

LETTERS

MISINTERPRETATION OF SNAP PARTICIPATION, DIET, AND WEIGHT IN LOW-INCOME ADULTS

Nguyen et al. examined the associations between household Supplemental Nutrition Assistance Program (SNAP) participation and low-income adults' diet quality and weight using data from the 2003 to 2010 National Health and Nutrition Examination Surveys.¹ The authors conclude that SNAP participants of marginal food security had lower body mass indexes and SNAP participants of marginal, low and very low food security had better diets. We believe the authors misinterpreted the findings because of an incomplete inclusion of all parameter estimates from the model, resulting in these wrong conclusions.

In their analyses, the authors' main parameters of interest were the interaction terms between SNAP participation and food insecurity estimated from multivariate linear regression models. The interaction parameters suggested better outcomes, but these terms cannot be interpreted in isolation of the main effects of SNAP participation and food insecurity, which, as the authors' point out, suggested worse outcomes. We reanalyzed the same data set, using the authors' methodology,

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TABLE 1—Associations Between Supplemental Nutrition Assistance Program (SNAP) Participation and Food Insecurity With Healthy Eating Index Scores and Body Mass Index (BMI) in Low-Income US Adults: National Health and Nutrition Examination Survey, 2003–2010

	Healthy Eating Index–2010, b (95% CI)	BMI, b (95% CI)
Food-secure income eligible nonparticipant (Ref)
Food-secure SNAP participant	-3.70** (-5.33, -2.07)	2.24** (1.08, 3.40)
Marginal food-secure income eligible nonparticipant	-2.36* (-4.19, -0.53)	0.67 (-0.11, 1.45)
Marginal food-secure SNAP participant	-2.53* (-4.74, -0.33)	0.77 (-0.21, 1.75)
Low food-secure income eligible nonparticipant	-2.65** (-4.00, -1.30)	0.47 (-0.30, 1.25)
Low food-secure SNAP participant	-3.51** (-5.61, -1.41)	1.89** (0.92, 2.86)
Very low food-secure income eligible nonparticipant	-2.43 (-4.92, 0.06)	0.97 (-0.01, 1.96)
Very low food-secure SNAP participant	-2.75** (-4.72, -0.78)	2.05** (0.71, 3.40)

Note. Estimates adjusted for respondent's age, gender, race/ethnicity, education, marital status, poverty-to-income ratio categories, Women, Infants, and Children program participation in the past year, health insurance status, employment status, whether the survey was completed on a weekday or weekend, and survey year.
* $P < .05$; ** $P < .01$.

and found essentially the same results. However, we present results using a single referent point (i.e., food-secure, income-eligible nonparticipants) to compare two of the authors' outcomes, the Healthy Eating Index–2010 and body mass index, among levels of food insecurity and SNAP participation (Table 1).

Contrary to the authors' conclusions, SNAP participants of all food insecurity groups had significantly lower diet quality scores and SNAP participants of low and very low food security had higher body mass indexes compared with the referent group of food-secure, income-eligible nonparticipants. Furthermore, SNAP participants generally fared worse in terms diet quality and weight even compared with income-eligible nonparticipants at the same food insecurity level. This representation of the results more appropriately illustrates the true impact of SNAP.

As policymakers continually look to the public health literature for rationale and approaches to strengthen SNAP policies, it is imperative that researchers draw conclusions that accurately reflect the data, so as not to exaggerate the programmatic effects,

regardless of whether they are negative or positive. ■

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