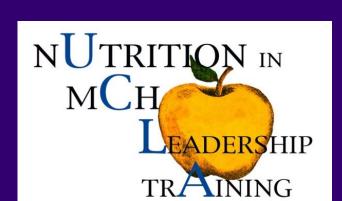
SCHOOL OF PUBLIC HEALTH

UCLA Fielding School of Public Health



The Pre-Survey Data Analysis of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Field to Family Produce Incentive Program in Ventura County, CA



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INTRODUCTION

- Limited access to sustainable and affordable sources of fresh fruits and vegetables hinders families' ability to grow and thrive in Ventura County (VC), CA
- VC has a robust agricultural economy, yet 1 in 6 families report being food insecure.
- Purpose: pilot test a produce incentive program to: 1) expand WIC families' food purchasing power while supporting local agriculture; 2) support healthy eating patterns critical to positive health outcomes, growth and development; and 3) benchmark critical health indicators in relationship to increased fruit and vegetable intake.

OBJECTIVES

- > Assess household food security, nutrition security, and skills, attitudes, and confidence in shopping, cooking, and eating healthy meals on a budget.
- ➤ Identify recommendations for service delivery and program improvement

METHODS

- > Study Sample: participants in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), VC, CA
- ➤ Provision of an additional one-time \$20 incentive to WIC Farmers Market Nutrition Program (FMNP)-participating families to purchase California-grown vegetables and fruits
- ➤ Analysis of cross-sectional data on
- 1) Demographics and household characteristics¹
- 2) Household food security measured by the USDA 6-item short form²
- 3) Household nutrition security, resilience, and utilization barriers ³
- 4) Assessment of skills, attitudes, and confidence in shopping, cooking, and eating healthy on a budget⁴
- ➤ Descriptive and bivariate analyses: Chi-Square analysis, t-test, and ANOVA using R⁵

A world of

HEALTHY PEOPLE



91

(22.1%)

VERY LOW

FOOD

SECURITY

132

(22.8%)

92

(20.5%)

VERY LOW FOOD SECURITY

Spanish

259

(36.4%)

LOW ADAPTIVE

Figure 5. Adaptive Capacity by

Language (X²=14.98, p<0.001)

CAPACITY

■ Less than a high school degree

LOW FOOD

SECURITY

Figure 2. Household Food Security by

Educational Attainment

 $(X^2=10.16, p<0.05)$

FOOD

SECURITY

209

(36.2%)

38(27.9%)

184

(41.0%)

LOW FOOD SECURITY

Figure 3. Household Food Security by Race/Ethnicity (X²=10.40, p<0.05)

435

(63.6%)

HIGH OR MARGINAL

ADAPTIVE CAPACITY

181(59.5%

276(51.4%

63(59.4%)

LOW CONTROL OVER

CHOICE

■ High or Marginal Food Security

Figure 1. Distribution of Household

Food Security Categories

Among the VC WIC Participants

American Indian Alaska Native/Black &

African American / Asian / Mixed Race

237

(41.0%)

173

(38.5%)

HIGH OR MARGINAL FOOD

SECURITY

123(40.5%

261(48.6%

43(40.6%)

HIGH OR MARGINAL

CONTROL OVER

HEALTHFULNESS

CHOICE

 \blacksquare 1 to 2 \blacksquare 3 to 4 \blacksquare 5 to 6 \blacksquare >7

Figure 4. Household Control Over

Healthfulness Choice

by Household Size ($X^2=9.99$, p<0.05)

■ Other race

Low Food Security

■ Very Low Food Security



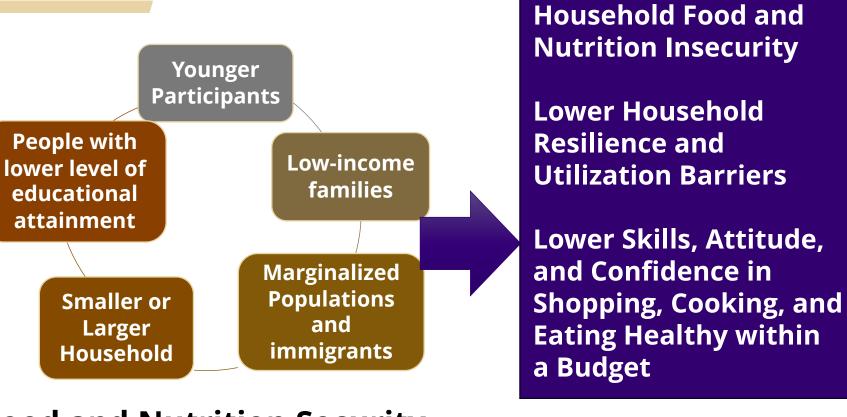
Variable				
variable	Group	Mean	t/F	p-value
		(SD)	value	
Skills in shopping, cooking and eating healthy within a budget				
Language		8.55 (2.40)		<0.001
		7.74 (2.77)	3.37	10.001
Educational	Any college	, ,	13.06	<0.001
attainment	High school degree or GED	,	13.00	\0.001
attaiiiiieiit	Less than a high school degree			
Ethnicity		8.46 (2.56)	0.22	<0.001
Etillicity		,	9.32	<0.001
	American Indian American / Asian / Mixed	0.20 (2.00)		
	& African American /Asian/Mixed			
	Race	7 72 (2 72)		
		7.72 (2.73)		
Income level		7.84 (2.65)	9.07	<0.001
	\$20,000 – \$29,999	,		
	\$30,000 – \$39,999	,		
	>\$40,000	8.84 (2.41)		
Household size	1 to 2	8.41 (2.71)	1.08	0.36
	3 to 4	8.36 (2.54)		
	5 to 6	8.18 (2.66)		
	7 or more	8.03 (2.66)		
Age group	18-29	7.75 (2.67)	10.48	< 0.001
	30-39	8.42 (2.53)		
	>40	8.49 (2.53)		
Attitudes in	shopping, cooking and eating healthy	within a bud	dget	
Language		3.24 (1.77)		0.06
	Spanish	3.05 (2.00)		
Educational	Any college	,		<0.05
attainment	High school degree or GED	, ,		
	Less than a high school degree	, ,		
Ethnicity		3.18 (1.80)	0.53	0.59
Lumberty		,	0.55	0.55
	• AMERICAN MUNANA AJASKA NANVEZBIACK			
	American Indian Alaska Native/Black & African American /Asian/Mixed	3.11 (1.50)		
	& African American /Asian/Mixed	3.11 (1.50)		
	& African American /Asian/Mixed Race			
Incomo lovol	& African American /Asian/Mixed Race Other race	3.06 (1.91)	0.05	0.41
Income level	& African American /Asian/Mixed Race Other race < \$20,000	3.06 (1.91) 3.16 (1.95)	0.95	0.41
Income level	& African American /Asian/Mixed Race Other race < \$20,000 \$20,000 - \$29,999	3.06 (1.91) 3.16 (1.95) 3.05 (3.05)		0.41
Income level	& African American /Asian/Mixed Race Other race < \$20,000 \$20,000 - \$29,999 \$30,000 - \$39,999	3.06 (1.91) 3.16 (1.95) 3.05 (3.05) 3.35 (3.35)		0.41
	& African American /Asian/Mixed Race Other race < \$20,000 \$20,000 - \$29,999 \$30,000 - \$39,999 >\$40,000	3.06 (1.91) 3.16 (1.95) 3.05 (3.05) 3.35 (3.35) 3.15 (3.15)		
Income level Household size	& African American /Asian/Mixed Race Other race <\$20,000 \$20,000 - \$29,999 \$30,000 - \$39,999 >\$40,000 1 to 2	3.06 (1.91) 3.16 (1.95) 3.05 (3.05) 3.35 (3.35) 3.15 (3.15) 3.30 (1.80)		0.41
	& African American /Asian/Mixed Race Other race < \$20,000 \$20,000 - \$29,999 \$30,000 - \$39,999 >\$40,000 1 to 2 3 to 4	3.06 (1.91) 3.16 (1.95) 3.05 (3.05) 3.35 (3.35) 3.15 (3.15) 3.30 (1.80) 3.27 (1.80)		
	& African American /Asian/Mixed Race Other race < \$20,000 \$20,000 - \$29,999 \$30,000 - \$39,999 >\$40,000 1 to 2 3 to 4 5 to 6	3.06 (1.91) 3.16 (1.95) 3.05 (3.05) 3.35 (3.35) 3.15 (3.15) 3.30 (1.80) 3.27 (1.80) 2.97 (1.83)		
	& African American /Asian/Mixed Race Other race < \$20,000 \$20,000 - \$29,999 \$30,000 - \$39,999 >\$40,000 1 to 2 3 to 4 5 to 6 7 or more	3.06 (1.91) 3.16 (1.95) 3.05 (3.05) 3.35 (3.35) 3.15 (3.15) 3.30 (1.80) 3.27 (1.80) 2.97 (1.83) 3.33 (1.83)	3.39	<0.05
	& African American /Asian/Mixed Race Other race < \$20,000 \$20,000 - \$29,999 \$30,000 - \$39,999 >\$40,000 1 to 2 3 to 4 5 to 6 7 or more 18-29	3.06 (1.91) 3.16 (1.95) 3.05 (3.05) 3.35 (3.35) 3.15 (3.15) 3.30 (1.80) 3.27 (1.80) 2.97 (1.83) 3.33 (1.83) 3.31 (1.85)	3.39	
Household size	& African American /Asian/Mixed Race Other race < \$20,000 \$20,000 - \$29,999 \$30,000 - \$39,999 >\$40,000 1 to 2 3 to 4 5 to 6 7 or more 18-29	3.06 (1.91) 3.16 (1.95) 3.05 (3.05) 3.35 (3.35) 3.15 (3.15) 3.30 (1.80) 3.27 (1.80) 2.97 (1.83) 3.33 (1.83)	3.39	<0.05
Household size	& African American /Asian/Mixed Race Other race < \$20,000 \$20,000 - \$29,999 \$30,000 - \$39,999 >\$40,000 1 to 2 3 to 4 5 to 6 7 or more 18-29 30-39	3.06 (1.91) 3.16 (1.95) 3.05 (3.05) 3.35 (3.35) 3.15 (3.15) 3.30 (1.80) 3.27 (1.80) 2.97 (1.83) 3.33 (1.83) 3.31 (1.85)	3.39	<0.05

* The results of confidence in shopping, cooking, and eating healthy on a budget are similar to the results of skills in shopping, cooking, and eating healthy on a budget. Significant relationships were observed with language ($X^2=3.14$; p<0.001), race/ethnicity ($X^2=5.40$; p<0.05), and income level ($X^2=2.68$; p<0.05).

Reference

- list-of-participant-level-core-metrics-nutrition-incentive-projects.pdf.. https://www.nutritionincentive-metrics-metrics-nutrition-incentive-projects.pdf
- USDA ERS Measurement. https://www-ers-usdagov.offcampus.lib.washington.edu/topics/food-nutrition-assistance/food-security-in-the-us/measurement/.
- 3. Center for Nutrition Food and Nutrition Security Related Measures. Center for Nutrition. https://www.centerfornutrition.org/food-security-measures
- 4. Herman DR, Kimmel R, Shodahl S, Vargas JH. Examination of an Online Cooking Education Program to Improve Shopping Skills, Attitudes toward Cooking, and Cooking Confidence among WIC Participants. *Nutrients*. 2023;15(19):4177. doi:10.3390/nu15194177
- 5. R Core Team (2022). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.
- 6. Manzo P, Gascon H, Baum Block B, Bebby D. Struggling to Move Up: The Real Cost Measure in California 2021. United Ways of California. https://www.unitedwayoc.org/wp-content/uploads/2021/08/The-Real-Cost-Measure-in-California-2021-Executive-Summary.pdf

CONCLUSION & RECOMMENDATIONS



Food and Nutrition Security

- ➤ Monetary incentives have been shown to improve nutrition and household food security.
- ➤ Prioritize younger participants and populations with minimal resources/people who have recently immigrated for program outreach
- ➤ Address the need for flexible household income thresholds for eligibility for federal nutrition assistance programs based on local cost of living (real cost measure)⁶

Household Resilience and Utilization Barriers

➤ Provide WIC participants who have recently immigrated with information about governmental, community, and charitable organizations about jobs, educational opportunities, and community kitchens in their native languages to encourage utilization of available community resources

Skills, Attitudes, and Confidence in Shopping, Cooking, and Eating Healthy on a Budget

➤ Improve WIC continuing education class materials to include more culturally-, linguistically-, age-, and varying household size-appropriate recipes and contents

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