



UMASS[®] DINING

UMassAmherst | UMass Dining

umassdining.com

BE REVOLUTIONARY™

ABOUT UMASS DINING

OUR MISSION

Contribute to the campus life experience by providing a variety of healthy flavorful meals featuring local cuisine in a sustainable and environmentally conscious manner.

OUR VISION

To be one of the best campus dining facilities in the nation and a premiere storyteller.



FOOD CULTURE

Quality Ingredients



Sustainability



Customization



Local Produce



Global Influence

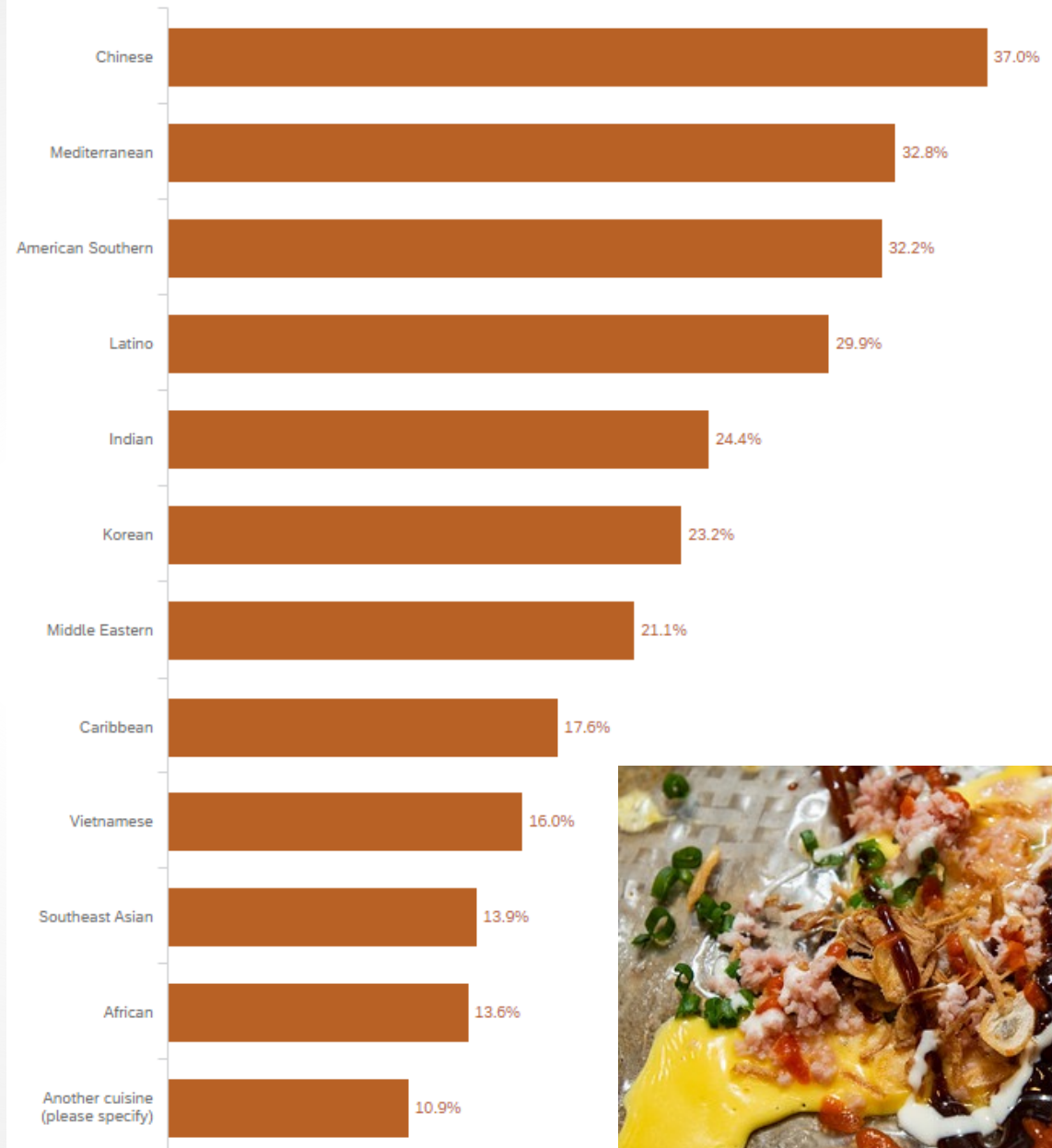
Authenticity

Modern Eating

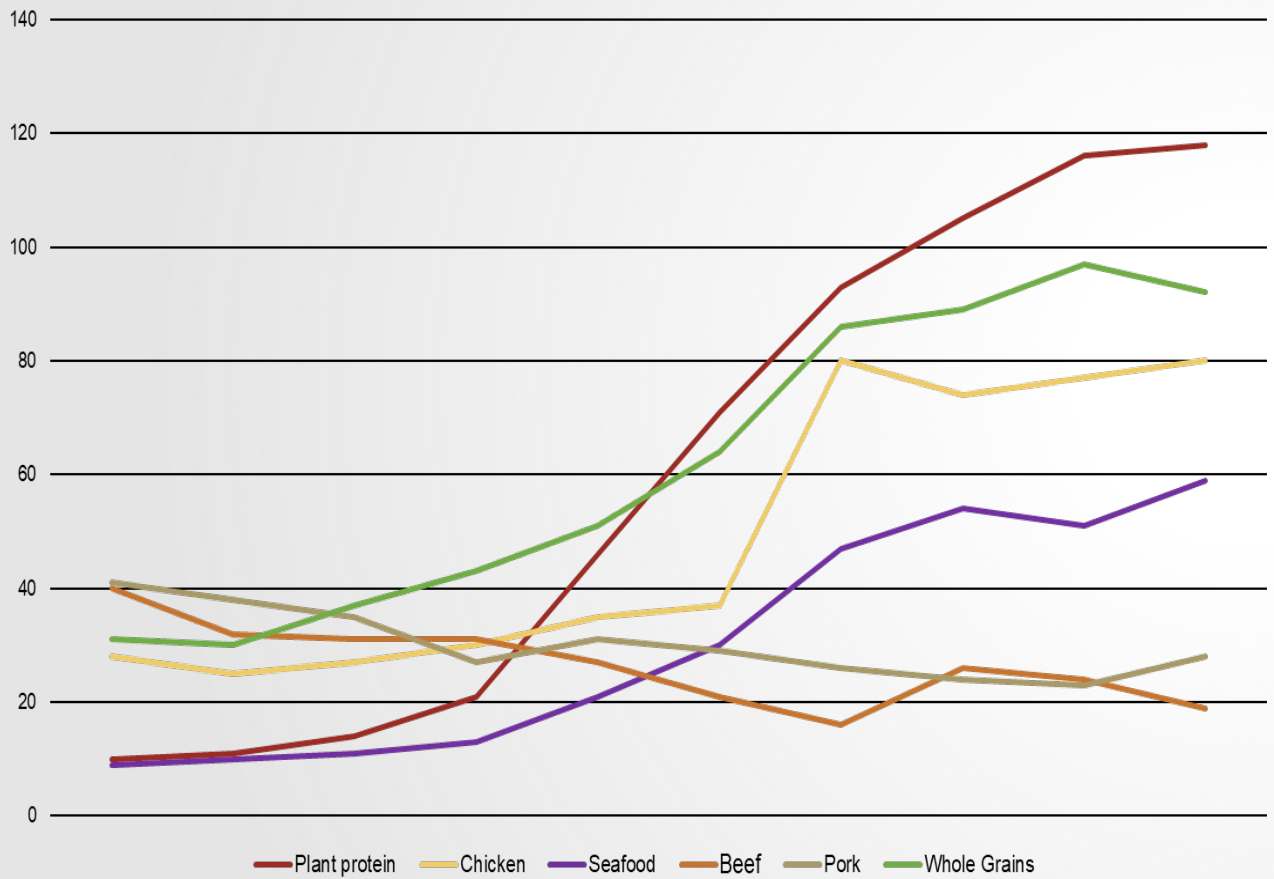
Health & Wellness

STUDENT GLOBAL CUISINE PREFERENCES

1. CHINESE – 37%
2. MEDITERRANEAN – 32.8%
3. AMERICAN SOUTHERN- 32.2%
4. LATINO- 29.9%
5. INDIAN- 24.4%
6. KOREAN- 23.2%
7. MIDDLE EASTERN- 21.1%
8. CARIBBEAN- 17.6%
9. VIETNAMESE- 16%
10. AFRICAN- 13.6%
11. OTHER-10.9%



AVERAGE NUMBER MENU ITEMS/WEEK 2012 TO 2022



Utilizing Mushrooms to Reduce Overall Sodium in Taco Filling Using Physical and Sensory Evaluation

Kristin M. Wong, Eric A. Decker, Wesley R. Autio, Ken Toong, Garrett DiStefano, and Amanda J. Kinchla

Abstract: This project investigated the use of integrating mushrooms into beef taco filling as a means to reduce overall sodium for food service applications. Initial product development used physical characterization analysis (moisture, yield, color, and texture) to determine initial threshold of mushroom inclusion with minimal differences against an all-meat control. Increasing mushroom inclusion increased moisture and yield before draining but decreased yield after draining, lightness, redness, and texture. Results showed that inclusion under 50% by weight minimized physical attribute deviation from an all-meat control. Additional physical analysis investigated a variety of other factors (mushroom type, blanching, and particle size) to determine if other attributing mushroom characteristics would yield statistical similarity to the all-meat control. Results showed that a formulation containing up to 45% mushrooms can be integrated into beef fillings using un-blanched, white button mushrooms with small grind (1 to 5 mm), which maximized mushroom usage while minimizing differences from the all-meat control. Additional sodium analysis showed that varying salt level in formulations did not affect physical characteristics and mushroom inclusion could not significantly reduce overall sodium level. Optimized mushroom samples were then fielded in a hedonic sensory study to untrained consumers to evaluate product liking attributes (overall liking, aroma, color, flavor, juiciness, saltiness, and texture). Samples with overall liking scores that closely matched the control were then fielded in a paired-preference test to determine acceptance. Consumers preferred a 45% mushroom with reduced sodium taco filling compared to its full sodium counterpart in a food service fielded paired-preference sensory test.

Keywords: meat extension, mushroom, physical properties, sensory, sodium reduction

Practical Application: Although diet can significantly reduce the risk of heart disease, American consumers continue to eat detrimental diets high in fat and sodium. Products need to be made that decrease fat and sodium intake while still delivering acceptable taste. Mushroom substitution into meat-based products can be a strategy to develop products that

Sensory data from untrained consumers found that taco filling prepared with 45% mushroom and 45% reduced salt was preferred over the full salt formulation also containing 45% mushroom.

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ary Department, 669 N Pleasant Street, Amherst, Mass. 01003, U.S.A. Author Disclosure is with Unit of Massachusetts Dining Services, 669 N Pleasant Street, Amherst, Mass. 01003, U.S.A. Direct inquiries to author Kinchla (E-mail: amanda.kinchla@uvm.edu).
improve nutritional content (Yusuf and Hahn 1996; Abdel-Aziz and others 1997). Extenders can be placed into three general categories: protein-based, fat-based, and carbohydrate-based (Brewer 2012). Proteins such as whey, soy, and collagen function as water binders, fat emulsifiers, and gel stabilizers as their polar and

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“The Omnivore’s Dilemma”

Which of the following best describes your current diet?

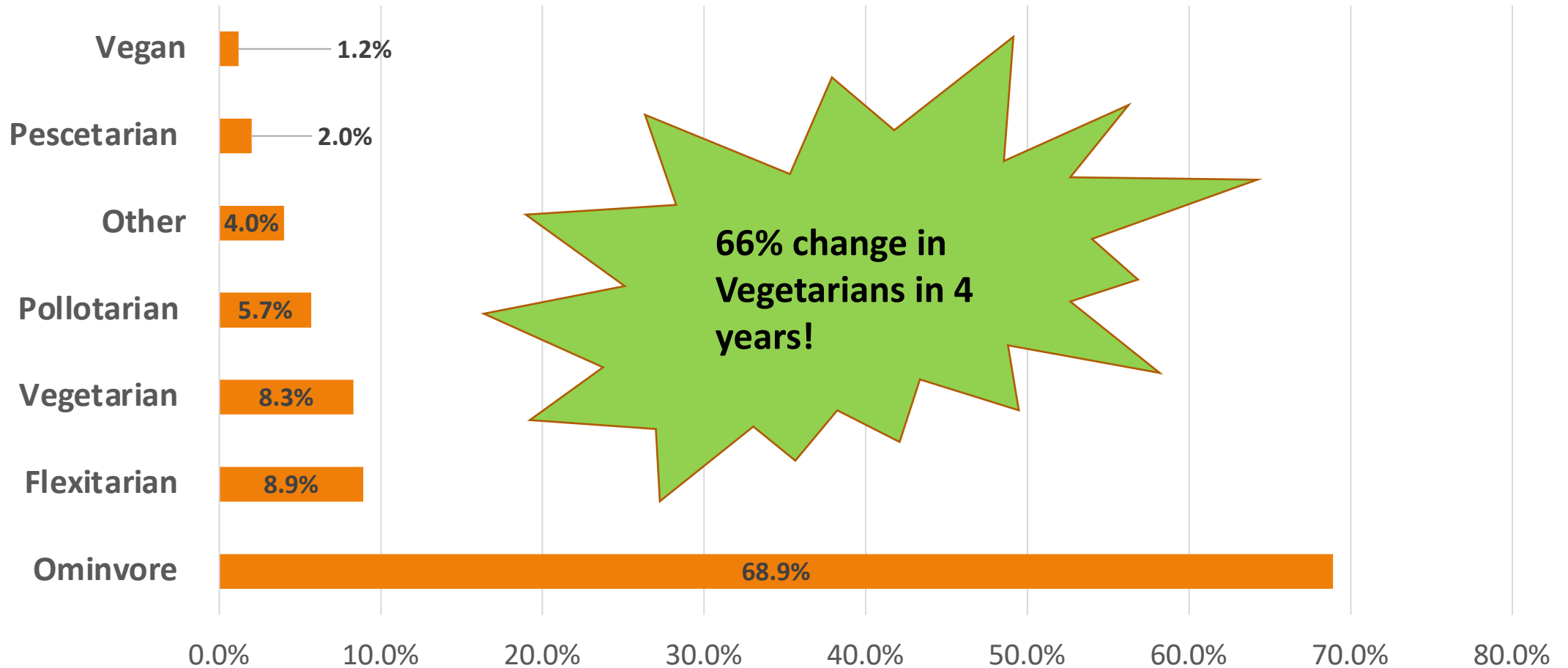
■ Fall 2017 ■ Spring 2018



UMass Dining Customer Satisfaction and Eating Habits Survey – Spring 2018
(Response Rate = 35.5%, n=1598)

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Vegetarians are taking over the World!



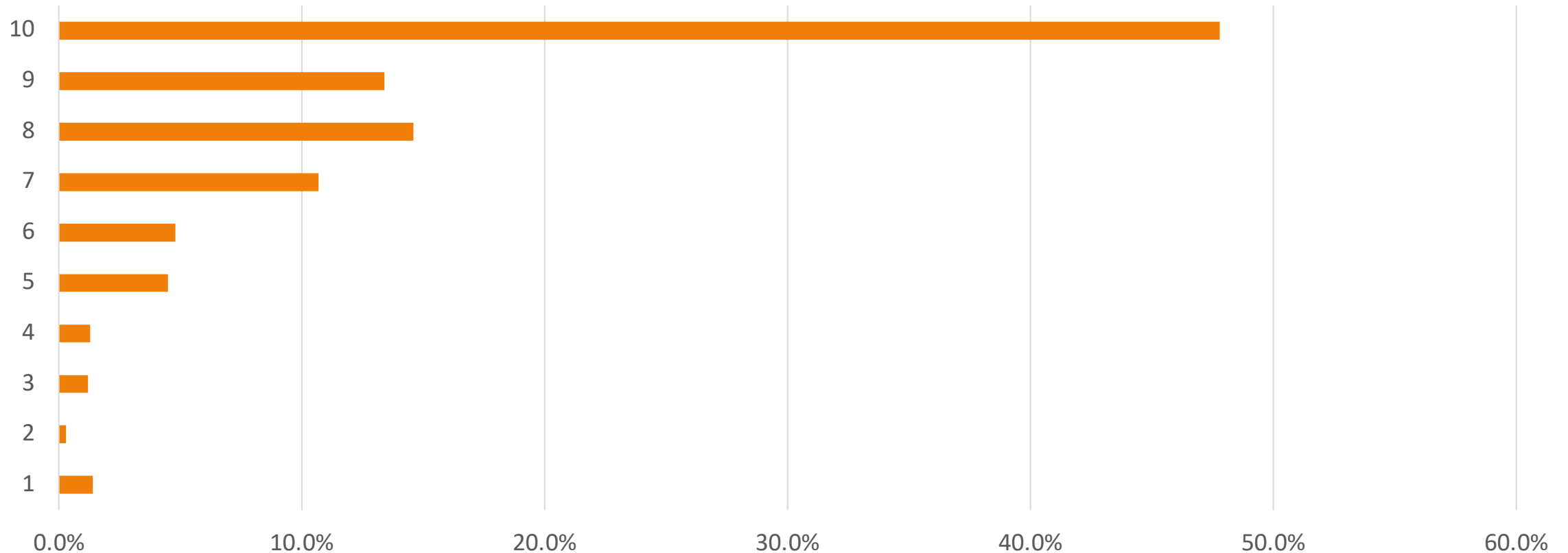
UMass Dining Customer Satisfaction and Eating Habits Survey – Spring 2022

(Response Rate = 25.8%, n=1550)

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Local Culture meets Consumption

How likely or unlikely are you to purchase after college on a scale of 1 to 10, where 10 is very likely and 1 is very unlikely



UMass Dining Customer Satisfaction and Eating Habits Survey – Spring 2022
(Response Rate = 25.5%, n=1550)

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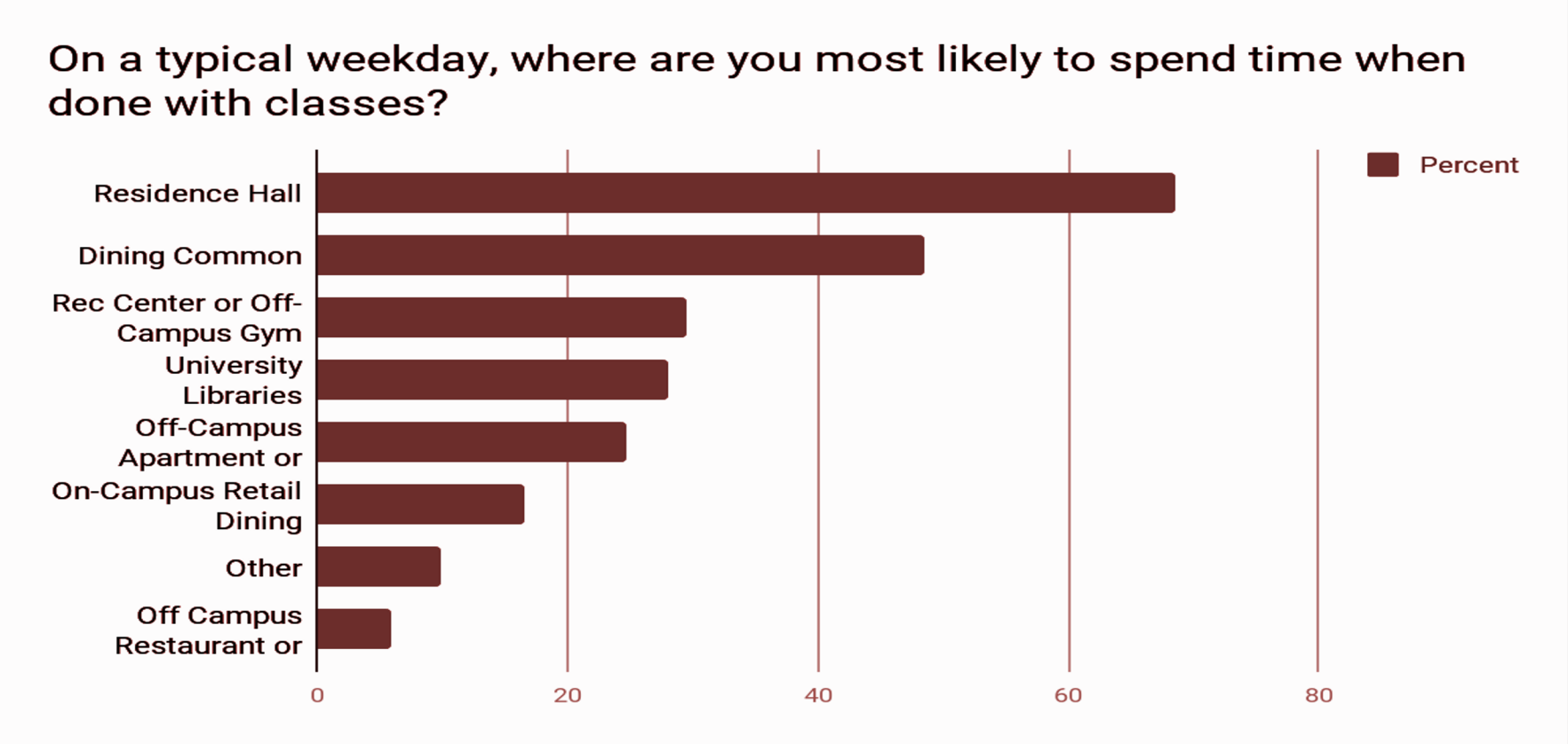
Joe vs. Goliath



**\$4 Billion
annual
marketing
budget**

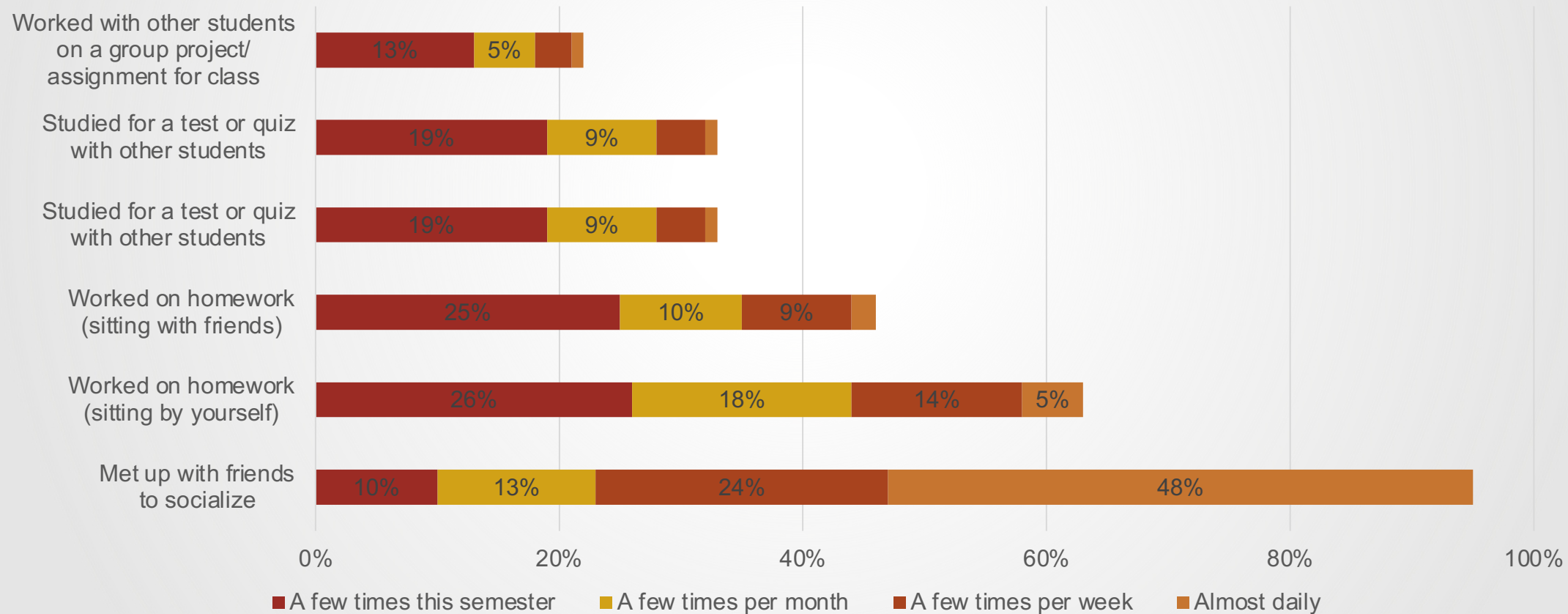
- 30% of students are very likely to purchase a Coke product after college
- 48% of students are very likely to purchase a Local product after college

WHERE DO STUDENTS SPEND TIME ON CAMPUS?



STUDENT ENGAGEMENT

So far this semester, how often have you done each of the following in the Dining Commons?



Technology and Classic Service

CARBON FOOTPRINT ON THE MENU



DID YOU KNOW?

88%

OF SURVEYED STUDENTS SAID THE CLIMATE CRISIS INFORMS THEIR ACTION AT LEAST SOME OF THE TIME.

DID YOU KNOW?

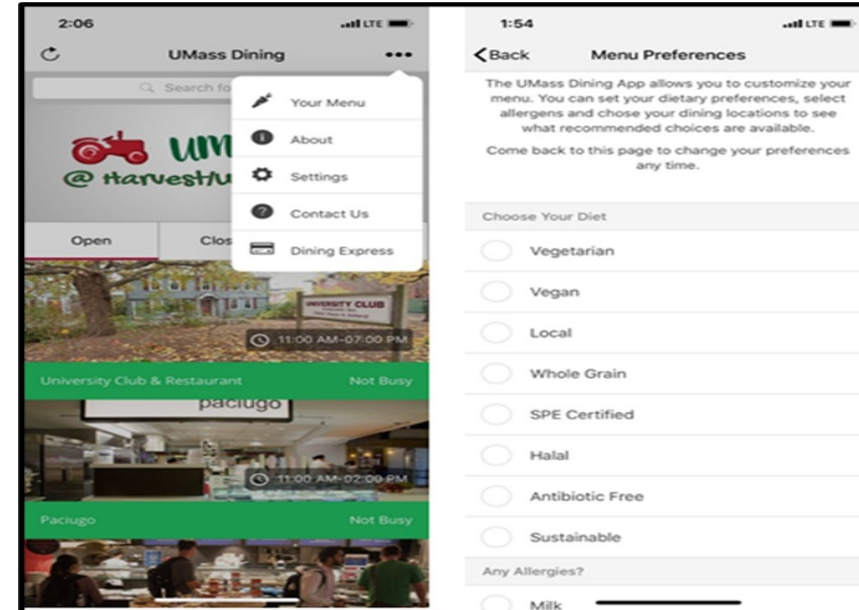
75%

BELIEVE THEIR FOOD CHOICES IMPACT THE ENVIRONMENT

DID YOU KNOW?

76%

BELIEVE IT IS IMPORTANT FOR THEM TO REDUCE THEIR CARBON FOOTPRINT



Tonight, I went to Blue wall and experienced ordering my own food through the iPad. Although I thought it was more efficient for the workers, I thought that the line went by slower than usual. ... When I order face to face I can ask for extra rice or to have all the hot stuff placed on top of each other and not in the separate sections.

ALLERGEN CONSCIOUS

	2016-17	2022-23	Percent Change
Gluten	0.80%	1.32%	65%
Peanuts	1.06%	2.30%	117%
Tree Nuts	1.27%	2.73%	115%
Fish	0.17%	0.43%	162%
Shellfish	0.48%	1.00%	109%
Milk	0.43%	0.93%	116%
Egg	0.26%	0.38%	44%
Soy	0.13%	0.23%	78%
Sesame	0.13%	0.30%	135%
Corn	0.02%	0.04%	100%
Fruits	0.30%	0.27%	-10%
Vegetables	0.16%	0.11%	-28%
Total Allergy	5.20%	10.04%	93%

Percent of students with Allergen or Intolerance has nearly doubled in the past seven years.

UMass Dining Student Impact

- 88% of students believe UMass Dining contributes positively to their personal wellbeing
- 83% of students believe UMass Dining enhances their sense of belonging at the university
- 87% of students believe UMass Dining enhances their sense of value of the overall university experience



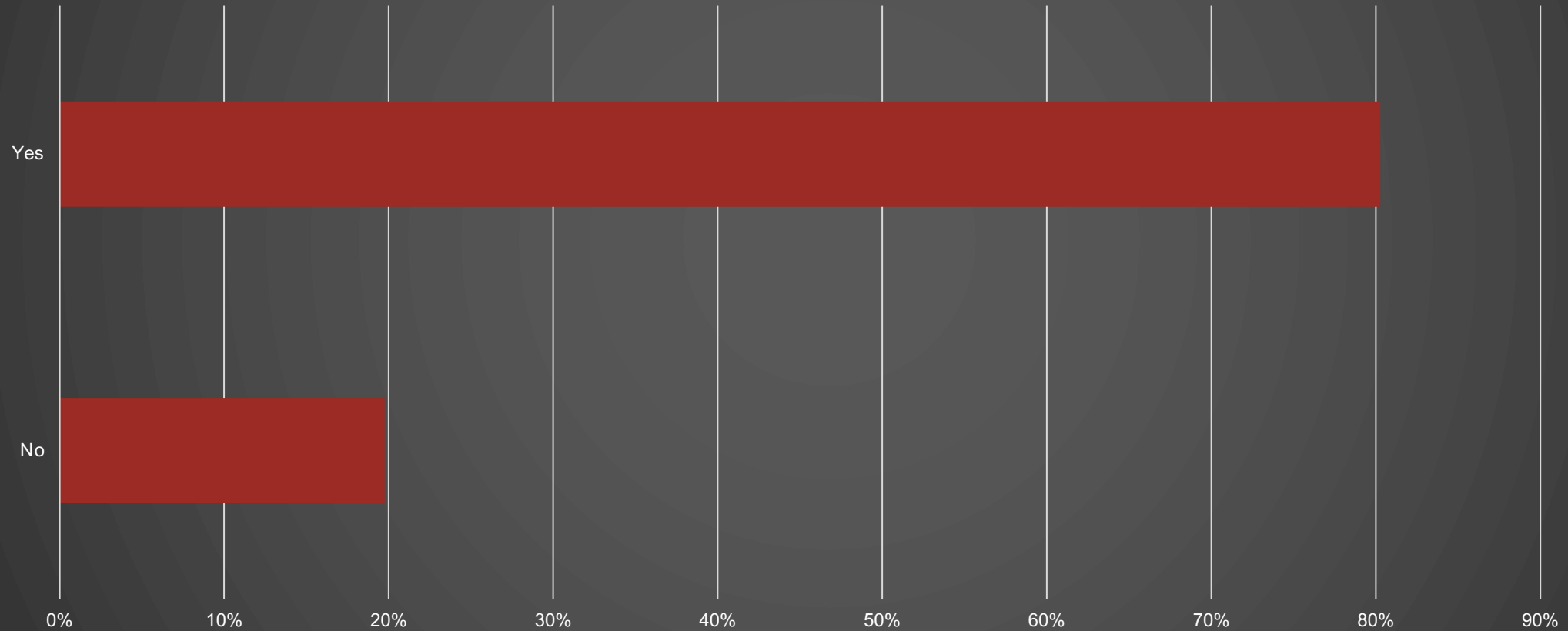
UMass Dining Customer Satisfaction and Eating Habits Survey – Fall 2022
(Response Rate = 25.5%, n=1550)

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Consumption Trends

Will you continue your dining habits practiced at UMass once you graduate?



CURRENT NATIONAL TRENDS

- Meal Plan and Housing revenue are critical to institutional financial security
- Competition for student meal plan dollars continues to grow
- Gen Z students demand quality, authenticity, diversity and value.
- National undergraduate participation average between 60 and 70%-- UMass Amherst 92%
- Off campus/ voluntary plan participation falls 33 to 40%-- over 70% of UMass seniors are on a meal plan
- Social media influences Gen Z: critical decisions involve.

FAMILY

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