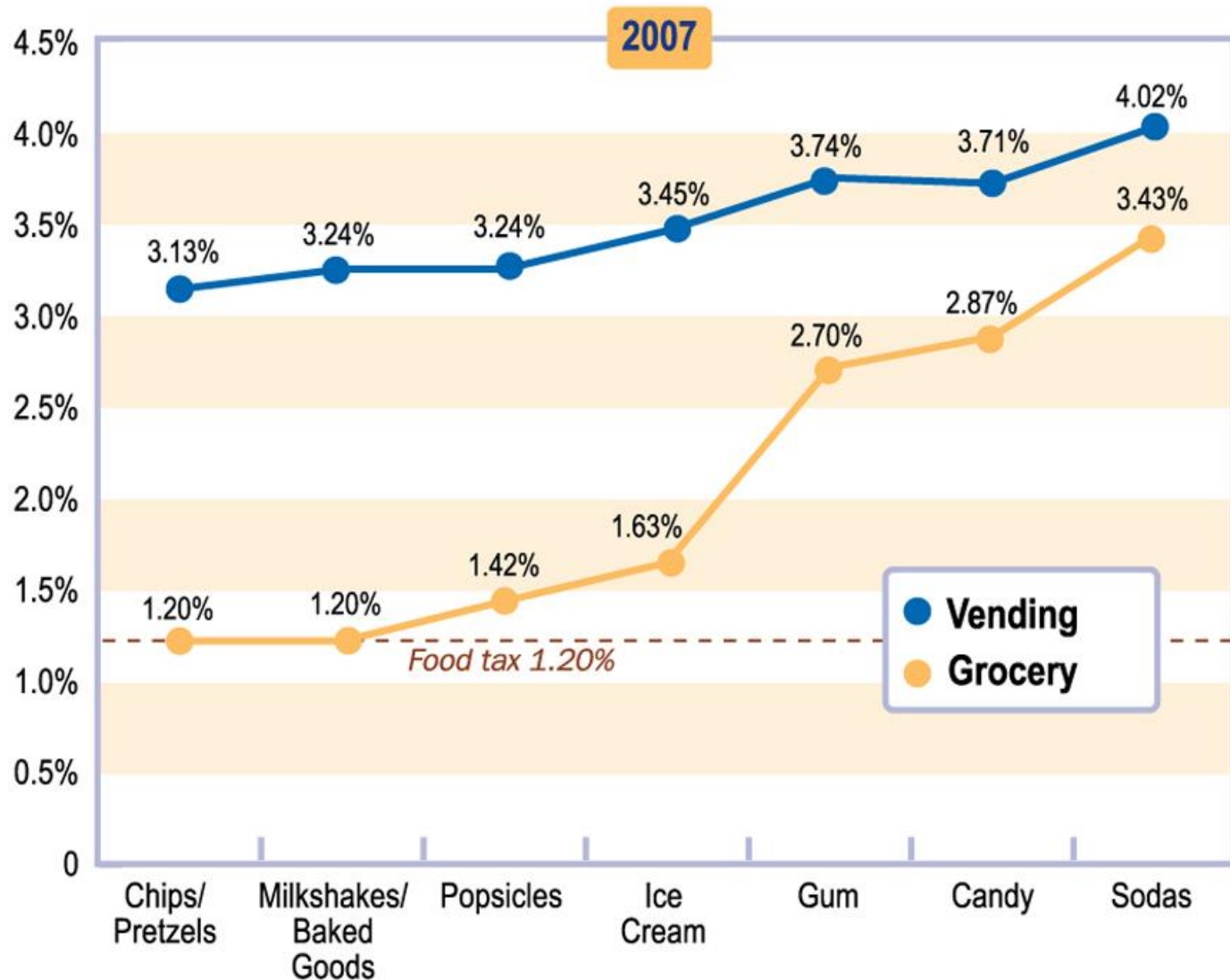
- State sales tax rates:
 - For a variety of snack foods and sodas
 - Separately for sales in grocery stores and through vending machines
 - Annual data from 1/1/97 through 1/1/07
 - For restaurant and fast food/carryout foods
 - As of 1/1/07; historical data in development

States With Sales Taxes on Sodas and Snack Foods



Source: Chiqui, et al., *Journal of Public Health Policy*, 2008

State Sales Tax Rates for Sodas and Snack Foods



Source: Chiqui, et al., *Journal of Public Health Policy*, 2008

BTG State Obesity Policy Data

- Under development
 - State laws regarding Safe Routes to Schools
 - State policies concerning school district wellness policies
- Planned/possible topics
 - Farm to school program requirements
 - Restrictions on competitive food contracts/vending
 - Dedicated funding for school-based nutrition, PE and/or other obesity prevention programs
 - Menu labeling requirements
 - Zoning/land use policies
 - Policies addressing the built environment
 - New taxes (if enacted, e.g., “junk food taxes”)



**Commercial & Other
Archival Data**



Commercial and Archival Data

- Key databases used in BTG research include:
 - Dun & Bradstreet's MarketPlace database
 - Nielsen Media Research data on exposure to TV advertising
 - Nielsen Media Research data on exposure to obesity-related public service advertising
 - A.C. Nielsen's HomeScan database
 - ACCRA community-level price data
 - U.S. Census data
 - ArcGIS data
 - Aerial photographs
 - and more.....

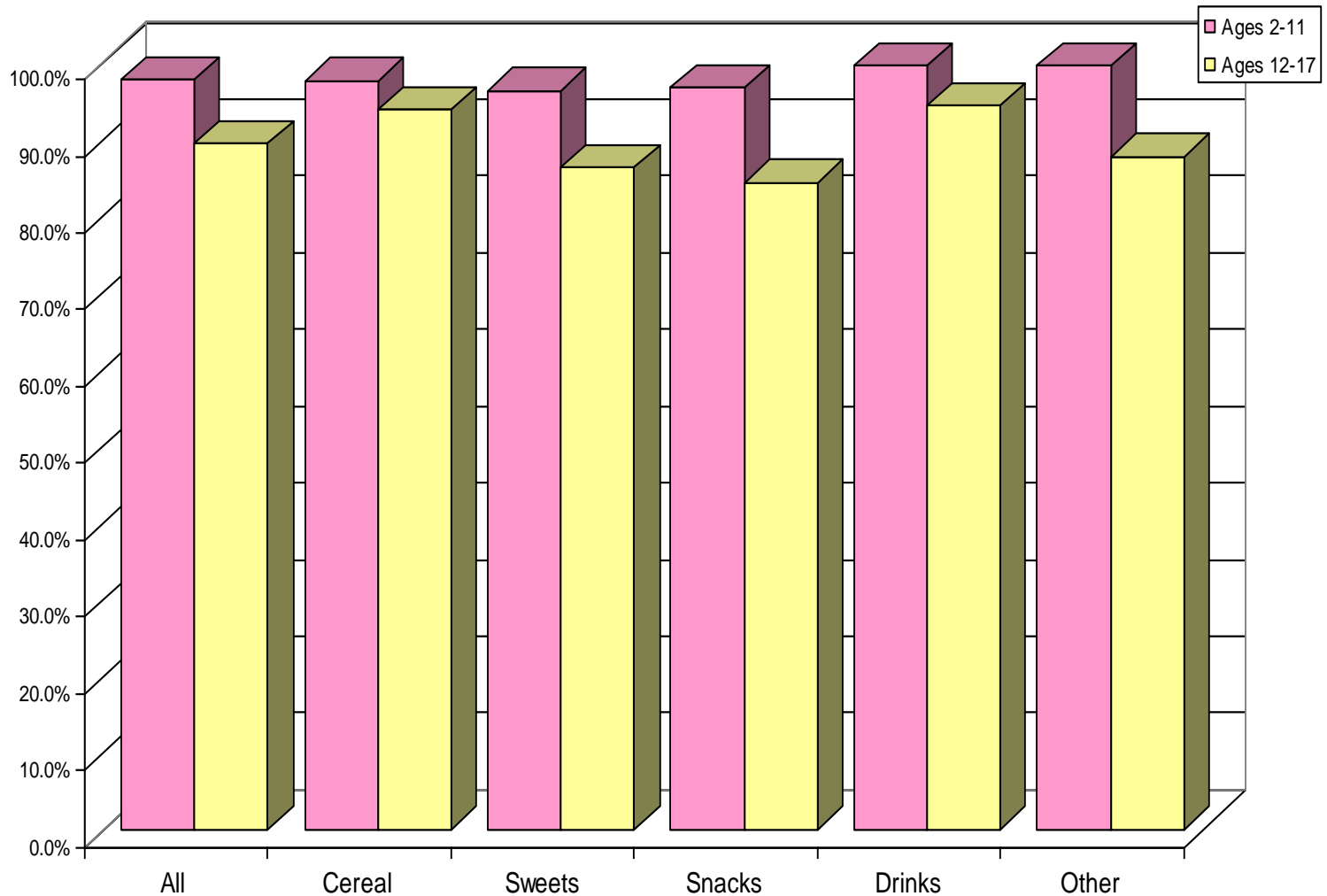
Dun & Bradstreet's MarketPlace Data

- More than 14 million US Businesses, updated quarterly
- Selection based on primary and secondary Standard Industry Classification code
- Supermarkets, convenience stores, and other food outlets
- Fast food and full service restaurants
- Physical activity-related outlets
- Have used these data to:
 - Document disparities in access to healthier food options and opportunities for physical activity for 28,050 zip codes nationally
 - Describe food environment around census of public secondary schools

NMR TV Advertising Data

- 2003/04, 2005/06, and 2007/08 TV seasons (nine months)
- Data for 600 most watched network, cable, regular programming, and syndicated shows by age and race
- Exposure measures reflect weighted averages for all ads based on targeted ratings points
- All ads coded for nutritional content, including calories per serving and fat, sugar, and sodium content

Nutritional Content of Food and Beverage Advertising Seen by Youth – Percentage High in Sugar, Fat, or Sodium, 2003/04 TV season



Source: Powell et al., *Pediatrics*, 2007



Analyses of Merged Data

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**A Few Highlights from
Recent, Ongoing and
Planned BTG Obesity
Analyses**



Community Factors and Adolescent Eating Practices and Weight Outcomes

- Data:

- Price indices for fast foods and fruits and vegetables
- Food-related outlet density measures
- MTF data on frequency of fruit & vegetable consumption
- BMI and indicator for overweight derived from MTF student reports
- 1997 through 2003

- Research Question:

- *Are there associations between availability of different types of food outlets and prices for fruits/vegetables and fast foods and youth eating practices and weight outcomes?*

Community Factors and Adolescent Eating Practices and Weight Outcomes

- Findings:
 - Greater availability of chain supermarkets associated with more frequent fruit and vegetable consumption lower BMI and are reduced likelihood of overweight
 - Youth in communities with greater availability of convenience stores have higher BMI and are more likely to be overweight
 - Little evidence of any associations between fast food and other restaurant availability and adolescent eating practices and weight outcomes

Sources: Powell, et al., *American Journal of Preventive Medicine* supplement, 2007; Powell, et al. *Advances in Health Economics and Health Services Research*, 2007

Community Factors and Adolescent Eating Practices and Weight Outcomes

- Findings:

- Lower fruit & vegetable prices associated with more frequent fruit & vegetable consumption and lower BMI
- Lower fast food prices associated with less frequent fruit & vegetable consumption, higher BMI and greater likelihood of overweight
- Estimate that a 10% rise in fast food prices would reduce probability of overweight by 5.9%
- Greater impact of prices on youth at higher BMI
 - Above 90th percentile, fast food price impact 4 times larger
 - Above 95th percentile, fruit & vegetable price impact 5 times larger

State Policy and Household Food Consumption

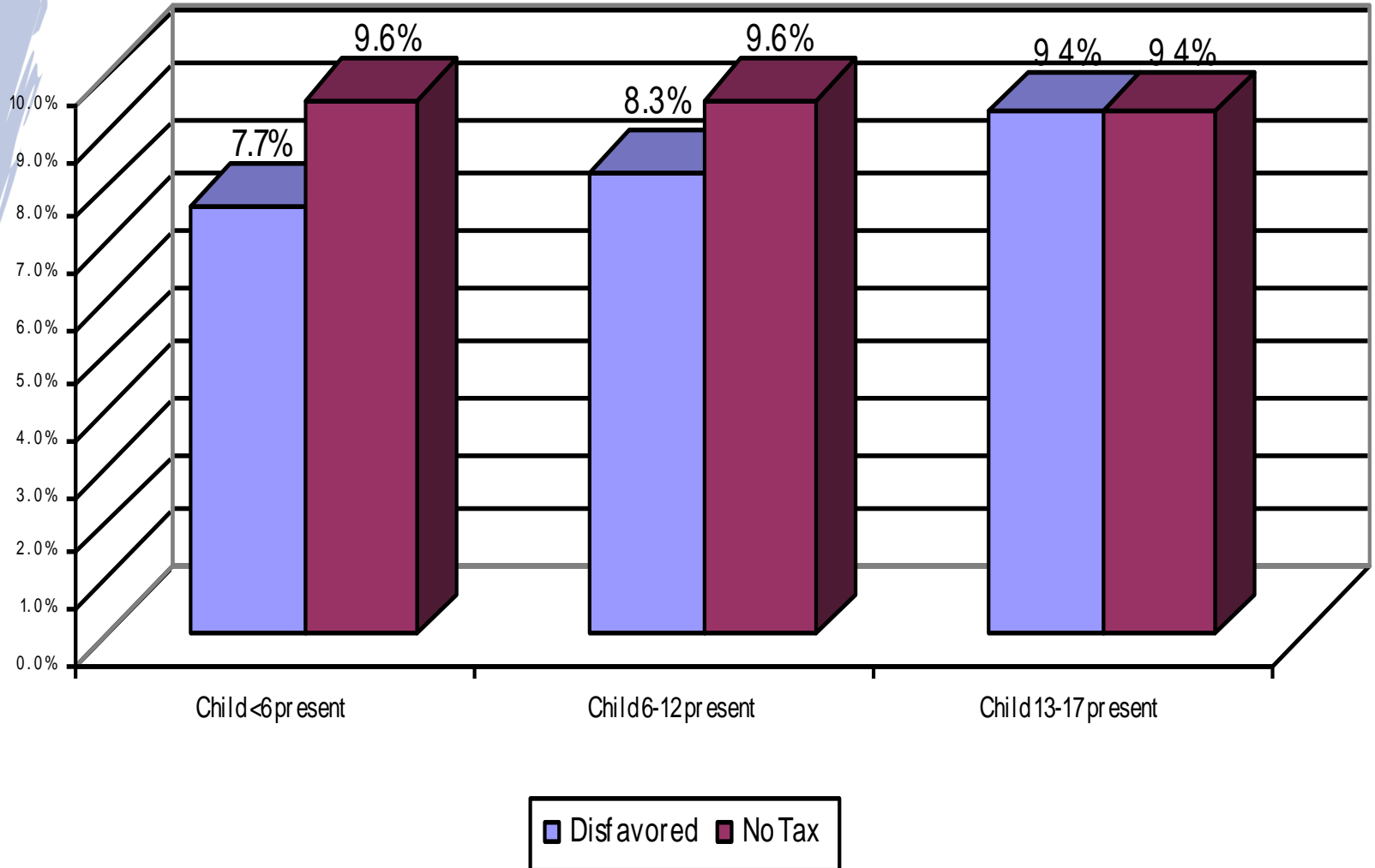
- Data:

- State sales taxes on snack food and sodas (disfavored status)
- HomeScan data on household food expenditures by product category (as a share of overall food expenditures)
- Second quarter 2007

- Research Question:

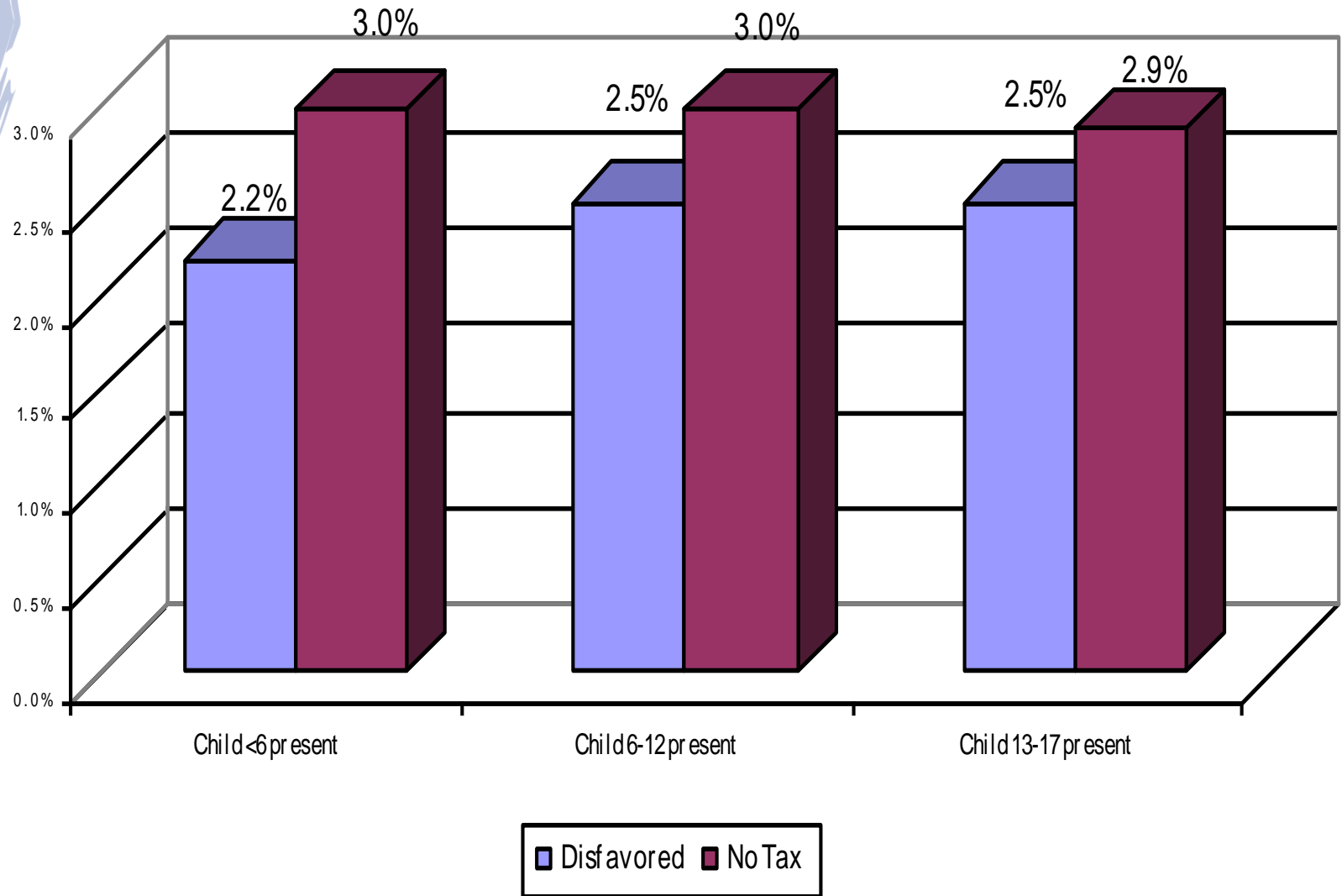
- *Do household expenditures on snack food and sodas differ in states whose sales taxes disfavor these products?*

Soda Expenditures as Share of Household Food Expenditures, by State Disfavored Tax Status



Note: Very preliminary estimates

Candy Expenditures as Share of Household Food Expenditures, by State Disfavored Tax Status



Note: Very preliminary estimates



Bridging the Gap

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Community Data Collections



BTG – The Next Four Years

- Resume community data collection activities around 2nd year MTF schools; focus on:
 - community food environment
 - physical activity opportunities
 - local policies
 - other factors potentially relevant to youth healthy eating, physical activity, and obesity
- Builds on work supported by RWJF through ALR and other programs



ADULTS ONLY
NO
PARTY CHECKS
THERE WILL BE A
\$10.00 SERVICE CHARGE
ON ALL RETURNED CHECKS

22.00
WINDLARD

NEW
ULTRALIGHTS

SKOAL

CAMEL
\$2.35



SPECIAL
VALUE
\$1.94

\$2.40

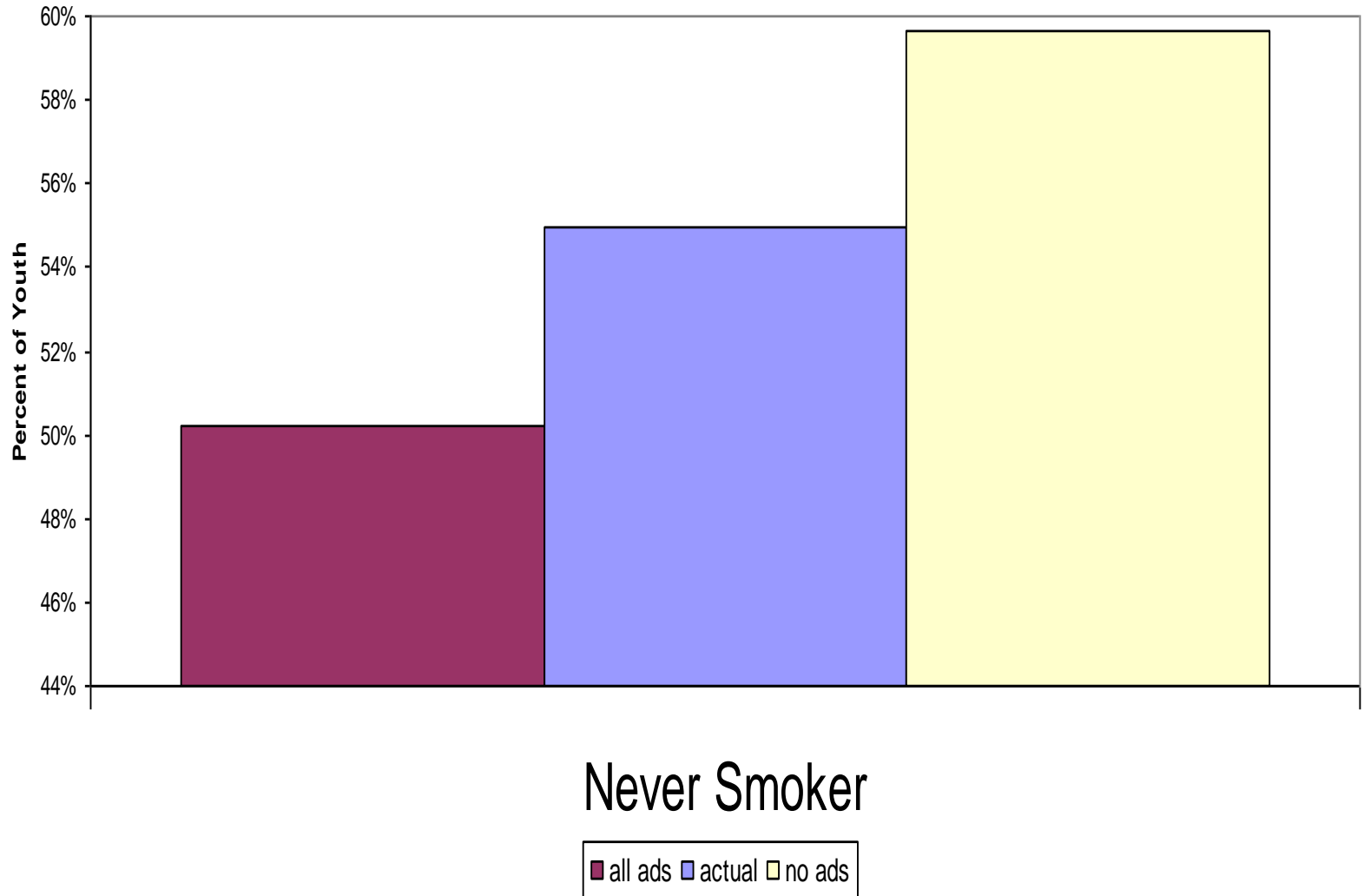
HELIX
CARGO (100) 100'S



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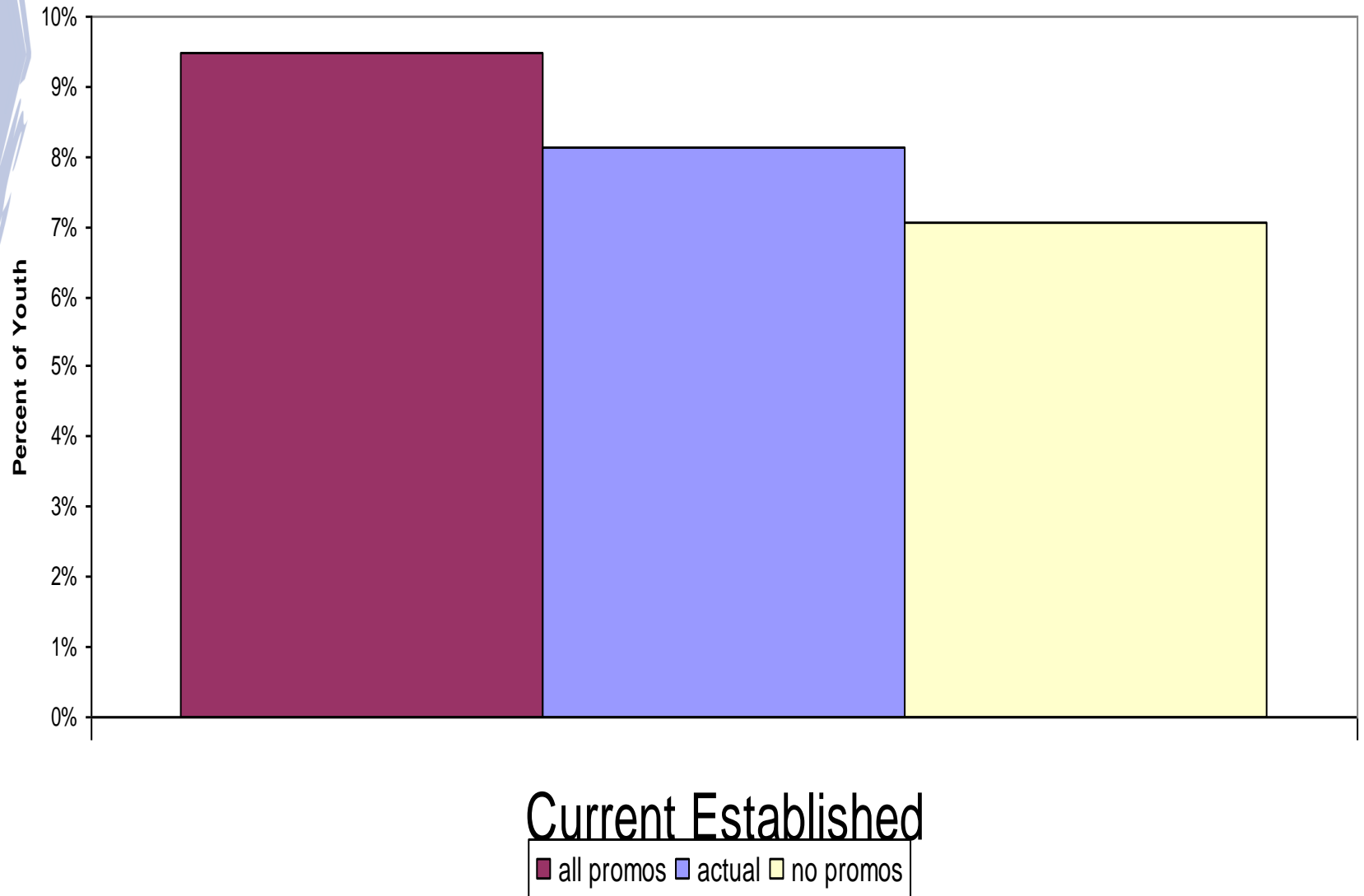


Cigarette Advertising and Youth Smoking Uptake, 1999-2003



Source: Slater, et al., *Archives of Pediatric and Adolescent Medicine*, 2007

Cigarette Price-Promotions and Youth Smoking Uptake, 1999-2003



Source: Slater, et al., *Archives of Pediatric and Adolescent Medicine*, 2007

BTG – Opportunities for Collaboration

- Variety of BTG data available on program websites
- Opportunities for analytic access or collaborations for analyses of confidential, non-public data
- Opportunities for visiting positions at UIC (sabbaticals, leaves)
- Multiple post-doctoral openings at both UIC and UM over next 4 years



*A Policy Research Partnership
for Healthier Youth Behavior*



Youth,
Education,
& Society

www.impactteen.org

www.yesresearch.org

www.monitoringthefuture.org

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