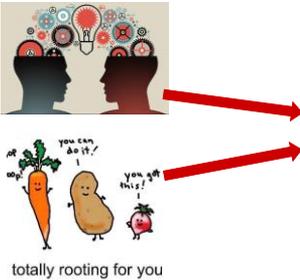
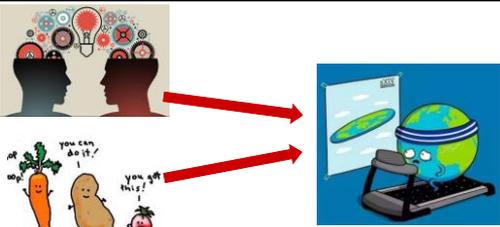


The Impact of Experiential Cooking Courses on Culinary Confidence and Dietary Behaviors among College Students

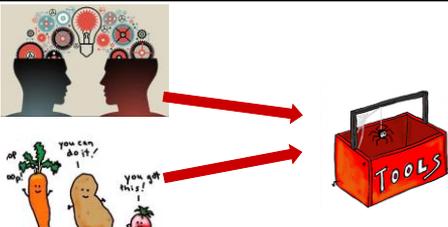
Kristin Wiens, MSc, RDN, LDN  
Behavioral Health & Nutrition  
University of Delaware

totally rooting for you

totally rooting for you

totally rooting for you



### Outline

- Food habits and nutrition behaviors of college students
- Nutrition education programs at UD
- “Cooking Confidence and Nutrition Behavior among College Students Enrolled in an Experiential Cooking Class” study




International Food Information Council. "A Healthy Perspective: Understanding American Food Values." 2017 Food and Health Survey.



**College students eating habits and knowledge of nutritional requirements.**  
 Sam Abraham\*, Brooke R. Noriega, Ju Young Shin  
 Bethel College School of Nursing, Bethel College, Mishawaka, Indiana, USA

- Students have a fair knowledge of nutritional requirements for health
- Knowledge was not a factor that influenced their food choices
  - Convenience and taste of food were priority
  - Calories not of concern... but food additives are



Abraham S, Noriega Brooke R, Shin JY. College students eating habits and knowledge of nutritional requirements. J Nutr Hum Health. 2018;21(1):13-17

**Millennials are cooking less and less, and it could cause a crisis for America's biggest food companies**

Mary Hanbury | by: LUCY DORRIS




**The Real Reason Millennials Aren't Eating Cereal for Breakfast**

UNIVERSITY OF DELAWARE

**I HAVE NO IDEA**



**WHAT I'M DOING**




Graham DJ, Pallister JE, Neumann S, Lusk K, Louie MK. Perceived social ecological factors associated with fruit and vegetable purchasing, preparation, and consumption among young adults. J Acad Nutr Diet. 2012; 112:286-94.

Quirk L, et al. Millennials talk often in their family food/grocery behaviors. Topics in Clinical Nutrition. 2018; 38(2):23-25

**Food Spending**



- Allocate the highest proportion of their food budgets to eating away from home
- Devote less of their food budgets to grocery store purchases and make fewer trips to the grocery store
- Purchase a larger share of prepared foods, pasta, and candies
- Demanding healthier and fresher food—including fruits and vegetables—when making food-at-home purchases

UNIVERSITY OF DELAWARE

Kufra A, Salama M. Food Purchase Decisions of Millennial Households Compared to Other Generations. USDA ERS, December 2017.

Public Health Nutrition: 17(1): 2495-2497 doi:10.1017/S1369000116001153

**The impact of restaurant consumption among US adults: effects on energy and nutrient intakes**

Binh T Nguyen<sup>1,\*</sup> and Lisa M Powell<sup>2</sup>  
<sup>1</sup>Economic and Health Policy Research, American Cancer Society, Inc., 230 Williams Street, Atlanta, GA 30303, USA. <sup>2</sup>Health Policy and Administration, School of Public Health, University of Illinois at Chicago, Chicago, IL, USA.

- Fast food and full service restaurant consumption linked to higher:
  - Total kcalories
  - Saturated fat
  - Sodium
  - Added sugars

Nguyen BT, Powell LM. The impact of restaurant consumption among US adults: effects on energy and nutrient intakes. Public Health Nutrition. 2014;17(1):2495-2497. doi:10.1017/S1369000116001153

Ali R. Fast food and full service restaurant consumption and daily energy and nutrient intakes in US adults. Eur J Clin Nutr. 2004; 58(9):1019-26.

**Cooking Now, Health Later**



- Lack of perceived cooking skills significantly associated with lower total vegetable and fruit intake
- Cooking meals for oneself is linked to higher diet quality among young adults
- Food preparation skills may predict better diet quality later in life

UNIVERSITY OF DELAWARE

Therage MG, et al. Diet quality in young adults and its association with their related behaviors. Public Health Nutr. 2014; 17:1767-76.

Wilde MK, et al. Does involvement in food preparation lead from adolescents young adults to be associated with better dietary quality? Findings from a 10-year longitudinal study. Public Health Nutr. 2012; 15:1110-8.

## How do we reduce barriers to cooking at home among college students?

Skill-based learning may improve nutrition attitudes and confidence more than traditional knowledge-based approaches to education.



Russell M, Yehoue AC, Song G, Laska SM. Impact of cooking and home food preparation interventions among adults: outcomes and implications for future programs. J Nutr Educ Behav 2014; 46:270-76.  
Sobal JL, Walker M, Jones SA. Barriers and barriers to health: Addressing what are the consequences of decreased food preparation ability? Am J Lifestyle Med 2012; 6:322-6.

## Food and Nutrition Education Lab



## Food and Nutrition Education Lab



**Behavioral Health & Nutrition**

1-credit, hands-on cooking classes, open to all majors

- Spice Kitchen x 3
- Cook It Healthy x 6
- Sustainability & Food x 2
- Takeout Makeover
- Cooking Around the World

Three graduate student teaching assistantships (MSHN)  
Two adjunct instructors (RDNs)



## The BHAN 130 Team!

**BHAN 130 - Teaching Team**  
Alexa Nichols, MSHN student  
Katie Russel, MSHN student  
Samantha Lampert, MSHN student



Jennifer Muzzi, RDN, LDN  
Brittany Knick, MS, RD, LDN



## Demo Kitchen at Tower at STAR



### Cooking Confidence and Nutrition Behavior among College Students Enrolled in an Experiential Cooking Class

**Design:** Quasi-experimental, pre- and post-test  
**Sample:** Student enrolled in a BHAN 130 1-credit cooking class

**Outcomes:** Participants completed baseline and end-of-semester questionnaires  
**Demographics:** Basic personal (e.g., age, gender, course load) and household size (e.g. number of roommates) was collected at baseline only.  
**Cooking Skill and Confidence:** Questions regarding cooking confidence were asked using a 100-mm visual analog scale (VAS).  
**Nutrition Behaviors:** Frequency of cooking at home vs. away from home

UNIVERSITY OF DELAWARE  
 Barton KL, Wrieden WL, Anderson AS. Validity and reliability of a short questionnaire for assessing the impact of cooking skills intervention. J Human Nutr Diet 2011; 24:588-95.

### Results

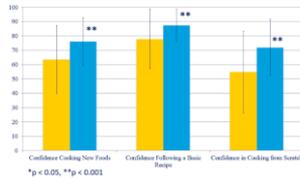
- 111 students consented to participate in the study (73% of invited).
- 90 participants completed the end of semester questionnaire. There were no significant sociodemographic differences between completers and non-completers.

Primary Grocery Shopper:	n (%)
Myself	100 (91.7%)
<b>Living Situation:</b>	
Currently Living with Roommates	82 (75.2%)
<b>People Living in Household:</b>	
4 or more people	63 (56.8%)

UNIVERSITY OF DELAWARE

### Results - Cooking Confidence

- Cooking confidence significantly increased over the semester, with mild to moderate effects (d = 0.33 – 0.60)



UNIVERSITY OF DELAWARE

### Results - Cooking Confidence

- Students who were not their household's primary meal preparer had a greater increase in confidence to cook from scratch (p=0.013) and experienced a larger increase in enjoyment of cooking (p=0.047).
- Male students as compared to female experienced a greater increase in confidence in following a basic recipe (p=0.022).
- Demographic characteristics did not significantly predict change.

UNIVERSITY OF DELAWARE

### Results - Eating Away from Home

- The frequency of purchasing lunch and dinner away from home did not significantly change, but students were significantly more likely to purchase breakfast away from home at the end of the semester (p=0.019)...



UNIVERSITY OF DELAWARE



*"I have made an effort to prepare meals myself instead of eating out and to use fresh ingredients."*

*"There was less time to cook as classes got more difficult [and] demanding."*

*"It was difficult to make changes during the year because I was busy, but I think I'll try to make changes in the summer when I have more time."*

UNIVERSITY OF DELAWARE

## Results - Student Perceptions

- Majority of students reported their eating habits in general changed over the semester (57.8%), with females significantly more likely to report their intake changed ( $p=.004$ ) as compared to males.
- Most students said the skills they learned in classes influenced (42.2%) or partially influenced (47.8%) their eating habits at home.



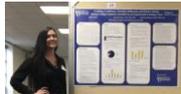
## Limitations and Future Directions

- Complete questionnaire was not reliability tested
- Poor timing of T2 questionnaire, particularly for graduating seniors
- Dietary intake data was unusable
- Limited look at possible confounders
- Evaluation of Nutrition and Dietetics students' skill evolution over time
- College-aged young adults NOT in college



## Acknowledgements

Beth Schwenk, MS, RDN, LDN, FAND  
Shannon Robson, PhD, MPH, RD



### Undergraduate Research Assistants

Allison Hall  
Clare Murphy  
Megan Tessier



**BHAN 130s are not all we do in the lab...**



## Culinary Medicine



## BHAN 367: Food Security Issues and Education

Fall 2019: 3-credit, 300-level course. Open to all students - no prerequisites. Future DLE.

Support from Harry K Foundation via Food Bank of DE

**Lecture:** ServSafe certification, food insecurity - contributing factors and effects, govt. programs, grassroots initiatives

**"Lab":** operation of food pantry for students in Willard and Tower at STAR



### Cook, Learn, Eat program



### Multicultural Learning



### Social Media

#### FOOD & NUTRITION EDUCATION LAB



#DELicious



### Benefits and Challenges

- Maximizing use of traditionally underutilized space
- Tuition revenue \$\$\$
- Graduate teaching assistant positions
- Undergraduate experiential and leadership opportunities
- Workload to manage and coordinate?
- Meeting growing demand
- Tracking expenses
- Training and student volunteers

YOU BREAK IT, YOU BOUGHT IT!



34

### Questions?

Tell me more...



I'm all ears

[kwrens@udel.edu](mailto:kwrens@udel.edu)

