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

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### Introduction

- University students have high rates of food insecurity.\textsuperscript{1,2}
- Poorer dietary behavior, lower academic performance and poorer social, physical and mental well-being are related to food insecurity.\textsuperscript{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.\textsuperscript{4,5}
- 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 \textgreater\textgreater 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 group: 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 Bonferroni 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.

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### Results

**Time, Stress and Skill Questionnaire**

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

<table>
<thead>
<tr>
<th></th>
<th>Food Secure (n=70)</th>
<th>Low Food Secure (n=154)</th>
<th>Very Low Food Secure (n=265)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>2.87 (1.28)</td>
<td>3.73 (0.95)</td>
<td>3.86 (1.13)</td>
<td>0.0080</td>
</tr>
<tr>
<td>Meal planning</td>
<td>2.82 (1.37)</td>
<td>3.51 (1.19)</td>
<td>3.90 (1.31)</td>
<td>0.0121</td>
</tr>
<tr>
<td>Grocery shopping</td>
<td>3.70 (1.21)</td>
<td>3.36 (1.01)</td>
<td>3.60 (1.20)</td>
<td>0.0031</td>
</tr>
<tr>
<td>Meal planning</td>
<td>2.75 (1.28)</td>
<td>3.54 (1.41)</td>
<td>3.60 (1.20)</td>
<td>0.0031</td>
</tr>
<tr>
<td>Food prep/cooking</td>
<td>2.56 (1.23)</td>
<td>2.15 (1.06)</td>
<td>2.31 (1.09)</td>
<td>0.0008</td>
</tr>
<tr>
<td>Stress</td>
<td>2.60 (0.84)</td>
<td>3.60 (1.17)</td>
<td>3.60 (1.17)</td>
<td>0.0008</td>
</tr>
<tr>
<td>Meal planning</td>
<td>3.86 (1.13)</td>
<td>3.47 (1.09)</td>
<td>3.60 (1.20)</td>
<td>0.0031</td>
</tr>
<tr>
<td>Grocery shopping</td>
<td>3.74 (1.24)</td>
<td>3.60 (1.20)</td>
<td>3.60 (1.20)</td>
<td>0.0031</td>
</tr>
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<td>Meal planning</td>
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</tbody>
</table>

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### 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:

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

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### References