

Examining food-related stress, time and skill in university students with food insecurity.

Diana Cuy Castellanos¹ PhD, RDN, LD and Jeanne Holcomb² PhD

Department of Health and Sport Science¹ and Department of Sociology, Anthropology and Social Work², UNIVERSITY OF DAYTON, OH

Introduction

- University students have high rates of food insecurity.¹⁻²
- Poorer dietary behavior, lower academic performance and poorer social, physical and mental well-being are related to food insecurity.²⁻⁴
- Several factors may increase food insecurity including financial and/or time constraints, and cooking and budgeting skills. Many of the factors may be inter-related and connected.⁵⁻⁷
- Interventions addressing the root causes of food insecurity can have the greatest impact on decrease prevalence and promoting social, physical and mental well-being in this population.

Methodology

Research Design: This was a cross-sectional research study

Participants: Undergraduate students from a mid-sized public university were recruited through their university emails. Students had to be >18 years of age to participate and a full-time, undergraduate student.

Instruments: The USDA short 6-item food security questionnaire was used to determine the prevalence of food insecurity. Summation of the 6 items was used to categorize participants into food security grouping: food secure, low food secure, very low food secure. Information extracted from prior semi-structured interviews was utilized to develop a food-related time, stress and skill questionnaire. The questionnaire examined student perceived food-related time, stress and skill in terms of food procurement, preparation, and budgeting.

Analysis: Total food-related time, stress and skill scores were calculated and ANOVA test with Bonferonni post-hoc tests used to determine differences in scores between food security groups. Further, Kruskal-Wallis non-parametric tests with follow-up pairwise comparisons were employed to examine differences in dispersion across groups for each individual item in each scale.

Results

Time, Stress and Skill Questionnaire

Food-related Stress, Skill and Time questionnaire

On a scale of 1 to 5 (1 indicating not stressful and 5 very stressful) how would you rank the following:

Meal Planning:	1	2	3	4	5
Grocery Shopping:	1	2	3	4	5
Food Prep/ Cooking:	1	2	3	4	5
Food Consumption:	1	2	3	4	5
Budgeting:	1	2	3	4	5

On a scale of 1 to 5 (1 not skilled and 5 very skilled), how would you rank your skills for the following:

Meal Planning:	1	2	3	4	5
Grocery Shopping:	1	2	3	4	5
Food Prep/ Cooking:	1	2	3	4	5
Food Consumption:	1	2	3	4	5
Budgeting:	1	2	3	4	5

On a scale of 1 to 5 (1 having no time and 5 having adequate time) how would you rank your time to do the following:

Meal Planning:	1	2	3	4	5
Grocery Shopping:	1	2	3	4	5
Food Prep/ Cooking:	1	2	3	4	5
Food Consumption:	1	2	3	4	5
Budgeting:	1	2	3	4	5

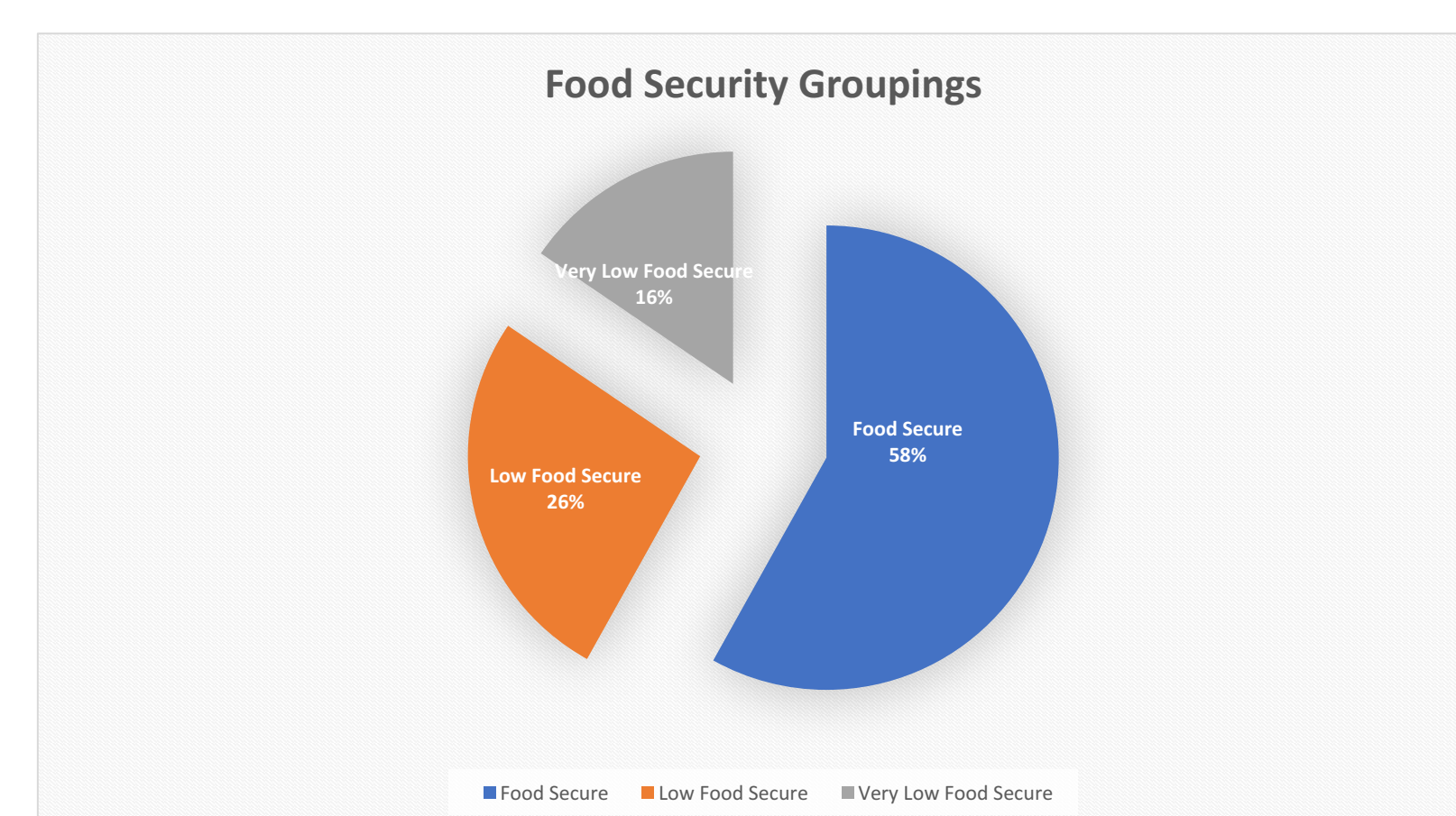
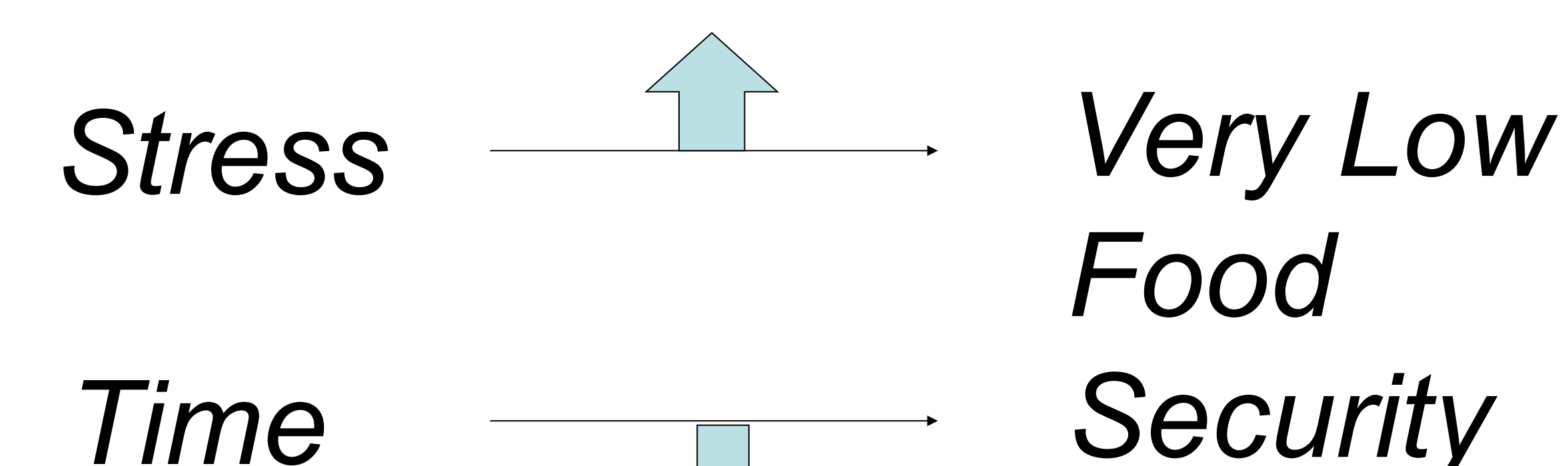


Table 1: Stress, skill and time total and item scores among food secure, low food secure and very low food secure

	Food Secure (n=154)	Low Food Secure (n=70)	Very Low Food Secure (n=41)	Total (N=265)
Stress	2.46 (0.87)	2.75 (0.79)**	3.46 (0.69)**	2.69 (0.89)
Meal planning	2.51 (1.17)	2.64 (1.10)	3.76 (1.02)**	2.74 (1.21)
Grocery shopping	2.38 (1.11)	2.44 (1.06)	3.51 (1.07)**	2.57 (1.16)
Food preparation/Cooking	2.49 (1.21)	2.47 (1.09)	3.20 (1.08)**	2.60 (1.18)
Food Consumption	2.06 (1.21)	2.31 (1.27)	2.56 (1.23)*	2.20 (1.24)
Budgeting	2.87 (1.28)	3.86 (1.13)**	4.29 (0.87)**	3.35 (1.12)
Skill	3.46 (0.78)	3.17 (0.76)*	3.19 (0.76)	3.34 (0.78)
Meal planning	3.05 (1.26)	2.86 (1.18)	2.81 (1.10)	2.96 (1.22)
Grocery shopping	3.73 (0.95)	3.36 (1.10)*	3.39 (0.95)	3.58 (1.01)
Food preparation/Cooking	3.40 (1.16)	3.19 (1.12)	3.32 (0.96)	3.33 (1.12)
Food Consumption	3.96 (0.99)	3.76 (1.00)	3.54 (1.41)	3.85 (1.05)
Budgeting	3.16 (1.12)	2.69 (1.19)*	2.88 (0.98)	2.99 (1.13)
Time	3.06 (0.88)	2.60 (0.84)**	2.26 (0.65)**	2.81 (1.14)

The low food secure and very low food secure had **significantly different scores** for stress and time compared to the food secure group indicating students who were food insecure had more stress and less time around food procurement, preparation and planning. For the individual items under stress and time, the very low food secure group had **significantly lower scores for time** and **higher for stress** indicating having less time but feeling more stress for each of the items (meal planning, grocery shopping, food preparation and consumption and budgeting Table 1).

Conclusion



In conclusion, addressing factors influencing stress and time related to food procurement, preparation, consumption and budgeting in the university student population may impact food security. Prior studies show food insecure students have lower budgeting skills and feel higher stress relating to financial constraints. In addition, Payton-Lopez and colleagues found students who are employed have higher food insecurity which may also contribute to the lack of time for food-related tasks and contributing to stress. Moving forward, universities can examine different ways to mitigate the stress and time constraints through:

- Examining food access on campus in terms of cost and convenience and possible outreach
- Offering budgeting support and counseling
- Identifying employment opportunities on campus for the most vulnerable students.

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