

Adverse childhood experiences and food insecurity in South Carolina

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Introduction

- 1 in 5 American households with children report food insecurity¹
- Food insecurity is related to social determinants of health (i.e., limited access to resources and income¹)
- Literature suggests food insecurity in children may be related to caregivers' adverse childhood experiences (ACEs)¹
- ACEs can include household dysfunction and abuse (e.g., physical, verbal, or sexual)

Research Question

Is there an association between a caregiver's ACEs score and a child's food insecurity in South Carolina (SC)?

Methods

- **SC Children's Health Assessment Survey (CHAS)**
 - Call back survey to **SC Behavioral Risk Factor Surveillance System (BRFSS)**
 - Administered in SC since 2012
 - Weighted annually to mirror SC's child population
- SC CHAS data obtained from 2014-2015
 - Linked to SC BRFSS data
 - Restricted to those records where the BRFSS and CHAS respondent were the same individual
 - **n = 1,339**
- ACEs module on SC BRFSS = 11 questions (Table 1)
 - Calculated cumulative ACE exposure = **0, 1, 2, 3+ ACEs**
- Outcome from SC CHAS = **food insecurity**
 - "In the last 12 months, did you ever cut the size of (his/her) meals because there wasn't enough money for food?" (Yes/No)

Methods continued

| Table 1. 11 ACEs questions from SC BRFSS (2014-2015): Before you were 18 years of age... | |
|--|--|
| Yes/No... | How often... |
| Did you live with anyone who was depressed, mentally ill, or suicidal? | Did your parents or adults in your home ever slap, hit, kick, punch, or beat each other up? |
| Did you live with anyone who was a problem drinker or alcoholic? | Did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? Do not include spanking. |
| Did you live with anyone who used illegal street drugs or who abused prescription medications? | Did a parent or adult in your home ever swear at you, insult you, or put you down? |
| Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility? | Did anyone at least five years older than you or an adult ever touch you sexually? |
| Were your parents separated or divorced? | Did anyone at least five years older than you or an adult try to make you touch them sexually? |
| | Did anyone at least five years older than you or an adult force you to have sex? |

- Analysis
 - Survey logistic regression utilized to obtain **unadjusted (ORs)** and **adjusted (aORs) odds ratios** and 95% confidence intervals (CIs)
 - Adjusted models included the following caregiver covariates from SC BRFSS: **depression status, education, and self-rated health**

Results

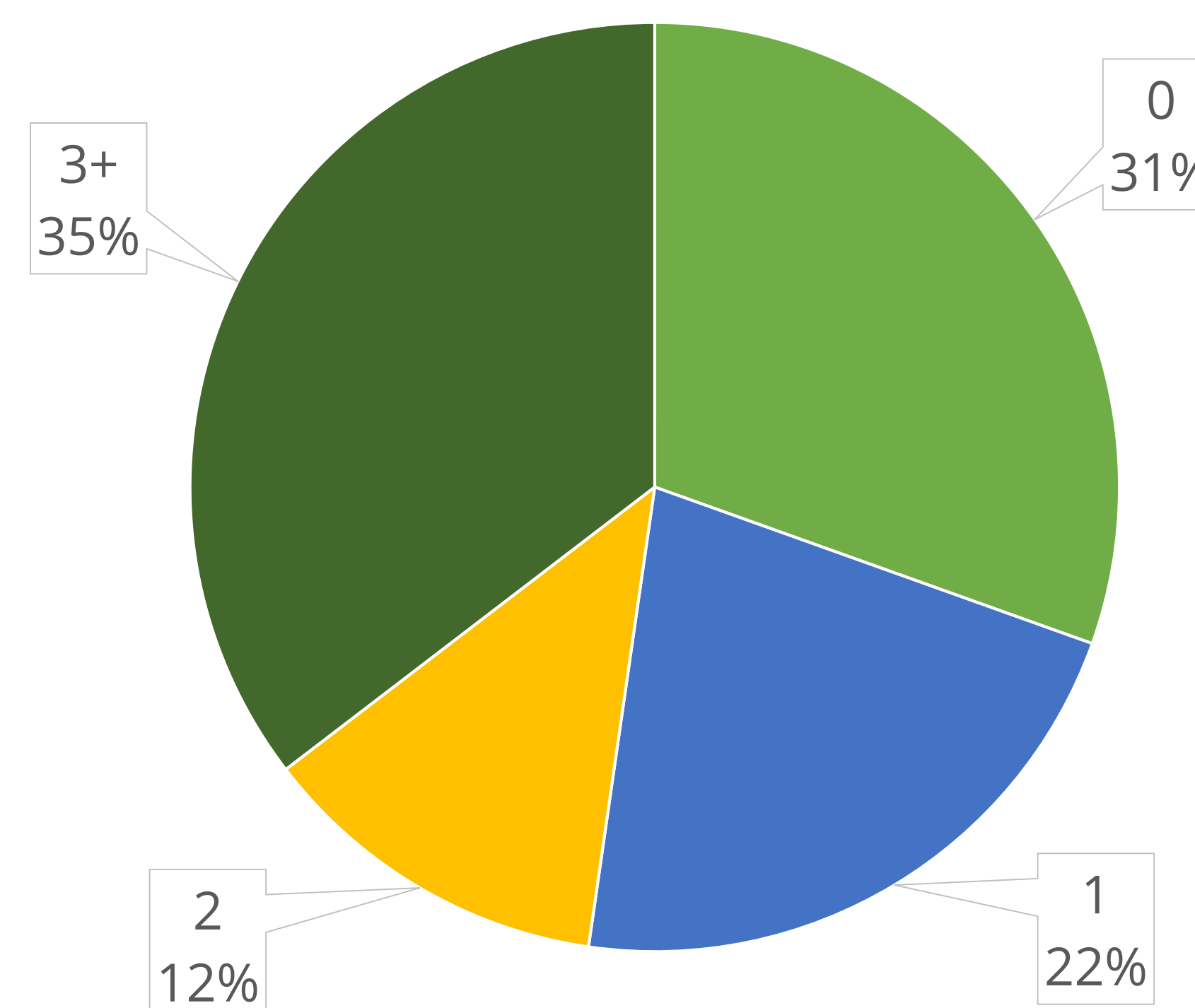


Figure 1. ACE score distribution (SC BRFSS-CHAS 2014-2015; n = 1,339)

References

1. Sun J, Knowles M, Patel F, Frank DA, Heeren TC, Chilton M. Childhood adversity and adult reports of food insecurity among households with children. *Am J Prev Med.* 2016 May;50(5):561-72.
2. Stuff JE, Casey PH, Szeto KL, Gossett JM, Robbins JM, Simpson PM, Connell C, Bogle ML. Household Food Insecurity Is Associated with Adult Health Status. *J Nutr.* 2004 Sep;134 (9):2330-5.
3. "Facts about hunger in South Carolina." Feeding America. Accessed May 8, 2017. [URL: <http://www.feedingamerica.org/hunger-in-america/news-and-updates/press-room/press-releases/facts-about-hunger-in-south-carolina.html?referrer=https://www.google.com/>].

Results continued

- About **3.7%** of caregivers reported food insecurity
- ACEs and food insecurity model results (Table 2)

Table 2. Unadjusted (OR) and adjusted (aOR) model results for association of interest (SC BRFSS-CHAS 2014-2015; n = 1,339)

| ACE Score | OR (95% CI) | aOR (95% CI) |
|-----------|--------------------------|--------------------------|
| 0 | Referent | Referent |
| 1 | 5.90 (1.40-34.00) | 4.97 (1.04-23.76) |
| 2 | 8.71 (1.64-46.25) | 6.01 (1.12-32.30) |
| 3+ | 6.17 (1.39-27.34) | 3.24 (0.70-15.09) |

Significant

- In adjusted model, **caregiver's self-rated health was significant** (aOR: 4.1; 95%CI: 1.5-11.6)

Discussion

- Current study suggests caregiver's ACE score factors into children's food insecurity, which generally agrees with literature¹
- **Caregiver's self-rated health may have more influence**
 - Those with worse self-rated health have higher odds of food insecurity
 - Coincides with literature²
- Limitations of current study
 - Cross-sectional study design
 - Temporality difficult to establish
 - Cannot dose food insecurity like previous studies¹
 - Small sample size
 - May underestimate food insecurity in SC³
- Future directions: redo analysis in future when sample size is larger
 - Assess geographic differences (urban vs. rural; SC public health regions)
 - WIC/SNAP enrollees
- Implications
 - Emphasizes importance of providing mental health resources to new mothers and families



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