Food Insecurity and Weight Status among Ethnic Minority Adolescents

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Background

- 23% of Texas children experience food insecurity[1]
- Ethnic minority children are especially susceptible to overweight and obesity (see table 1)[2]
- Evidence is mixed regarding the relationship between food insecurity and weight status in children[3-7]

Table 1: Overweight + obesity prevalence in children aged 2-19 years[2]

	Overweight	Obesity	Overweight + Obesity
Overall	14.90%	16.90%	31.80%
Hispanic	16.50%	22.40%	38.90%
African American	15.00%	20.20%	35.20%

Purpose

- To examine the relationship between food insecurity and weight status among ethnic minority adolescents

Methods

- Low income, ethnic minority adolescents (n=197) were recruited from an independent school district in Houston, Texas in Fall 2017.

Measures

- **Weight Status Classification**
  - A standard scale and stadiometer was used to assess height and weight.
  - BMI percentile was calculated and categorized according to CDC guidelines:[8]
    - Normal weight (5th to 85th percentile)
    - Overweight status (85th to 95th percentile)
    - Obesity (95th percentile or greater)
- **Food Security**
  - Assessed with the nine-item USDA Child Food Security Survey Module
  - Food security = zero affirmative answers
  - Food insecurity = one or more affirmative answers
- **Demographics**
  - Students completed a demographic questionnaire including their age, gender, race/ethnicity, and the number and ages of persons living in their home

Analyses

- Descriptive statistics were computed
- Multivariate regression model was conducted in which weight classification was regressed onto food insecurity, controlling for demographic characteristics.

Results

Table 2: Participant characteristics [mean (SD) or %]

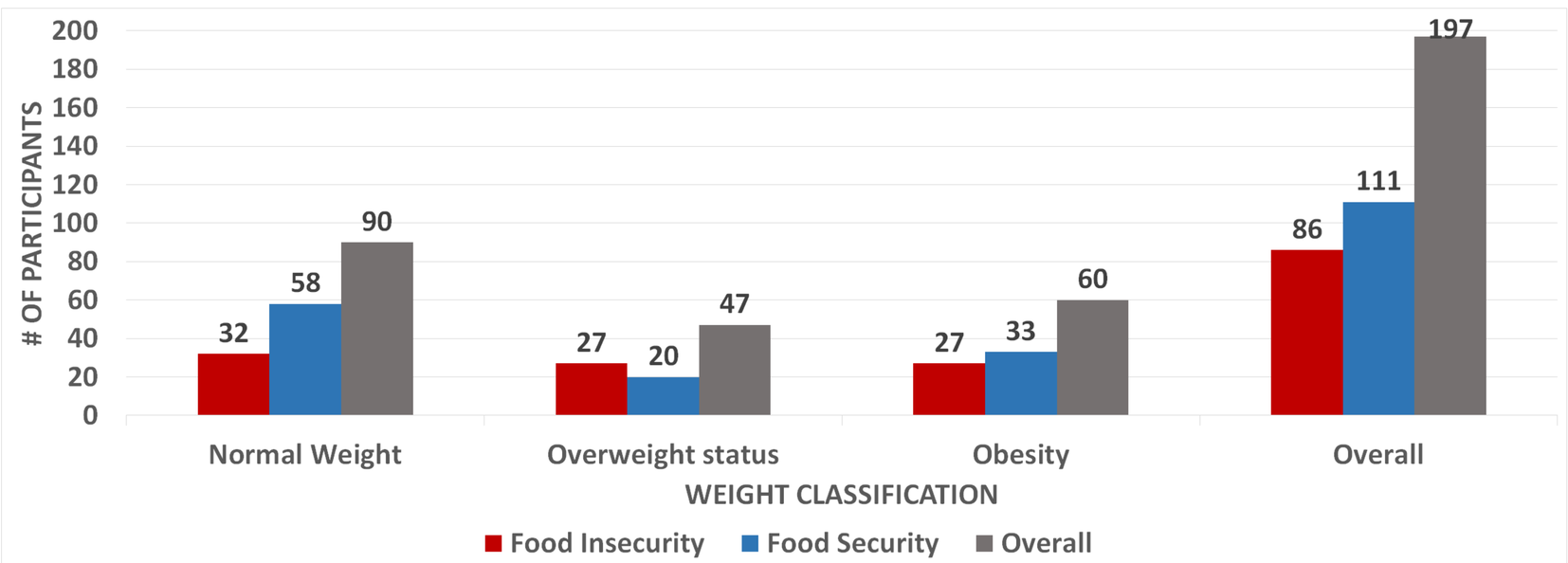
Age	14.96 (1.82)
Gender (% male)	50%
Ethnicity	
Hispanic	78.2%
African American	16.8%
Asian	3.6%
Caucasian	0.5%
Free/reduced school meal program participation	81%
Weight status classification	
Normal weight	45.7%
Overweight status	23.9%
Obesity	30.4%

Table 3. Adjusted odds ratios (95% confidence intervals) for associations between food insecurity and weight status *N* = 197

	Overweight Status	Obesity
Food insecurity	2.54 (1.21-5.31)*	1.51 (0.76-3.00)
Gender	0.88 (0.42-1.86)	0.69 (0.35-1.38)
Age	0.93 (0.75-1.14)	0.86 (0.71-1.04)
Number of adults living in the house	1.15 (0.82-1.61)	1.23 (0.90-1.69)
Number of youth living in the house	0.72 (0.54-0.97)*	0.75 (0.57-0.98)*

***p<0.05**

Figure 1: Food insecurity by weight status classification



Conclusions

- Our findings suggest that the relationship between food insecurity and weight status is not proportional.
- Longitudinal research is needed to help disentangle the relationship between food insecurity and weight status.

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