Beyond Income: Health Difficulties and Food Hardship in Homelessness

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Background

- Food insecurity is a persistent U.S. public health crisis, affecting roughly **47.5M Americans** (USDA 2025), with risks concentrated among the **~800K experiencing homelessness**, up 18% in 2024 (HUD 2024). It is consistently linked to chronic illness, depression, anxiety, and stress (Gundersen & Ziliak 2015; Easton et al. 2022; Loftus et al. 2021).
- Many unhoused individuals work informal or gig jobs (Duke et al. 2025), yet employment does not reliably translate to stable food access (O'Campo et al. 2017).
- For unhoused adults, the food–health relationship is **bidirectional**: physical and mental health constrain mobility, meal preparation, and navigation of food assistance, while food insecurity in turn worsens health (Chang & Chatterjee 2022; Lee et al. 2021).
- Food insecurity and homelessness are deeply intertwined, yet food hardship among unhoused adults **cannot be explained by income alone** (Bowen et al. 2019; Hamilton et al. 2024).
- We extend this literature by testing whether **physical and mental health difficulties** predict food insecurity among unhoused adults, **net of income and employment**.

Among unhoused adults, do physical and mental health difficulties remain stronger predictors of food insecurity than income and employment?

Data & Sample

> Source: Sound Data Project, UW Dept. of Sociology, Spring 2023 (Williams et al. 2025)

> Sample: Sample: N = 141 unhoused adults, King County, Seattle; RDS weights applied for population-representative estimates

> Recruitment: Respondent-Driven Sampling (RDS). Peer-referral chains with custom QR-coded coupons; designed for hard-to-reach populations (Heckathorn 1997)

> Administration: Face-to-face iPad interviews by trained UW undergraduates, supervised by PhD students and faculty

Figure 1. Descriptive Statistics

Unhoused adults surveyed: **141**	Mean age (SD = 12.0 yrs): **41.7**	Mean days worked in last one week: **3.5**	Male respondents: **68.6%**
Reporting no income: **71.6%**	Mean food insecurity index (0–12): **7.2**	Single/ not partnered: **61.8%**	Mean education yrs (SD = 3 yrs): **11.7**

Any Mental Health Difficulty: **81 (57.4%)**

Any Physical Health Difficulty: **78 (55.3%)**

Analytic Models

Outcome	Key Predictors	Control & Method
Food insecurity composite index (0–12) • Sum of 3 past-30-day food hardship items: 1. Could not afford healthy food 2. Didn't eat enough due to cost 3. Skipped a meal due to lack of money • Models estimated for each item and the composite	**Mental health difficulty** • Diagnosed with depression, anxiety, bipolar disorder, or eating disorder	**Controls** • Gender • Age • Education (years) • Income group: none / ≤$2k / >$2k • Weeks worked (past 4 weeks)
	Physical health difficulty • Difficulty walking, climbing stairs, kneeling, or lifting 10+ lbs	**Method** • OLS regression with RDS weights • Four outcomes modeled separately

Results

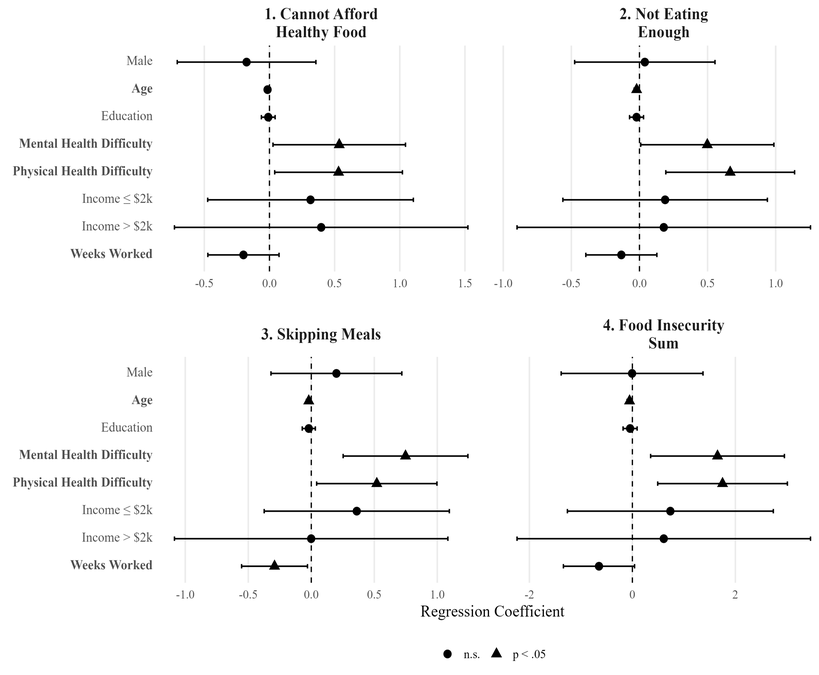
▸ Finding 1: Health difficulties are robust predictors of food insecurity

Mental health difficulty (**β = 1.654, p < .05**) and physical health difficulty (**β = 1.751, p < .01**) are associated with higher food insecurity, net of income and employment.

▸ Finding 2: Economic indicators do not differentiate food outcomes

Income group is not significant, and weeks worked is not consistently associated with food hardship.

Figure 2. Predictors of Food Insecurity Outcomes



Discussion

- **Health, not income or employment, is the key factor shaping food access** as physical and mental difficulties remain robust predictors after controls.
- **Physical limitations** restrict travel to food programs and meal preparation.
- **Mental health burdens** hinder planning, decision-making, and navigation of assistance.
- These findings **reframe food insecurity in this population as a health-related challenge**, not a purely economic one.

Policy implication:

- Reducing food insecurity among unhoused adults requires integrated health and food support.
- Income-based interventions alone are insufficient.

Scan for poster, bibliography, and appendix.

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