



CWHS

Data Points

RESULTS FROM THE CALIFORNIA WOMEN'S HEALTH SURVEY

Several studies have demonstrated an association between acculturation of Mexican-American women in the United States and their reduced fruit and vegetable consumption.^{1,2} However, other studies have found opposite trends, which may be explained by different or inconsistent methods in defining acculturation.³ A systematic review of the literature examining the relationship between acculturation and diet among Hispanics in the United States found several consistent relationships irrespective of how acculturation was measured (e.g., acculturation score, years in the United States, birthplace, generational status, and language use).⁴ The less acculturated Hispanics consumed "more fruit, rice, and beans and less sugar and sugar-sweetened beverages" than those who were more acculturated.⁴ Typically these studies used multivariate models that controlled for other possible explanatory factors such as age, education, income, and gender.¹⁻⁴

The California Department of Public Health's *Network for a Healthy California (Network)* represents a statewide movement of local, state, and national partners collectively working to improve the health status of low-income Californians through increased fruit and vegetable consumption and daily physical activity. The *Network's Latino Campaign* specifically targets low-income Hispanic adults and their families to help them consume the recommended amount of fruits and vegetables and enjoy physical activity every day.

The 2007 California Women's Health Survey (CWHS) was administered to 5,352 women. From the total sample, 1,819 women (34.2 percent) identified themselves as Hispanic. Responses to the questions: "In what country were you born?" and "In what year did you come to live in the United States?" were used to create five groups of Hispanic women: women living in the United States less than 4 years, from 4 to 9 years, from 10 to 15 years, 16 years or more, and those born in the United States. In the topic area of fruit and vegetable consumption, women were also asked the following two questions: "A serving is about 1/2 cup of vegetables or fruit, 6 ounces of 100% fruit or vegetable juice, a medium piece of fruit, or 1 cup of green salad. About how many servings of fruits and vegetables do you usually eat or drink on an average day?" and "Many people need to eat more fruits and vegetables. What is the one main reason you don't eat more fruits and vegetables?" In addition to various demographic information, women also responded to a series of six questions drawn from the standard U.S. Department of Agriculture's methodology for measuring food security, meaning access, at all times, to enough food for an active, healthy life for all household members. Responses were weighted in these analyses by age and race/ethnicity to reflect the 2000 California adult female population.

California Hispanic Women's Fruit and Vegetable Consumption by Years in the United States, 2007

California Department of Public Health
Cancer Control Branch
Public Health Institute

Public Health Message:

When defined as solely "years living in the United States," acculturation among California Hispanic women is not associated with lower reported fruit and vegetable consumption. In fact, the diet quality, as measured by food insecurity and lower daily fruit and vegetable consumption, is most at risk among women who have most recently come to the United States. Economic vulnerability as well as education must be addressed by interventions designed to increase fruit and vegetable consumption among Hispanic immigrants.

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Highlights of these analyses are as follows:

Length of Residency

- Overall, 7.0 percent of the Hispanic women surveyed had been in the United States less than 4 years; 14.5 percent from 4 to 9-years; 9.7 percent from 10 to 15-years; 34.5 percent 16 years or more; and 34.3 percent were born in the United States.

Country of Birth

- Mexico was the birth place for a majority of the Hispanic women not born in the United States (54.2 percent); however, an additional 25 countries were also mentioned.

Age

- The women's average age was significantly associated with length of U.S residence: 28.9 years for women in the U.S. less than 4 years, 30.6 years for 4 to 9-year immigrants, 34.9 years for 10 to 15-year immigrants, 44.8 years for immigrants of 16 years or more, while the average age for Hispanic women born in the United States was 37.3 years ($p < .0001$).

Children at Home

- Similarly, the three groups with fewer than 15 years in the United States were significantly more likely to have children living in their households (87.2 percent, 87.1 percent and 88.1 percent, respectively) than women who had lived in the United States for 16 or more years (69.3 percent) or who were born in the United States (61.2 percent; $p < .0001$).

Education of Immigrants

- A significantly greater percent of the immigrant women had less than a high school education (54.2 percent of those in the United States less than 4 years; 55.5 percent of 4 to 9-year immigrants; 63.7 percent of 10 to

15-year immigrants; and 56.8 percent for immigrants of 16 years or more) compared to 16.3 percent of Hispanic women born in the United States ($p < .0001$).

Income Adequacy

- Women in the four immigrant groups were significantly less likely to feel they had enough money to meet their basic living needs than women born in the United States: 56.8 percent of women in the United States less than 4 years; 51.7 percent of the 4 to 9-year immigrants; 54.6 percent of the 10 to 15-year immigrants; 58.1 percent of the 16 or more years immigrants, versus 71.8 percent of Hispanic women born in the United States ($p < .0001$).

Food Insecurity

- A consistent and significant association was evident between years in the United States and household food security status. More of the most recent immigrant group was classified as food insecure (66.3 percent) than those in the United States from 4 to 9-years (65.7 percent); 10 to 15-years (54.0 percent); 16 years or more (49.9 percent); and those born in the United States (26.8 percent; $p < .0001$).

Fruit and Vegetable Consumption

- Years in the United States was not associated with a reported decline in fruit and vegetable consumption (see Figure 1). The only significant difference in average consumption was between women born in the United States and immigrants of 16 years or more (2.9 and 2.6 servings, respectively; $p < .05$).

National Goal

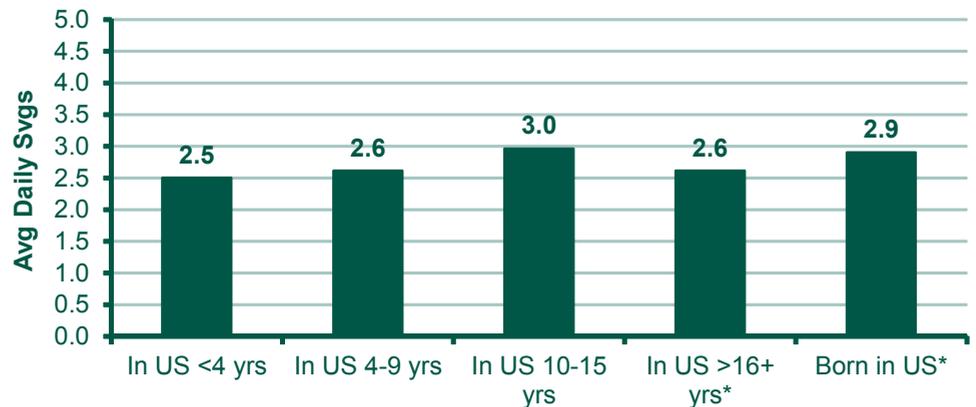
- Similarly, the two groups with fewer than ten years in the United States

California Hispanic Women's Fruit and Vegetable Consumption by Years in the United States, 2007

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Figure 1

Hispanic Women's Daily Fruit and Vegetable Consumption, by Years in the United States, California, 2007



*p<.05

Source: California Women's Health Survey, 2007

were less likely to have eaten five or more fruit and vegetable servings in a usual day compared with Hispanic women born in the United States or who had lived in the United States for ten or more years. However, the difference was not significant.

The main reasons Hispanic women identified for not eating more fruits and vegetables showed both similarities and differences across the immigrant groups.

Habits

- One of the most frequently mentioned main reasons for not eating more fruits and vegetables by women in each group was that they were not in the habit; (28.5 percent of the less than 4 year immigrants; 22.0 percent of the 4 to 9-year immigrants; 27.8 percent of the 10 to 15-year immigrants; 30.9 percent of those living in the United States for 16 years or more years, and 29.4 percent of those born in the United States).

Cost

- The most recent immigrants (those with fewer than 4 years in the United States) were significantly more likely to say fruits and vegetables were "too expensive" (21.1 percent) than the 4 to 9-year immigrants (9.7 percent; p<.01); the 16 and more year immigrants (12.3 percent; p <.05); and the women born in the United States (9.4 percent; p<.001); but, not the 10 to 15-year immigrants (14.3 percent).

*California Hispanic
Women's Fruit and
Vegetable Consumption
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- 1 Montez JK, Eschback K. County of birth and language are uniquely associated with intakes of fat, fiber, and fruits and vegetables among Mexican-American women in the United States. *J Am Diet Assoc.* March 2008;108(3):473-480.
- 2 Neuhouser ML, Thompson B, Coronado GD, Solomon CC. Higher fat intake and lower fruit and vegetables intakes are associated with greater acculturation among Mexicans living in Washington State. *J Am Diet Assoc.* January 2004;104(1):51-57.
- 3 Norman S, Castro C, Albright C, King A. Comparing acculturation models in evaluating dietary habits among low-income Hispanic women. *Ethn and Dis.* Summer 2004;14(3):399-404.
- 4 Ayala GX, Baquer B, Klinger S. A systematic review of the relationship between acculturation and diet among Latinos in the United States: implications for future research. *J Am Diet Assoc.* August 2008;108(8):1330-1344.

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