Assessing Perceptions of Barriers to Healthy Eating and the use of Social Media as a Potential Solution

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Abstract

A 2015 system-wide study by the University Office of the President (UCOP) demonstrated that 42% of all University of California (UC) students experience food insecurity. At UC Davis, steps have been taken to mitigate the effects of food insecurity by addressing campus food access. However, informal student interviews as well as formalized focus groups suggest that further steps to improve total food security status should further be considered, and should include ways to further encourage an improved diet quality. Furthermore, those affected by food insecurity at the highest rate are largely students coming from underrepresented communities in higher education, and may not necessarily be the ones utilizing the resources. As such, the primary objective of this study is to assess perceptions of healthy eating that may serve as barriers to healthy eating behavior. The perceived barriers will include convenience, finances, cooking skill self-efficacy. Secondary, this study will explore potentially using social media to mitigate these perceived barriers. Likert scale questions were created for each of the measured perceptions and were then grouped to create composite variables. Cronbach’s alphas were calculated for each of the composite variables to ensure internal consistency. Mann Whitney U-Tests were used to analyze the differences in the composite variables between represented and underrepresented student groups. Underrepresented student groups scored higher in the perceived barriers of convenience, finances, cooking skill self-efficacy, and growing up with healthy options and food preferences may contribute as barriers affecting healthy eating practices and thus low food security status.

Background

• A 2015 UCOP System-wide Study determined that about 42% of total student population is food insecure, with about 23% experiencing reduced-quality diet classified as low food security status.
• Resources to aid in food accessibility have been created, or have been expanded upon to address these concerns at UC Davis, including Fruit and Veggie Up!, The Pantry, and teaching kitchens.
• Although these resources are available, swipe card data have suggested that these resources are currently underutilized by those who are experiencing food insecurity, especially those form more underrepresented backgrounds.
• Informal interviews have suggested that perceived barriers of convenience, finances, cooking skill self-efficacy, and growing up with healthy options and food preferences may contribute as barriers affecting healthy eating practices and thus low food security status.
• There are documented relationships of the disparities between underrepresented and represented communities in higher education related to health, socioeconomic status, and food security status.
• Underrepresented identities include communities as follows: Black/African American, Chicano/Latino, Hispanic, Filipino, Southeast Asian, Pacific Islander, Native American/Alaskan Native and LGBTQIA+ students.

Objectives

1. To develop a needs assessment questionnaire that assesses perceptions that may be barriers to healthy eating. Barriers to healthy eating include perceptions of convenience, finances, cooking skills, and cultural barriers that are measured through the composite variable “healthy options” and “food preferences”.
2. To determine if there are differences in these perceptions between represented and underrepresented student populations.
3. To determine the most commonly used social media platforms that are used amongst UC Davis Students.

Methods

Development of the Needs Assessment

• A needs assessment was developed to determine students’ perception surrounding healthy eating and to explore social media use.
• The perceptions assessed (convenience, finances, cooking skill self-efficacy, growing up with healthy options, and food preferences) were determined through informal student conversations, formalized focus groups, and a literature review.
• Likert scale items were developed to assess student perception.
• Demographic information was collected to better understand the student population; however, all students remained anonymous.

Needs Assessment Distribution

• Distribution occurred through available list servs using a modified Dillman approach and through UC Davis marketing channels, such as the “MyUCDavis” Homepage.
• Ten 75 UC Davis Coffee House Gift Cards were raffled off to interested students as an incentive to complete the needs assessment.

Statistical Analyses

• Cronbach’s alpha was conducted to verify the internal consistency within the grouped items.
• Composite variables were created for the grouped items.
• Independent sample t-test or Mann-Whitney U-tests will be used where appropriate to determine differences between the represented (n = 701) and underrepresented (n = 606) student groups.
• All analyses were done using SPSS statistical software (IBM, Armonk, NY).

Results

Table 1. Participant characteristics of the needs assessment. Sample size ranges from 1,315 to 1,325 due to questionnaire attrition.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Participants (n=1,325)</th>
<th>Participants (n=1,317)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male: 250 (18.8)</td>
<td>Female: 1,065 (79.5)</td>
</tr>
<tr>
<td></td>
<td>Non-Binary/Transgender 37 (2.9)</td>
<td>Prefer not to answer 23 (1.7)</td>
</tr>
<tr>
<td>Ethnicity/Race</td>
<td>White/Caucasian: 589 (45.8)</td>
<td>Black: 289 (14.6)</td>
</tr>
<tr>
<td></td>
<td>Latino: 254 (14.7)</td>
<td>Middle Eastern/South Asian: 97 (6.4)</td>
</tr>
<tr>
<td></td>
<td>East Asian: 258 (15)</td>
<td>Southeast Asian: 130 (6.6)</td>
</tr>
<tr>
<td></td>
<td>Other: 627 (47)</td>
<td>Native Hawaiian/Pacific Islander: 6 (0.3)</td>
</tr>
<tr>
<td></td>
<td>Native American/Alaska Native: 27 (1.6)</td>
<td>Other: 1065 (85.4)</td>
</tr>
</tbody>
</table>

Table 2. The variable scores for represented and underrepresented student groups presented as mean ranks determined by the Mann-Whitney U-Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Represented</th>
<th>Underrepresented</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience</td>
<td>Cronbach’s Alpha: 0.72</td>
<td>Cronbach’s Alpha: 0.71</td>
<td></td>
</tr>
<tr>
<td>Finances</td>
<td>Cronbach’s Alpha: 0.71</td>
<td>Cronbach’s Alpha: 0.60</td>
<td></td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>Cronbach’s Alpha: 0.80</td>
<td>Cronbach’s Alpha: 0.65</td>
<td></td>
</tr>
<tr>
<td>Improvement</td>
<td>Cronbach’s Alpha: 0.68</td>
<td>Cronbach’s Alpha: 0.65</td>
<td></td>
</tr>
<tr>
<td>Healthy Options</td>
<td>Cronbach’s Alpha: 0.63</td>
<td>Cronbach’s Alpha: 0.65</td>
<td></td>
</tr>
<tr>
<td>Food Preference</td>
<td>Cronbach’s Alpha: 0.60</td>
<td>Cronbach’s Alpha: 0.65</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions

• Underrepresented students scored higher in the composite variables measuring convenience, finances, and food preferences. Represented students scored higher in cooking skill self-efficacy. This suggests that the measured perceptions contributing as perceived barriers to healthy eating affect underrepresented students more than represented students.
• Although underrepresented students demonstrated lower cooking skill self-efficacy, these students demonstrated a higher interest in increasing their cooking skills.
• Facebook, Instagram, and YouTube may be platforms to consider if one is trying to improve healthy eating through social media platforms.
• Future projects should consider the measured perceptions alongside the differences between represented and underrepresented students. This may provide a solution with a more targeted approach to addressing the perceptions contributing as barriers to healthy eating.

Acknowledgments

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