

Household Structure and Risk of Food Insecurity: Implications for Children & Older Adults

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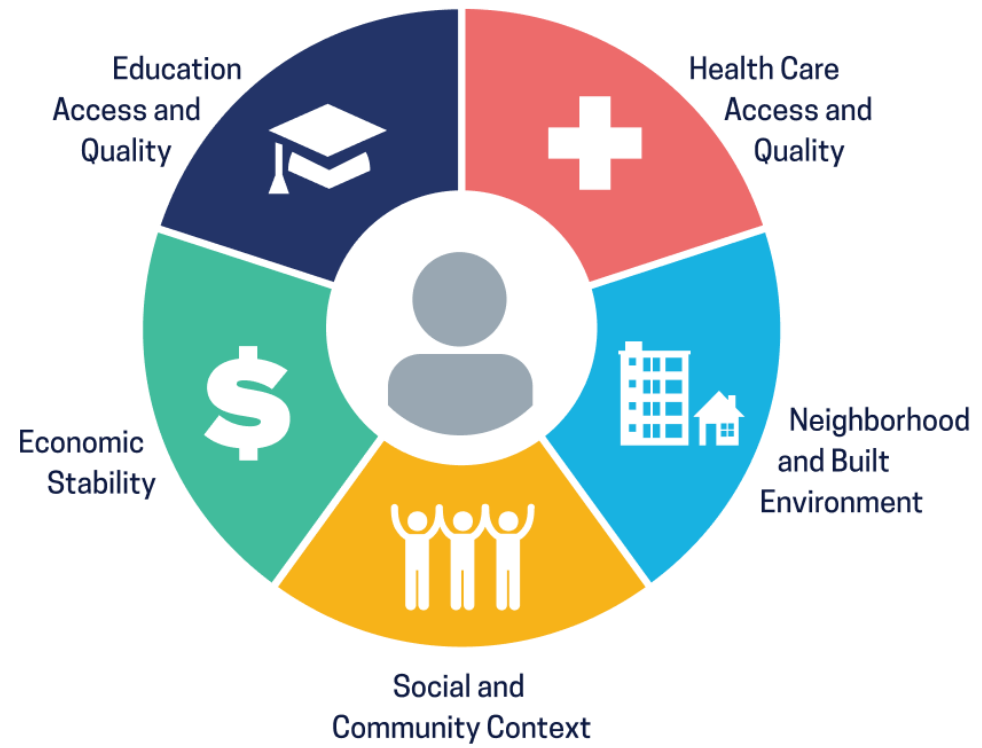
Thank you!

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Why does this work matter?

1. The household (HH) in which we live is one of the most influential contexts for health.

Social Determinants of Health



Why does this work matter?

2. Household composition, or structure, is a modifiable arrangement.

- Formation of **multi-generational households** is a known coping mechanism during periods of economic distress (Keene & Batson 2010).
- Formation of **skipped-generation households**, or 'grand families', is a necessity for some families (Dolbin-MacNab & O'Connell 2021).



3. Federal legislation has sought to promote 'kinship' care, including support for grandparent guardians, and reduce foster care demand.

- Family First Prevention Services Act (P.L. 115-123)
- Supporting Grandparents Raising Grandchildren Act (P.L. 115-196)

Why does this work matter?

4. A confluence of factors motivated this legislation and has increased the salience of such household arrangements since it passed.

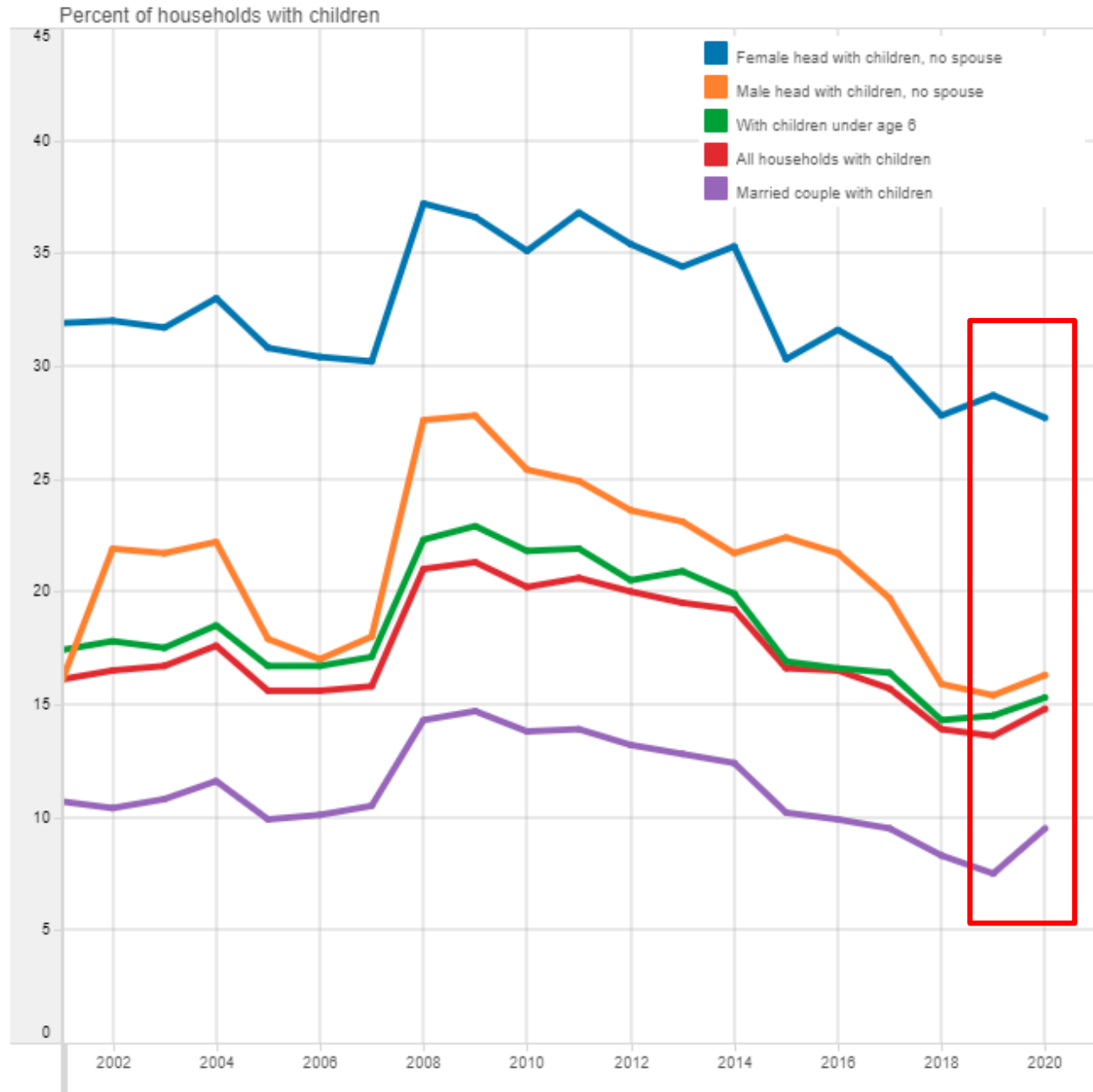
- The share of children living in multi-gen and skipped-gen households has increased significantly in recent years (Pilkauskas et al. 2020).
- There is growing concern regarding the aging population and burden of food insecurity among older adults (8.3% among elderly living alone).
- Between 2019-2020, the prevalence of food insecurity increased significantly among households with children, to 14.8% (Coleman-Jensen et al. 2021).

5. These household arrangements are seen as having both positive and negative impacts on household members:

- Enhanced motivation, but numerous barriers to health (Clottey et al. 2015, Hatcher et al. 2018)
- Greater (intergenerational) social engagement, but also social isolation (Bullock 2004)
- Heightened purpose balanced by heightened stress

Why does this work matter?

Food insecurity among households with children, by household composition, 2001-20



Source: Calculated by USDA, Economic Research Service, using Current Population Survey Food Security Supplement data.
<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/>

Research
Question 1

What is the effect of **household structure** on household **food security status** among a nationally-representative sample of U.S. HHs with children?

Methods

Data Source: NHANES (2011-2016) to capture overlap in food security and household composition data.

Inclusion criteria: Cases/households with at least one child < 18 years old.

Key variables:

- Household structure:
Cases assigned to one of **four categories** – two-parent, single-parent, grandparent-as-caregiver, and multi-generational – based on the distribution of household members across age categories.
- Food security status:
Cases assigned to one of **three categories** – fully food secure, marginally food secure, or food insecure – using 18-Item U.S. Household Food Security Module with 12-month reference period.

Analysis: Multinomial logistic regression model (IBM SPSS Statistics, V.27)

Methods

Data Source: NHANES (2011-2016) to capture overlap in food security and household composition data.

Household Structure Categories	
Structures	Definition
Two-'Parent'	At least two 'parent' figures (i.e., individuals 18-59 years of age)
Single-'Parent'	One 'parent' figure (i.e., one individual 18-59 years)
'Grandparent'-as-Caregiver	At least one adult 60 years of age or older; no 'parent'-age adult present
Multigenerational Household	At least one 'parent'-age adult AND at least one 'grandparent' (age 60+)

Results

Multinomial Logistic Regression Model of Household Food Security

		Marginal v. Full Security			Insecure v. Full Security		
		<i>b</i> (SE)	<i>t</i>	<i>p</i>	<i>b</i> (SE)	<i>t</i>	<i>p</i>
(Intercept)		-0.348 (0.340)	-1.02	0.311	-0.335 (0.259)	-1.29	0.203
Poverty-Income Ratio		-0.589 (0.050)	-11.7	< .001	-0.749 (0.059)	-12.67	< .001
Number of Adults		0.113 (0.066)	1.71	0.094	0.168 (0.054)	3.10	0.003
Household	Number of Children	-0.140 (0.053)	-2.65	0.011	-0.080 (0.041)	-1.92	0.061
	Structure*						
	Single 'Parent'	-0.081 (0.049)	-1.64	0.108	-0.101 (0.032)	-3.19	0.003
	Grandparent caregiver	-0.705 (0.260)	-2.71	0.009	-0.569 (0.194)	-2.94	0.005
	Multigenerational	-0.436 (0.207)	-2.11	0.040	-0.368 (0.197)	-1.87	0.068
Ever used SNAP? Yes*		0.539 (0.142)	3.79	< .001	1.100 (0.102)	10.74	< .001
Gender, Female*		0.162 (0.129)	1.26	0.214	0.140 (0.092)	1.52	0.134
Head of Household	Education Level*						
	< High School	-0.137 (0.137)	-1.00	0.325	0.170 (0.145)	1.18	0.246
	> High School	-0.327 (0.161)	-2.03	0.048	-0.178 (0.123)	-1.45	0.154
Relationship Status*							
Not partnered		-0.168 (0.138)	-1.22	0.229	0.048 (0.130)	0.37	0.712
Respondent	Race & Ethnicity*						
	Mexican American	0.357 (0.180)	1.99	0.052	0.386 (0.156)	2.48	0.017
	Other Hispanic	0.334 (0.204)	1.64	0.108	0.267 (0.175)	1.53	0.134
	Black, non-Hispanic	0.373 (0.155)	2.40	0.020	0.084 (0.128)	0.65	0.518
	Asian, non-Hispanic	0.016 (0.243)	0.07	0.947	-0.495 (0.185)	-2.67	0.010
	Other, Multi-Racial	0.338 (0.181)	1.86	0.069	0.347 (0.158)	2.20	0.033

*Reference categories, in order: Two 'Parent'; Never used SNAP; Male; High School Graduate; 'In a partnered relationship'; White, non-Hispanic, respectively.

Research Question 2

What is the relationship between an **older adult's household role**, household **food security** status, and **diet quality** in two- and three-generation households?

Methods

Data Source: NHANES (2011-2016) to capture overlap in food security and household composition data.

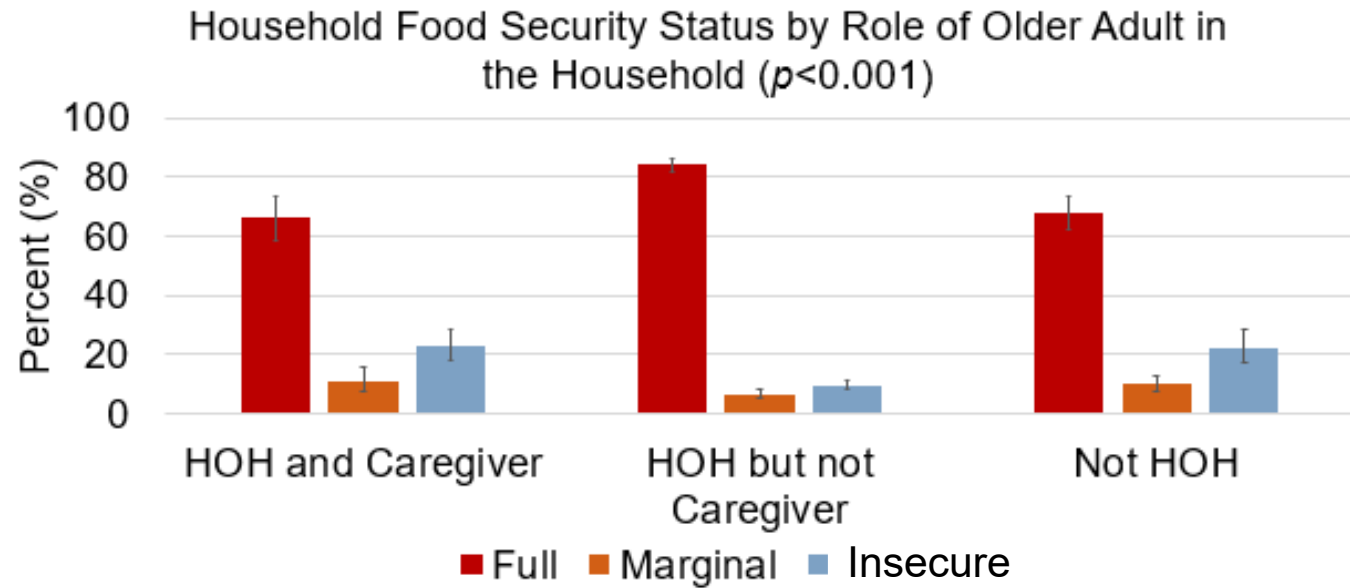
Inclusion criteria: Cases/households with at least one older adult (60+ yrs)

Key variables:

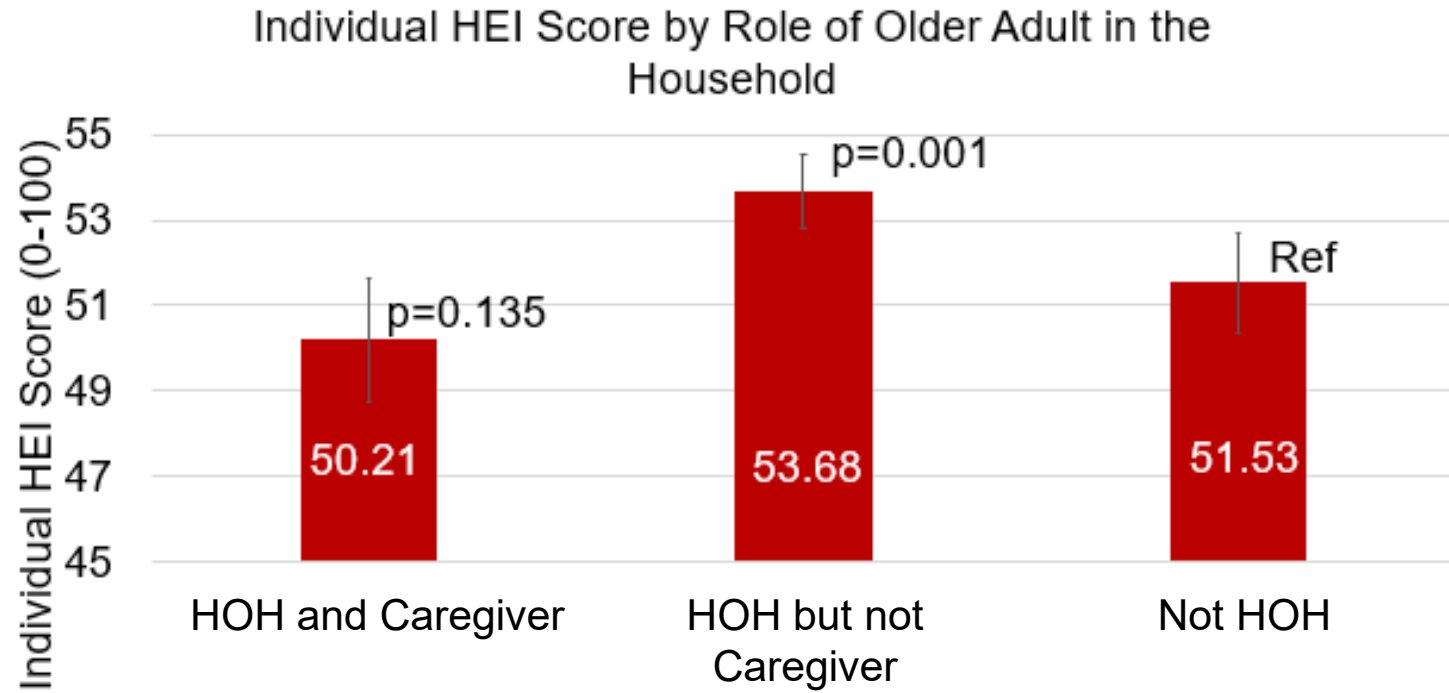
- Role of older adult: Cases assigned to one of **three categories**: 1) head-of-household and caregiver, 2) head-of-household but not a caregiver, or 3) older adult is not head of household.
- Food security status: Cases assigned to one of **three categories** – fully food secure, marginally food secure, or food insecure – using 18-Item U.S. Household Food Security Module with 12-mo reference period.
- Diet Quality: Assessed via Healthy Eating Index (HEI 2015) scores based on a single 24-hour diet recall.

Analysis: Chi-square and ANOVA (IBM SPSS Statistics, V.27)

Results



Results



Conclusions

RQ1

- Our results appear to counter other analyses that have found single-parent households and more complex households to be at greater risk for food insecurity than two-parent households (e.g., Gunderson and Ziliak, 2014; Balisteri 2018).
- This may be due to dataset limitations, household structure categories (and related assumptions), and the mutually-influential manner in which household structure and food security likely interact over time.

RQ2

- For older adults, the added demand of caregiving may have a tangible impact on both the broader household's food security and their individual diet quality.

Thank you!
Discussion

- **Implications for children & older adults**
 - Is the relatively poorer diet quality of older adults in a caregiving role a reflection of their shielding behaviors?
 - How can public health and food policy interventions be designed to promote mutual health for both children and older adults in extended household arrangements?
- **Implications for research**
 - Need more robust household composition data (e.g., rosters)
 - To what degree are (caregiving) roles and receipt of care (by children) executed & experienced across multiple households?
 - What are the temporal dynamics of these relationships?
Opportunity for longitudinal and mixed method research.
 - Are skip- and multi-gen household arrangements experienced differently across the rural-urban continuum (e.g., in relation to culture, housing equity, etc.)?

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