

Childhood Food Insecurity: The Mitigating Role of SNAP

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August 18, 2014

2014 NAWRS Workshop
Providence, RI



Policy context

- Households with child food insecurity: households with at least one child lacking access to adequate food for active healthy living.
- Adverse effects of food insecurity on children: anxiety, chronic illness, behavioral problems, academic and social impairment, especially during elementary school years.
- In 2012, 11.3 percent of U.S. children (8.3 million) were in households where at least one child was food insecure.
 - This included 1.0 million children in households with very low food security among children.

Conceptual framework

- Risk factors at multiple levels
 - Community: retailer types and locations (food deserts), transportation, food prices, unemployment rate
 - Household: human capital, social capital, financial resources, parental health
 - Child: health needs, age group, peer influences

Conceptual framework (cont.)

- Coping strategies of differing types
 - Informational/emotional: social support systems
 - Material: access to food and nutrition programs, food pantries, other food sources
 - Instrumental/practical: informal financial or in-kind support (e.g., child care or food sharing)

Research questions

- What factors are associated with a lower probability of food-secure children becoming food insecure (entry rate)?
- What factors are associated with a higher probability of food-insecure children becoming food secure (exit rate)?
- Is household receipt of SNAP associated with a lower prevalence of food insecurity among children, through either a lower entry rate or a higher exit rate or both?

Data sources

- Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999 (ECLS-K): child-based panel study
 - Analysis focused on low-income households (those with annual income under \$40,000 at one or more of the survey waves)
 - Four survey waves administered, when focal child was in kindergarten (1999), 3rd-grade (2002), 5th-grade (2004), and 8th-grade (2007).
 - For each wave, 18-item food security module provided data on food security status of children in household (not specifically the focal child)
- Local socioeconomic variables by zip code, from Census and BLS data

Key constructs

- Dependent variables: whether the household experienced entry into or exit from childhood food insecurity
- Independent variables
 - **Community characteristics:** number of community food service providers and grocery stores in zip code, county unemployment rate, urban/rural area
 - **Household characteristics:** prior childhood food insecurity, number and ages of children in household, and family structure; parent's employment, education, depressive symptoms, health status, and social support; SNAP participation

Descriptive statistics

- 6,660 households with self-reported food security status obtained at all four waves (1999, 2002, 2004, and 2007).
- Unweighted distribution of households, by number of survey waves at which child food insecurity was reported:
 - 0 waves: 89.3 percent
 - 1 wave: 6.6 percent
 - 2 waves: 2.7 percent
 - 3 waves: 1.1 percent
 - 4 waves: 0.3 percent
- Entry rate (into child food insecurity): 2.9 percent
- Exit rate (from child food insecurity): 95.8 percent

Multivariate estimation

- Logistic regression models
- Separate equations estimated for entry into and exit from child food insecurity between 2002 and 2004 waves
- Analysis sample limited to households with annual income under \$40,000 in at least one of 1999, 2002, or 2004 waves
- Key policy-relevant independent variables: SNAP participation in 2002 and 2004 waves
- Two separate analysis files constructed:
 - 3,340 households who reported child food security in 2002 wave
 - 210 households who reported child food insecurity in 2002 wave

Findings: entry into child food insecurity

	Odds ratio	Standard error
Earlier food insecurity among children (1999)	2.16*	0.32
Number of children in household under age 7 (2004)	1.42*	0.16
Parent worked at least 35 hours per week (2004)	0.50*	0.31
Parent education level is high school or less (2004, vs. more than high school)	1.67*	0.21
Parent has moderate depressive symptoms (2002, vs. no depressive symptoms)	2.21*	0.33
Parent has severe depressive symptoms (2002, vs. no depressive symptoms)	2.13*	0.34
Parent in fair to poor health (2004)	2.29**	0.30
Parent has low social support (2002, vs. high social support)	2.27*	0.29
Sample size	3,340	

*Statistically significant at 0.05 level.

**Statistically significant at 0.01 level.

Note: No significant effect of SNAP participation in 2002 or 2004.

Findings: exit from child food insecurity

	Odds ratio	Standard error
Prior SNAP participation, 2002	3.93**	0.50
Current SNAP participation, 2004	0.17**	0.55
Earlier food insecurity among children, 1999	0.22**	0.47
Parent education level is high school or less, 2004 (vs. more than high school)	4.79**	0.52
Low social support, 2002 (vs. high social support)	0.43*	0.43
Rural area	5.65**	0.46
Number of grocery stores in zip code	1.09**	0.03
County unemployment rate	0.81*	0.10
Sample size	210	

*Statistically significant at 0.05 level.

**Statistically significant at 0.01 level.

Key finding: SNAP participation in 2002 is associated with significantly higher likelihood that food-insecure children in 2002 are food secure in 2004.

Concluding assessment

- This study provides additional evidence that SNAP participation has an ameliorative effect on food insecurity among children.
- Consistent with earlier research, this study provides evidence that households with food insecure children tend to seek out SNAP.
- Other factors associated significantly with entry into and exit from food insecurity include a range of community and household characteristics.