Building a culture of food security in higher education: an important role for nutrition educators

Speakers:
Emily Heying, PhD College of Saint Benedict/Saint John’s University
Zubaida Qamar, PhD, RD, San Francisco State University
Megan Patton-Lopez, PhD RDN Western Oregon University

Moderator:
Brandy-Joe Milliron, PhD Drexel University
A little bit about us....

Brandy-Joe Milliron  Emily Heying  Zubaida Qamar  Megan Patton-Lopez
Today’s Presentation Will Cover

- Food Insecurity among College Students / Food Insecurity Work on the College Campus - what’s happening?
- Campus Engagement to Create a Food Secure Environment (Emily)
- Food Security Awareness Campaign (Zubaida)
- Food Literacy (Megan)
Food security is vital for maintaining optimal health

High Food Security
- Households had no problems, or anxiety about, consistently accessing adequate food

Marginal Food Security
- Households had problems or anxiety at times about accessing adequate food, but the quality, variety, and quantity of their food were not substantially reduced

Low Food Security
- Households reduced the quality, variety, and desirability of their diets, but the quantity of food intake and normal eating patterns were not substantially disrupted

Very Low Food Security
- At times during the year, eating patterns of one or more household members were disrupted and food intake reduced because the household lacked money or other resources for food.

Source: Adapted from the USDA Economic Research Service.
Food insecurity in college is well-documented.

Many College Students Are Too Poor to Eat
But no one can agree on just how many. Now lawmakers are introducing a bill to change that.

ADAM HARRIS  Jul 11, 2019

67% OF COMMUNITY COLLEGE STUDENTS ARE FOOD INSECURE*

*HUNGRY AND HOMELESS IN COLLEGE: RESULTS FROM A NATIONAL STUDY OF BASIC NEEDS INSECURITY IN HIGHER EDUCATION

FIGURE 2. Food Security Among Survey Respondents by Sector

Source: 2018 #RealColleges Survey

Notes: According to the USDA, students at either low or very low food security are termed “food insecure.” For more details on the food security module used in this report, see Appendix C. Cumulative percentage may not add up to 100 due to rounding error.

Goldrick-Rab et al., Hope For College 2019 Report
Campus response to food insecurity

(Photo from Baylor University Campus Food Pantry)

(Photo from Swipe Out Hunger)

Produce stand inside the UC Berkeley Food Pantry. Reniel Del Rosario
A systematic approach to addressing food insecurity among college students

Just as experiences of food insecurity arise from multiple sources (i.e. individual characteristics, family life, community resources), solutions can also be developed on multiple levels.
Campus Engagement to Create a Food Secure Environment

Dr. Emily Heying, PhD
Saint Benedict/Saint John’s University
Context: Consequences of Low Food Security

- Poor academic performance and retention (Patton-Lopez et al. 2014, Silva et al. 2015)
- Low self-esteem (Hughes et al. 2011)
- Increased risk of anxiety and depression (Martinez, 2018)
Food Insecurity Experiences May Vary by Institution

- Anecdotal stories about food insecurity from students
- Preconceived notions regarding “affordability” of college
- Liberal Arts (LA) Colleges:
  - Residential (<85% live on-campus)
  - Rely on Campus-Dining Centers and Campus-Retail Outlets
  - Rural Communities
    - Population <15,000
- Existing food security research -- limited specifics
  - Includes private liberal arts institutions, but doesn’t separate data for individual schools and compare to other institutions
- My institution had no data.
Food Insecurity at a Rural, Liberal Arts Institution

● **Methods Overview:**
  ○ Online survey via email to 3400 students
  ○ Demographics, Living situation, financials, dietary habits, academics, mental health, food security status (HFSSM- USDA)

● **Key Findings:**
  ○ One in three respondents reported low food security (n = 578)
  ○ More likely to experience low or very low food security:
    - Male students
    - Students of color
    - First-generation students
    - Students living in apartment-style residences with smaller meal plans
If you’re ready to get started, ask yourself:
What Already Exists?

- Does your institution have data on the prevalence or risk factors of food insecurity?
  - Basic Needs Center
  - Student Development
  - Residential Life
  - Health Center

- Who should conduct research/collect data?
  - Are there existing surveys that students already complete?
  - Are there outside organizations for hire or research that could help?
  - Is there a team you can create on campus to collect data?
So you have data...now what?

Consider which departments or stakeholders on campus can help you answer why food insecurity occurs. They also benefit from knowing the prevalence and risk factors that exist on your campus.
Possible campus stakeholders for conversations regarding food security

- Student Development
- Residential Life
- Culinary or Dining Services
- International and Intercultural Student Services
- Health Center
- Student Senates
- Faculty

Image by Gerd Altman via Pixabay
Meetings were successful, but time consuming...

- **Benefits:**
  - Valuable insight from stakeholders
  - Greater perspective on institutional policies
  - Document existing solutions
  - Brainstorm future solutions

- **Difficulties:**
  - Time consuming
  - Scheduling
  - **Keeping different stakeholders on the same page...**

Photo by Nick Morrison via Unsplash
Creating a Working Group or Task Force

- Started meeting in Fall 2019

- Created specific goals – short and long term
  - Explore community partnerships and build relationships (ex: community food shelf)
  - Provide support to students who stay on campus over academic breaks
  - Create structural change that prevents food insecurity and supports students

  - Met monthly until COVID 19 pandemic in March 2020

- Share current and upcoming projects
  - Promotion of dining center hours via email
  - Promotion of pre-break shopping trips for groceries

- Discuss and delegate tasks to appropriate parties
<table>
<thead>
<tr>
<th>Student Development</th>
<th>Screening for Food Accessibility</th>
<th>Student Concerns Trigger Follow-Up Email</th>
<th>Resolve Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicated with residence life to add questions regarding food accessibility on housing forms.</td>
<td>When a student checks “yes” to food accessibility concerns, the form is then sent to the assistant dean of students. The dean follows up with the student via email or phone call</td>
<td>Often, the student concerns have been about meal plan usage: Can I use my meal plan over break? What campus dining facilities are open? If student is concerned about access to food and cannot acquire groceries or use meal plan, a solution is discussed. An emergency fund can be used.</td>
<td></td>
</tr>
</tbody>
</table>
**Goals/Solutions - Meal Plans**

**Dining Services**

- Some meal plans exacerbate food insecurity for male students
  - Male students automatically assigned a meal plan with 160 meal passes and $200 flex bucks.
  - These students experienced significantly lower food security than male students on an unlimited meal plan and female students.

- Joint presentation to board of trustees
  - Presented data and prices of meal plans. Joint effort from dining services and food security research.
  - Asked trustees to assign students to an unlimited meal plan instead of 160 meal pass plan.

- Small changes to meal plan assignments
  - Starting in Fall 2020, 1st and 2nd year students will be assigned the unlimited plan.
  - Students can switch to 160 meal plan if they choose.
  - Dining services working with student orientation to communicate meal plan options.
Take Home Messages

1. Do not reinvent the wheel! Seek out existing data, researchers, or others on campus passionate about supporting food insecure students.

1. Be prepared to take the lead, but do not be afraid to delegate.

1. Goals. Goals. Goals. This is how you keep your team on track.

1. Food insecurity is a complex issue. Focus on short-term goals that can provide immediate support, but also push for long-term structural change that will prevent food insecurity in the future.
Do it for the Gram: Utilizing Instagram to implement a student-informed food security campaign

Zubaida Qamar, PhD, RD
Assistant Professor (Nutrition/Dietetics)
San Francisco State University
@savorandsucceed
Context

• 41.6% of CSU students indicated varying levels of food insecurity (Crutchfield and Maguire, 2016)

• California State University (CSU) Basic Needs Report
  • Increase awareness, access, and utilization of on-campus resources for students

• San Francisco State University
  • Commuter student population, urban campus
  • 47%-49% students report varying levels of food insecurity

• Food Resources available

• Many students not aware of resources
  • 85.2% of students not aware of food pantry (Crutchfield and Maguire, 2016)
  • 40.3% of students never heard of CalFresh (Crutchfield and Maguire, 2016)
Awareness Campaigns

• Public Health focused campaigns have varying effectiveness with regards to behaviors and knowledge (Anker et al., 2016)

• Visually appealing messages are shown to be more effective in delivering the targeted message (Zhaomeng et al., 2020)

• Effective campaigns utilize formative research to enable resonance with the messages and images for the target population (Funderburk et al., 2019)
Savor and Succeed
Campaign development

• Systematic approach
• Student Input and feedback
  • Campaign name pilot-tested with students
    • @savorandsucceed
  • Story vs. post format
  • Pilot-tested with 7 students and 1 staff member for revisions
    • Feedback incorporated
  • Three rounds of revisions for posts/stories
Savor and Succeed
Campaign development

• Recruitment
  • Tabling, Chalking
• Campaign materials
  • 3 posts/week
  • Relevant story content
  • Handouts
• Partnership with Health Promotion and Wellness (HPW) Center
Timeline for the campaign

Week 1: Food Insecurity
Week 2: Food Insecurity at SFSU
Week 3: Promotion of resources - Round 1
Week 4: Promotion of resources - Round 2
Week 5: Getting involved
Data from Instagram

• Engagement Data
  • Views, Shares, Likes, Comments, Reach, Impressions
  • Followers vs. Unfollowed
  • Polls
  • Profile visits
  • Website Clicks
Demographics Data from Instagram

Top Locations
- San Francisco
- San Jose
- Oakland
- Los Angeles
- Stockton

Age Range
- 13-17
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

Gender
- 75% Women
- 25% Men

Followers
- Thursdays
- 12a, 3a, 6a, 9a, 12p, 3p, 6p, 9p
Post Analytics
@SFStateCares by HPW

- Likes= 204
- Reach= 2090
- Impressions= 3082
- Shares= 25
- Saves= 17

21% of SFSU students have skipped a meal to save money*

You’re not alone
Story Analytics
@SFStateCares by HPW

• Views = 622
• Reach = 622
• Impressions = 800
• Shares = 2
Sample post and engagement data
### Engagement Analytics

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Value</th>
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<tbody>
<tr>
<td>Profile Visits</td>
<td>31</td>
</tr>
<tr>
<td>Website Clicks</td>
<td>1</td>
</tr>
</tbody>
</table>

### Discovery

<table>
<thead>
<tr>
<th>Action</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follows</td>
<td>2</td>
</tr>
<tr>
<td>Reach</td>
<td>439</td>
</tr>
<tr>
<td>Impressions</td>
<td>789</td>
</tr>
</tbody>
</table>

- From Home: 353
- From Hashtags: 175
- From Location: 29
- From Other: 232
Story Highlight-Food Pantry

• How to utilize the Food Pantry

https://www.instagram.com/stories/highlights/17874251239471970/
Lessons Learned

• Account from scratch vs. using established accounts with larger audience
  • Partnerships are important
    • SFSU main account
• Constant engagement and posting new content often
• Takes a lot of work to create content
  • Account monitoring
Lessons Learned

• Utilize hashtags for greater reach
• Fun project for the students
• Need creative minds
• Pilot-test everything and analyze feedback received
  • Student community vs. researchers/publishing
• Rest your hand if managing account from cell phone
• Walk the talk: Support related efforts
  • World Kindness Day

Thanks to Bianca and Yahaira from @savorandsucceed
Partners

• Health Promotion and Wellness Center
• SNDA
• AS Environmental Resource Center
• SF State Dining Services
  • Sodexo
• AS Women’s Center
Conclusions and Next Steps

Instagram seems to be an effective medium for exposure to prevalent issue of food insecurity on campus and for promotion of available resources.

Results have implications in developing large scale intervention studies to understand the effectiveness of social media for nutrition education and awareness purposes.

Data Analysis for social media data, surveys and focus group will guide future interventions.
Acknowledgements

- Partners
- The SF Build/NIH grant
- Student team members
- Instagram
Contact

Zubaida Qamar, PhD, RD
• Email: QZ@SFSU.EDU

• Follow the campaign @savorandsucceed
Wolves in the Kitchen: Fostering Food Literacy Through General Education Curriculum

Megan Patton-Lopez, PhD RD
Western Oregon University
Assistant Professor
History of Food Insecurity at Western Oregon University

HE471 Program Planning
Students Identify Campus Food Security as Concern

Students develop formative research project to assess food insecurity on campus.

Online survey (n=354) 59% food insecure 2012

2011

Community Food Security Assessment

Online survey (n=567), student focus groups (n=3), key informant interviews with faculty/staff.

Listening forum with Academic Affairs Staff

2018-19

Wolves in the Kitchen Food Literacy Program

10 week food literacy curriculum imbedded within a general education health promotion course.

2019-20

Campus Food Pantry Established

Organized and implemented by Student Government.

2011
Community Food Assessment Findings

Student experiences of food insecurity, May 2019 (n=567)

- Food Insecure: 49.9%
- Bought cheapest foods available: 32.6%
- Eat on the run: 55.9%
- Hard to eat a balanced meal: 48.5%
Food Literacy among Emerging Adults

- Young adults (ages 18-25) are transitioning from adolescence to adulthood (emerging adults).
- Experiencing changes in physical activity and food-related behaviors while also adapting to life away from home (Worthy et al., 2010).
- Emerging adults often lack knowledge, skills, and resources required for basic food preparation (Byrd-Bredbenner, 2004; Larson et al., 2006; Clifford et al., 2009).
- A lack of food management skills can also increase risk for food insecurity (Anderson and Swanson, 2002; Alaimo, 2005; Mercille et al., 2012).
## Theoretical Framework

<table>
<thead>
<tr>
<th>Household risk factors</th>
<th>Household food security status</th>
<th>Food acquisition and coping strategies</th>
<th>Potential Short-term individual outcomes</th>
<th>Potential long-term individual consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>Food secure</td>
<td>Self-reliant</td>
<td>Distorted eating practices</td>
<td>Impaired physical and psychological health</td>
</tr>
<tr>
<td>Environment</td>
<td>Food insecure</td>
<td>Informal bartering</td>
<td>Diminished nutritional quality of diet</td>
<td>Poor nutrition status</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td>Formal institutions</td>
<td>Hunger</td>
<td>Functional impairment</td>
</tr>
<tr>
<td>Food skills or capabilities</td>
<td></td>
<td></td>
<td>Psychological suffering</td>
<td>Decreased academic achievement</td>
</tr>
</tbody>
</table>

# Wolves in the Kitchen Food Literacy Education Program

## Objectives
- Identify personal, family, and cultural values/practices related to food.
- Describe the importance of dietary diversity to health and wellbeing.
- Discuss perceived barriers that influence current eating habits and foods consumed.
- Develop, implement and evaluate a 7 day meal plan that incorporates fruits, vegetables and whole grains.
- Describe 3 resource supports on campus for food insecure students.

## Topics
- Dietary culture, practices and habits
- Dietary diversity
- Mindful eating
- Role of media and food advertising
- Food insecurity & healthy food access
- Personal cooking skills and practices
- Healthy meal planning
- Food insecurity and impacts on health/academics
- Environmental impacts of our food choices

## Activities
- Dietary/Food Culture Interview and Reflection
- Assess personal 24 hr diet recall for dietary diversity
- Mindful eating journal for 7 days and reflection/goal setting.
- Salad in a Jar
- Health Meal Challenge Competition-Campus Dining
- 7 Day Meal Plan & Evaluation
- Food pantry tour
- Recipe testing and photo journal with reflection
Example of lesson: Preparing Healthy Meals for On-the Go

You want to always start with dressing at the bottom, so most ingredients remain fresh and untouched by dressing. After the dressing base, simply layer ingredients by order of sog-resistance, meaning heartier ingredients that can withstand dressing go in first. Here’s an easy guide to help you build your mason jar salad:

10 Cheeses
Goat cheese, feta, gorgonzola, queso fresco, mozzarella*

8 Herbs*
Basil, cilantro, mint, parsley

6 Grains and pastas
Barley, farro, quinoa, rice, short pasta, cut-up soba noodles

4 Dried fruit and seeds
Apricots, dried cranberries, raisins, sunflower seeds, pepitas

2 Dense vegetables
Beets, bell peppers, brussels sprouts, broccoli, carrots, celery, fennel, green beans, radishes

1 Dressing
Choose your favorite!

9 Salad greens
Any mix of your favorite greens

7 Delicate vegetables and fruits
Asparagus, avocado*, corn, sprouts*, strawberries*, peaches*, apples, pears, orange segments, grapes, tomatoes*, zucchini

5 Proteins
Tofu, chicken*, tuna*, salmon*, steak*, hard-boiled eggs*, edamame

3 Legumes and nuts
Garbanzo, kidney, white and black beans, lentils, peanuts, walnuts, almonds, pine nuts, pecans

*If you’re packing >2 salads ahead of time, it’s best to add these items the day of for maximum freshness.

“I thought that this opportunity was amazing! I am new to putting salad in a jar and have often struggled with what portion sizes are supposed to look like when you make a salad,” the student wrote. “My biggest take away is that eating healthy does not have to be difficult and time consuming. It took five minutes to prepare a healthy meal and I was able to eat it on the go.”
Feedback from students…

“My biggest take away from the activity is how easy it is to take food on the go. I had a habit of not eating throughout the day because I get so busy and do not have food with me, but the jar technique it will be easy to take food with me on the go”

“I think it was a good opportunity to try something new. For me, it was learning about using a jar for meals on the go, but there was also opportunity to learn about recipes and knife safety.”

“…. I want to make healthier decisions. I want to start meal prepping, and being more wise with the foods that I am putting into my body, and this activity has taught me a few ways how.”
Reflection Questions

1. Why did you choose the recipe?
2. What did you like about the recipe (e.g. preparation method, amount of time to prepare, number of ingredients, final outcomes - taste)?
3. Were there any challenge with finding a recipe? Describe.
4. Were there any challenges preparing the recipe? Describe.
5. How often in the past week have you prepared a meal using multiple ingredients?
6. What recommendations and/or changes would you suggest for the website or recipe?

**Kale and White Bean Soup**

**Ingredients**

- 1 cup onion, chopped (1 medium onion)
- 4 cloves garlic, minced or 1 teaspoon garlic powder
- 1 tablespoon butter or margarine
- 2 cups broth (chicken or vegetable)
- 1 1/2 cups cooked white beans (1 can - 15.5 ounces, drained and rinsed)
- 34 cups canned tomatoes (1 can - 14.5 ounces with juice)
- 1 teaspoon Italian seasoning
- 3 cups kale, chopped (fresh or frozen)

**Directions**

1. In a saucepan over medium-high heat, sauté onion and garlic in butter or margarine until soft.
2. Add broth, white beans, and tomatoes; stir to combine.
3. Bring to a boil; reduce heat, cover, and simmer for about 5 minutes.

**Prep time:** 15 minutes  
**Cooking time:** 15 minutes  
**Makes:** 6 cups
Partners

- WOU Dining Services
- Food Pantry Staff and Volunteers
- Division of Health and Exercise Science
- General Education Committee
- Student Affairs Staff
- Students
Lessons Learned

Students across academic disciplines increase the diversity of lived experiences and cultures related to food and dietary practices.

Students satisfaction with activities associated with hands-on and experiential lessons (food preparation; dining services health meal challenge; recipe testing).
Conclusions and Next Steps

Students are engaged and interested in food literacy.

Opportunities to make connections across campus to build a culture of food literacy.
Contact

Megan Patton-Lopez, PhD, RDN

pattonlm@wou.edu
What have we learned from our collective work?

Addressing food insecurity requires us to move beyond a food pantry- it is a multi-layered issue that requires a multi-disciplinary effort.

Need to understand the context of food insecurity on each campus.

Dynamic- responding to changes within the context (e.g. COVID-19).
Questions
What suggestions do you have for nutrition educators, dietitians, and faculty at Higher Ed institutions for working with campus-community partners to build a culture of food security on campus?

Collaborate with others outside of your department
Patience and Perseverance
Be resourceful
What are key resources that you have used in your work that others may find useful if working in this area?


Leverage your network

Seek out campus resources (people, space, services)
Emily Heying
Email: eheying@csbsju.edu
Twitter: @DrEmNutrition

Zubaida Qamar
Email: QZ@SFSU.EDU

Megan Patton-Lopez
Email: pattonlm@wou.edu

Thank you!