



Understanding Fruit and Vegetable Choices and Consumption

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Objectives

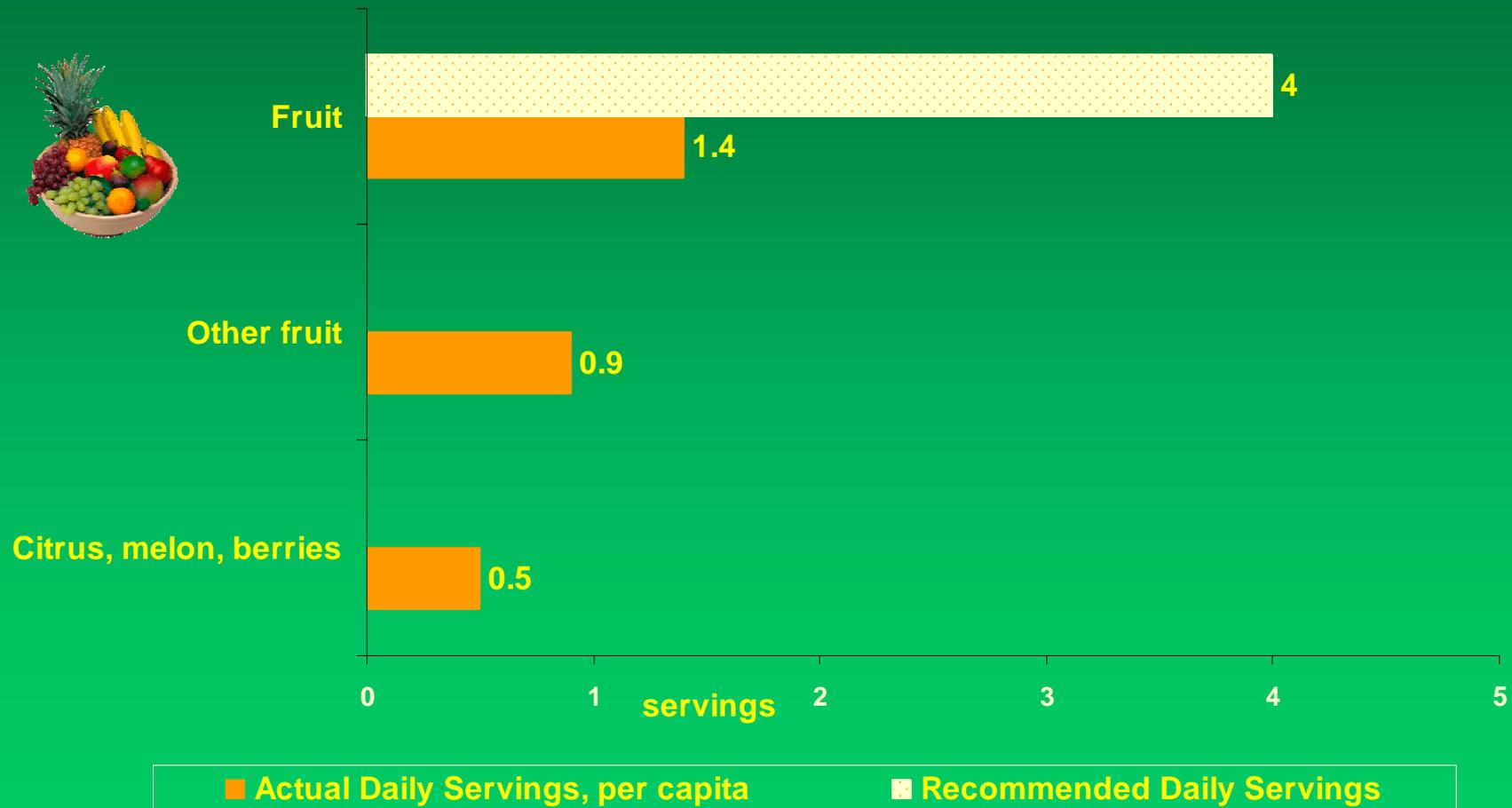


- Compare Federal Dietary Recommendations for Fruit and Vegetable Consumption to Current Consumption
- Examine Economic and Behavioral Factors that Influence Fruit and Vegetable Choices and Consumption
- Discuss Projected Trends in Fruit and Vegetable Consumption



How Does Current Consumption Compare to Recommendations?

Fruits

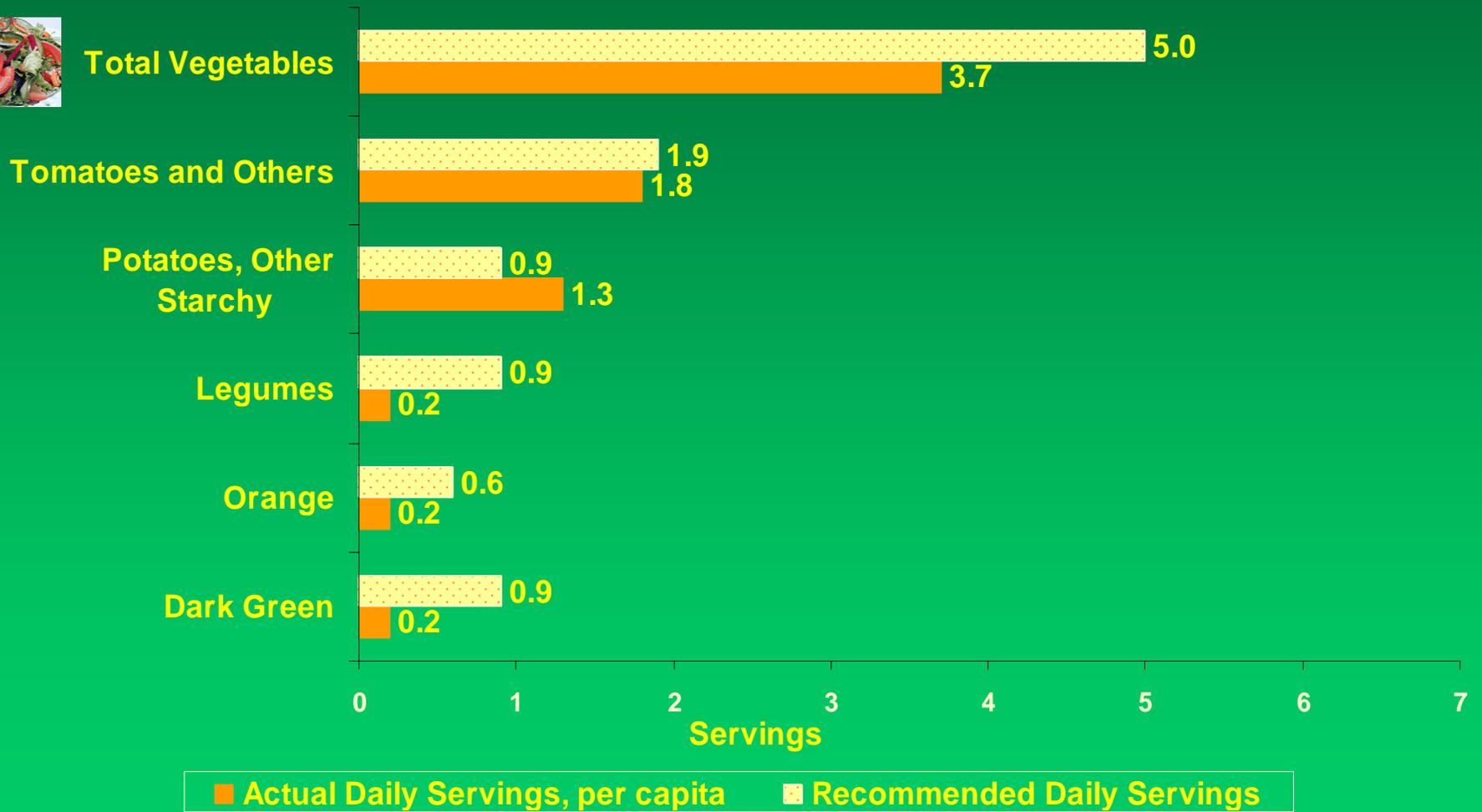


Data Source: U.S. Food Supply Series, Economic Research Service, USDA; 2003 data



How Does Current Consumption Compare to Recommendations?

Vegetables



Data Source: U.S. Food Supply Series, Economic Research Service, USDA, 2003 data



Factors Influencing Choice and Consumption

Cost?



- “Fruits and vegetables are too expensive to eat regularly”
- “Fresh costs too much”
- ERS investigated using national data on purchases and prices paid by actual consumers.



Findings



- **More than half of all fruits and vegetables were estimated to cost 25 cents or less per Food Guide Pyramid (FGP) serving in 1999 (current price would likely be about 2 to 4 cents higher)**
- **Differences in prices paid for fresh, frozen, or canned versions of fruits and vegetables were small. Fresh was often less expensive.**
- **Differences in sales units and serving sizes may lead to confusion as to cost per serving—for example a pound of peaches at \$0.97/pound yields 4 FGP servings for \$0.21/serving.**

Source: Reed, et al. How Much Do Americans Pay for Fruits and Vegetables? ERS AIB 792-4, 2004.



Does It Cost More to “Pick a Better Snack?”



Dollars Per Serving; ACNielsen Homescan data, 1999



Factors Influencing Choice and Consumption *Household Income?*

In 2000, low-income households:

- Spent \$3.59 per capita per week on fruits and vegetables In 2000, while higher income households spent \$5.02
- 19% bought no fruits and vegetables in a one week period



Source: Blisard et al. Low-Income Households' Expenditures on Fruits and Vegetables. ERS AER-833, 2004.



Are Fruits and Vegetables “Worth the Price?”

Perceived Value

- Given small increases in income, low-income households are less likely to spend more on fruits and vegetables—perhaps indicating they value other items more.
- Formal education appears to influence likelihood of spending additional dollars on fruits and vegetables more than income does.



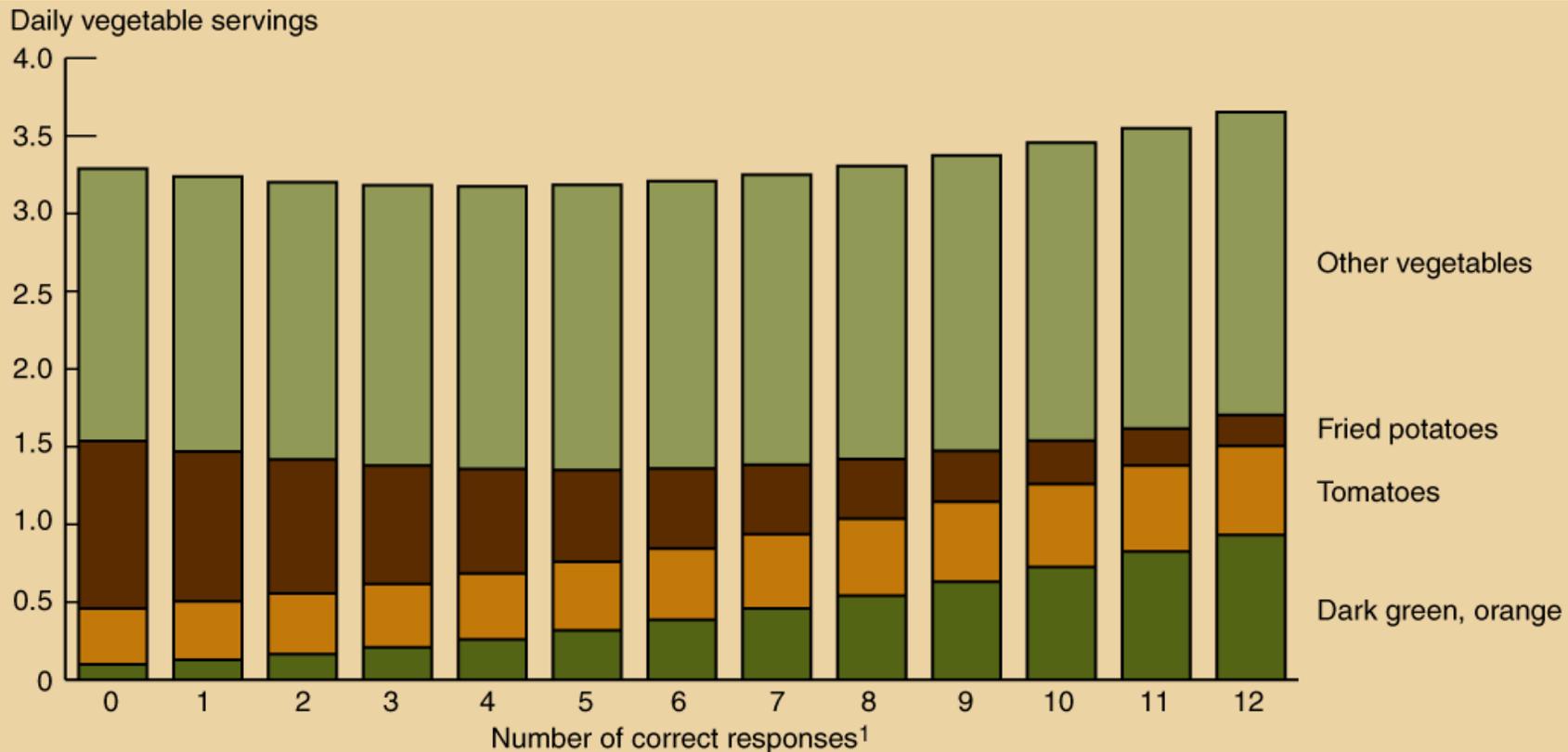
Does this indicate a role for nutrition education?



Factors Influencing Choice and Consumption

Nutrition Knowledge?

Consumers with more dietary knowledge eat a more nutritious mix of vegetables



¹Number of correct answers supplied by the household head to 12 questions from the Diet and Health Knowledge Survey. Topics included knowledge of recommended servings for the Food Guide Pyramid food groups and awareness of the association of diet with specific health problems.



Factors Influencing Choice and Consumption

Culture, Lifestyle, Household Composition?

More Vegetable Variety

- College-educated Head of Household
- Asian and Hispanic Households
- Households that Cook More “From Scratch”



Less Vegetable Variety

- Younger Head of Household
- Very Big or Very Small Household
- Children in Household

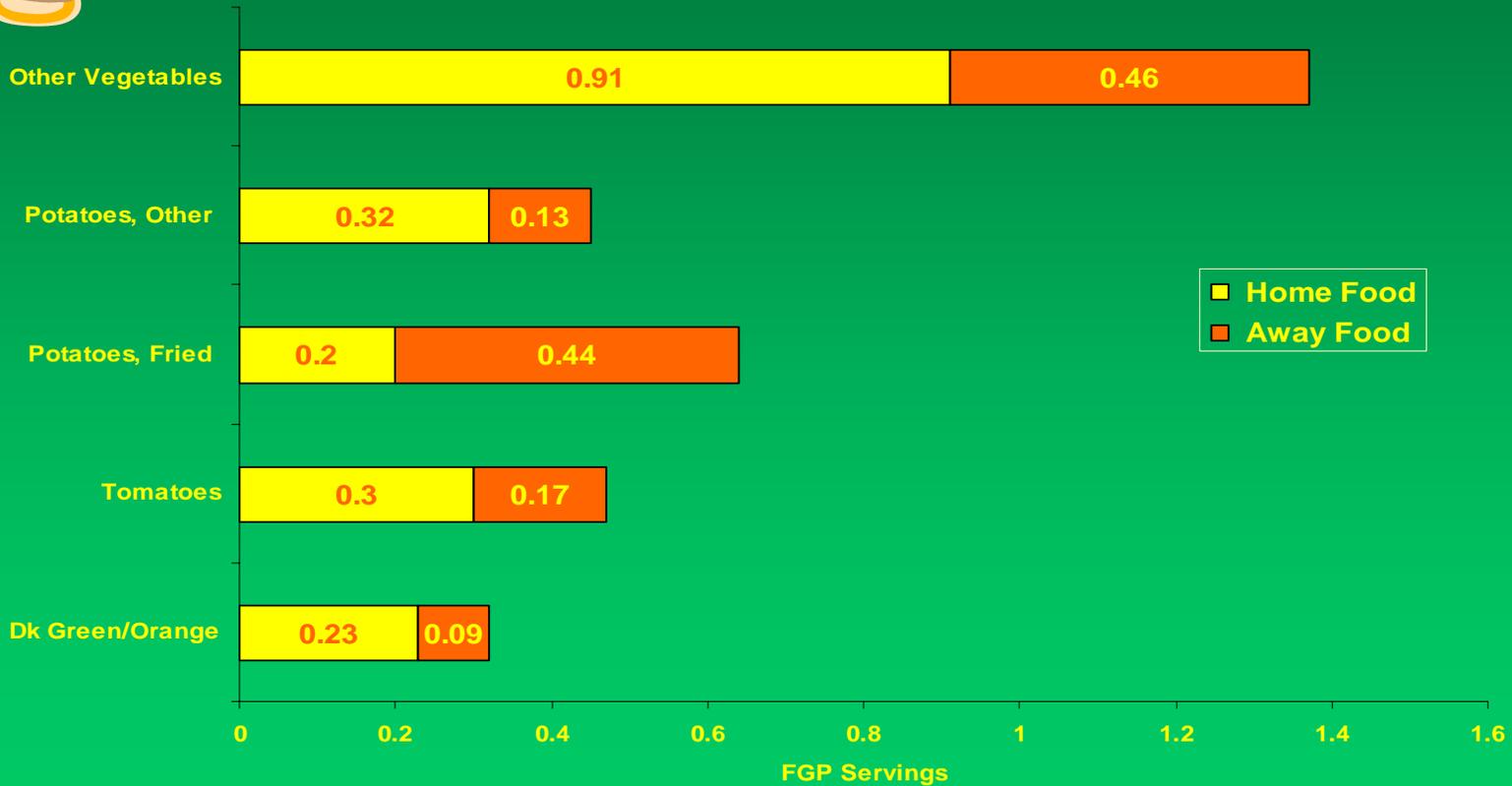


Factors Influencing Choice and Consumption

Eating Out?



Types of Vegetables Consumed, Home vs. Away Food, All Individuals 2 Years and Over



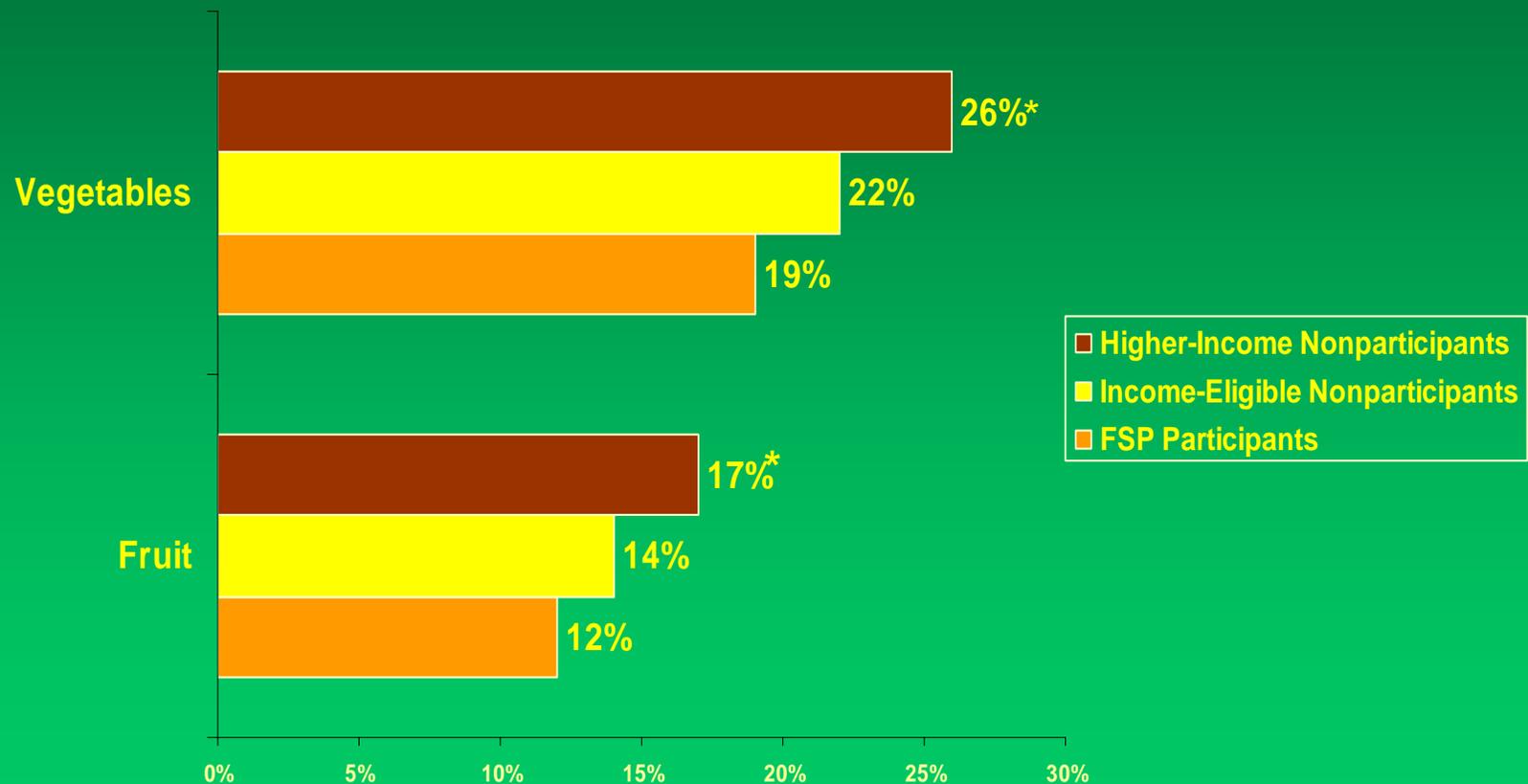
Data Source: CSFII 1994-96



What About Food Assistance Programs?

Food Stamps and Men's Diets

Percent Meeting Healthy Eating Index (HEI) for Fruits and Vegetables, By Food Stamp Program (FSP) Participation Status, Men



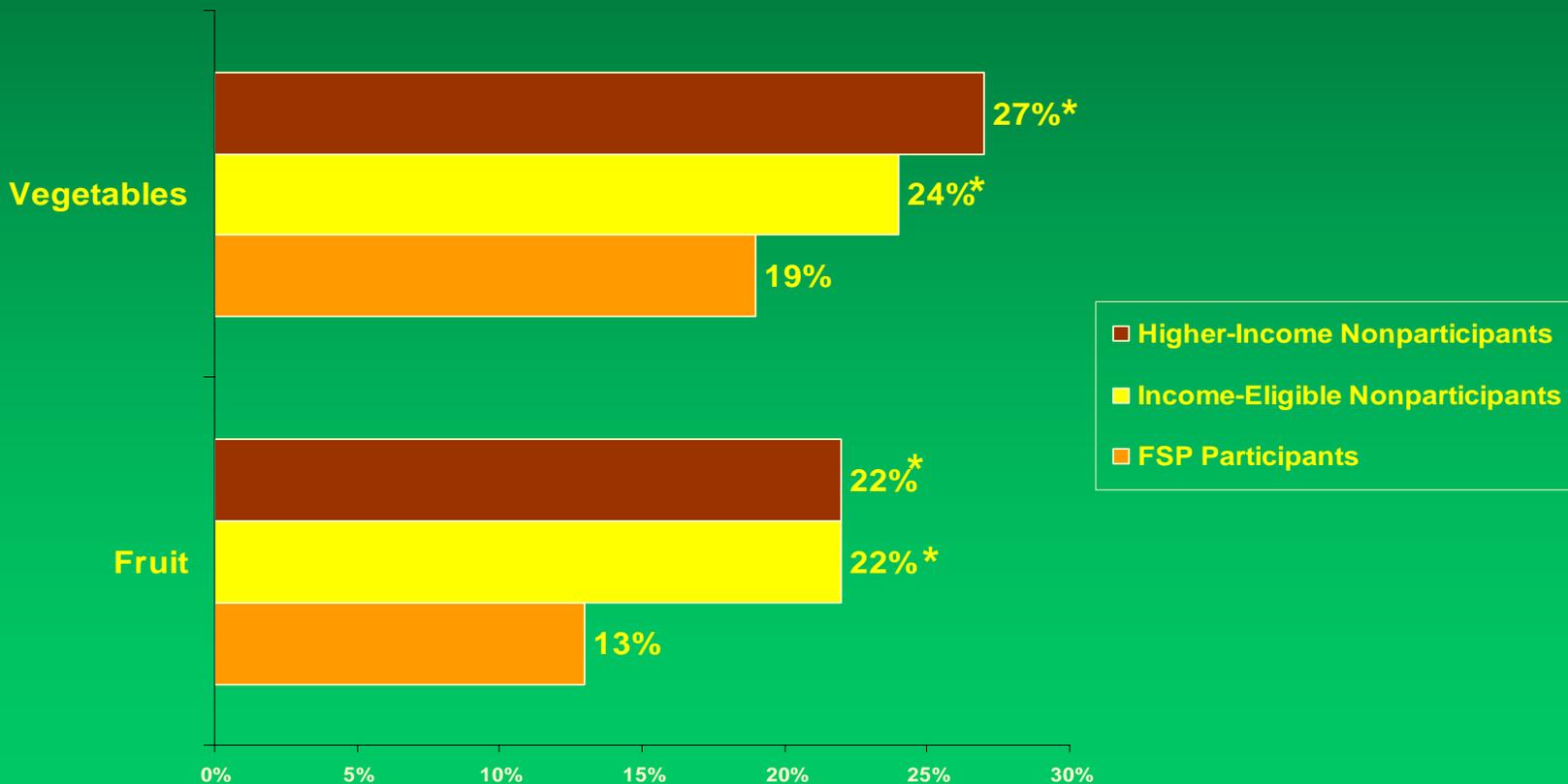
Source: Lin et al. Nutrition and Health Characteristics of Low-Income Populations. ERS AIB-796, 2005.
Data Source: NHANES-III, 1988-94



What About Food Assistance Programs?

Food Stamps and Women's Diets

Percent Meeting Healthy Eating Index (HEI) for Fruits and Vegetables,
By Food Stamp Program (FSP) Participation Status, Women



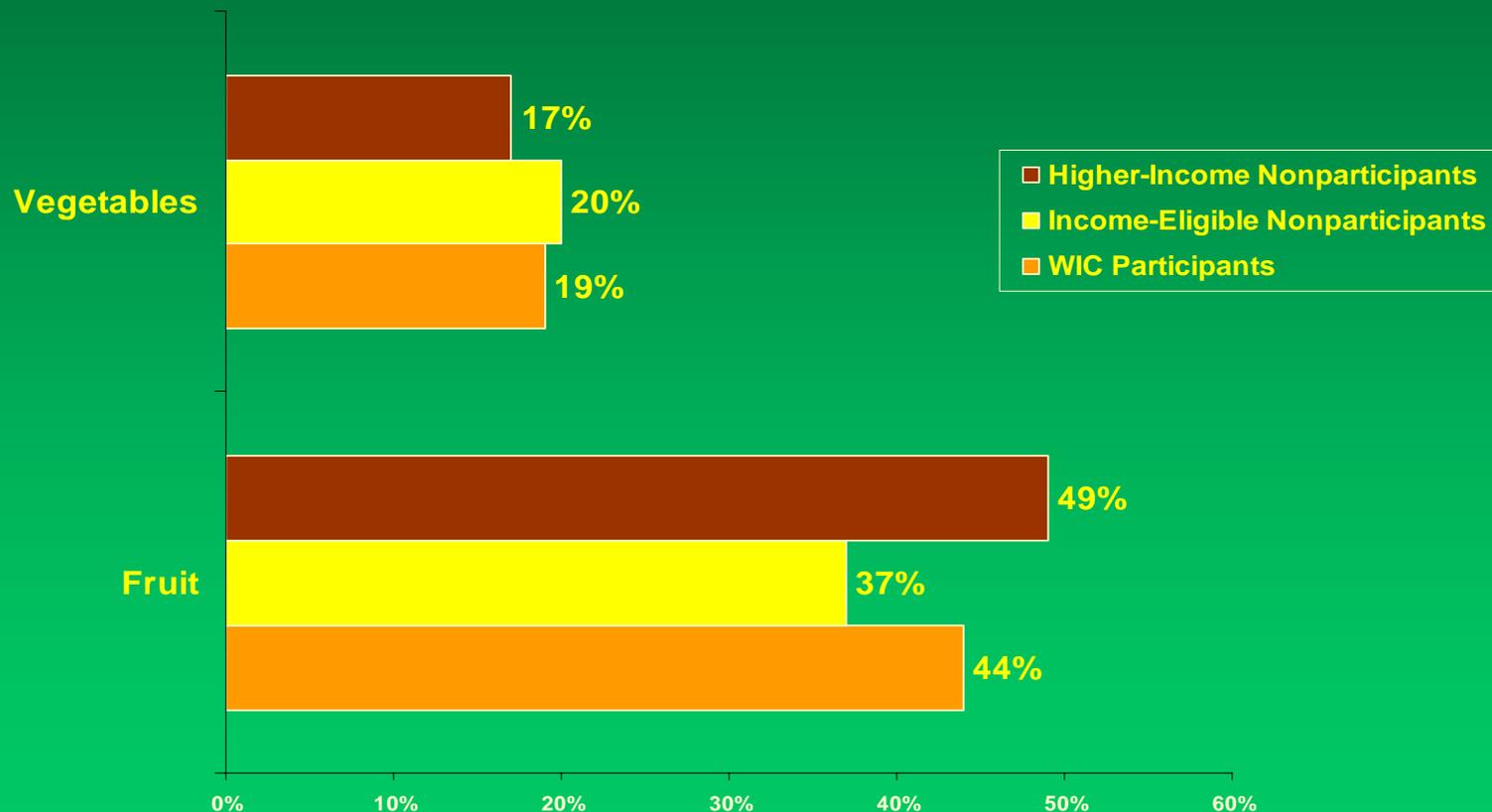
Source: Lin et al. Nutrition and Health Characteristics of Low-Income Populations. ERS AIB-796, 2005.
Data Source: NHANES-III, 1988-94



What About Food Assistance Programs?

WIC

Percent Meeting Healthy Eating Index (HEI) for Fruits and Vegetables, By WIC Participation Status, Children 2-4 Years



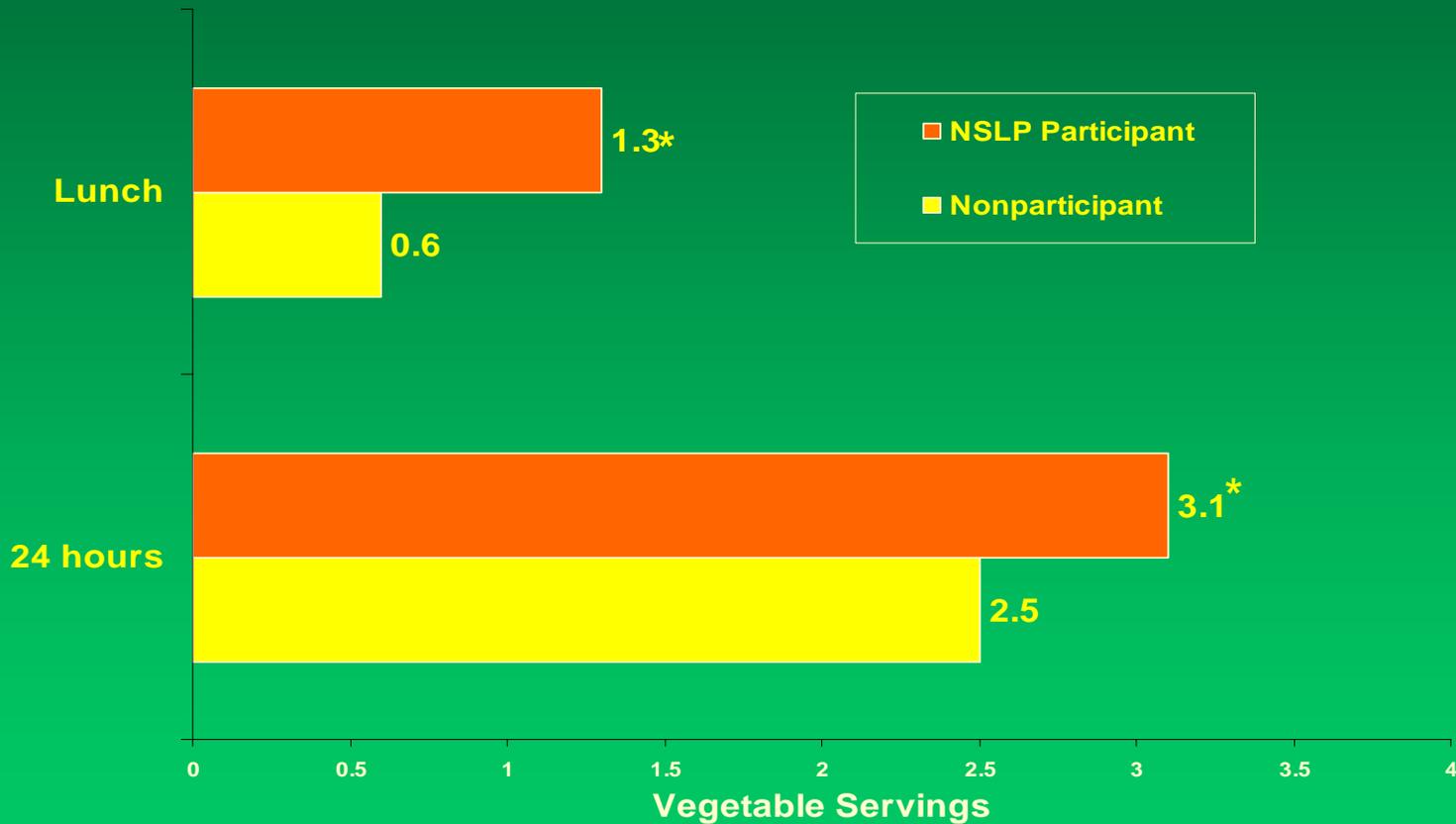
Source: Lin et al. Nutrition and Health Characteristics of Low-Income Populations. ERS AIB-796, 2005.
Data Source: NHANES-III, 1988-94



What About Food Assistance Programs?

Child Nutrition Programs

School Lunch (NSLP) Participants Consume More Vegetables



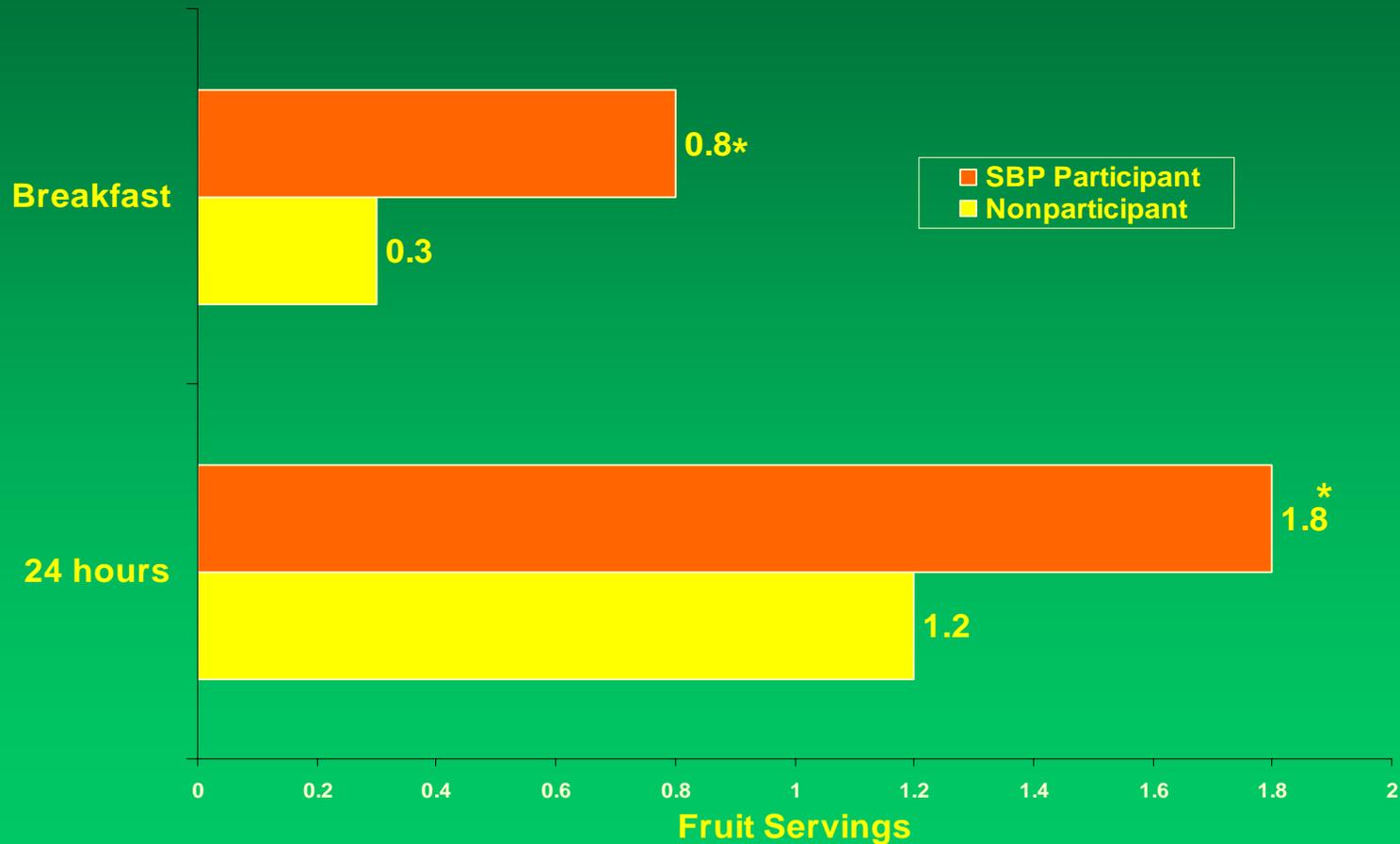
Source: Gleason & Sutor. Children's Diets in the Mid-1990s: Dietary Intake and Its Relationship with School Meal Participation. FNS CN-01-CD1, 2001. Data Source: CSFII 1994-96.



What About Food Assistance Programs?

Child Nutrition Programs

School Breakfast Program (SBP) Participants Consume More Fruit



Source: Gleason & Suitor. Children's Diets in the Mid-1990s: Dietary Intake and Its Relationship with School Meal Participation. FNS CN-01-CD1, 2001. Data Source: CSFII 1994-96.



The USDA Fruit and Vegetable Snack Program

A Popular Way to Offer Children Fruits and Vegetables

Reported Level of Interest

	Very	Somewhat	Little or none*
	----- Percent -----		
Students	80.0	18.1	1.0
Parents	44.8	39.0	11.4
Teachers	77.1	19.0	2.9
Food service	63.8	28.6	5.7
Principal	82.9	13.3	1.9

¹Data as of 3/18/03.

*Column for "don't know" not shown here.



Factors Influencing Choice and Consumption

Looking To The Future

Projections

- Changing demographics
- More nutrition knowledge
- More food away from home

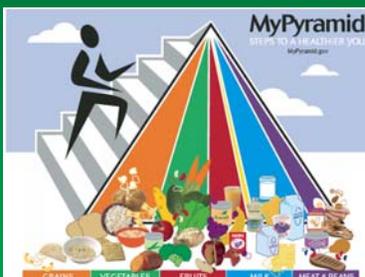
Conclusions

- Fruits and most vegetables likely to increase
- But will eating out reduce amounts of fruits and vegetables consumed?



The Opportunities

Education and Information



Promotion



Programs



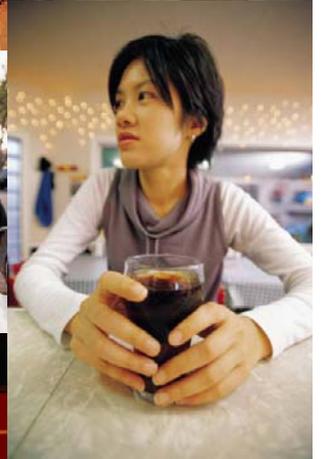
Product Development





The Challenges

Adapting Strategies to Individual Preferences, Changing Demographics, and Changing Lifestyles





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