

Knowledge, Attitudes, and Behaviors about Food System Sustainability: A Survey of University Students

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Background and Objective:

- Competencies for healthy individuals, communities, and food systems* have been developed by the Society for Nutrition Education and Behavior. Even so, the development of new curriculum that allows for implementation of food system (FS) sustainability competencies has been limited.
- Objective: to determine the knowledge, attitudes, and behaviors of students enrolled at US universities about FS sustainability.

Methods:

- Cross-sectional study design, with convenience and snowball sampling strategies
- An online, 59-item survey to assess university students’ knowledge, attitudes, and behaviors within different dimensions of FS sustainability was administered via Qualtrics over a 12-month period (Fall 2024-Fall 2025).
- Descriptive statistics and chi-square tests were utilized. Chi-square tests for Independence were used to evaluate sociodemographic data and students’ level of knowledge, attitudes, and behaviors regarding general FS sustainability, different dimensions of FS sustainability, food security status, and personal food history and lifestyle behaviors (PFHLB) as well as PFHLB and daily personal FS sustainability decisions.
- All data analyses were performed using *SAS OnDemand for Academics (ODA)*.

Results: 419 complete, usable responses were received (21% response rate).

General Food System (FS) Sustainability

- 89.9% Familiar, 90.9% Important, 87.4% Concerned, 86.1% Important as a Future Professional, 55.8% FS Sustainability Regularly Influences Daily Personal Decisions

Cross-Cutting Themes: FS Sustainability, Familiarity With

- The impacts of climate change, conflict and COVID-19 threaten food security and nutrition, both at global and national levels*: 90.9%
- The concept of food security that encompasses six different dimensions (food availability, food access, food stability, food utilization, agency and sustainability): 84.4%
- The use of agriculture and food policies to support sustainable food systems*: 65.1%
- Corporate control of the food supply: 64.4%
- UN Sustainable Development Goals that serve as a foundation for achieving a sustainable food system: 44.9%

Daily Personal FS Sustainability Decisions

- Students pursuing a PhD or master’s degree (p = 0.031), older students (31 yrs or older and 22-30 yrs) (p < .0001), and females (p = 0.0002) were more likely to report FS sustainability regularly influenced their daily personal decisions.
- Students who reported regularly visiting a farmers’ market or farm stand in the past year (p = 0.03) , not eating meat or eating meat 3 or fewer times per week (p = 0.003), and being vegan, pescatarian, semi-vegetarian or flexitarian, and vegetarian were more likely than omnivores (p = 0.002) to report FS sustainability regularly influenced their daily personal decisions.

Table 1. Participant Socio-demographics

	N	Percentage (%)		N	Percentage (%)
Degree Program			Student Major		
Bachelor’s degree	335	72.4	Food, Nutrition, and Dietetics	224	49.3
Master’s degree	119	25.7	Public Health/Human Development	67	14.8
PhD/Doctorate	9	1.9	Other	58	12.8
			Science Other Than Nutrition	41	9.0
Age			Social Science	37	8.2
18-21 years old	283	61.1	Exercise/Sports/Health Science	15	3.3
22-30 years old	139	30.0	Environmental Studies/Sustainability	12	2.6
31 years or older	41	8.9			
			Parental Income (Annually)		
Race or Ethnicity			\$0 - \$49,999	45	9.7
African American or Black	16	3.5	\$50,00 - \$100,000	92	19.8
Asian	65	14.0	More than \$100,000	182	39.2
Caucasian or White	259	55.9	Don’t know or Prefer Not to Answer	97	20.9
Hispanic or Latina/Latino/Latinx	44	9.5	Not Applicable – No Parent Support	48	10.3
Other	12	2.6			
More Than One	67	14.5	Personal Income (Annually)		
			Less than \$10,000	267	57.7
Gender			\$10,000 - \$24,999	99	20.7
Female	359	77.4	\$25,000 - \$49,999	36	7.8
Male	92	19.8	\$50,000 - \$99,999	16	3.4
Other/Prefer to Self-Describe	12	2.8	\$100,000 or more	5	1.1
			Don’t know or Prefer Not to Answer	43	9.3
Region of the US (Residing)					
Midwest	97	21.0	Pell Grant Recipient		
Northeast	101	21.8	No	329	70.9
South	122	26.3	Yes	135	29.1
West	143	30.9			

Conclusions:

- Most respondents were familiar and concerned about FS sustainability and indicated that it was important to them as future professionals. However, only slightly more than half of all respondents indicated that FS sustainability regularly influenced their daily personal decisions.
- These results demonstrate the need for an actionable university curriculum that integrates key concepts from different dimensions of FS sustainability.

* Concepts described in the *Position of the Society for Nutrition Education and Behavior Nutrition Educator Competencies for Promoting Healthy Individuals, Communities, and Food Systems: Rationale and Application (J Nutr Educ Behav.2023;55:3-15)*