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Aging Out of Food Security: An Analysis of Households with Children

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Introduction

As children get older, their caloric requirements increase. Consequently, households with children facing a restricted budget may find it more challenging to meet the dietary needs of their children and the rest of their household, leading to negative social and health outcomes. There is active research interest in how food security response patterns differ with household structure and other variables (<https://sites.tufts.edu/foodsec25/>).

Objectives

This research examines the relationship between the presence of children (by gender and age) and

- ❖ Household food insecurity (FI) and
- ❖ Probability of affirming each of the 18 survey items in the US Household Food Security Module.

Methods

- ❖ Data: Current Population Survey, Food Security Supplement, 1998 – 2020 (Flood et al). All households with children.
- ❖ In a behavioral Rasch model (Wilde and Nord, 2006; Rabbitt 2016), the probability that household i answers “yes” to question j in time t is given by:

$$p_{j,i,t} = \frac{\exp(\theta_{i,t} - \delta_j)}{1 + \exp(\theta_{i,t} - \delta_j)}, j = 1, \dots, J, \text{ where:}$$

δ_j is a parameter which determines the “threshold” at which a household responds affirmatively to a question

$\theta_{i,t}$ is the unobserved food security “score” or “ability”, defined as:

$$\theta_i = \beta X_i + \sum_k \rho^k \text{age group}_i^k + \lambda_t + \tau_s + \varepsilon_i$$

X_i are household covariates; **age group** is a count of children in each k age group/gender cohort; λ_t and τ_s are year and state effects; ε_i is an error term

Age groups include: 0 – 5, 6 – 12, and 13 – 18 for both males and females

- ❖ Our primary interest is the association between the indicators for the presence of children in each cohort and the probability of affirmative response, given by: ($\widehat{\rho^k}$).

Results

Marginal Effects of Presence of Children Indicators (By Gender and Age) on Probability of Affirming Food Insecurity Items										
	male 0-5		male 6-12		male 13-18		fem 0-5		fem 6-12	fem 13-18
Adult food insecurity items										
1 Worried food would run out	0.001		0.014 ***		0.017 ***		0.005		0.008 ***	0.016 ***
2 Food didn't last	-0.001		0.008 ***		0.015 ***		0		0.005 *	0.014 ***
3 Couldn't eat balanced meals	-0.008 **		-0.003		0.006 **		-0.008 **		-0.002	0.005 *
4 Cus size or skipped meals	0.001		0.007 *		0.019 ***		-0.001		0.006	0.008 *
5 Cut size or skipped meals (3+ mo)	0.002		0.003		0.015 ***		-0.003		0.002	0.01 ***
6 Eat less than should	-0.003		0.004		0.015 ***		-0.006		0.003	0.003
7 Hungry, not enough food	-0.006 *		-0.009 ***		0.002		-0.01 ***		-0.006 *	-0.003
8 Lost weight	-0.004		-0.005 *		0.001		-0.003		-0.001	-0.002
9 Not eat for whole day	-0.002		-0.007 **		0.002		-0.004		0.002	0.006
10 Not eat for whole day (3+ mo)	-0.004		-0.009 ***		0		-0.006		-0.002	0.002
Child food insecurity items										
11 Relied on low cost food	0.024 ***		0.039 ***		0.042 ***		0.02 ***		0.039 ***	0.038 ***
12 Couldn't feed children balanced	0.009 ***		0.02 ***		0.028 ***		0.006 ***		0.019 ***	0.025 ***
13 Children not eating enough	0.001		0.009 ***		0.018 ***		0		0.008 ***	0.016 ***
14 Cut size of children's meals	-0.003		0.012 ***		0.021 ***		-0.004		0.011 ***	0.016 ***
15 Children hungry	-0.007 **		0.002		0.011 ***		-0.011 ***		0.004 *	0.009 ***
16 Children skipped meal	-0.012 ***		-0.006 **		0.01 ***		-0.01 ***		-0.004	0.006 ***
17 Children skipped meal (3+ mo)	-0.007 **		-0.004 **		0.006 ***		-0.006 **		-0.004	0.005 ***
18 Children not eat whole day	-0.003 *		-0.002		0		-0.001		-0.002	0.002

*** p<0.01, ** p<0.05, * p<0.1

Discussion / Conclusions

- ❖ The presence of older children of both genders is associated with a higher probability of affirming specific items, with differential associations by gender and age.
- ❖ Supplemental Nutrition Assistance Program (SNAP) allotments are based on a household’s net monthly income and household size. In a household of four, maximum SNAP benefits assume one child between the ages of 6 – 8 and one between 9 – 11. Yet there is no consideration given for the caloric needs of these household members as they get older.
- ❖ Non-SNAP eligible households may also be at greater risk of food insecurity as their children get older. Programs that supplement low-income non-SNAP households could offer important benefits.

References

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