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U.S Department of Agriculture
Agricultural Outlook Forum 2004
February 19 & 20, 2004

**MULTIPLE FACTORS ASSOCIATED WITH OVERWEIGHT AND
OBESITY**

Maureen Storey
Director
Center for Food and Nutrition Policy



Center for Food and Nutrition Policy
Virginia Tech - Alexandria

Multiple Factors Associated with Overweight and Obesity

Maureen Storey, PhD

Director

Center for Food and Nutrition Policy



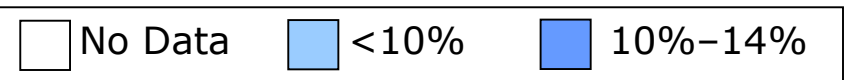
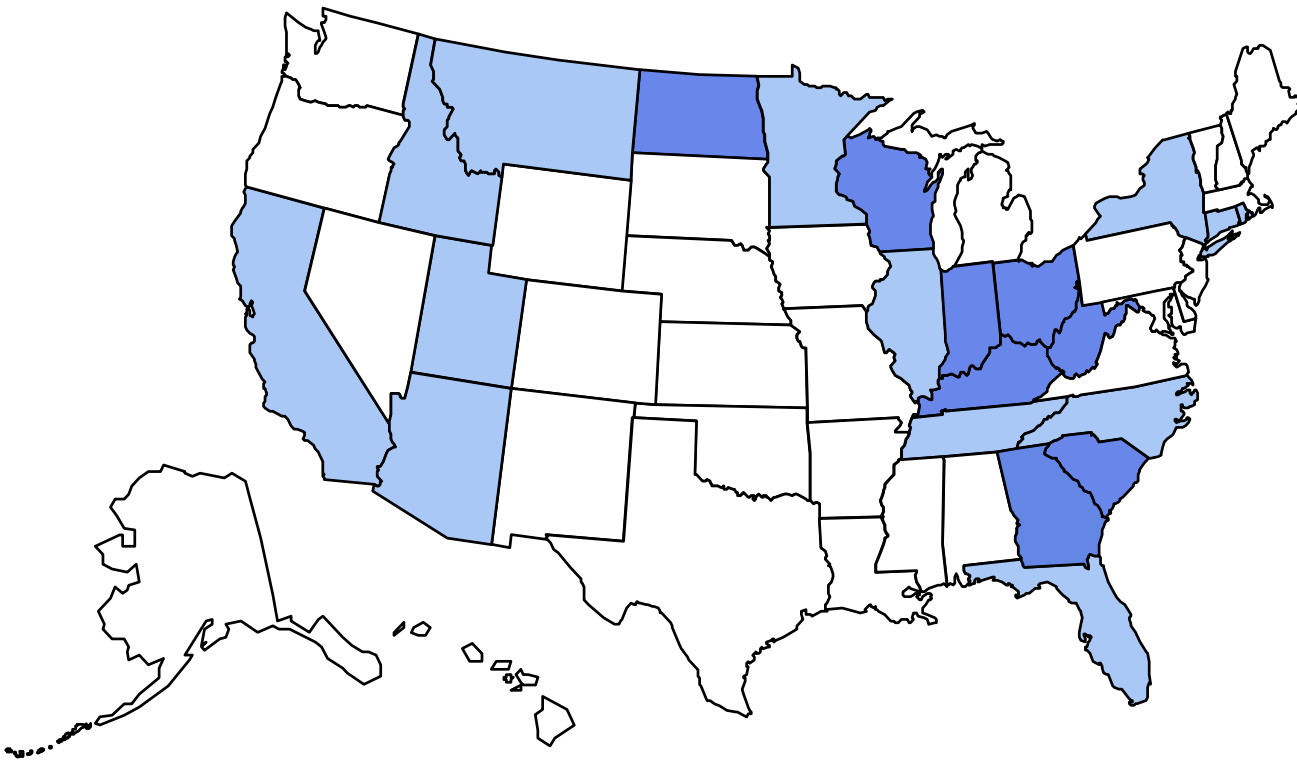
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

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Associate Director, CFNP & Director, Research
- Patricia Anderson, MPP
Manager, Special Research Initiatives

Obesity Trends* Among U.S. Adults

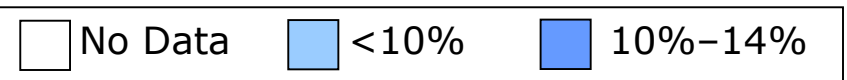
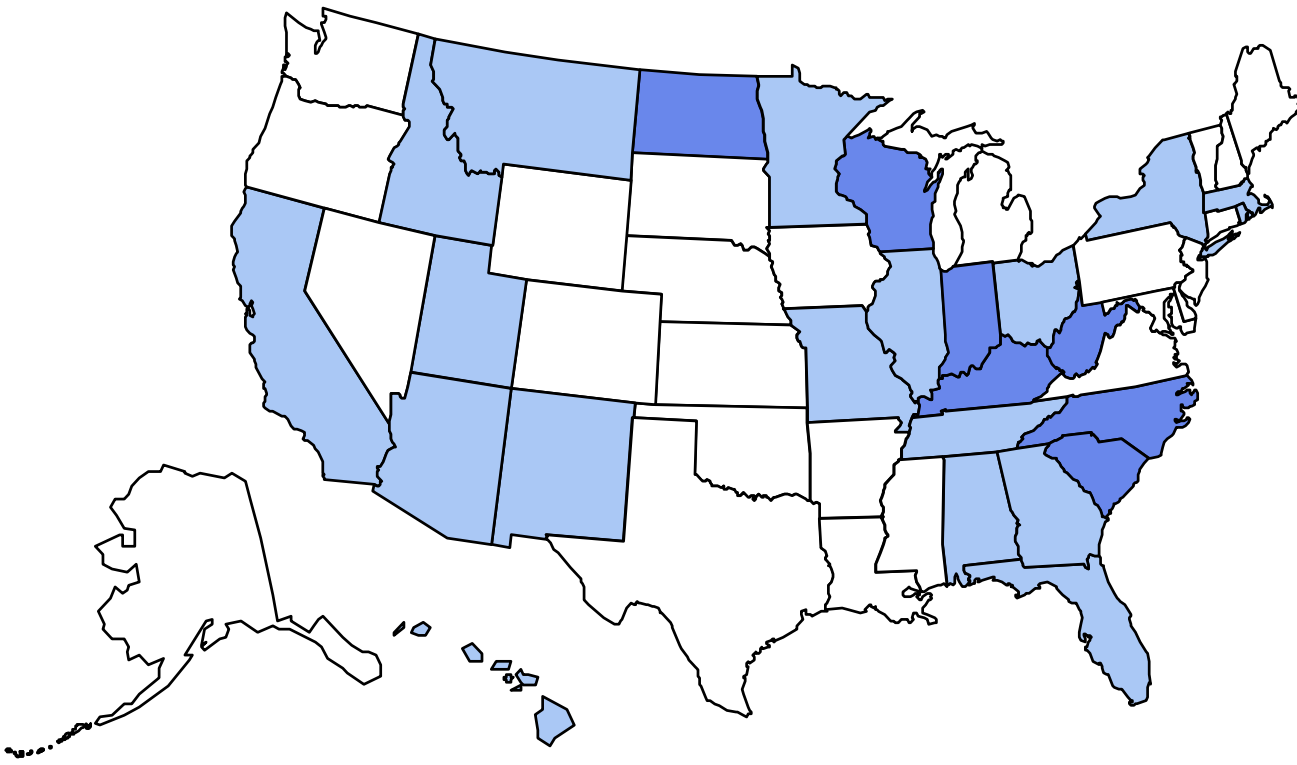
BRFSS, 1985



(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" woman)

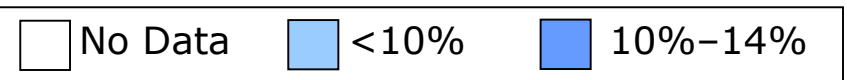
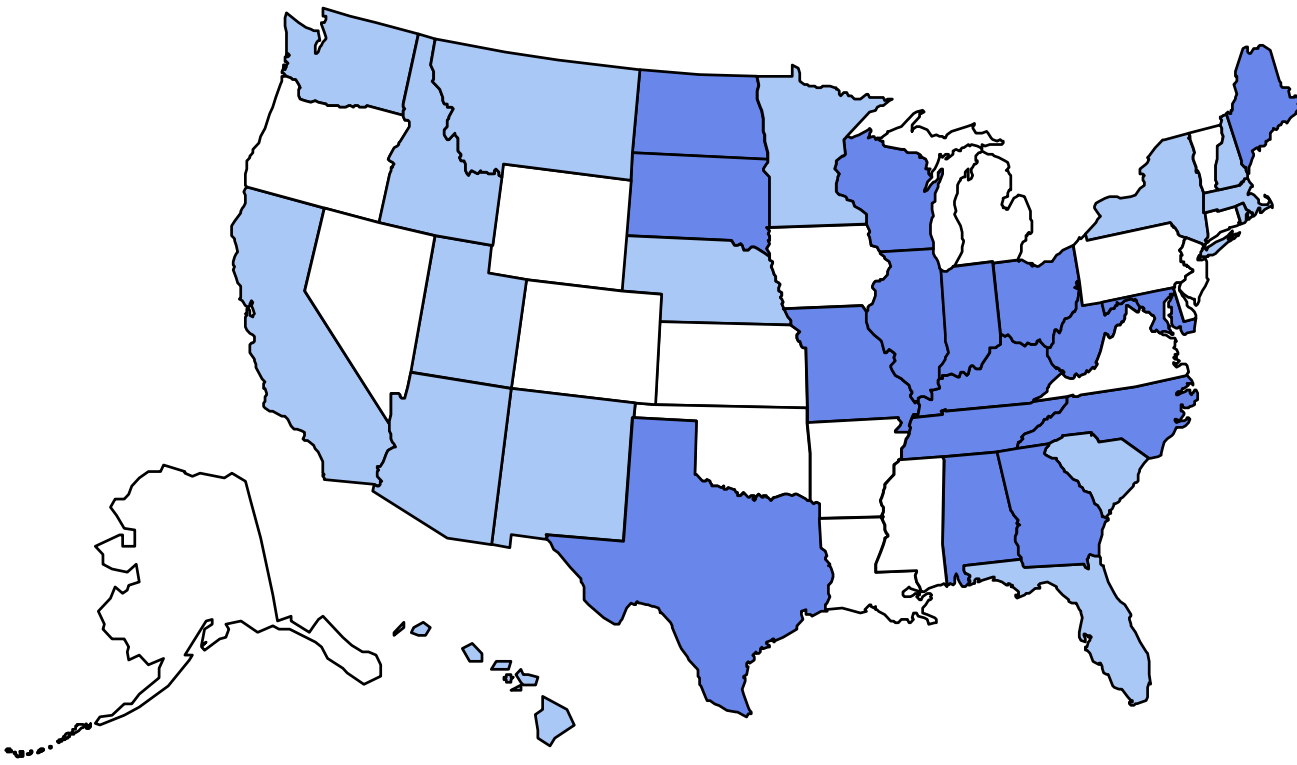
Obesity Trends* Among U.S. Adults

BRFSS, 1986



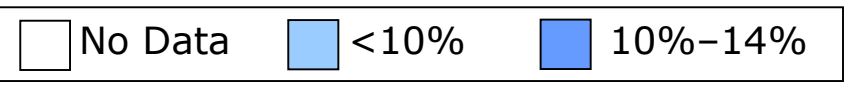
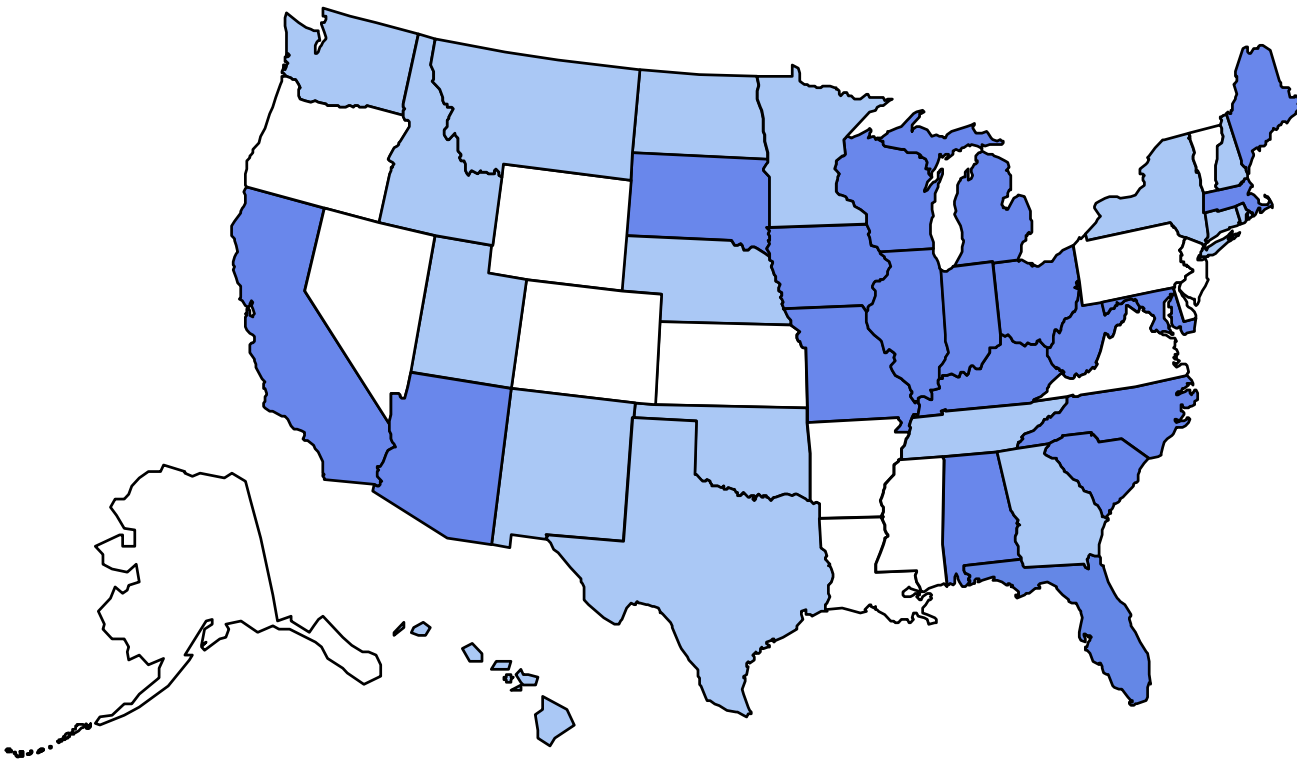
Obesity Trends* Among U.S. Adults

BRFSS, 1987



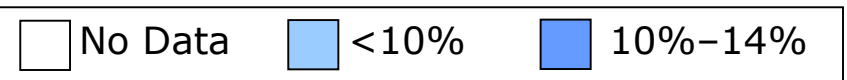
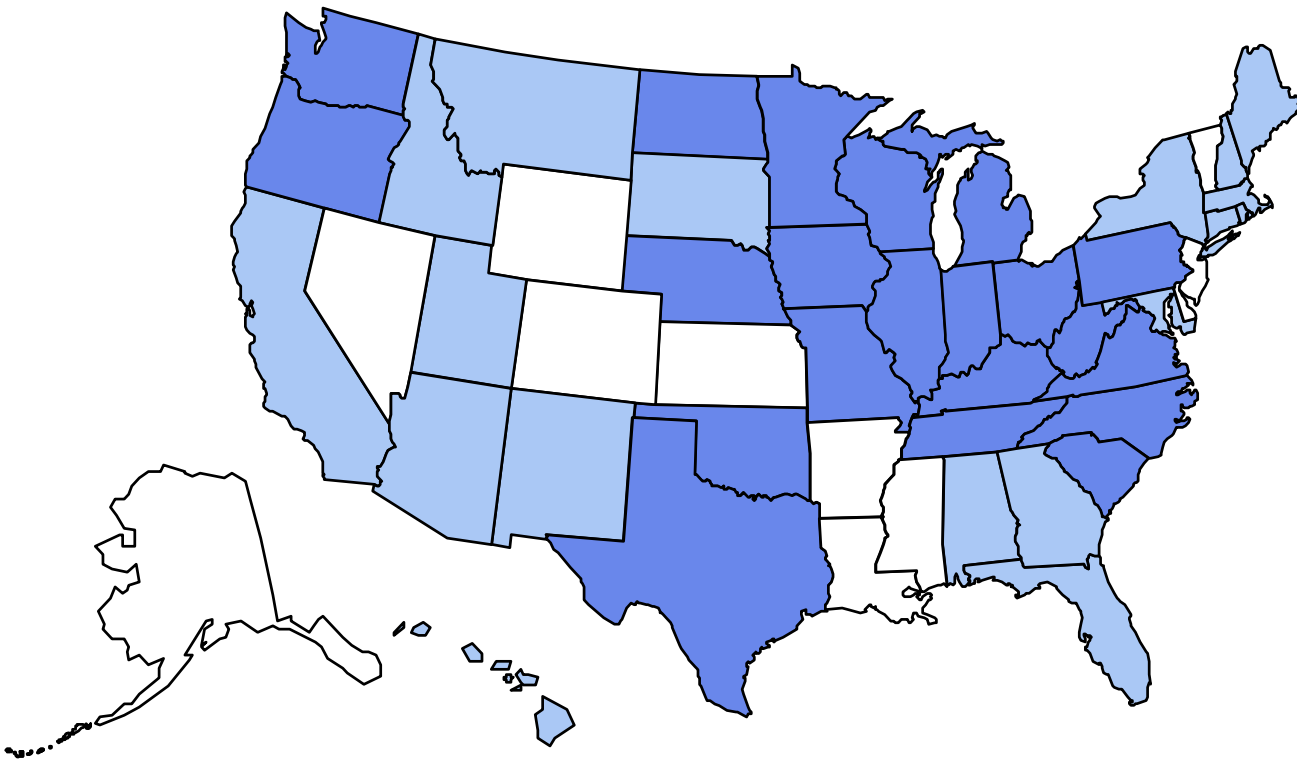
Obesity Trends* Among U.S. Adults

BRFSS, 1988



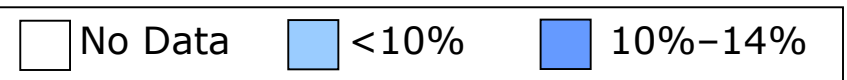
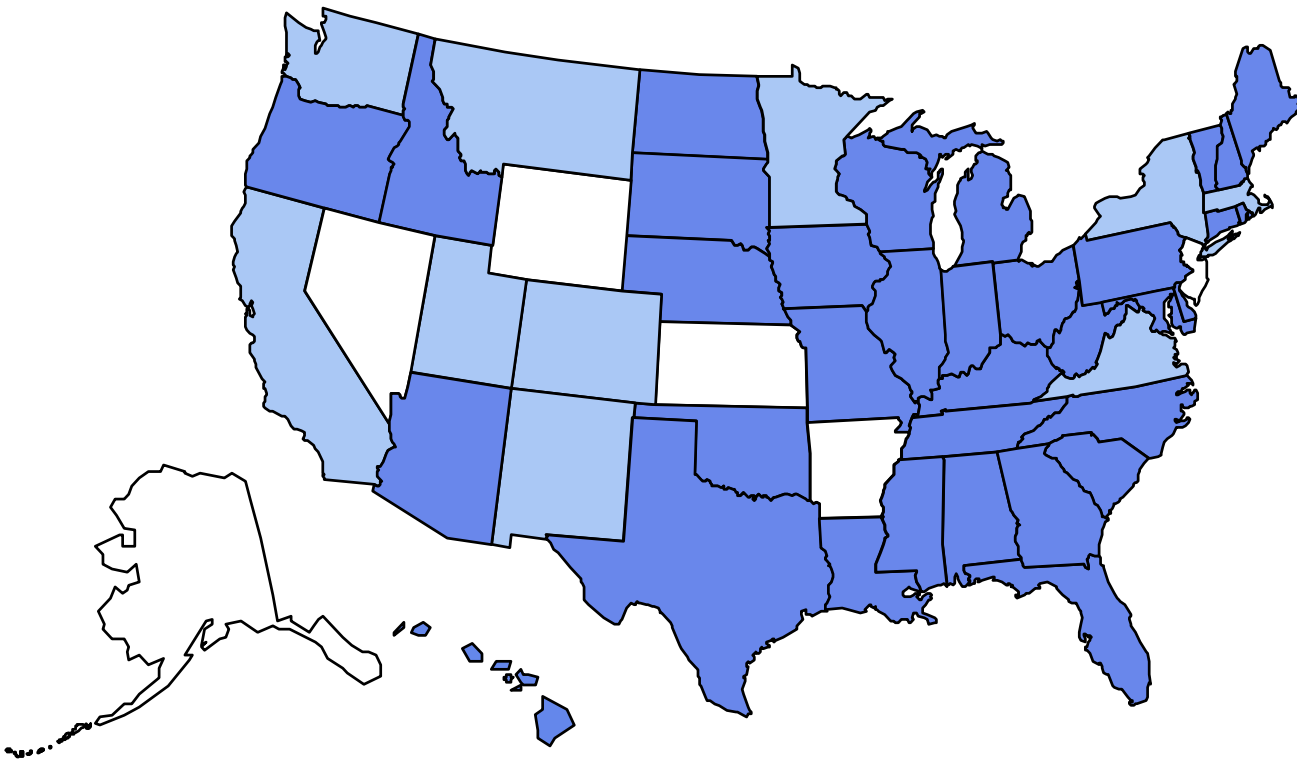
Obesity Trends* Among U.S. Adults

BRFSS, 1989



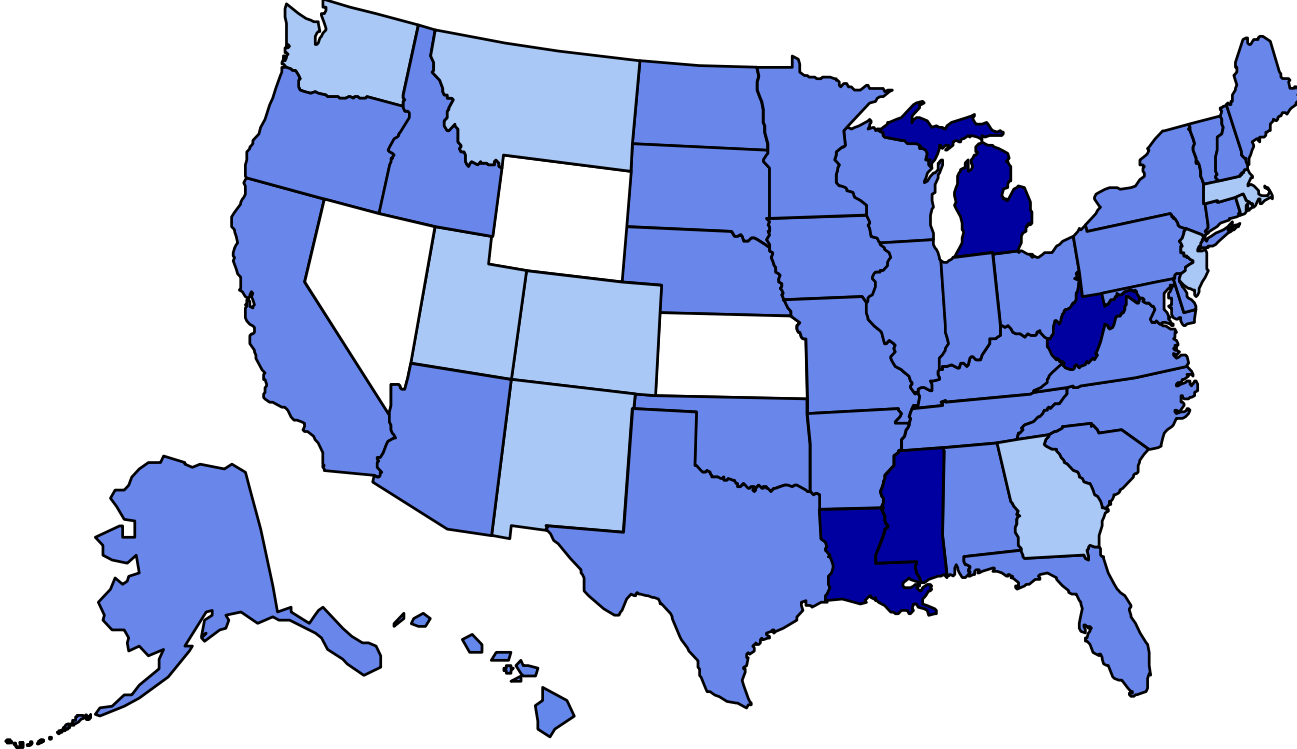
Obesity Trends* Among U.S. Adults

BRFSS, 1990



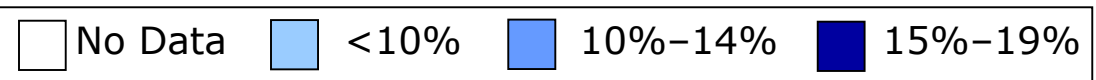
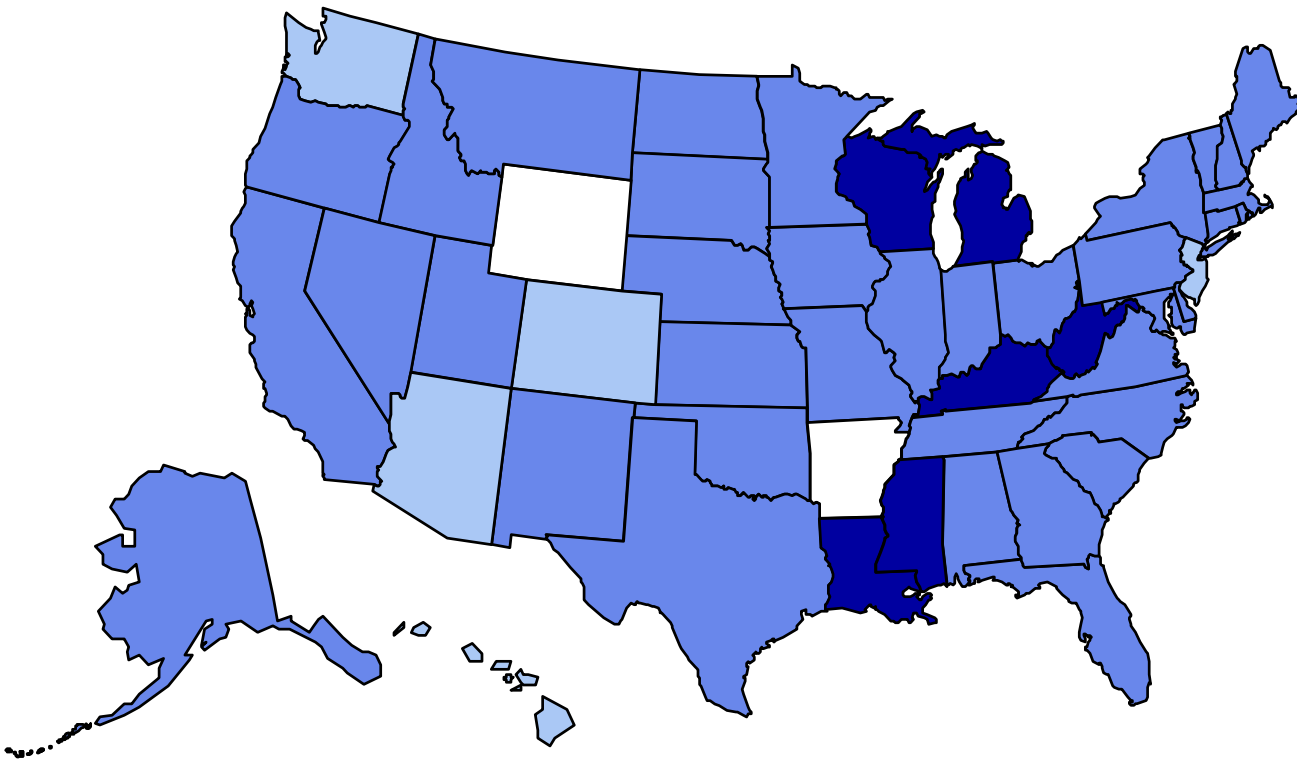
Obesity Trends* Among U.S. Adults

BRFSS, 1991



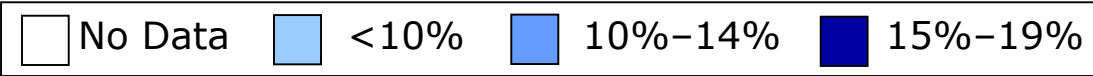
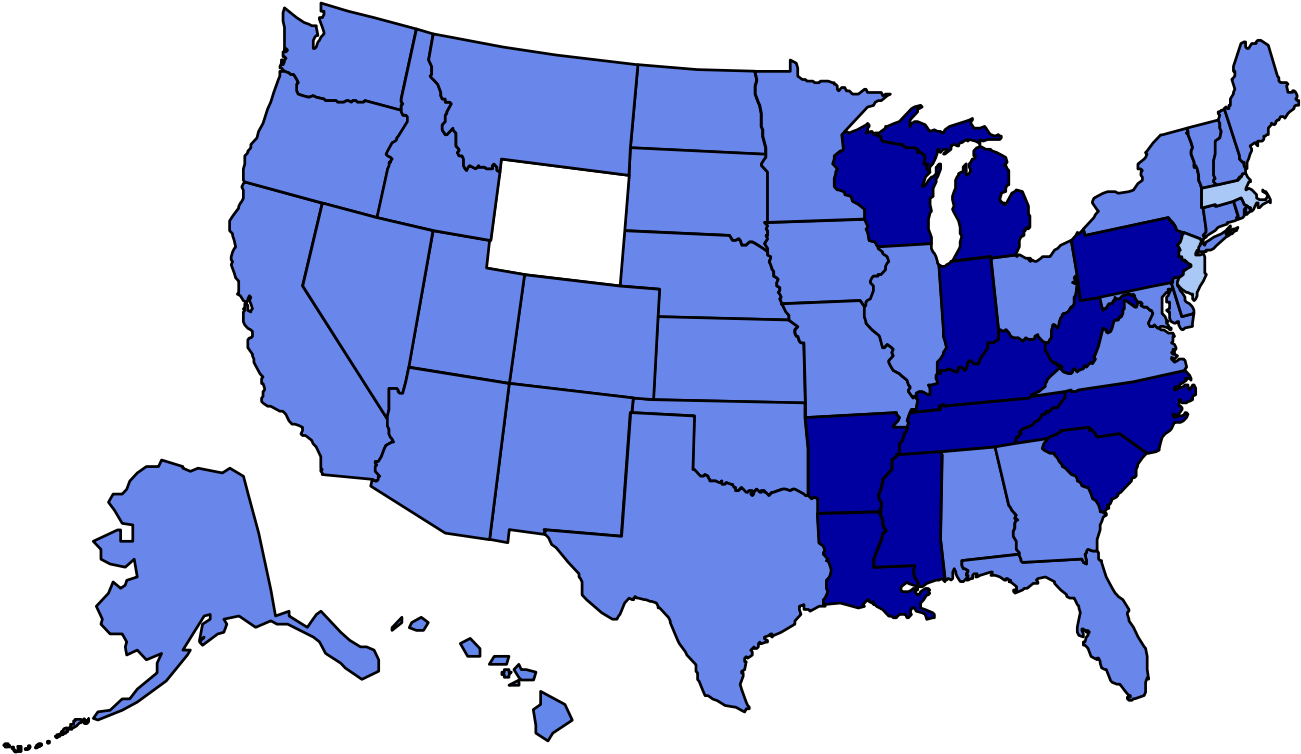
Obesity Trends* Among U.S. Adults

BRFSS, 1992



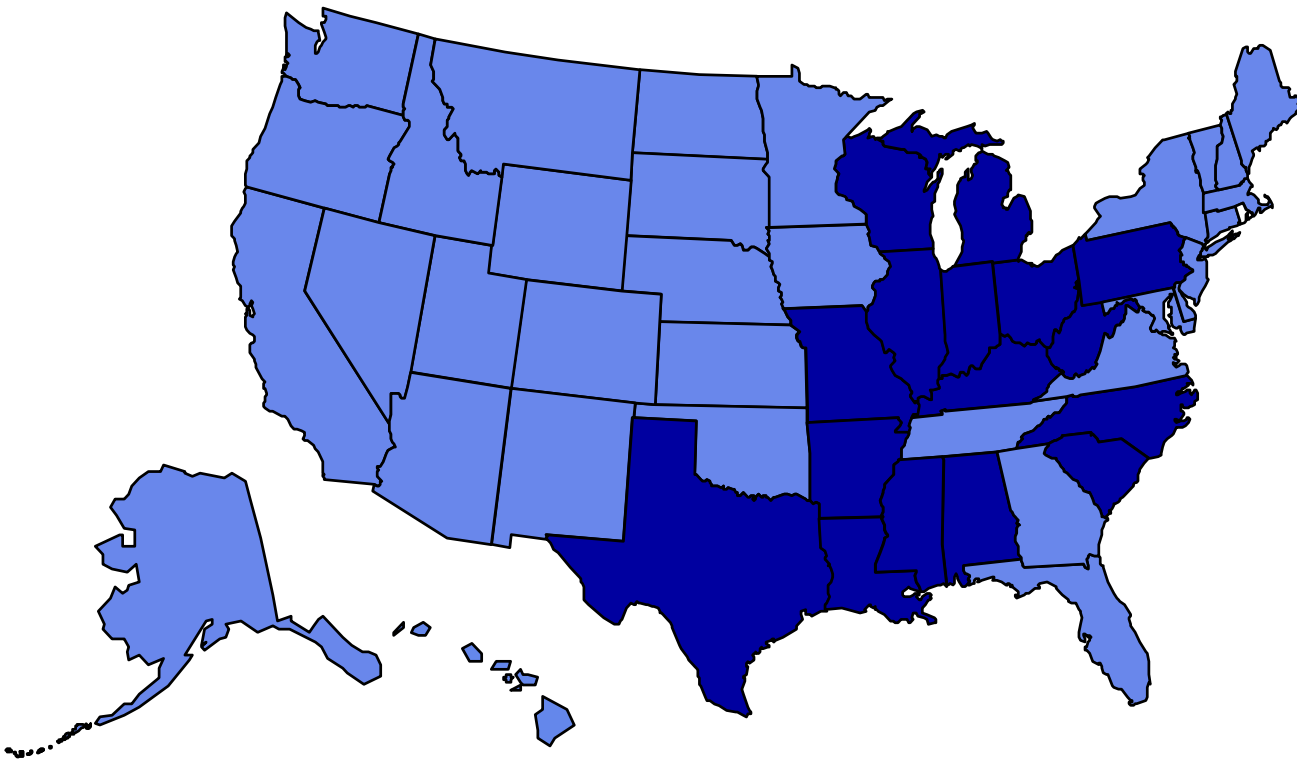
Obesity Trends* Among U.S. Adults

BRFSS, 1993



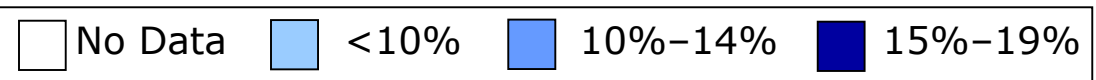
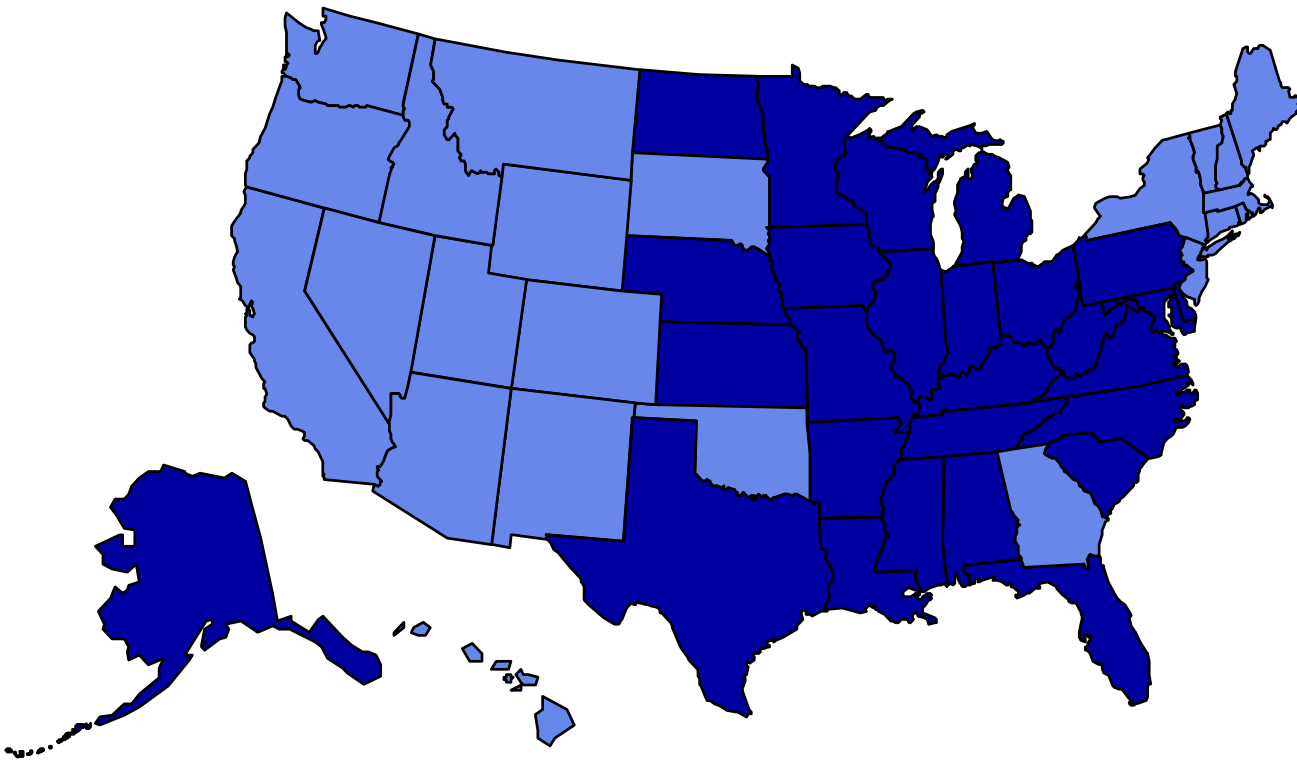
Obesity Trends* Among U.S. Adults

BRFSS, 1994



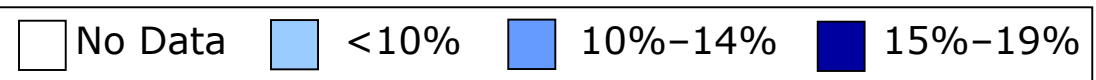
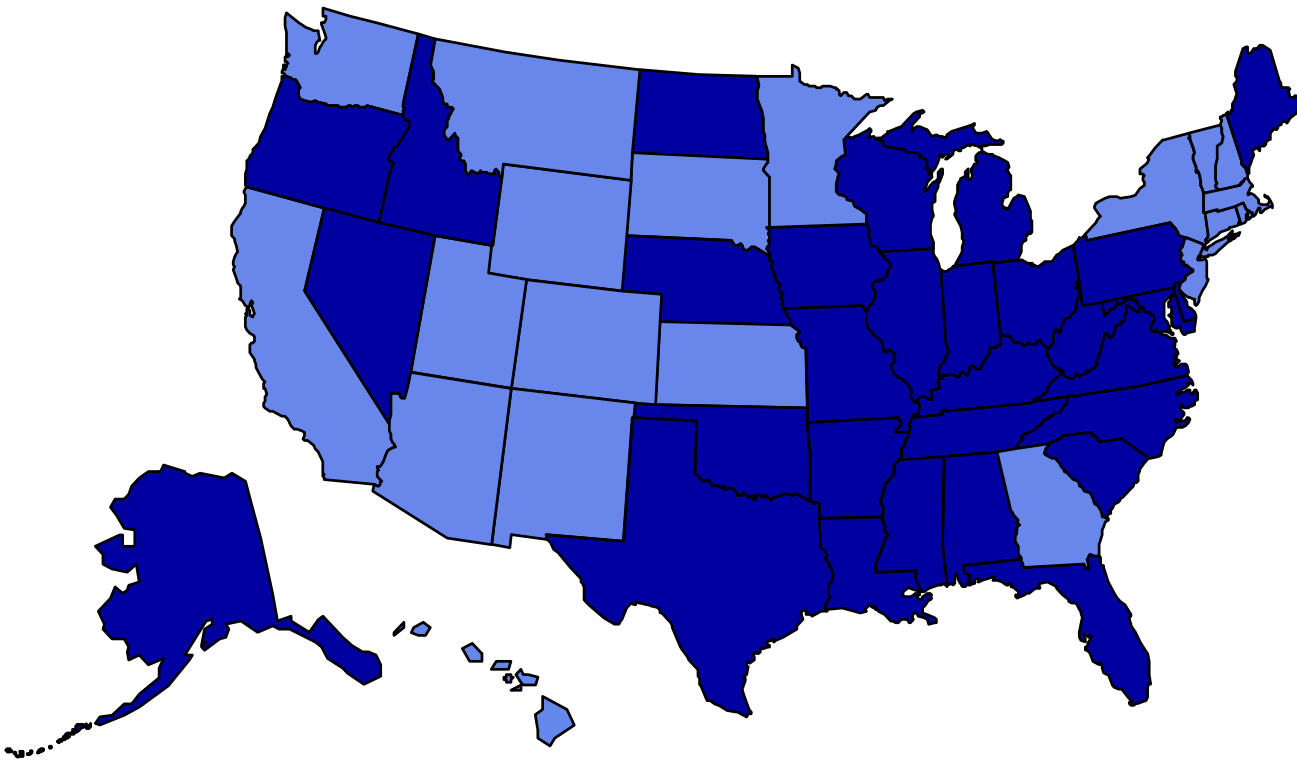
Obesity Trends* Among U.S. Adults

BRFSS, 1995



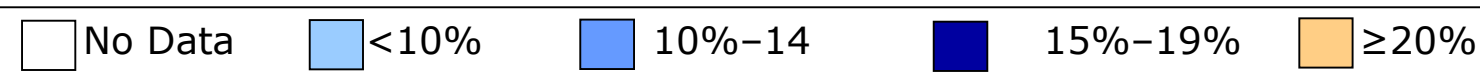
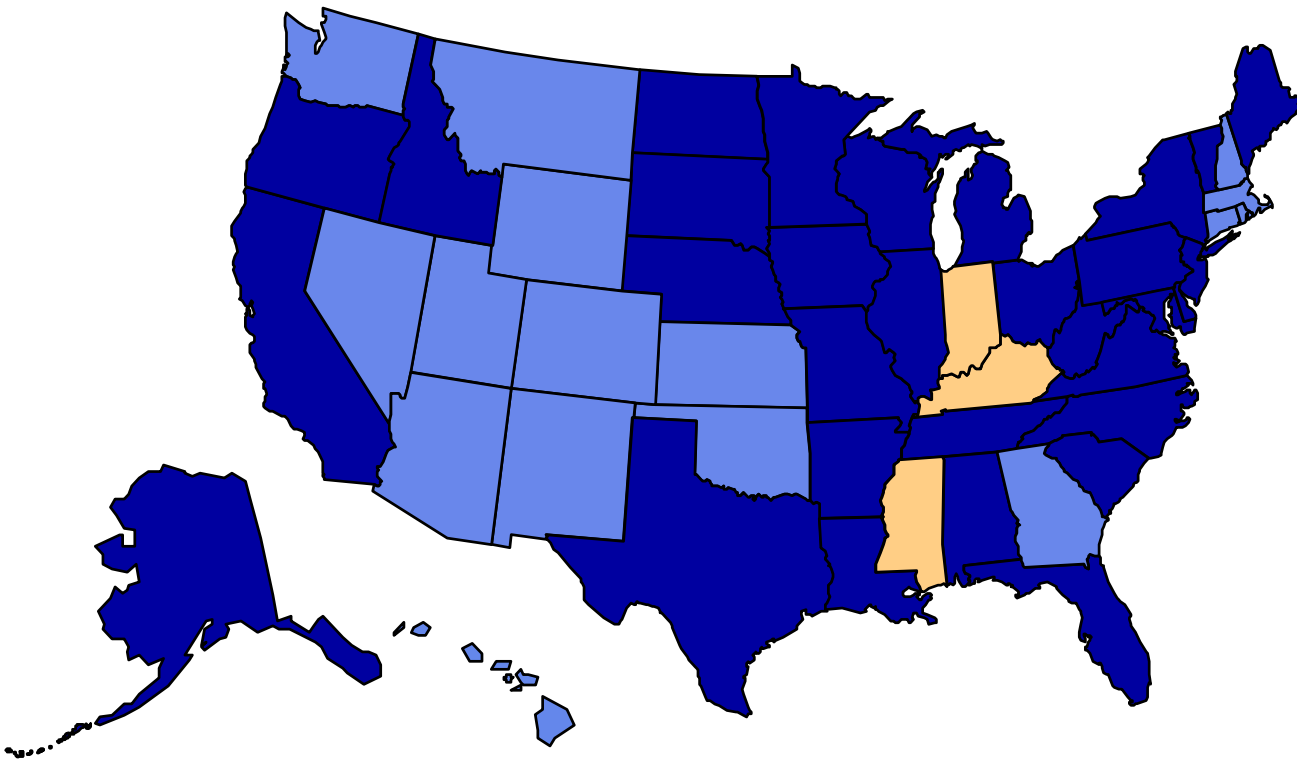
Obesity Trends* Among U.S. Adults

BRFSS, 1996



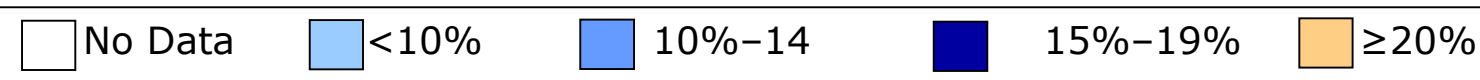
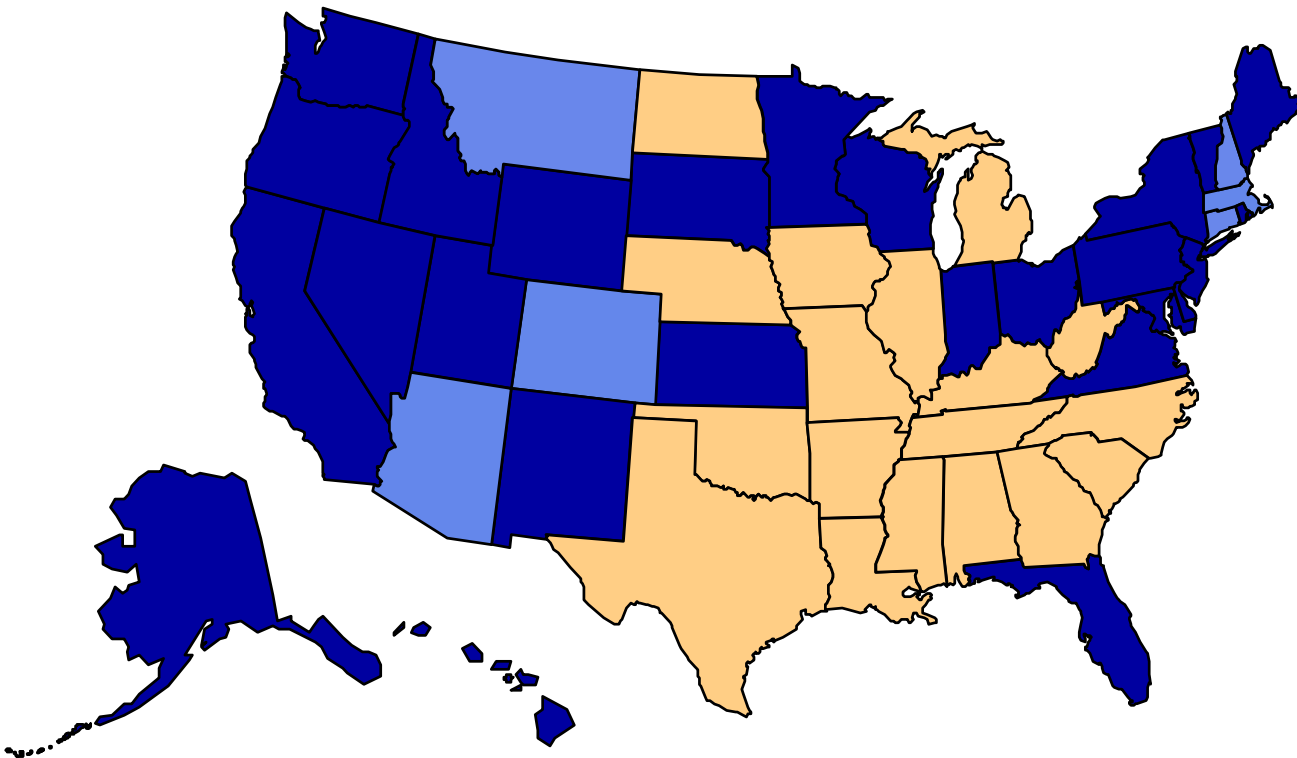
Obesity Trends* Among U.S. Adults

BRFSS, 1997



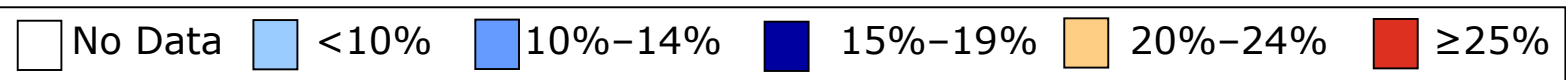
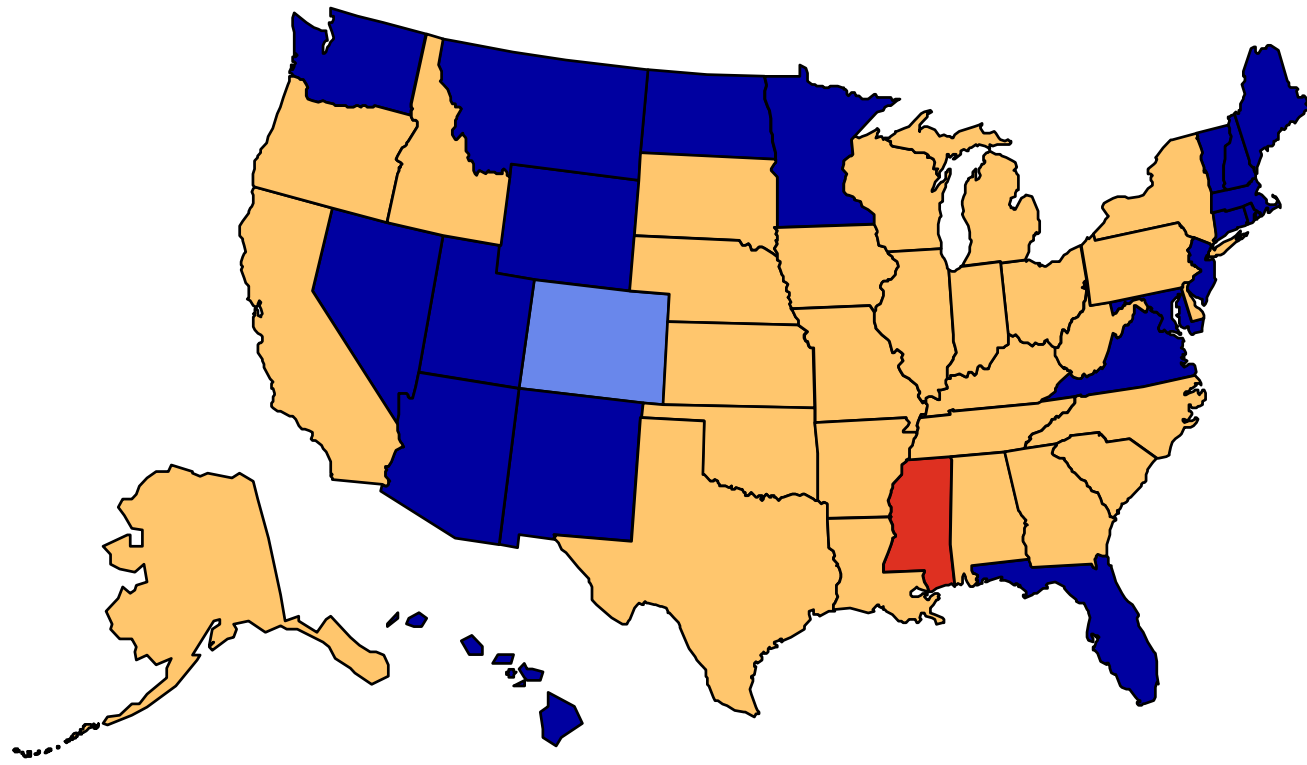
Obesity Trends* Among U.S. Adults

BRFSS, 1999



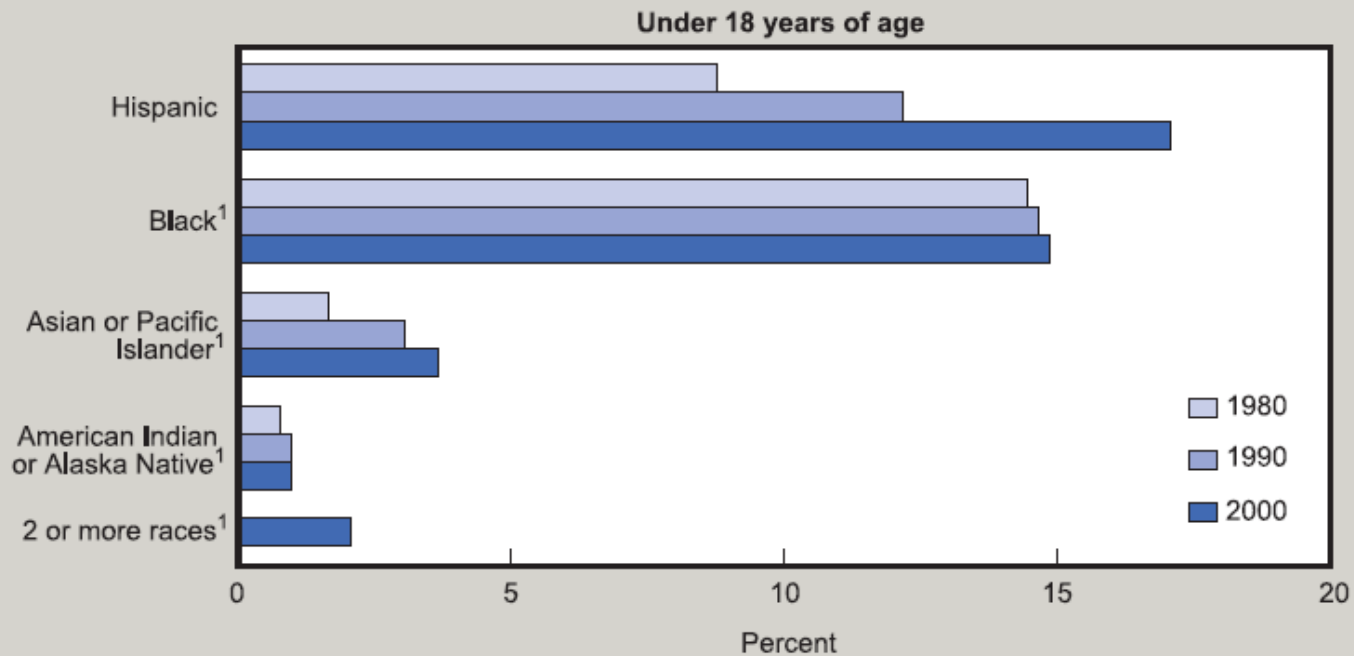
Obesity Trends* Among U.S. Adults

BRFSS, 2001



Percent of Child Population in Selected Race and Ethnic Groups

Figure 3. Percent of population in selected race and Hispanic origin groups by age: United States, 1980-2000



Percent of Adult Population in Selected Race and Ethnic Groups

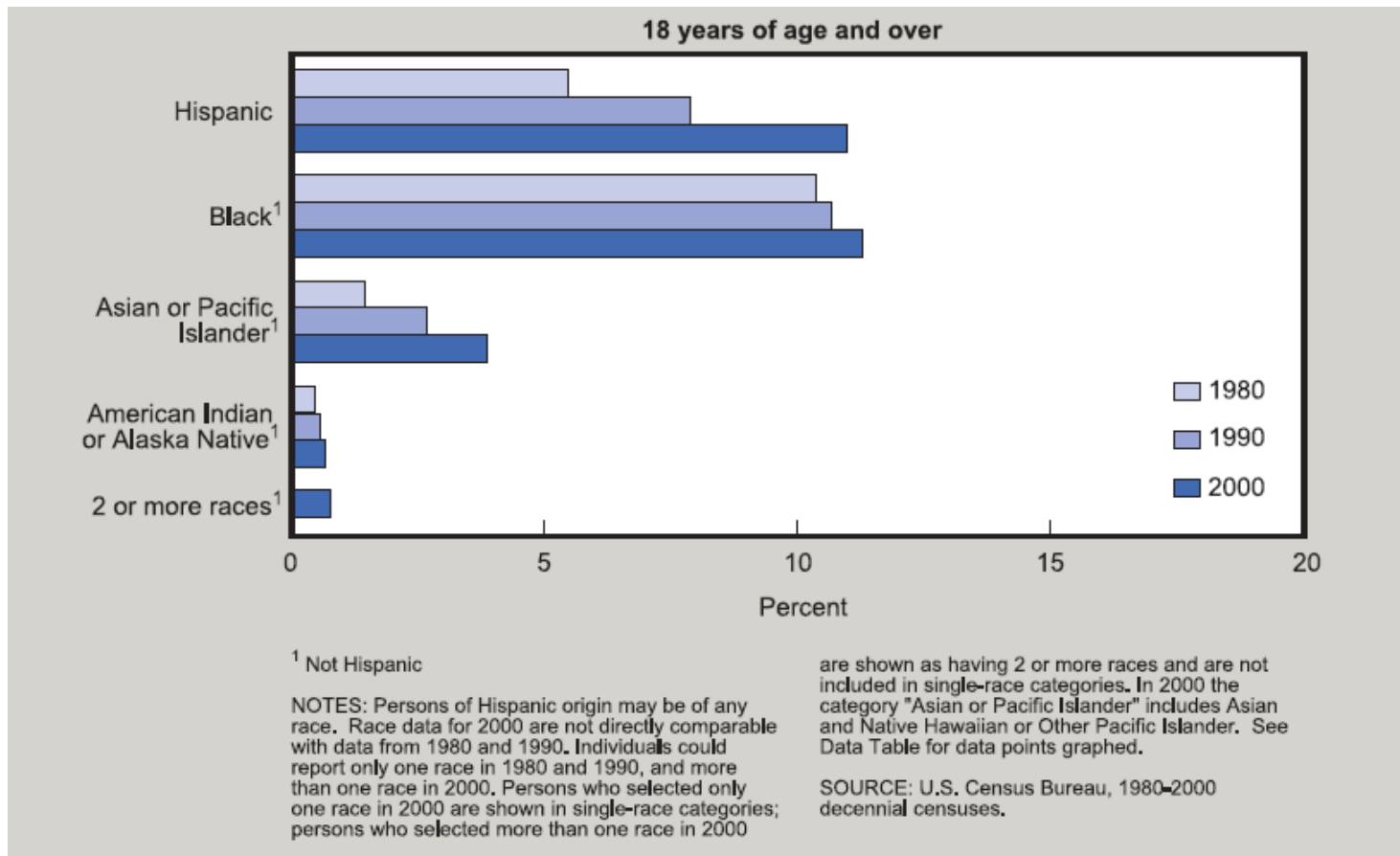
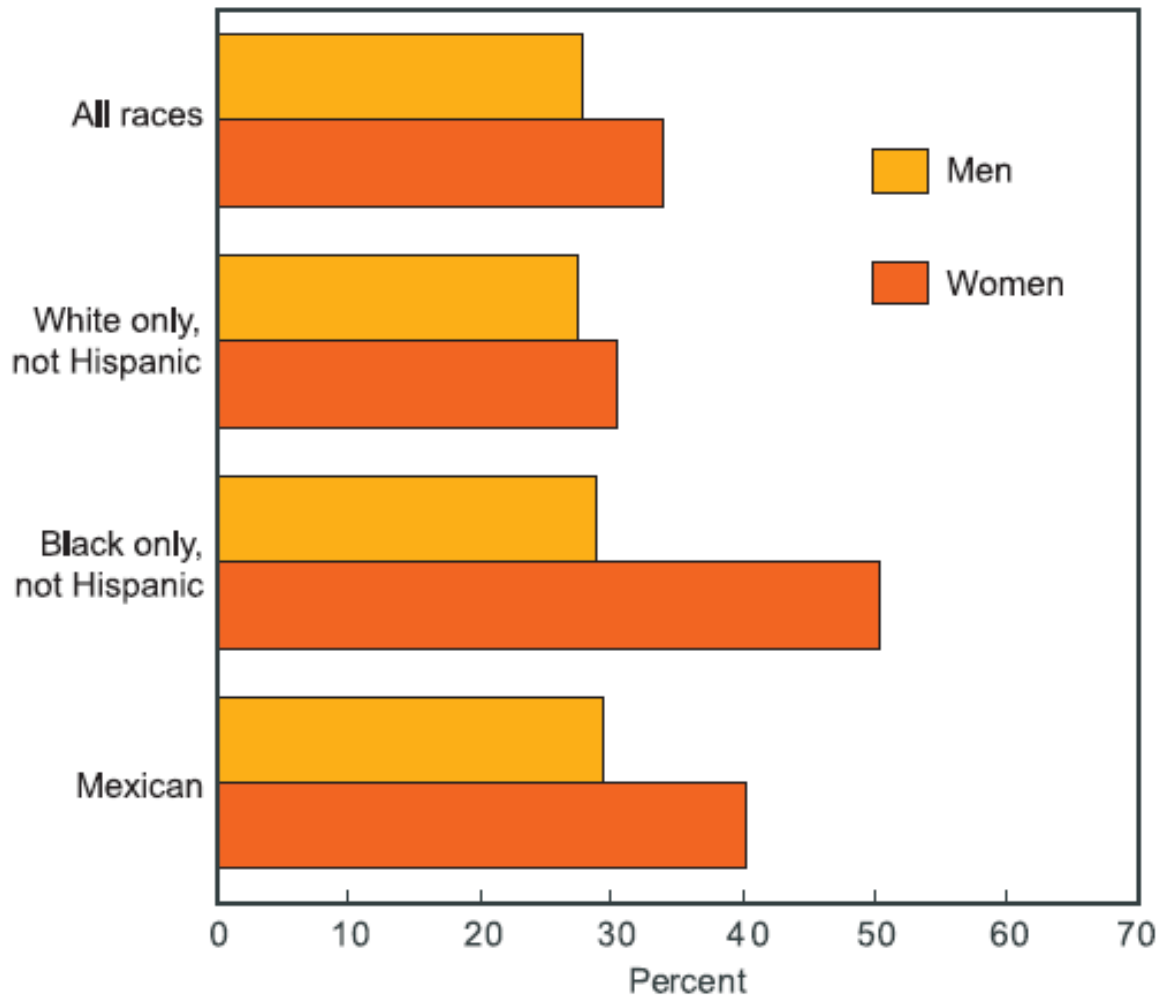


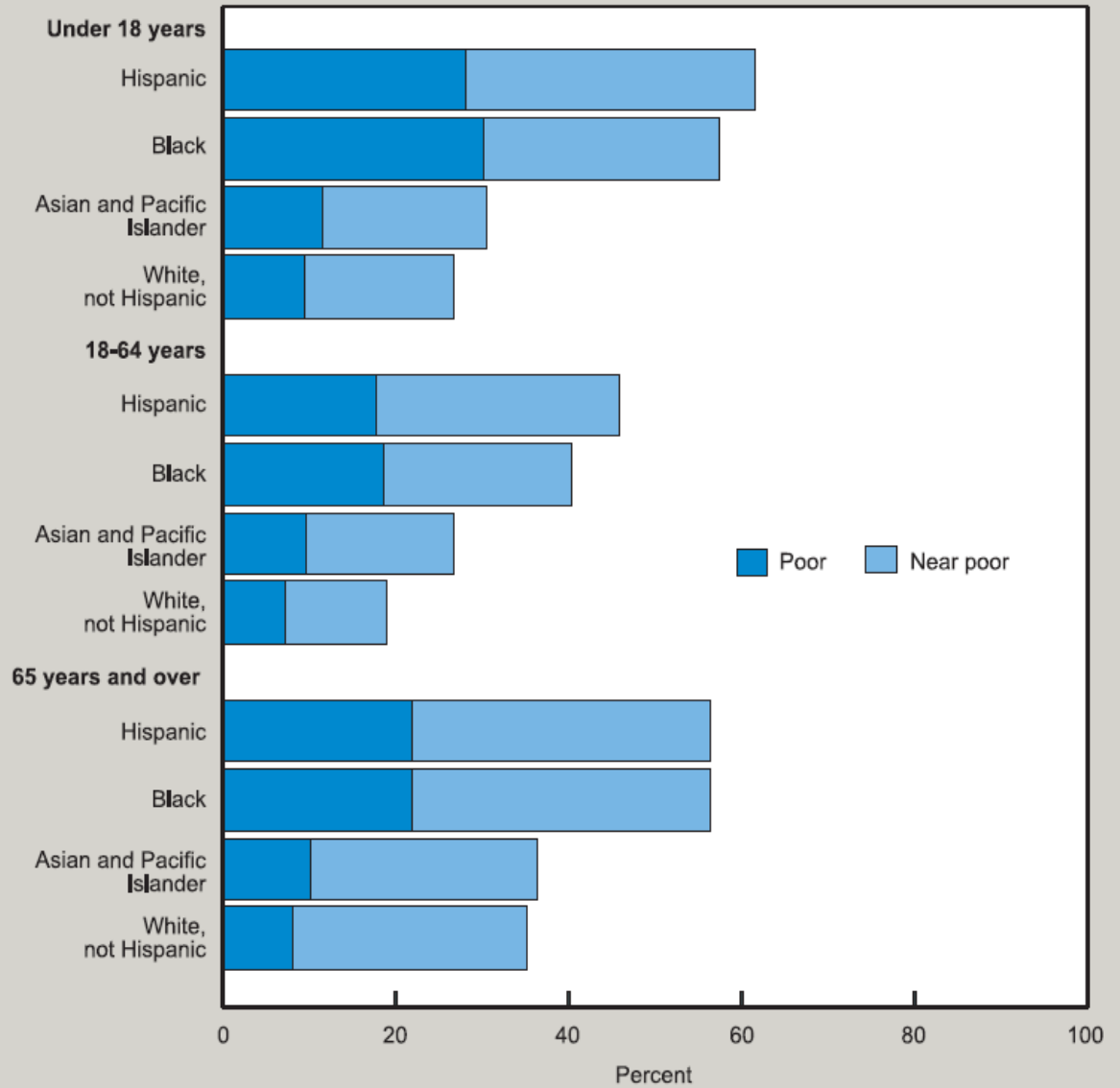
Figure 16. Obesity among adults 20-74 years of age by sex, race, and Hispanic origin: United States, 1999-2000



NOTES: Percents are age adjusted. Obesity is defined as a body mass index (BMI) greater than or equal to 30. Persons of Mexican origin may be of any race. See Data Table for data points graphed, standard errors, and additional notes.

SOURCE: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey.

Figure 5. Low income population by age, race, and Hispanic origin: United States, 2001



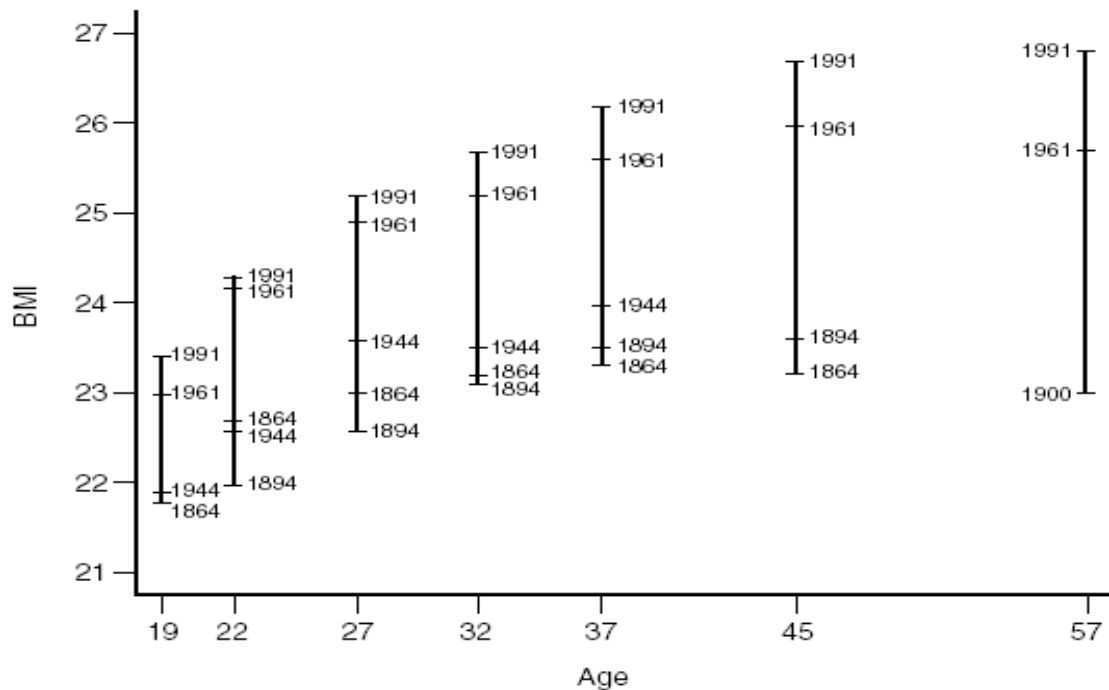
NOTES: Poor is defined as family income less than 100 percent of the poverty level and near poor as 100-199 percent of the poverty level. Persons of Hispanic origin may be of any race. Black, and Asian and Pacific Islander races include persons of

Hispanic and non-Hispanic origin. See Data Table for data points graphed and additional notes.

SOURCE: U.S. Census Bureau, Current Population Survey.

Lakdawalla and Philipson

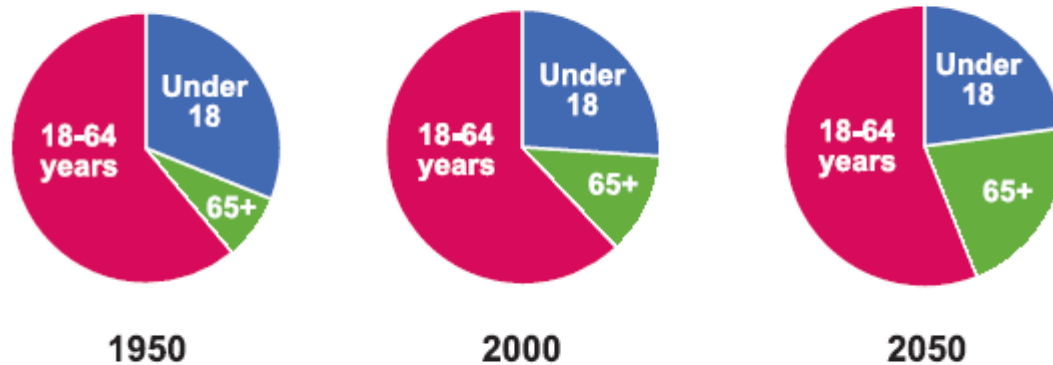
Figure 1: Historical Change in US Body Mass Index: 1863-1991.



SOURCE: Costa D. and R. Steckel (1995), NBER Historical WP #76.

Older U.S. Population

Figure 2. Percent of population in 3 age groups: United States, 1950, 2000, and 2050



NOTE: See Data Table for data points graphed and additional notes.

SOURCES: U.S. Census Bureau, 1950 and 2000 decennial censuses and 2050 middle series population projections.

Baby Boomers

- Born 1946-1964
- All are middle-aged
- 40-58 years old in 2004



The Transformation

CARBS-free

SUGAR BUSTERS!®

CUT SUGAR TO TRIM FAT



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...I'M SURE IT'S
JUST UNTIL THIS
ATKINS FAD IS
OVER, SIR...

THE HELL-DISPATCH
CARBS OVERTAKE
DEVIL AS #1 EVIL

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Free/Added Sugars Recommendations



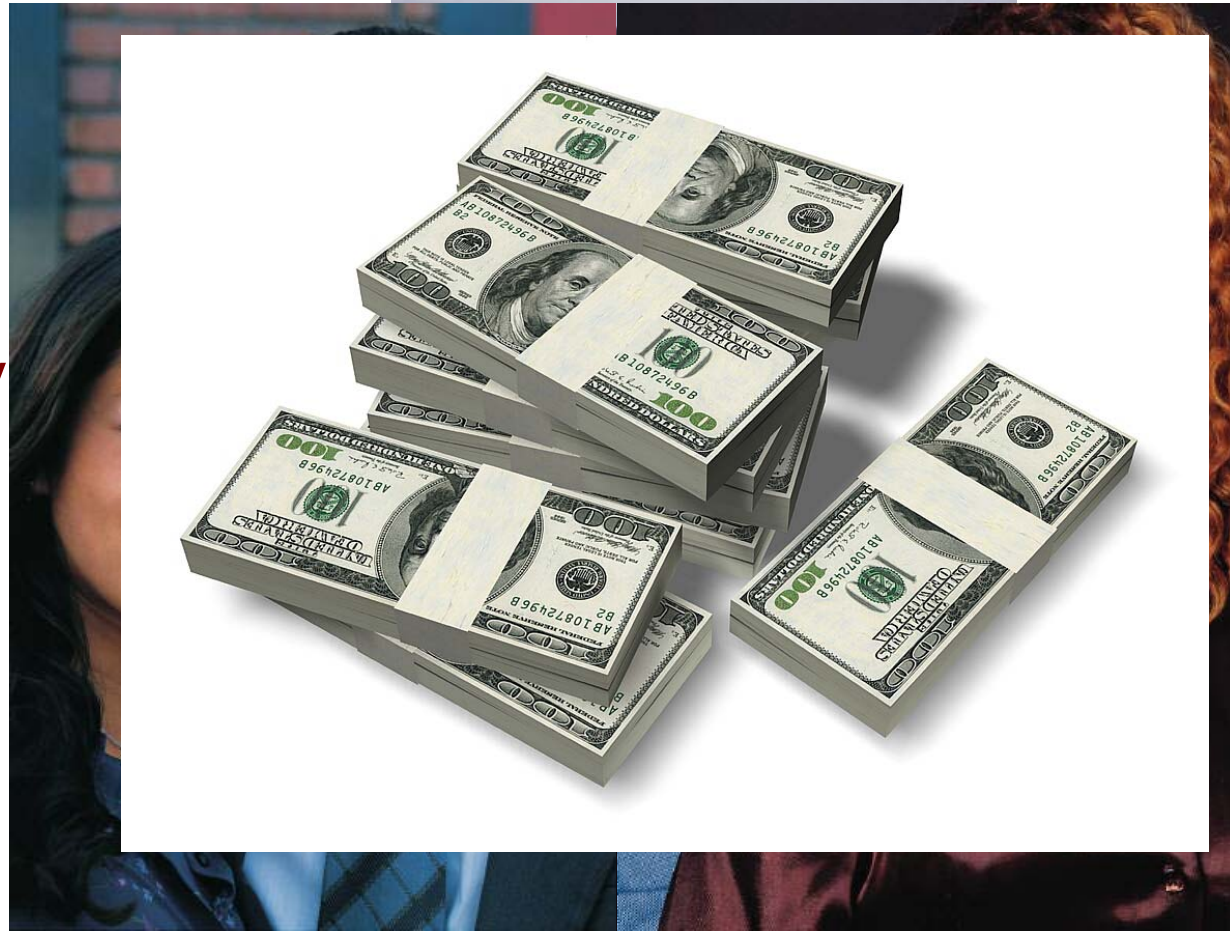
10% or less



25% or less

Non-Modifiable Factors Associated with Overweight

- Age
- Gender
- Race/ethnicity
- Income

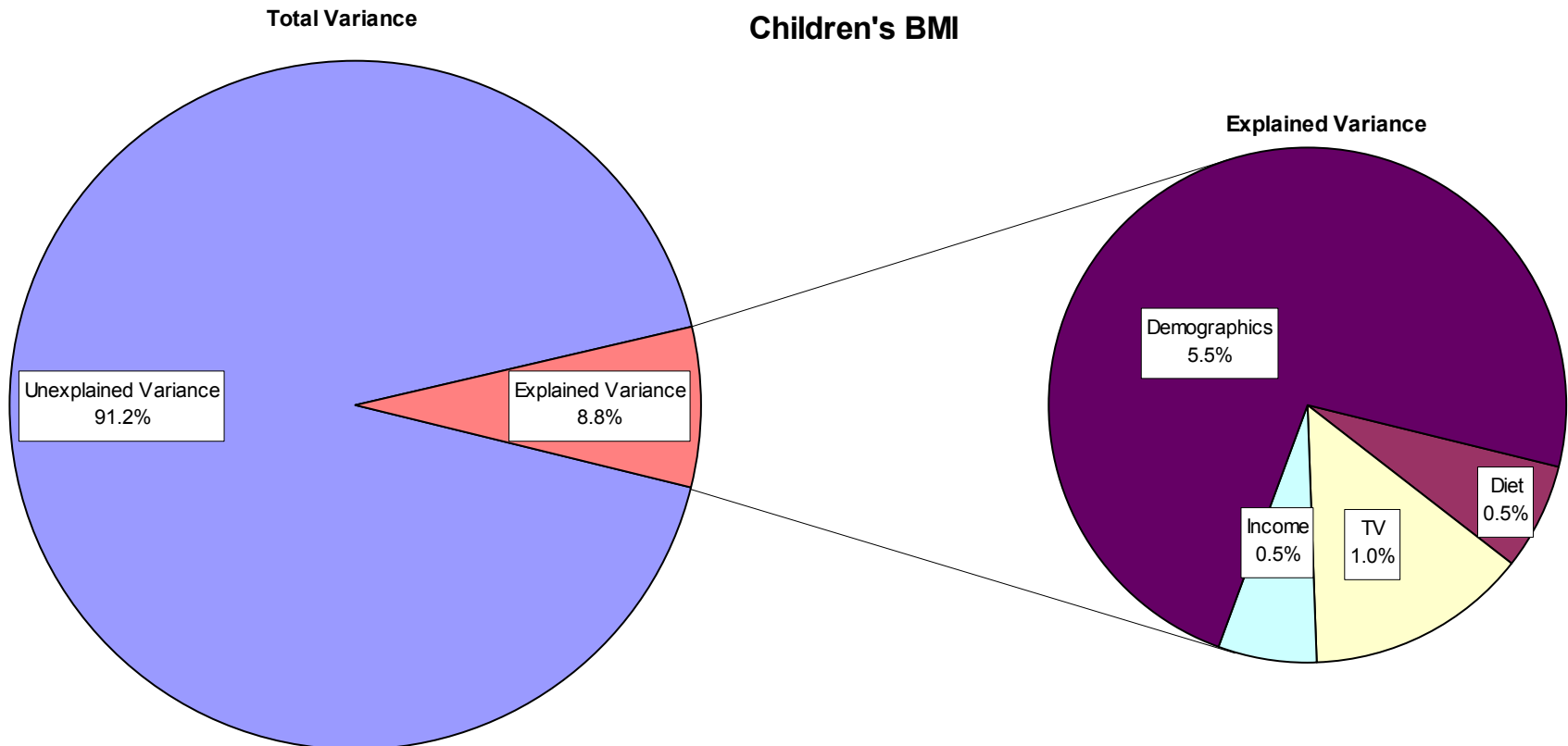


Modifiable Factors Associated with Overweight

- Physical Activity
- Sedentary Behavior
- Diet

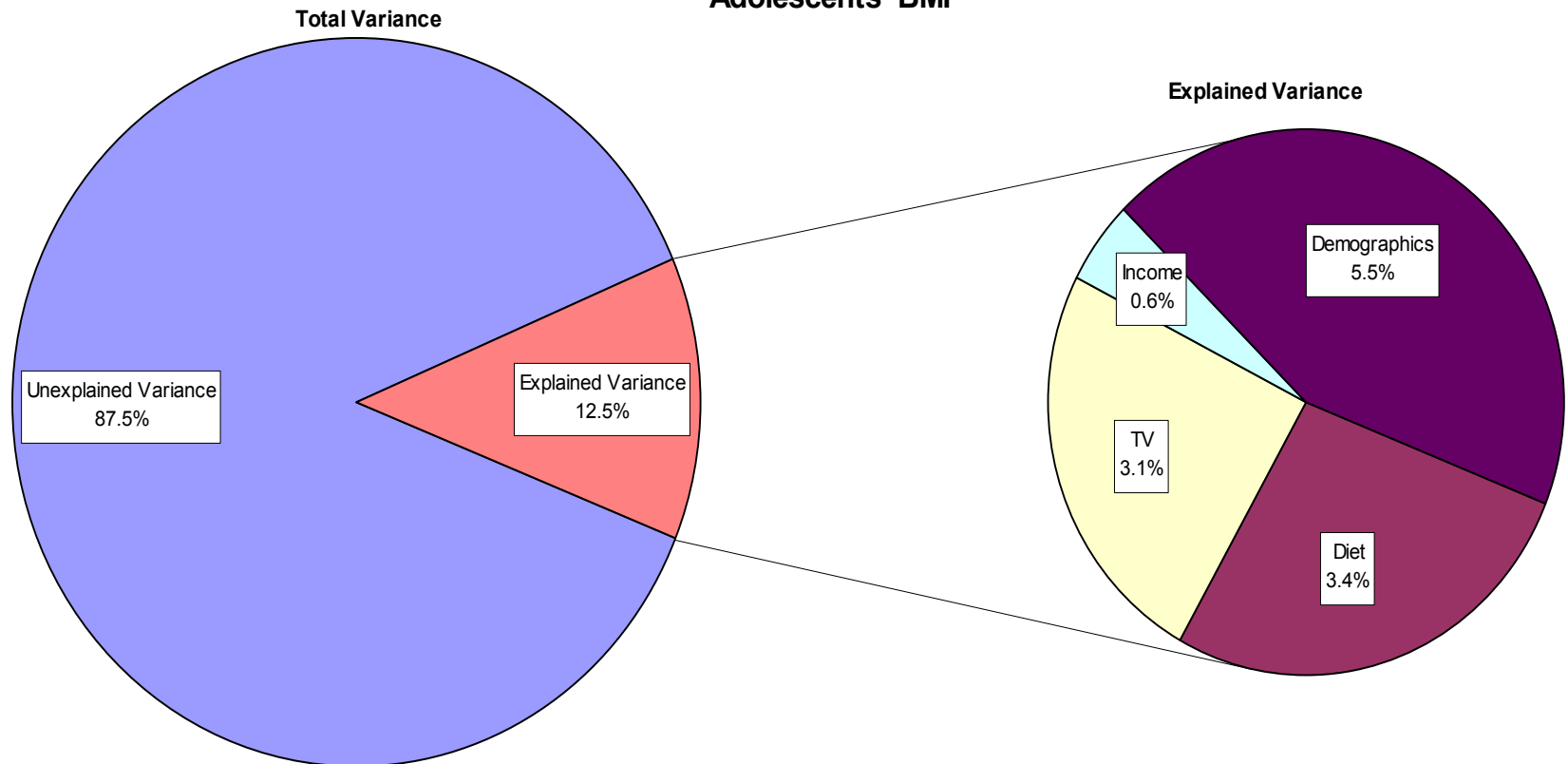


Factors Associated with Children's BMI



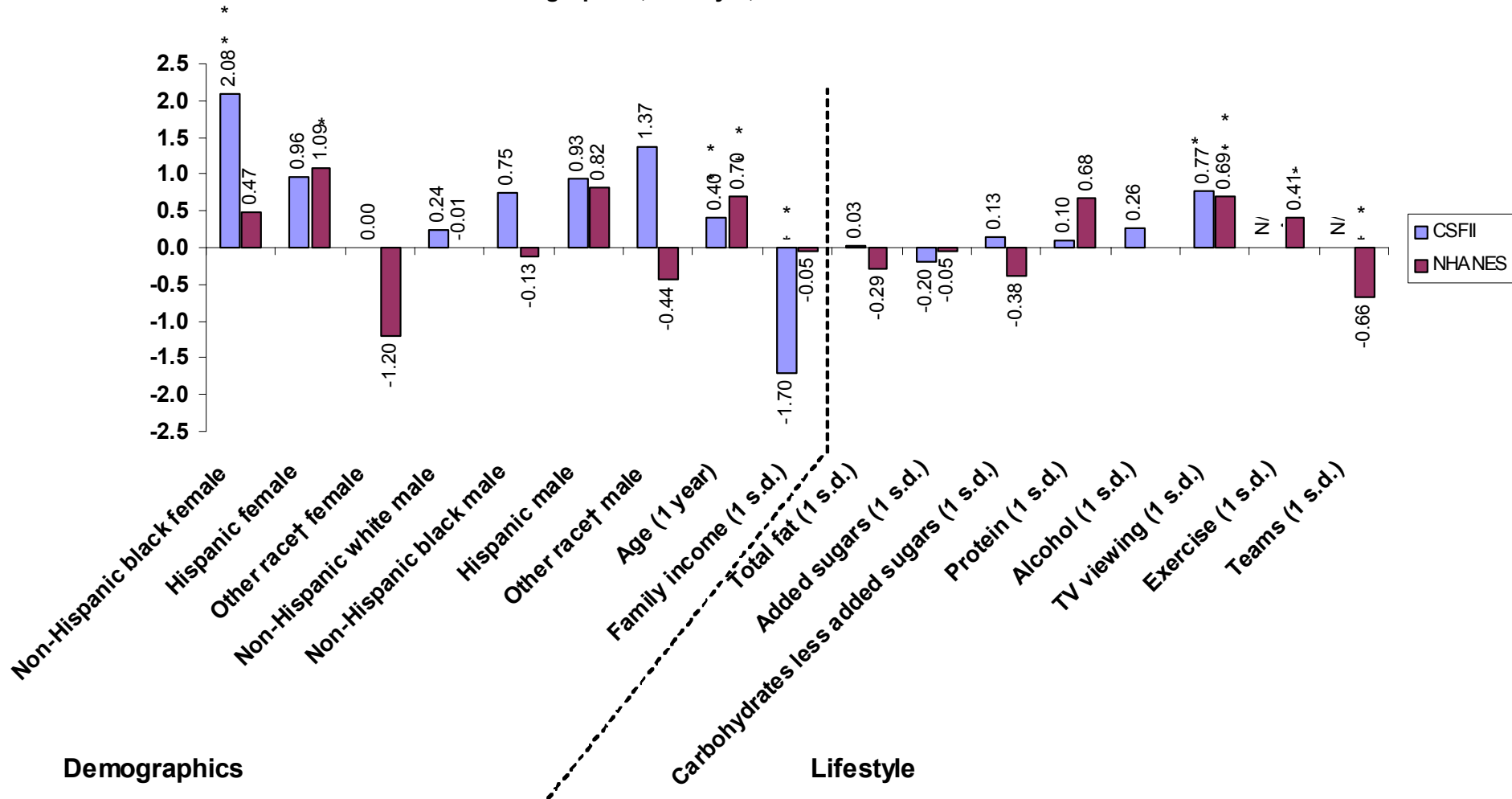
Factors Associated with Adolescents' BMI

Adolescents' BMI



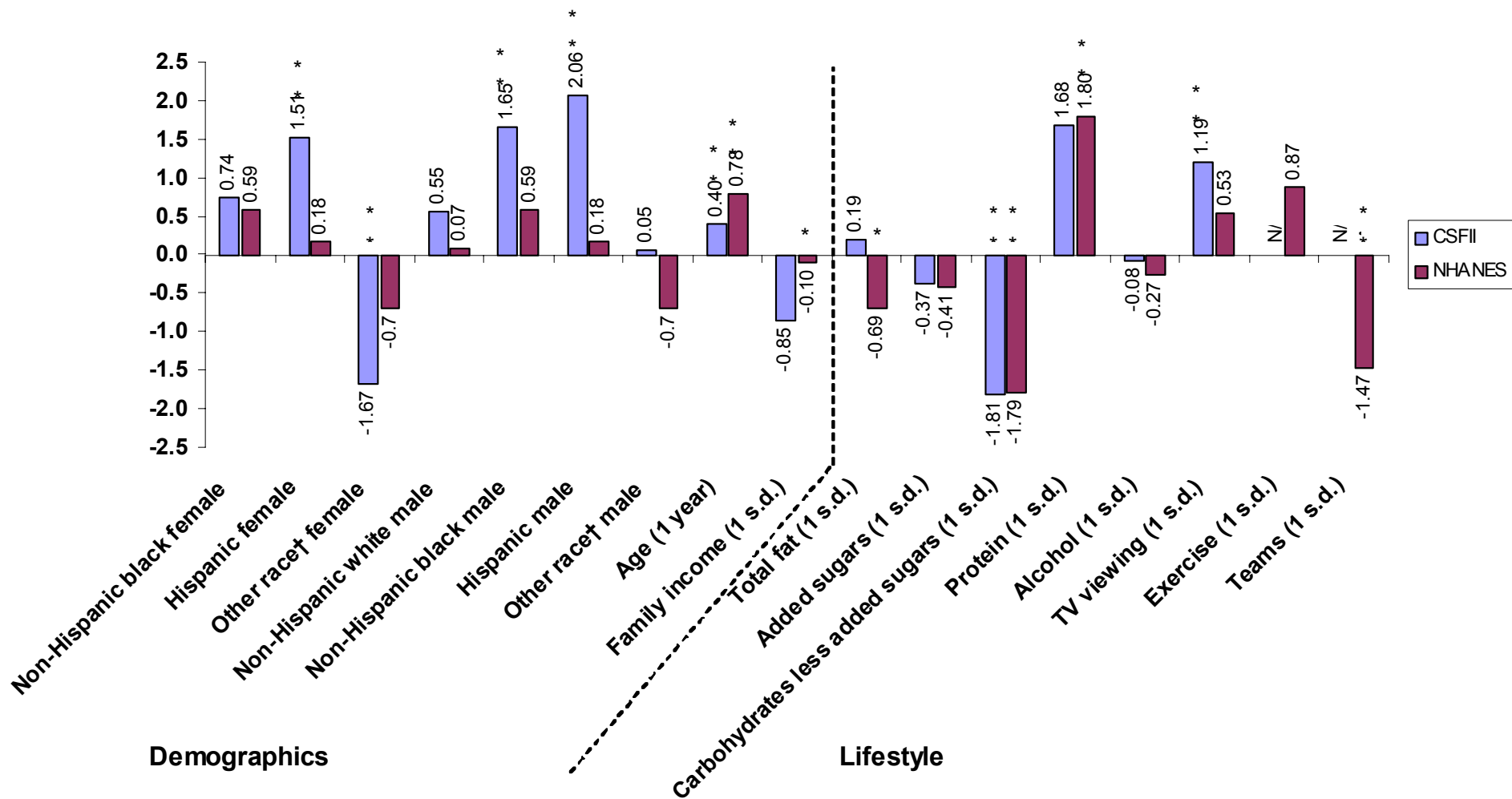
Predicted Change in Children's BMI

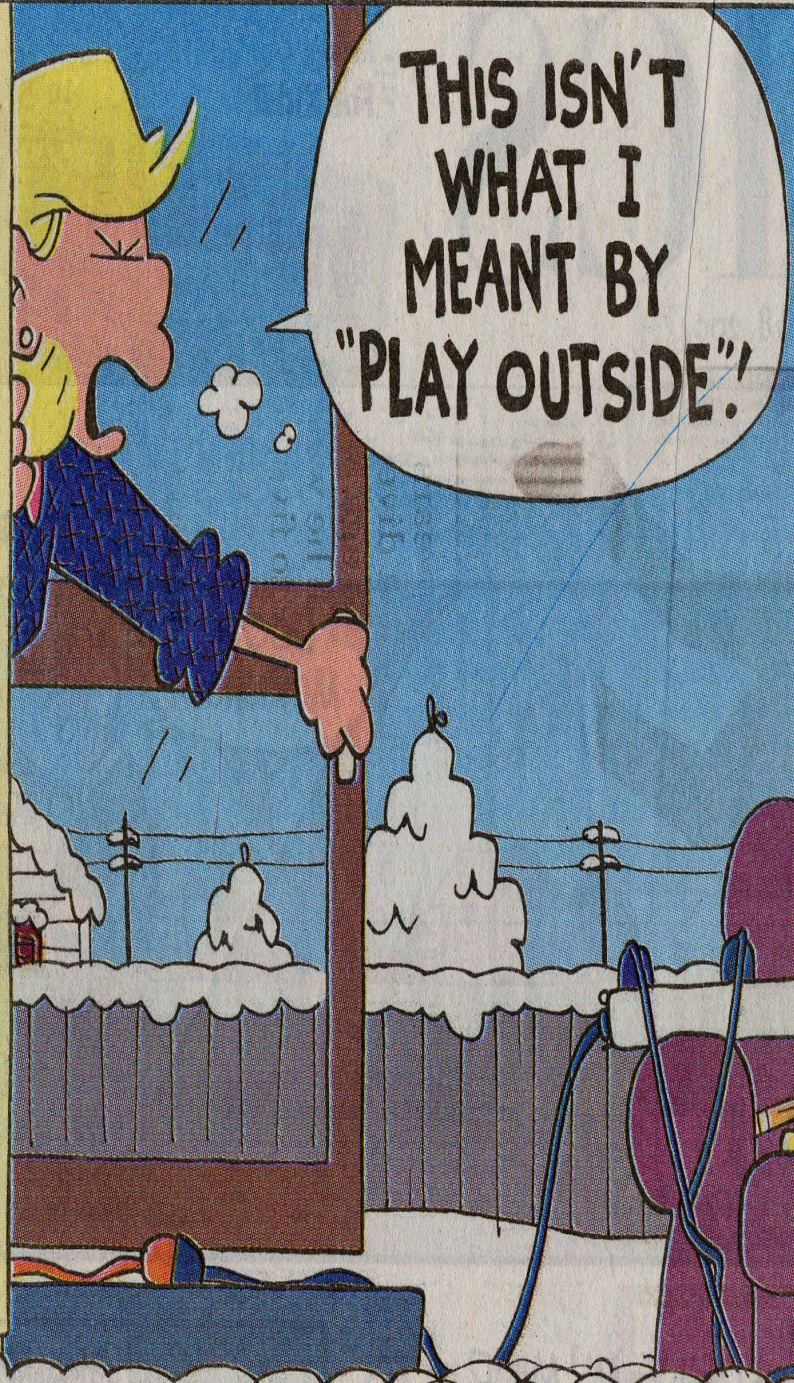
Demographics, Lifestyle, and BMI in Children



Predicted Change in Adolescents' BMI

Demographics, Lifestyle, and BMI in Adolescents





THIS ISN'T
WHAT I
MEANT BY
"PLAY OUTSIDE!"

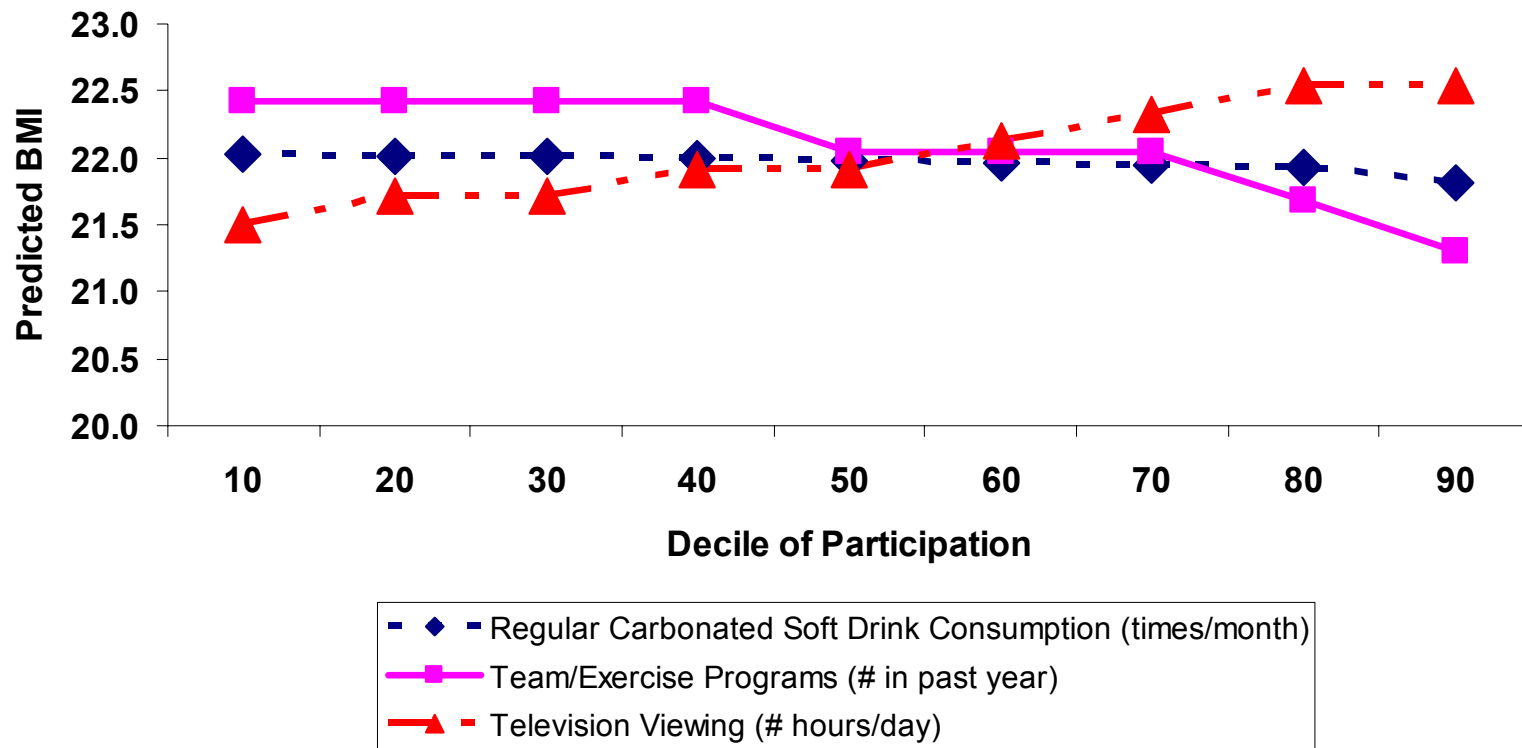
NOW
SHE TELLS
US.

THIS SOFA WAS
A PAIN TO
MOVE, MOTHER!



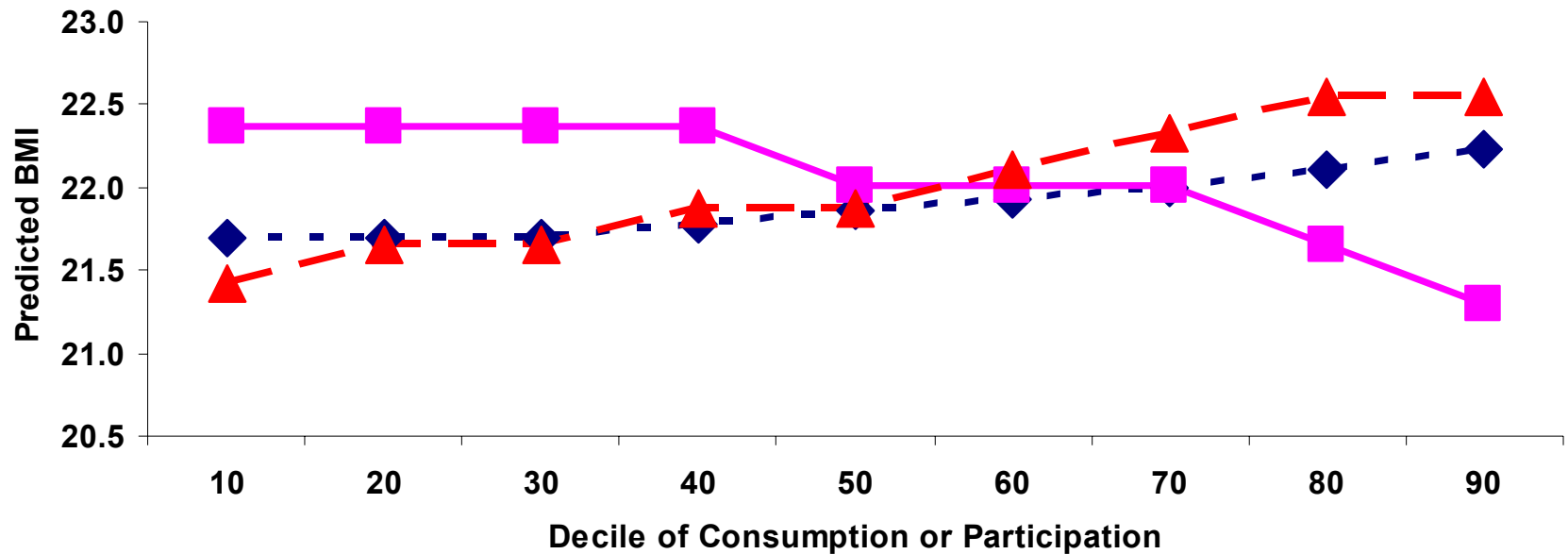


Girls 12-16 Years



Food Frequency Questionnaire

Girls 12-16 Years

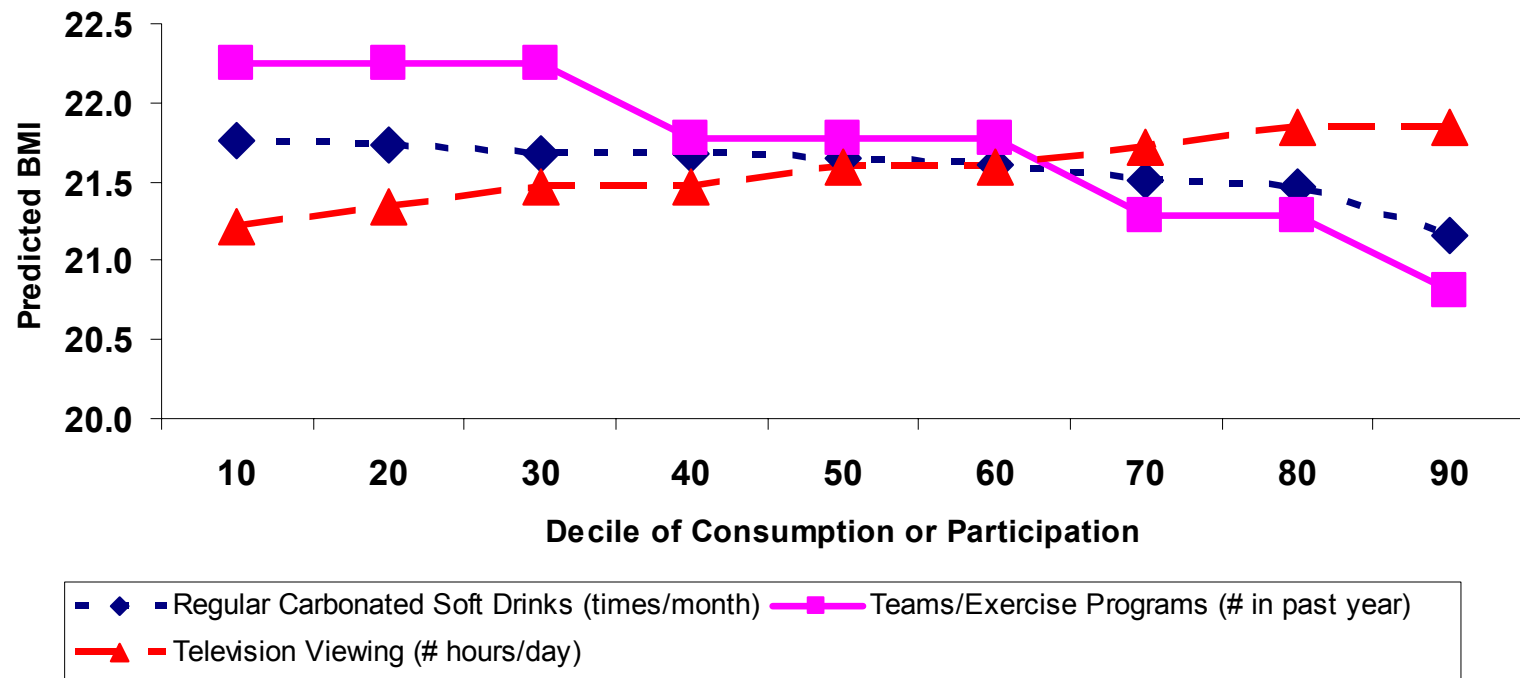


■ Regular Carbonated Soft Drink Consumption (g/day)
 ■ Teams/Exercise Programs (# in past year)
 ▲ Television Viewing (# hours/day)

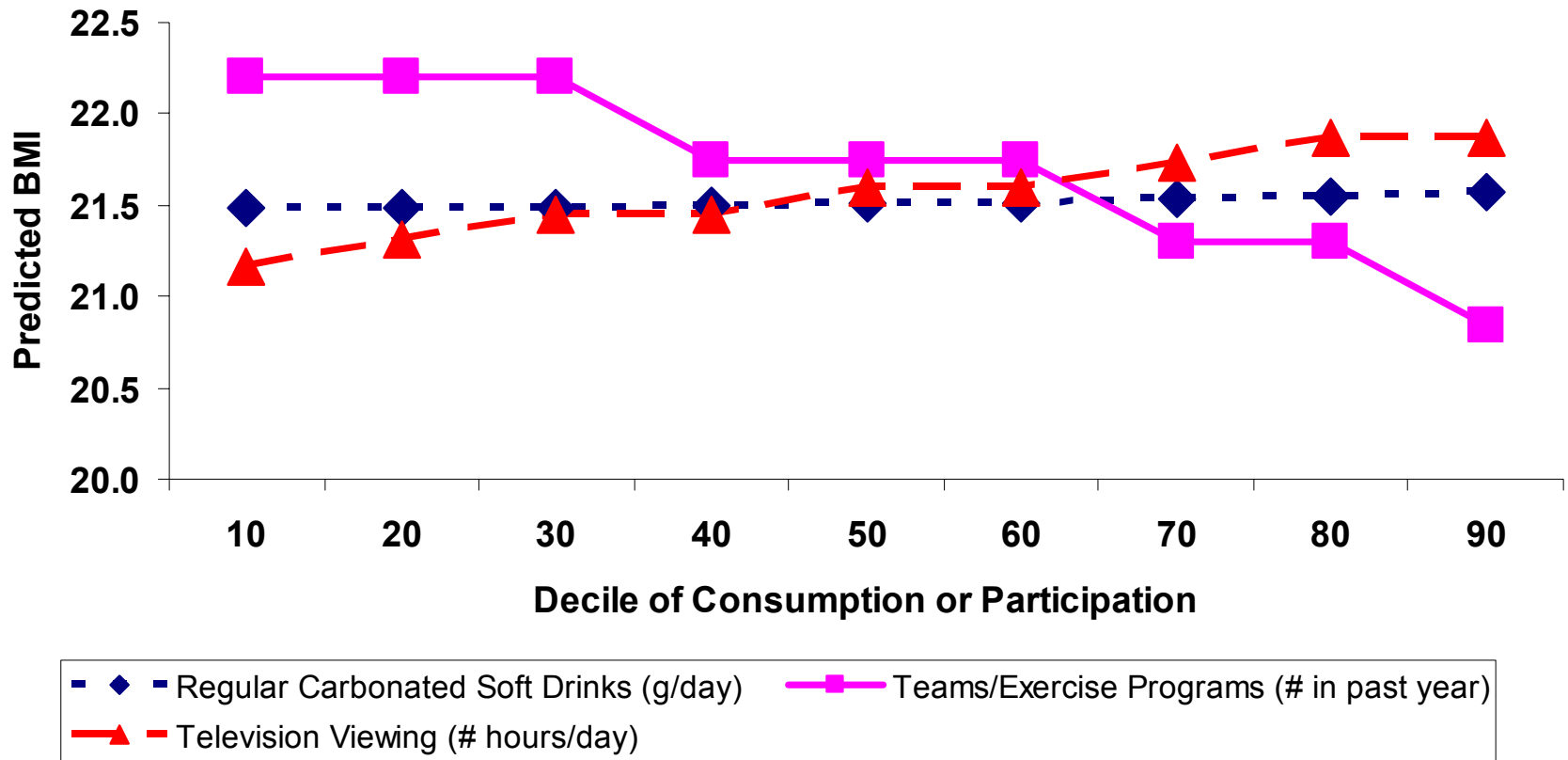
24 hour recall



Boys 12-16 Years



Boys 12-16 Years



24 hour recall



Center for Food and Nutrition Policy
Virginia Tech - Alexandria