

Food Insecurity & CVD in Lower-Income U.S. Adolescents

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Background

- Food insecurity has been associated with higher cardiovascular disease (CVD) risk in low-income U.S. adults.
- Nonetheless, the association between food insecurity and CVD risk factors in lower-income U.S. adolescents has not been extensively studied.

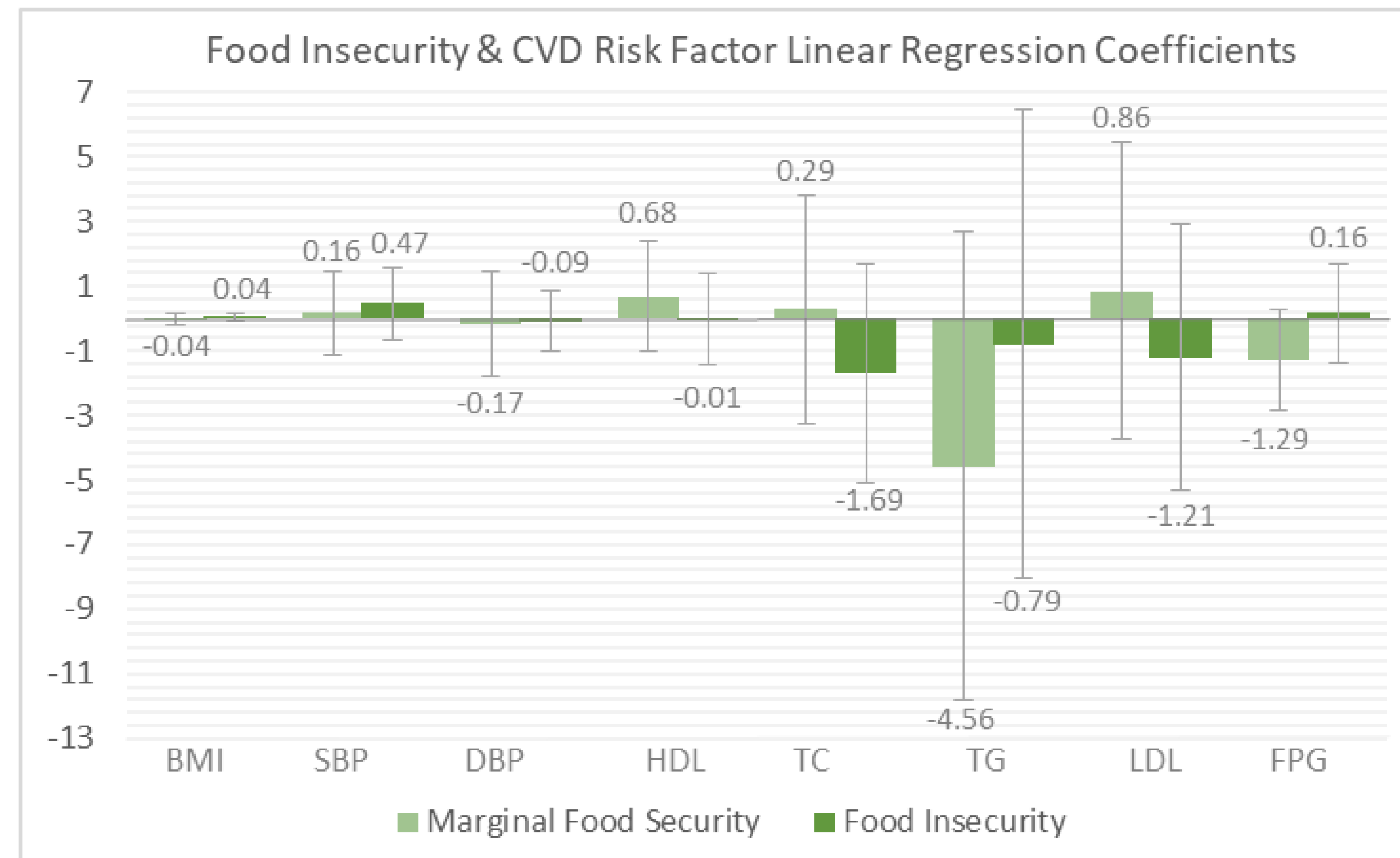
Methods

- **Sample:** 2876 lower-income (300% federal poverty line and below) adolescents aged 12 – 17 years from the National Health and Nutrition Examination Survey (NHANES) cycles 2007 – 2016
- **Exposure:** Food insecurity was measured through the US Food Security Survey Module.
- **Outcomes:** CVD risk factors assessed were BMI-for-age Z-score; systolic and diastolic blood pressure; total, fasting LDL, and HDL cholesterol; fasting glucose and fasting triglycerides.
- **Covariates:** age, sex, race/ethnicity, smoking, physical activity, sedentary time, & head-of-household education, marital status, and income.
- **Statistical analyses:** Multivariable linear regressions (adjusted for covariates) were used to evaluate the association between food insecurity and CVD risk factors using SAS 9.4.

Results

- The prevalence of food insecurity in the sample was 33.4%.
- Food insecurity was not associated with BMI-for-age Z-score (BMI), systolic blood pressure (SBP), diastolic blood pressure (DBP), total cholesterol (TC), fasting LDL cholesterol (LDL), HDL cholesterol (HDL), fasting glucose (FPG), and fasting triglycerides (TG).

Data Visualization



Linear regression coefficients (Betas) for marginal food security and food insecurity are provided along with 95% confidence intervals. Full food security was used as the reference group (Beta = 0). There were no statistically significant associations using an alpha = 0.05 and two-sided tests.

Implications

- In the sample, there was no association between food insecurity and CVD risk factors.
- However, food insecurity has been associated with other negative health outcomes in U.S. adolescents. Thus, although it is possible no causal link exists between food insecurity and CVD risk in adolescents, research on the impact of food insecurity on adolescent health should continue.
- Furthermore, evidence has shown that lower-income adolescents have higher levels of certain CVD risk factors; therefore, more research should be conducted to establish the cause of this phenomenon.
- Finally, interventions to alleviate both food insecurity and high CVD risk factors in lower-income U.S. adolescents are still critical even with no causal link between the two.

Reference

Fulay AP, Vercammen KA, Moran AJ, Rimm EB, Leung CW. Household and child food insecurity and CVD risk factors in lower-income adolescents aged 12-17 years from the National Health and Nutrition Examination Survey (NHANES) 2007-2016. *Public Health Nutr.* 2021 Jun 21:1-8. doi: 10.1017/S1368980021002652. Epub ahead of print. PMID: 34155968.