A Preliminary Validation Study of the College Student Food and Nutrition Security Survey

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Introduction

- Food insecurity refers to social or economic circumstances that restrict or create uncertainty in accessing sufficient and nutritious food.[1]
- The USDA Food Security Survey Module (FSSM) is used to assess levels of food security.[2]
- Nutrition security refers to consistent access to food and beverages that promote well-being, prevent disease, and, if needed, treat disease, emphasizing equitable access to healthy, safe, and affordable foods for all, especially the vulnerable.[3]

Fig 1: Food insecurity prevalence in the U.S.

13.5 %
American Households Experienced Food Insecurity in 2023

Fig 2: Food insecurity prevalence among U.S. College Students.

14% - 54% of College Student are Food Insecure

Food insecurity negatively impacts college students' academics and well-being

Objective

To assess the validity and reliability of the College Student Food and Nutrition Security Survey Model (CS-FNSSM) for use among college students.

Methods

Recruitment: A Qualtrics survey was sent via e-mail to all actively enrolled students in participating institution.

Survey: Demographic questions, 2-item food sufficiency screener and CS-FNSSM.

Reliability Study: A subset of participants completed the survey a second time to assess test-retest reliability.

Data analysis: Performed in R-Studio.

Results

Fig 3: Food Security Prevalence among College Students - 2-item Food Sufficiency Screener.

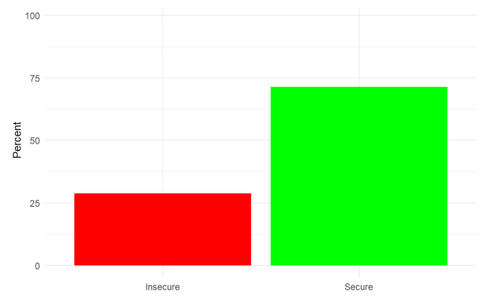

Fig 4: Food and Nutrition Security Prevalence among College students- CS-FNSSM.

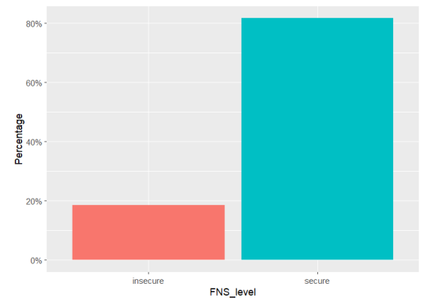

Table 1: Reliability and Consistency Metrics.

Metric	Details
Sample Info	N = 69; Items = 13
Temporal Stability	Test-Retest: r = 0.59 (~60% consistency)
Internal Consistency	Time 1: α = 0.82 (Good); Time 2: α = 0.72 (Acceptable)
Generalizability	Between-Person: 0.53 (Moderate); Within-Person: 0.84 (SD = 0.09, High)

Main Outcomes

- CS-FNSSM Metrics: Sensitivity:89.09%, Specificity:76.2%, and Error rate:23%.
- Prevalence Rates: FNI: 18.4%, FI: 9.7%, NI: 38%.

Conclusion

The New CS-FNSSM demonstrated greater sensitivity in detecting both food and nutrition insecurity, with nutrition security being the key challenge of college.

References

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