

# The Healthy Campus Initiative: A Sustainable Food Literacy Gateway Project

Vanderwoude AA, Frieler B, Harris M, Hayes M, Meyer N

College of Beth-El Nursing and Health Sciences and Dining and Food Services  
University of Colorado, Colorado Springs, CO

## ABSTRACT

**Introduction:** The Healthy Campus Initiative (HCI) emerged through UCCS' Dining and Food Services (DFS) transition. HCI aims to offer locally grown, healthy, and environmentally friendly plant-based meals and experiential taste education. **Purpose:** To assess awareness, understanding, and attitudes toward HCI, UCCS' food service transition, and sustainable food literacy and 2) to describe the healthy campus plant-based initiative. **Methods:** In this exploratory study, 75 health professionals completed a survey that included various questions related to HCI, healthy and sustainable food definitions, DFS's transition, and a validated sustainable food literacy questionnaire. Literacy scores were compared across descriptives, attitudes and awareness towards DFS and HCI were examined using frequencies, and qualitative theming was performed on healthy and sustainable food definitions. **Results:** Of the 75 participants [age: 30.5 + 13.2y; gender n=9 (12%) male, n=66 (88%) female, undergraduate student 43 (57.3%), graduate student 15 (20%), faculty 15 (20%), staff 2 (2.7%)], average food literacy score was 21.7±4.3 (66±13%). Of all respondents, 25% (n=16) achieved a passing score (75%). Few participants connected healthy with sustainable eating, when defining these constructs, but most (76%) had heard of HCI, yet were not able to correctly identify the focus. Those who reported having purchased plant based bowls (n=26; 35%) scored higher on sustainable food literacy (23.2±4.1 vs.19.5±4.8; independent t-test, p=0.005) and reported having visited HCI table, compared with those who did not purchase a bowl (chi-square, p<0.001). Overall, participants were pleased with DFS' aim to incorporate more sustainable food, and 67% (n=48) requested more local food in DFS with most (83%) of them willing to pay up to 10% more for such options. **Conclusion:** While participants are aware of the HCI and interested in access to more local and sustainable food options on campus, sustainable food literacy was low. Taste education, however, was associated with higher literacy scores which appeared to support the purchase of healthy and sustainable choices. Thus, there is a need to expand campus food literacy and the amount of local food available in campus dining.

## INTRODUCTION

- Our nation's current state of highly-profitable industrial agriculture and food corporations has brought an abundance of food at a price of highly processed, nutritionally poor, energy-rich food products and environmental burden.
- In an effort to address this, the Healthy Campus Initiative (HCI) emerged as UCCS Dining and Food Services (DFS) transitioned from corporate to self-operated
- HCI is focused on providing experiential food literacy education and creating better access to sustainably produced food to improve the health and wellness of UCCS's Campus community, participate in building a local food network, and support a sustainable future.
- HCI combines local and plant-based in to-go, environmentally friendly bowls by utilizing the zero mile greenhouse produce in addition to various beans and grains in order to offer balanced and sustainable meals.
- Health is linked to sustainability** constructs in "The duality of Health and Sustainability"<sup>1</sup> framework using taste education and conversation, recipes, educational cards, handouts, posters, and books.

<sup>1</sup>Kjaergard et al., Health and sustainability. Health Promotion International. 29(3):558-68.



## PURPOSE

The primary purpose of this gateway project was to assess awareness and attitudes toward the HCI and UCCS' food service transition, confidence in gardening and cooking skills, and food literacy through the use of a validated survey.

- What is the level of awareness and attitudes toward the HCI and associated platforms (e.g., DFS transition, garden, and greenhouse) across campus students, faculty and staff?
- How do students, faculty and staff define healthy and sustainable eating?
- What is the degree of sustainable food literacy among students, faculty and staff?

## METHODS



Figure 1. HCI process

### Participants for the survey

- A convenience sample (N=75 of health professionals (students, faculty, staff))

### Design

- Exploratory study using survey (70 questions)
  - Demographics
  - Behaviors (e.g., gardening, shopping for food, cooking)
  - Attitudes (healthy/sustainable food defined, sustainable food importance in general and on campus, willingness to pay more for local/organic food, and perceptions regarding where food comes from, how it is produced and whether it is served fresh, nearby its production)
  - Campus dining use; perceptions of whether DFS integrates healthy, sustainable food, and campus awareness of HCI and associated programs; existence of garden and greenhouse
- Validated Sustainable Food Literacy Survey (scored from 0 – 33 with 33 as maximum score)
  - Multiple choice, true/false/don't know items, containing concepts of food literacy (plan and manage, select, prepare, and eat) and sustainability (equity, environment and economics)

### Statistical Analysis (SPSS, vs 21)

- Descriptives and frequencies
- Food literacy:
  - Correct answers (33 possible) were totaled to assess food literacy
  - Scores compared (e.g. gender, age, role at UCCS, and behaviors)
  - A score at or above 75% of the total score considered "food literate"
  - ANOVA, independent sample t-test and Pearson's correlation (p<0.05)
- HCI impact was assessed via chi square analysis (p<0.05)
- Qualitative analysis: definition of healthy and sustainable food compared to APHA definition and coded based on recurring themes present in the definition (2)



## RESULTS

Table 1. Descriptive data

	Sample (n=75)	Food literacy score (n=64)	
	mean ± SD	mean ± SD	
Age (yrs)	30.5 ± 13.2	r=0.146	p=0.258
Gender			
Male (n/%)	9 (12%)	18.6 ± 3.6	
Female (n/%)	66 (88%)	22.1 ± 4.2	*p=0.04
Main Role at UCCS			
Undergraduate student (n/%)	43 (57.3%)	20.7 ± 3.6	
Graduate Student (n/%)	15 (20%)	24.8 ± 3.8	
Faculty (n/%)	15 (20%)	21.5 ± 5.3	
Staff (n/%)	2 (2.7%)	19.5 ± 4.3	*p=0.20
Total Sample		21.7 ± 4.3	
Students with C (75%) (n/%)		16 (25%)	
Students below C (75%) (n/%)		48 (75%)	
Top Score (as % of max)		31 (94%)	
Lowest Score (as % of max)		8 (24%)	

\*significant at p-value <.05

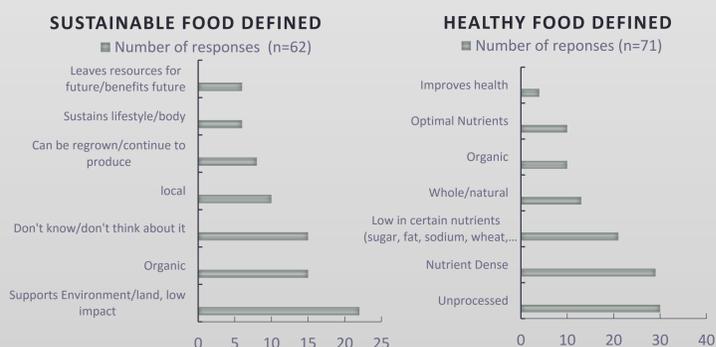


Figure 3. Healthy food defined, sustainable food defined and coded for themes

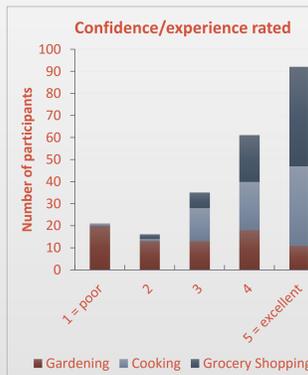


Figure 2. Confidence/experience rated for gardening, cooking and shopping

A sustainable food system is "one that provides healthy food to meet current food needs while maintaining healthy ecosystems that can also provide food for generations to come with minimal negative impact to the environment. A sustainable food system also encourages local production and distribution infrastructures and makes nutritious food available, accessible, and affordable to all. Further, it is humane and just, protecting farmers and other workers, consumers, and communities" according to APHA<sup>2</sup>.

<sup>2</sup>Toward a Healthy, Sustainable Food System (Policy Number: 200712) American Public Health Association. 2007-06-11.

## RESULTS

### Campus dining and HCI evaluation, perceptions, and use

Uhall Café Total Sales	FY 15	FY 14	Difference \$	Difference %
August	\$0	\$665	-\$665	-100.0%
September	\$3,906	\$2,598	\$1,308	50.3%
October	\$4,369	\$3,033	\$1,336	44.0%
November	\$2,759	\$2,654	\$105	4.0%
December	\$1,784	\$1,883	-\$99	-5.3%
<b>Totals:</b>	<b>\$12,818</b>	<b>\$10,833</b>	<b>\$1,985</b>	<b>18.3%</b>

Table 2. (left) Fall 2014 sales data from DFS Uhall Café which sold the plant bowls, compared to the previous year (Sodexo)

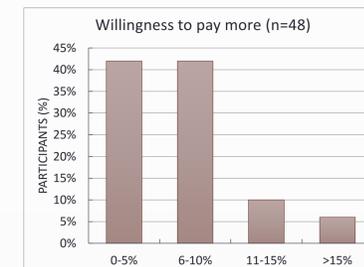
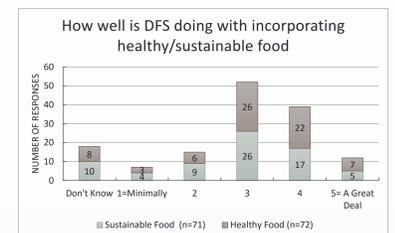
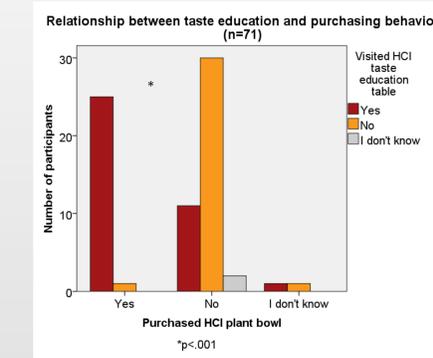
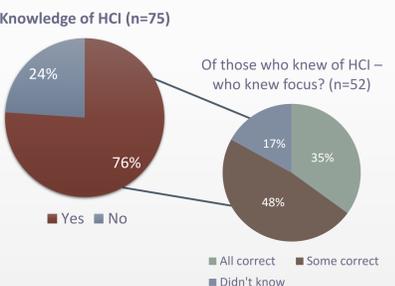
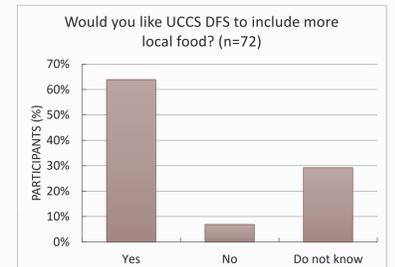


Table 3. Food literacy and behaviors

Visited Taste Education	Mean ± SD	
Yes	22.2 ± 4.7	
No	20.9 ± 3.9	
Don't know	23.0 ± 1.4	p=.450
Purchased Bowls		
Yes	23.8 ± 3.9	
No	20.3 ± 4.0	
Don't know	22.0	*p=.005
Willing to pay more for local		
Yes	23.2 ± 4.1	
No	19.46 ± 4.8	
Don't know	20.8 ± 3.5	*p=.014

\*significant at p-value <.05



## CONCLUSIONS/IMPLICATIONS

- Sustainable food literacy among students, faculty and staff in health professions is lower than expected, with only 25% achieving 75% correct answers. Literacy was not related to visiting taste education but those with higher scores bought more plant-based bowls and were also more willing to pay more for local food on campus.
- People who visited HCI taste education were more likely to buy the plant-based bowls
- Although, most had heard of HCI, few actually knew about its focus or how to link healthy and sustainable eating.
- There is desire for more local food on campus, and this is related to purchasing behavior and higher food literacy.
- There is a need to expand HCI and the amount of local food available in campus dining