

BUILDING A WORKPLACE CULTURE OF HEALTH IN A UNIVERSITY
SETTING: IMPROVING THE FOOD ENVIRONMENT
AT MEETINGS AND EVENTS

by

Lindsey Rambo-Menge, B.A.

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Committee Members:

Sylvia Crixell, Chair

Yueqin Hu

Janet Bezner

Lisa Lloyd

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LIST OF ABBREVIATIONS

Abbreviation	Description
BMI	– Body Mass Index
EWP	– Employee Wellness Programs
ROI	– Return on Investment
VOI	– Value on Investment
HBM	– Health Belief Model
SEM	– Social Ecological Model
wCOH	– Workplace Culture of Health
CITI	– Collaborative Institutional Training Initiative
DMS	– Document Management System
SAP	– Systems, Application, and Programs
FO-admins	– Food Ordering Administrators
SAP GUI	– Systems, Application, and Programs GUI
EFA	– Exploratory Factor Analysis
PCA	– Principal Components Analysis
CFA	– Confirmatory Factor Analysis

SEM – Structure Equation Modeling

SPSS – Statistical Package for the Social Sciences

UFOS – Understanding Food Ordering Survey

RMSEA – Root Mean Square Error of Approximation

CFI – Comparative Fit Index

TLI – Tucker Lewis Fit Index

I. INTRODUCTION

The Burden of Chronic Disease in the Workforce

The primary chronic health conditions, heart disease, diabetes, stroke, cancer, along with overweight and obesity, are negatively impacting quality of life for many individuals.¹⁻⁴ Over 50% of the adult population suffers from one or more chronic health conditions.^{4,5} As a result, many Americans, who spend the majority of their daytime hours at work, struggle to stay productive due to decreased work efficiency, increased disability, and frequent absenteeism.^{3,6} In fact, over 18 million adults ages 19-64 are unable to work due to disability associated with chronic disease.⁴ Additionally, 55 million workers miss work due to the challenges of their own chronic illness or that of their family members. In total, either directly or indirectly, chronic disease causes over 407 million missed days of work each year, resulting in an economic loss of approximately \$260 billion. Beyond the loss in productivity, employers, who provide health insurance to over 63% of Americans, are faced with ever-rising health insurance premiums, which have increased 97% since 2002.^{3,7,8} In 2016 alone, annual premiums for employer-sponsored health insurance were \$6,435 for individual coverage and \$18,142 for family coverage, reflecting a 3% increase just since 2015.⁹ Additionally, the workforce itself is also affected by similar rising costs, as employees on average contribute \$5,277 of their own money towards the cost of their healthcare coverage. Thus, the burden of healthcare is not only challenging individuals, but their employers as well.^{3,5,10}

The Cost of Overweight and Obesity

Largely modifiable contributors to chronic disease, such as overweight and obesity, are linked to over 75% of total health care expenses.^{3,8,11,12} Overweight and obesity, defined as a body mass index (weight kg/height m², BMI) above 25 and 30, respectively, are of particular interest due to their prevalence among the working population.^{3,13-16} Within the workforce, current estimates indicate that approximately 50% of full-time workers are either overweight or obese. In terms of gender, overweight and obesity impact 72% of men and 64% of women in the US. Research has consistently demonstrated that the risk of developing chronic disease increases linearly with BMI.¹ BMI alone is believed to account for 60% of type 2 diabetes risk, 20% of the risk for hypertension, and 30% of the risk for developing cancers.^{17,18} Healthcare costs are impacted by this relationship, and increase by approximately 1.9% for every 5-8 pound gain in body weight for individuals with a BMI above 27.¹⁹⁻²¹

The impact of obesity alone is of particular concern due to its uniquely high contribution to total healthcare costs.^{3,9,11,22} Within the adult population, 37.8% are considered obese, comprising over 78.6 million Americans.²³ The costs credited to obesity are almost purely due to treating the chronic diseases obesity itself exacerbates.^{11,22,24} In 2008 alone, medical costs related to obesity reached 147 billion, accounting for over 27% of total healthcare costs.^{3,9,11} On average, medical bills are approximately 41.5% higher (\$1,429/year more expensive) for obese individuals than those with a normal weight status.^{3,11,22} This may be attributable to the fact that obese workers have 20% more doctor visits and 26% more emergency room hospital visits than

those within a healthier BMI.²⁵ Workers compensation claims are also filed twice as often for obese individuals, contributing to increased health care expenditures as well.^{26–28}

The Role of Employee Wellness Programs

Behavior modifications such as dietary improvements, increased physical activity, smoking cessation, and alcohol moderation are all vital components to addressing obesity and chronic disease prevention and management.^{3,8,29,30} One solution for employers and employees has been for worksites to offer programs at work that promote such behavior modifications.^{3,30–32} Employee wellness programs (EWPs), as they are typically referred to, have been considered the gold standard for health interventions in the workplace and have yielded beneficial outcomes in the health of participating workers.^{5,33} EWPs have a unique capacity to capture a collective audience in a convenient setting, and many worksites, such as those in university settings, already have the infrastructure and facilities in place to make programs effective.¹ Offering EWPs within the worksite also benefits employers through the direct impact EWPs have on health care expenses, productivity, and absenteeism of employees.⁸ Broadly speaking, worksite involvement through EWPs can be mutually beneficial to employers and their employees through addressing many aspects of health.^{3,30,34}

Characteristics of Traditional Employee Wellness Programs

Traditional EWPs utilize a one-dimensional model for their programs, that addresses modifiable behaviors through programs designed to educate on health risks, improve weight status and/or promote increased physical activity.^{8,33,35,36} Health risk assessments, risk reduction interventions, self-care programs, and case management options for individual employees with chronic illnesses are all among the most common

intervention strategies included in a traditional EWP model.^{27,36-38} These program-centered EWPs promote individual health responsibility and motivation to take personal interest in one's own health and well-being.

Employee Wellness Programs and Return on Investment

EWP offerings require initial upfront costs for companies, yet studies have demonstrated that businesses adopting workplace health initiatives position themselves to have significant return on investment (ROI) as well as greater long-term profitability due to savings on healthcare expenses.^{27,38,39} ROI refers to profits accrued from an organization in relation to their initial investment and is usually expressed as $ROI\% = [(Gain\ from\ Investment - Cost\ of\ Investment) / (Cost\ of\ Investment) \times 100]$.⁴⁰ In the case of health savings, ROI is often a measure of reduced health care expenditures, decreased workers compensation, reduced absenteeism, and higher productivity.³⁶ Often the Integrated Benefits Institute's Full Cost Estimator is used by employers to quantify these health savings measures into estimated ROI.⁴⁰ The consensus of a 2013 review of 20 corporations suggested that employer's ROI was significantly higher than the initial investment.¹ While typical ROIs ranged between \$1.60-\$3.90 per dollar designated to worksite health initiatives, some programs reported ROIs as high as \$4.50 on every dollar expended.^{3,28,41} Traditional evaluation of EWPs has relied solely on direct ROI, however more companies are rallying behind the ability of EWPs to impact value on investment (VOI).^{21,38,42} VOI is the idea that investments in people lead to improvements in their capabilities, which results in higher productivity and superior work. Healthier individuals become more productive employees which results in savings that compound beyond ROI over time, especially as people maintain their improved health status.⁴³ This has been

demonstrated in research, where EWP initiatives to improve employee diet quality reduced absenteeism by as much as 28%, equal to over 3 fewer missed days of work per year.^{42,44,45} Less employee turnover, higher job satisfaction, increased morale, decreased disability, and improved employee loyalty are just a few of the many additional factors that indirectly influence additional ROI as a result of a supported, healthy work environment.^{21,38,44}

Problems with Employee Wellness Programs

Despite the many compelling factors supporting worksite health promotion, most EWPs are hampered by the challenge of recruiting and retaining employee membership.^{46,47} Surprisingly, enrollment in most EWPs hovers around 20% of eligible staff.^{36,44,46} Employee involvement is central to the profitability and effectiveness of EWPs.⁴⁷ However, weak individual interest in programs, lack of time, poor funding, and lack of support from supervisors as well as coworkers all affect employee willingness to engage.³ As stated above, most EWPs employ a one-dimensional model to their programs in that the focus is entirely on individual participation to influence health behaviors.^{35,48} With this type of strategy, the success of EWPs is determined solely by voluntary participation and ongoing personal motivation to engage in program offerings.³² Thus, with so many potential barriers to EWP involvement it is not surprising that a limited number of employees offered an EWP actually engage in it.^{36,48}

Groups Most Likely to Opt out of EWPs

Many EWPs face the challenge of attracting their most health-compromised employees, and instead draw their healthier employee populations.²⁹ Certain groups, such as men, past and present smokers, and blue-collar workers, are those most likely to opt

out of participating in EWPs.^{47,49} Age plays an important part in membership as well, with older cohorts representing the lowest engagement age groups. Additional influences such as personality, health history, home conditions, and job environment can also affect individual participation.⁴⁴ Therefore, having the convenience of an EWP in the workplace is often not enough to ensure employees will engage. In an Employee Benefit Research Institute/Greenwald and Associates Consumer Engagement Study (2014), 3,887 adults ages 21-67 were surveyed across the United States about their current worksite EWP offerings.⁵⁰ When asked about the reasons why individuals chose not to participate in their EWP, the most common answer given was they felt they could make changes on their own (28% stated it as the major reason, 33% listed it as a minor reason). Additional reasons included not having enough time to participate, feeling they were already healthy, and that the programs offered were not conveniently located. Given the many constraints on EWP membership, new strategies are needed to impact these non-participating workers who are often the ones needing interventions most.^{29,44,47,51} Thus, employers are seeking to modify the structure of EWPs in order to reach more of their workforce both directly and indirectly.²

Barriers to Participation

To fully understand how to improve employee EWP engagement, it is necessary to consider individual and environmental barriers that can influence behavior change. This can be thoroughly examined through a theoretical approach. One theory that may apply is the Health Belief Model (HBM).^{30,52} The HBM theory is composed of two main variables; 1) the value placed by individuals on a specific goal; and 2) an individual's assessment that a given action will accomplish that goal. Within the context of health,

HBM consists of four pieces.⁵² The first is what a person's *perceived susceptibility* is to disease. The perceived susceptibility is the extent to which a person perceives their chances are of developing a disease. The second is *perceived severity*, or the extent to which a person perceives the gravity of the consequences of developing a disease to be. The third idea is the *perceived benefit*, or the belief that taking action to improve health will actually result in reducing the development of disease. Finally, the fourth piece addresses *perceived barriers*, which take into account that changing one's behavior may be unduly costly, uncomfortable, and time consuming. Taken together, the HBM suggests that there is an individual presumed benefit-to-cost ratio for participants in a EWP. In short, from a broad view, per the HBM, individuals may ultimately choose to refrain from improving their health behaviors, opting instead to manage the challenges of a chronic disease, anticipating that such management will ultimately require less effort than implementing all of the actions needed to change their risk.

From an environmental perspective, the Social Ecological Model (SEM) can also be a useful tool in helping to illustrate the multiple influencers that drive choice, emphasizing the connection between people and their environment.⁵³⁻⁵⁵ Within this model, four features influence choice: individual factors, social environments, macro-level, and physical environments.⁵³ Individual influences can be driven by demographics, biological factors, lifestyle, behaviors, and cognitions. These influencing forces can be as primal as our innate adaptive responses to food, such as hunger and satiety.^{56,57} Individual choices can also be driven by situational and emotional cues, such as stress.⁵⁷ Choices can also be guided by simple persuasions such as appearance or smell, and these preferences can be magnified under certain conditions such as higher emotional states.

The social environment involves the connections with friends, family, coworkers, and others in the community at large, who can all have the power to persuade choices.⁵³ As an example, communal dining often easily sways food decisions due to social norm conformity, role modeling, and expectations of others.^{53,57,58} Macro-level environments are also often indirect drivers of choice as well, and can include food marketing, policies, and price. Finally, physical environments include the settings where individual interaction occurs, and can include the home, schools, restaurants, and worksites.⁵³ All these influences can impact participation providing either barriers or opportunities to facilitate behavior change.

Birth of the Workplace Culture of Health Model

Culture of Health Model Defined

Clearly, there are many challenges to inspiring individuals to change behaviors of their own accord. Having an inclusive healthy network at the worksite, which allows for a supportive environment with convenient access to education, programs, support from peers and management, and targeting of multiple health behaviors, is needed to help overcome the barriers associated with lifestyle change.^{8,32,33,35,47,48} This concept of a fully inclusive health network that considers all the potential influences on behavior outlined by both the HBM and the SEM, is known as a workplace culture of health (wCOH).^{2,43,59,60} The wCOH provides an organizational strategy that removes the barrier of voluntary program participation and instead influences the entire worksite population, supporting employees no matter where they are in their health or motivation. The ultimate goal of establishing a positive wCOH is to provide employees with a pro-health

environment containing easily accessible resources needed to make selecting the healthy choice the easy choice.^{2,8,35,61}

Seven Elements to Culture of Health

Establishing a wCOH means changing both the workplace environment and the workplace culture.⁴³ An optimal wCOH goes beyond the offerings of traditional EWPs and expands the workplace health network to incorporate seven organizational elements that include: policy; physical environment; programs; leadership; supervisor support; coworker support; and values, moods, and norms.^{2,43} These dimensions take the goals of one-dimensional EWP models (e.g. improve nutrition, increase physical activity, promote smoking cessation) and expand them into a worksite philosophy that emphasizes employee health at every level of an organization.

Leadership, policy, physical environment, and programs all reflect optimization of the workplace environment.^{2,43} Unified senior leadership is essential when creating a healthy atmosphere that solidifies the vision of the wCOH.⁴⁸ Strong leadership works to provide the necessary resources for programs.^{34,36,43,48} Without authority from directors and upper management the assessments, education, and programs needed to reach organizational health goals are often significantly challenged.³⁴ Policies are equally important to the workplace environment and promote the vision of the wCOH.^{8,43,48} Pro-health policies demonstrate that an organization is unified in making health a priority, and allow appropriate resource allocation to promote the health goals set forth by the organization. Physical environment considers the logistics and tangibles of implementation such as where to access healthy food onsite and the space available to house program offerings.^{32,43} Without physical environment considerations, healthy ideas

on paper cannot become reality or have significant impact. The programs element provides the tools for intervention.^{8,43} Programs are what put organizational goals into reality. They provide the interventions, education, and skills necessary to help motivate employees to change behavior and participate in improving their health.

Supervisor support, coworker support, values, moods, and norms all represent cultural aspects to the wCOH model.⁴³ Essential to the success of a wCOH is supervisor support.^{8,32,43} Having the encouragement of supervisors helps to solidify the healthy philosophy established by the organization's leadership. Supervisor support along with coworker support helps to provide motivation to engage employees and promotes their participation in program offerings.^{32,36,48} Finally, when addressing the element of values, moods, and norms it is important to consider the collective beliefs around health that individual employees possess.^{43,62} Knowing the core beliefs, culture, social boundaries, and expectations of staff when it comes to health is critical to designing strategies that will be accepted.⁶² A wCOH model that includes all these dimensions establishes a cohesive healthy workplace organization, which improves the reach of traditional EWPs to create a fully supported, happier, and healthier workforce.²

Why the Culture of Health Model is Successful

The wCOH model allows organizations with preexisting EWPs to utilize a validated framework to determine strengths as well as identify areas of opportunity for growth.⁴³ Clear objectives, ongoing communication between managers and staff, and cohesive leadership is all required for a healthy culture that engages employees to participate.^{32,43} These qualities are all features of the wCOH model. Therefore in order to create a workplace wCOH, companies must go beyond a wellness approach and instead

strategize for a health minded organization.⁴³ This requires a long-term company commitment, is multi-departmental, and is often a more difficult strategy for organizations to implement. However, worksites that employ this approach see higher participation rates in their wellness programs as well as measurable behavior change. Indeed, in general, employees under a wCOH model are three times as likely to take some type of action regarding their health versus those participating in a traditional EWP. In a survey conducted on 545 participants who were involved in benefits decision-making, 19% said they had firmly established a wCOH at their worksite.⁶¹ Of those with a wCOH, 95% reported increased productivity versus 79% without a wCOH. Further, 46% reported employees take personal responsibility for their health (i.e., acknowledge their contribution to their health condition) versus 11% without a wCOH. Higher levels of employee satisfaction were also noted at 56% for wCOH versus 15% without a wCOH. A higher degree of employee well-being was also recognized at 49% for wCOH worksites versus 13% for those without. Despite these significant benefits of a wCOH, fewer than 1 in 5 worksites have successfully achieved a comprehensive wCOH network. Therefore, more research needs to be done to develop methods for improving worksites to achieve this type of model.

Worksite Culture of Health: Food Environment Gap in the Literature

As stated above, most worksites use a one-dimensional model to target behaviors associated with reducing chronic disease risk (i.e. nutrition, exercise, smoking cessation). To create a positive wCOH that targets the entire worksite population instead of just the individual, it is necessary to affect workers more comprehensively, through a variety of modalities. Take nutrition for an example. To improve nutrition, a one-dimensional

approach might be to offer education. While education helps, it may not be sufficient to create change among individuals or the entire worksite. A more comprehensive approach could address diet through several dimensions. Improving dietary behavior through increasing access to healthy food is one of the most important factors to address in order to achieve an effective wCOH and involves the cooperation of many wCOH dimensions.^{43,53,60,63} Therefore, when considering ways to create a more effective wellness model in the workplace, it is important to address all dimensions to wellness, in order to build a health-supportive environment.

Improving the food environment at the worksite, while simple in concept, requires a multi-factorial approach. In addition to what people bring to work for lunch or snacks, significant employee food exposures at the worksite include cafeteria offerings, vending machines, and catering for work meetings and events.^{48,63} Approximately 74% of worksites with more than 750 employees include an on-site cafeteria, compared to 42% of those sites with 250-749 employees, 25% of sites with 100-249 employees, and 13% of sites with fewer than 100 employees.⁶⁴ Most worksites contain additional food access, with 79.6% utilizing food or beverage vending services. Of worksites that have been evaluated, only 37.4% report labeling healthy foods for the options they provide, and only 5.6% offer promotions highlighting healthy food choices.⁶⁵ In addition, only 6.1% of companies offering wellness programs have specific policies to ensure healthy foods are available from catering for events and meetings.^{64,65} Little research has clearly addressed the food environment of the workplace. Instead, the vast majority of studies have been limited to evaluation of EWP program components such as physical activity and healthy eating promotion.^{41,66,67} Literature primarily in this area has focused on program

implementation and its effectiveness rather than an assessment of the worksite environment as a whole. In order to truly embrace the concept of the wCOH, the food environment must be reflected in order to determine the effectiveness of the strategies that comprise the wCOH. Yet, very little research has even addressed basic questions, such as what the nutritional quality of foods is at the worksite, and what decisions impact what food is offered. For example, in a study by Jenkins, et al. a Culture of Health study was administered to 2,581 employees of a Midwestern university and determined that healthy foods were not being readily offered and available.⁶⁰ The study further highlighted that the accessibility of healthy food options is a critical component in facilitating and maintaining healthy behaviors central to a wCOH. It concluded that issues with healthy food being readily available could be observed from both the micro and the larger institutional levels, showing a need for strategic improvements throughout the workplace. Clearly, an evaluation of food environment at the worksite is important to understanding how to improve the reach of a wCOH. This study demonstrates the abundant opportunities that exist to create a healthier food network for employees through intervention within the food environment.

Creating a Healthy Worksite Food Environment

What is a Healthy Diet?

Diet quality is one of the most important features in determining health status throughout the lifespan.^{53,68} The Dietary Guidelines for Americans, created jointly by the US Department of Health and Human Services and the US Department of Agriculture, provides an evidence-based guideline that may be used to directly assess diet quality.⁶⁸ These guidelines are updated every five years and reflect the most representative nutrition

science. Studies have shown diets aligned with the Dietary Guidelines for Americans are associated with reduced incidence of diet-related chronic diseases. This includes cardiovascular disease, type 2 diabetes, some cancers, and obesity.⁵⁶

According to the *2015-2020 Dietary Guidelines for Americans*, a healthy diet includes eating patterns that contribute to appropriate calorie balance for a healthy weight and reduced incidence of chronic disease.⁶⁸ An ideal diet is diverse, with an emphasis on higher consumption of whole fruits and incorporating a variety of vegetables from all of the following: dark green, red and orange, legumes, and starchy vegetables. Healthy diets also contain primarily whole grains over refined, as well as low fat dairy over full fat dairy, high quality oils (i.e. oils rich in mono and polyunsaturated fatty acids), and an assortment of protein foods such as seafood, poultry, eggs, nuts, seeds, soy, and legumes. Additionally, high quality diets limit foods of public health concern and follow the recommended guidelines for their consumption. These recommendations include eliminating trans-fats, limiting saturated fats, consuming alcohol in moderation, if at all, limiting added sugars, and reducing sodium. Finally, healthful diets include portion sizes that serve to maintain healthy body weights. A breakdown of individual food groups and their daily recommendations are reflected in Table 1.

Table 1. Healthy US-Style Eating Pattern at the 2,000 Calorie Level, with Daily or Weekly Amounts from Food Groups, Subgroups, and Components⁶⁸

Food Group	Recommended Amount (2,000 kcal/day)
Vegetables	2.5 cups
Dark Green	1.5 cups/wk
Red and Orange	5.5 cups/wk
Legumes	1.5 cups/wk
Starchy	5 cups/wk
Other	4 cups/wk
Fruits	2 cups/day
Grains	6 oz/day
Whole Grains	≥ 3oz/day
Refined Grains	≤ 3oz/day

CONT. Table 1. Healthy US-Style Eating Pattern at the 2,000 Calorie Level, with Daily or Weekly Amounts from Food Groups, Subgroups, and Components

Dairy	3 cups/day
Protein Foods	5.5 oz/day
Seafood	8 oz/wk
Meats, poultry, eggs	26 oz/wk
Nuts, seeds, soy	5 oz/wk
Oils	27g/day
Limit on calories for other uses	270 kcal/day (14%)

Nutrition Knowledge and Food Choice

Nutrition knowledge is important driver of food choices.⁶⁹ Specifically, individuals with strong nutrition knowledge are significantly more likely to meet the *Dietary Guidelines for Americans* with respect to fruit, vegetable, and fat intake compared to those with limited knowledge. This is highlighted by a study involving 200 college students enrolled in dining plans, in which nutrition knowledge was related to healthier food choices for fruit, dairy, protein, and whole grains, regardless of the fact that the food environment was generally characterized as unhealthy.⁷⁰ Nutrition knowledge is also a necessary, if not always sufficient, component needed for people to improve their food choices and food habits. Therefore, studies addressing the food environment should always consider the nutrition knowledge of those involved in decision- making. Ultimately, increased knowledge of healthy dietary patterns appears to be related to more nutritious eating patterns and should therefore be used as a mechanism for promoting change in what foods individuals choose to eat.^{69,70} Therefore assessing nutrition knowledge is a critical factor in explaining variations in food choice. It has been suggested in literature as a result that increasing nutrition knowledge is essential to be targeted for health education campaigns aimed at promoting healthy eating.⁷¹ Additionally, current research suggests that worksite employee wellness programs are an

effective and ideal model in which to enhance nutrition knowledge and encourage health promotion.^{3,20,72,73}

Barriers to Healthy Eating at the Worksite

In the US, the food environment is often obesity-facilitating.⁷⁴ An obesity-facilitating environment is characterized by the presence of inexpensive, low quality, large-portioned, high energy-dense foods that encourage overindulgence and regularly fall short of the recommendations included in the *Dietary Guidelines for Americans*.^{68,74–76} Many adults are surrounded by obesity-facilitating environments, such as the worksite, within their neighborhoods and universities, and beyond.⁷⁴ These environments often offer up too many sweets and high fat items while having limited availability of health promoting items such as fruits, vegetables, and high fiber foods.⁷⁷

The obesity-facilitating food environment is often both directly and indirectly encouraged by the worksite physical environment.^{74–76} The variety of foods available at worksites including cafeteria food offerings, items stocked in vending machines, and catered meals and snacks for work events, all represent direct contributions by the worksite to the food environment of workers.^{78,53} Indirectly, however, high workloads and excessive work stress promoted by the worksite often result in reduced time dedicated for healthy food preparation at home, enhancing the allure of convenience foods characteristic of an obesity-facilitating food environment.^{74,75} With so many influencers helping to drive unhealthy food choices, it is often difficult for positive change to happen.⁷⁹ Therefore, it is essential to create opportunities to improve the food environment for these individuals, and the workplace provides an ideal physical location

to pursue intervention.³⁴ Research suggests that EWP are an effective and ideal model in which to enhance nutrition knowledge and encourage health promotion.^{3,20,72,73}

Limited Research on the Worksite Food Environments

Previous research exploring worksite health interventions has largely focused on weight loss and physical activity initiatives, yet little has been done to directly assess nutritional quality of foods in the workplace.⁸⁰ Of the research concerning worksite food interventions, the vast majority has focused on workplace cafeterias and vending machines while largely excluding assessment of other food encounters at the worksite such as food supplied for events and meetings.^{10,74,53,81–86,63,87–93,79,80}

The workplace cafeteria has largely been the focus of the little research that has been done due to the fact that it is often a part of daily interaction for employees and thus plays a vital role in the energy intake of many adults.^{94–96} Approximately 25% of not-at-home lunches are consumed at the worksite cafeteria. Most cafeteria interventions have been designed to improve the quality of the food environment through offering food options lower in fat and higher in fruits and vegetables.^{87,92,94} Studies have shown varied results, perhaps based on the type of intervention implemented.⁸⁷ The more successful cafeteria interventions have involved an educational component to increase nutrition knowledge and thereby support healthier choices, such as labeling healthy foods on menus, providing informational brochures, offering incentives for healthier choices, and presenting nutrition education.^{87,94} Of the educational components, labeling of healthy options has appeared to have the most dramatic effect on impacting healthier food choice.^{87,90}

Nutritional quality in vending machines has also been given significant research regarding the most effective ways to promote healthy foods at the worksite.^{82,63,89} The most consistent findings reveal that both in schools and within the workplace, knowledge and cost are the primary drivers of healthy option purchases.^{82,63,89} Variety of healthy options is also an important influence on purchases as well.^{81,82} In one study, providing 50% more healthy food options while also discounting healthy foods by an average of 30% resulted in an increase in healthy food purchases in vending machines by as much as 42%.⁸² Therefore a combination of price and availability make the biggest impact on healthy vending food selection.

In contrast to cafeterias and vending machines, there is a dearth of research regarding the foods offered in worksite meetings and events. What research has been done has been limited to the examination of catering companies that service worksite cafeterias, rather than catering for smaller scale, non-daily service.^{87,91,94,97} Studies that have chosen to assess catering for events and meetings provided little detail and did so within the context of larger intervention studies that evaluated the broader context of the worksite food environment.^{98,99} In short, there is very little research on: 1) the nutritional quality of foods included in worksite meetings and events; and 2) why those who order foods for such catered events choose the foods that they do.

While the methods for characterizing the nutritional quality of foods are straightforward, it is much harder to get at why individuals who order foods make the choices that they do. For example, are those responsible for ordering choosing the foods they do based on their personal preferences, or are other influences impacting their choices? These factors are largely unknown; instead, research in this area has only

addressed factors that influence what individuals choose to order for themselves.^{56,65} Studies have demonstrated a variety of factors such as taste, culture, attitudes, habits, health goals, convenience, pleasure, and hunger can all determine individual ordering choices.^{53,54,100,57} However, understanding what factors influence the decisions made for others is an important step in expanding our breadth of knowledge so more effective interventions can occur as a result.⁵⁶

Culture of Health and Universities: WellCats

The Formation of an Employee Wellness Program in a University Setting

University establishments provide ideal settings for establishing a thriving wCOH.^{5,8,12,101} Universities typically have existing infrastructure already in place to support all dimensions within the wCOH model, including research facilities, staff to implement programs, and experts to head initiatives and train others. Furthermore, the dissemination of research conducted at universities can be of significant value to the enhancement of other EWPs, as less than 50% of non-university worksites collect data to guide their program direction.^{102,103} EWPs have been well established in many universities. Many EWPs in working with members, have examined the effectiveness and health benefits of the programs offered as part of their services.^{2,5,12,14,72,104,105,66,44,41,106,107,40,108–113} The majority of these studies evaluated the success of educational elements to their programs such as nutrition coaching/classes, exercise programs, and health assessments. However, there is little available in research detailing nutrition interventions, and this is especially true of food quality assessments within universities.^{30,114,115} This is an important area of opportunity in the research that

has the potential to go beyond assessing the effectiveness of EWPs and directly impact the daily health of employees.

Texas State University Employee Wellness Program

At Texas State University, *WellCats*, a free EWP available to all Texas State employees, has provided cooking classes, fitness classes, and educational services since its establishment in 2014.² In spite of the advances in health and education *WellCats* members may have garnered, the program has been challenged to increase participation; like most EWPs, *WellCats* is currently reaching only 20% of Texas State employees. *WellCats*, as well as most EWPs, currently provides offerings for members that fall primarily within the organizational element “programs”.² Therefore, *WellCats* aims to evolve the current EWP to include the physical environment, leadership, supervisor support, coworker support, policies, and values moods and norms, all characteristic of a thriving wCOH. This effort is designed to maximize engagement of Texas State employees with the goal of promoting a healthier, more active, and flourishing university community. The proposed thesis project will focus on the environment aspect of the Texas State wCOH by investigating the nutritional quality of the food served at university-sponsored functions.

The Catering Environment at Texas State University

At Texas State University, each month, hundreds of catered events and work meetings occur on campus. These orders occur through each department and food selection is largely determined by designated staff, primarily administrative assistants. Yet, no formal guidelines exist to guide the quality of the food being ordered. Thus, the healthfulness of foods offered to employees at these gatherings is predominately

determined by the administrators that are charged with ordering. As stated above, previous research examining the food environment in university settings has primarily focused on cafeteria and vending machine food quality. Research pertaining to food quality for catered events and meetings however is extremely limited, and is often only evaluated peripherally within the context of broader food environment assessments.³¹ No known studies have been conducted to assess food ordering for meetings and events independently, or to consider the factors that drive ordering decisions made by designated administrators.

This research proposes an exploratory investigation of the nutritional quality of foods offered at university-catered events, along with the factors that may influence decisions that drive what foods are ordered. The ultimate goal is to inform future interventions aimed at improving the healthfulness of the foods offered at university-sponsored events and meetings.

II. OBJECTIVES

Objectives of the Proposed Thesis

Objective 1. Assess the nutritional quality of foods offered at university-catered events over a discrete period of time.

Objective 2. Identify the factors that may influence what foods are ordered by individuals responsible for ordering food for university-sponsored functions.

III. METHODS

Timeline

The project timeline is outlined in Figure 1.

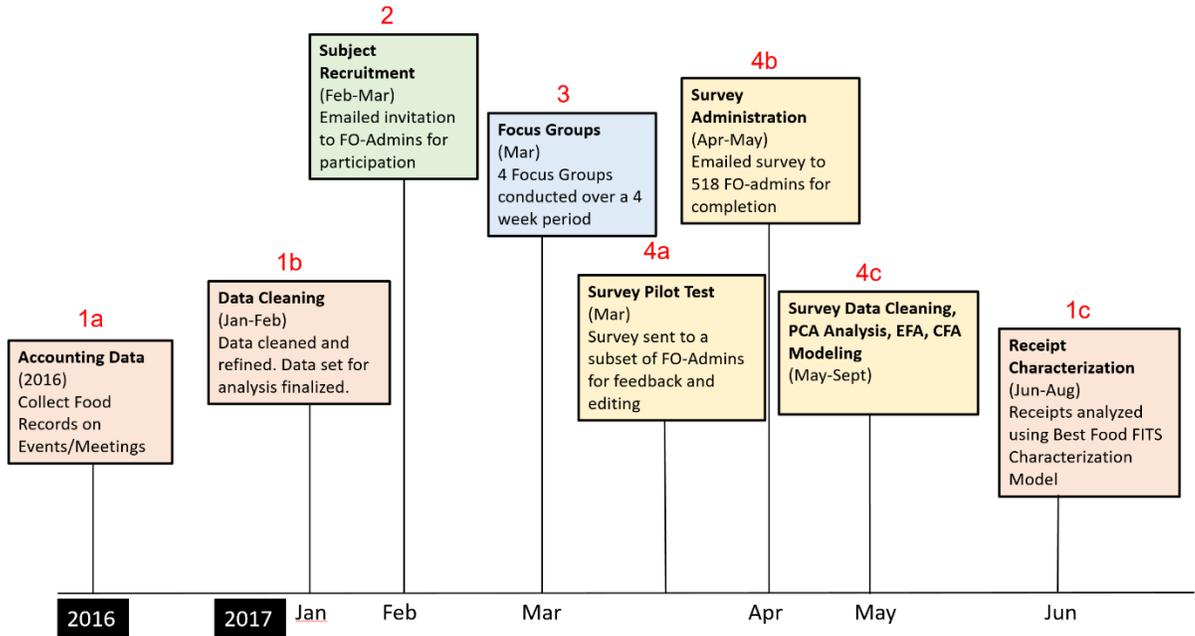


Figure 1. Project timeline

Training

All researchers completed Collaborative Institutional Training Initiative (CITI) training. Undergraduate and graduate student researchers were taught basic data management skills prior to participation in this project. Researchers conducting or assisting with focus groups received additional instruction prior to interaction with participants.¹¹⁶ All researchers involved in analysis of campus catering receipts received extensive training from Texas State Accounting on use of the university administrative tools, including the Systems, Application, and Product (SAP) and Document Management System (DMS). SAP and DMS are Texas State databases used to catalog

faculty and staff financial resources. All study protocols were reviewed by the Texas State University Institutional Review Board and deemed exempt (2017258).

Objective 1. Assess the nutritional quality of foods offered at university-catered events over a discrete period of time

Data Collection of Purchasing Records

For this analysis, we used a data file “dump” comprised of 10,591 entries which was provided by Texas State Accounting. The file included details for all food orders made in 2016, including such information as the purchase type reference (purchase order, electronic purchase order, p-card purchase/reimbursement), the individual making the order, the type of event, the vendor used, the department through which the food was ordered, and a brief description of the event. In addition, the file included identification codes that could be used to access electronic files documenting the actual receipts for the food purchases. The receipts associated with these identification codes detailed items purchased by administrators responsible for ordering food (hereafter referred to as “FO-admins”) for university-sponsored events attended by faculty and/or staff. There were three categories of receipts included in the data file based on how orders were handled, including purchase orders, non-purchase order reimbursements, and electronic non-purchase order reimbursements; these categories are distinguished by reference document numbers beginning with 51, 19, or 16, respectively. Reference document numbers that began with 19 indicated non-purchase order reimbursement records handled through individual departments rather than through Accounting. Due to constraints on obtaining these documents from separate departments, these records, which totaled 3,527 entries in the data file, were excluded from analysis. Reference document numbers that began with 16 indicated electronic non-purchase order reimbursement receipts funneled through

Texas State Accounting. SAP GUI, a restricted access university administrative tool, was the only avenue through which this data could be accessed. Due to challenges with university access restrictions, these records, which totaled 1,172 entries in the data file, were also excluded from analysis.

Purchase Orders (Reference Document Numbers Beginning with “51”): Reference document numbers that began with 51 were identified as purchase order receipts. These receipts most often indicated pre-approved events with detailed information about the foods ordered and descriptions of the events available in the detailed file. The 51 reference document numbers also included purchase order numbers beginning with either 31 or 45. If the purchase order number began with 31, associated files including receipt details were accessible within the university administrative tool Systems, Application, and Product (SAP). If the purchase order number began with 45, associated files were viewable within the university administrative tool Document Management System (DMS). A total of 4,850 records were obtained for analysis.

The 51 reference document numbers were organized by date and reference document number for detailed analysis. Any duplicate entries (often multiple entries were made to represent delivery fees or gratuities), non-event item receipts (such as purchases of water or bulk beverages, break room stock items, cafeteria goods), and non-employee events were deleted from the data set. The cleaned and final data set for analysis included 1047 food receipt records.

Receipt Analysis

The method used for conducting nutritional analysis of the viewable receipts (i.e., those associated with reference documents beginning with 51) was the Best Food FITS Menu Analysis Model, which provided analysis capability for receipts with and without the number of people in attendance.¹¹⁷ The method was adapted to classify meeting/event food items based on their nutritional content. Specifically, items were classified as follows: *beverages* as sugar-sweetened (e.g., sodas, or specialty drinks), nonnutritive (e.g., alcohol, diet sodas, unsweetened tea), or healthy (e.g., milk, 100% juice); *breakfast, lunch and dinner entrées* as unhealthy (e.g. fried, cheesy, greasy, fatty) or healthy, depending on content and preparation; *snacks/hors d'oeuvres* as unhealthy (e.g. fried, fatty, starchy) or healthy (vegetables, fruit), and *desserts* as unhealthy unless they were fruit without added sugar.¹¹⁷ Researchers also classified receipts that would accommodate certain food preferences at events (vegetarian or gluten-free options). To provide an overview of the nutritional content of the food offered at an event, receipts were also categorized by MyPlate recommendations, and grouped if the foods provided contained any whole fruit, vegetables, whole grains, lean proteins, or low-fat dairy. When available, the following information was also recorded: vendor name, restaurant type, meal type, number of people served, total cost of items ordered, and the department where food was ordered. After foods were categorized using this model, descriptive analysis was used to explore central tendency and differences between groups using Excel 2013 (Microsoft Corporation, Redmond, WA).

Objective 2: Identify factors that may influence foods ordered for university-sponsored employee events and meetings.

Overview

The overarching goal for this objective was to create a validated survey instrument that would address factors that influence what foods are ordered by FO-admins. To determine relevant questions for the survey, we first conducted focus groups with current FO-admins. We then compiled a survey based on the information gathered from the focus groups and from the current literature. This survey was administered on two occasions over a 4-week period to a sample of FO-admins (n=138). After data collected from the survey was cleaned, exploratory factor analysis (EFA) and principal component analysis (PCA) were run to confirm constructs being measured and common themes among the survey questions. Confirmatory Factor Analysis (CFA) was then conducted to establish validity of the instrument and to construct a structural equation model (SEM). A subset of the recruited FO-admins (n=30) participated in survey testing a second time so that test-retest reliability and validity of survey constructs could be determined. Descriptive analysis was employed to explore features of the participants, including demographics, ordering experience, and preferred eating habits.

Recruitment

Researchers accessed Texas State SAP software accounting data to identify administrators (FO-admins) who had ordered food for catered events within the 4 university divisions on the main Texas State campus, including: Finance and Support Services, University Advancement, Information Technology, and Academic Affairs. (The remaining 2 divisions, Student Affairs and Athletics, were excluded from this study as foods catered through this division often focused on students rather than employees.) A

total of 451 FO-admins were identified. Researchers first sent an email to all FO-admins inviting them to participate in a one of four scheduled focus groups. After the survey was developed based on focus group input, researchers sent an email to all FO-admins inviting them to participate in the survey. The goal was to recruit at least 100 participants to allow for PCA analysis. To incentivize participation, focus group participants were given the choice of a *WellCats* stainless steel water bottle or an insulated lunch bag, and survey participants were given a choice of a steel water bottle or t-shirt, and the option to enter a drawing for one of four \$50 Amazon gift cards.

Focus Groups

The 4 focus groups were conducted by a moderator and an assistant moderator; each session lasted 45-60 minutes.¹¹⁶ Upon arrival, participants in each focus group were greeted and given a brief introduction to the study by the moderator, followed by a distribution of consent forms and demographics paperwork. Once informed consents was collected, the moderator requested permission to use audio-recording equipment during the session. All focus group participants consented to audio-recording. The moderator then asked a series of questions pertaining to factors that might influence what FO-admins order for events and meetings. This included their personal likes/dislikes regarding the ordering process, who they talk to about the foods they order, and what feedback they receive from others. A complete list of focus group questions can be found in Appendix II. During the session, notes were taken by the assistant moderator in order to document group behaviors, non-verbal data, and any emergent themes that arose during the discussion.

Focus Group Data Analysis

Recorded audio data from each focus group session was transcribed into an abridged format and analyzed alongside field notes assembled by the moderator and research team.¹¹⁶ The classic analysis strategy was used to process the transcripts. (p. 151-155 Focus Group book) This entailed printing comments from each focus group using a unique color and font. Individual comments were numbered by moderator prompt. Individual comments were then cut out from the printed transcripts and physically grouped by the research team according to emergent themes (e.g. policy issues, paperwork, budget, time, food preferences). This allowed researchers to physically sort comments into themes while keeping the data linked to each focus group, focus group participant, and specific prompt that was answered. Emergent themes determined from the transcription analysis were employed to inform the construction and development of survey questions.

Survey Compilation

The final survey was comprised of two instruments, including a nutrition knowledge assessment and a series of questions addressing factors that may affect what food is ordered for catered events. We assessed nutrition knowledge because research has shown that knowledge can be a determinant for making healthy choices.⁷¹ Thus, we wondered whether the nutrition knowledge of FO-Admins would influence the foods they order. We used a previously validated nutrition knowledge instrument for adults developed by Jones, et al.¹¹⁸ This assessment was largely adapted from a previously validated instrument designed by Wardle, et al. but was modified to include additional questions based on the *Dietary Guidelines for Americans 2005* and My Pyramid to be

more appropriate for an American-based population. The questionnaire is comprised of 60 questions covering 4 domains of nutrition knowledge including: Familiarity with MyPyramid and the DGA, Nutrient Content of Foods, Everyday Food Choices, and Diet and Disease Relationships.

The second part of the survey was designed to investigate factors that may influence food ordering for events and meetings.^{2,57} Factors identified in the focus group sessions served as the foundation for construction of 114 survey questions. Answers to most questions involved 5-point Likert scale responses. Because many questions included multiple parts, a total of 338 unique responses were possible. Questions were organized for participants based on theme, general flow, and clarity. A complete list of all survey questions can be found in Appendix I. Once survey responses were collected, questions were reorganized into the following factors: university policies, work environment, personal drivers, feedback, vendor issues, nutrition knowledge, and general descriptives for SPSS data analysis.

Data Analysis

To process the data, responses were organized into a spreadsheet and identifiers were omitted. A review of all survey questions (n= 338) was conducted by the research team, and a total of 55 redundant questions were removed. Negatively phrased questions were reverse-coded to align with positively phrased questions. Questions that were selected for descriptive analysis were not used in the next step, exploratory factor analysis (EFA). For EFA, questions that loaded onto the same factors were combined and compared for internal consistency using Cronbach's alpha and test-retest reliability. Cronbach's alpha values above .80 were accepted and questions were removed if doing so improved consistency of responses. Once survey validation was completed, confirmatory factor analysis (CFA) was

conducted to confirm the model. The model fit was considered good with Comparative Fit Index values above .90 and Root Mean Square Error of Approximation values below .08. Paired sample t-tests were employed to compare differences in test-retest survey responses (n=30). Additionally, correlation analysis was used to examine relationships between variables.⁵⁷ All statistical analysis was conducted using SPSS, Version 22 (IBM Corp.). Researchers used SEM software Onyx (Version 1.0-972) to perform CFA from final data set.

III. RESULTS

Focus Groups

A total of 29 participants agreed to participate in the four focus groups. Of those who agreed to participate, 2 dropped out, leaving a total of 27 FO-admins in attendance. Each group included 6-8 participants.¹¹⁶ A description of participant characteristics is included in Table 2. The majority of participants were female (n=23, 85%), Caucasian/white (n=14) and had been employed by the university for over 7 years (n=15, 55.5%). The mean age was 47 years and the most common age group was 50-60 yrs (n=10, 37%), followed by 40-50 years (n = 9, 33%). For the most part, FO-admins ordered food for catered events fewer than 5 times per month (n=23, 85%). The length of time participants had been ordering varied, with most having done so between 1-5 years (n=13, 48%), followed by more than 10 years (n=9, 33%), 6-10 years (n=4, 15%), and less than 1 year (n=1, 4%).

Table 2. Focus Group Participant Descriptives

	Group 1	Group 2	Group 3	Group 4
	n (%)	n (%)	n (%)	n (%)
Total Participants	6(100)	7 (100)	8 (100)	6 (100)
Sex				
Female	6 (100)	5 (71.4)	7 (100)	5 (83.3)
Male	0 (0)	1 (14.3)	0 (0)	1 (16.7)
Rather Not Say	0 (0)	1 (14.3)	1 (12.5)	0 (0)
Age				
20-30yrs	0 (0)	1 (14.3)	1 (12.5)	0 (0)
30-40yrs	2 (33.3)	1 (14.3)	2 (25)	0 (0)
40-50yrs	1 (16.7)	3 (42.9)	0 (0)	5 (83.3)
50-60yrs	3 (50)	2 (28.6)	4 (50)	1 (16.7)
Rather not say	0 (0)	0 (0)	1 (12.5)	0 (0)
How many times per month do you order food for events and meetings at TX State?				
Fewer than 5	5 (83.3)	7 (100)	6 (75)	5 (83.3)
5-10	1 (16.7)	0 (0)	1 (12.5)	1 (16.7)
11-20	0 (0)	0 (0)	1 (12.5)	0 (0)
More than 20	0 (0)	0 (0)	0 (0)	0 (0)
How long have you been responsible for ordering food for events and meetings?				

CONT: Table 2. Focus Group Participant Descriptives

Less than 1 year	0 (0)	1 (14.3)	0 (0)	0 (0)
1-5 yrs	3 (50)	4 (57.1)	3 (37.5)	3 (50)
6-10 yrs	1 (16.7)	0 (0)	1 (12.5)	2 (33.3)
More than 10 yrs	2 (33.3)	2 (28.6)	4 (50)	1 (16.7)
What year did you begin employment at TX State?				
1980-1985	1 (16.7)	0 (0)	0 (0)	0 (0)
1986-1990	1 (16.7)	0 (0)	1 (12.5)	0 (0)
1991-1995	0 (0)	1 (14.3)	1 (12.5)	0 (0)
1996-2000	0 (0)	1 (14.3)	2 (25)	0 (0)
2001-2005	0 (0)	1 (14.3)	0 (0)	1 (16.7)
2006-2010	1 (16.7)	0 (0)	1 (12.5)	3 (50)
2011-2015	3 (50)	2 (28.6)	2 (25)	2 (33.3)
2015-present	0 (0)	2 (28.6)	1 (12.5)	0 (0)

From abridged transcripts, a total of 15 distinct contributing factors regarding why FO-admins order what they do were identified (Table 3).

Table 3. Contributing factors to ordering identified from focus group transcripts.

Themes	Key Comments		
Time	<p>“I'm a faculty member and so anytime I do any kind of food-oriented stuff or special events or meetings that's going to come out of my own time.”</p> <p><i>-Focus Group 1</i></p>	<p>“...it's one more thing in the day that you've got to fill your schedule with, and coordinate and get the money and get what time, how much is it gonna be, and when is it gonna be delivered? All of that and just everything else that you do can be less than optimal time, but you do it.”</p> <p><i>-Focus Group 3</i></p>	<p>“I would say the number one thing is time. We're not always given the time necessary to process something like this without completely halting our desk and just working on that, so I think time for me is the most constrained when it comes to catering.”</p> <p><i>-Focus Group 1</i></p>
Policies	<p>“Well in JCK you have to use Chartwells and you have to and in the student center you can use any approved caterer, and I can't remember how many are on the list but you have to use Chartwells for liquor if you're going to use any sort of alcohol.”</p> <p><i>-Focus Group 2</i></p>	<p>“If we're ordering the food we're also scheduling a venue and venue rules; so like for example Jowers...you cannot have red foods, you have to be conscious...like nothing with spaghetti sauces don't serve red wine if you're going to have an alcoholic, you know bar or whatever at the event so those sometimes get a little confusing...”</p> <p><i>-Focus Group 1</i></p>	<p>“You're limited on options and especially in terms of delivering to campus vs going and picking up...so, there are a lot of places I know that we've looked at that we're like, "Ok, yeah, they're gonna give us a great deal, we want to use them." But then they're not an approved vendor...”</p> <p><i>-Focus Group 3</i></p>

CONT: Table 3. Contributing factors to ordering identified from focus group transcripts.

Paperwork	<p>“I don't like the paperwork that is associated with it, and that it changes all the time.” -Focus Group 4</p>	<p>“The paperwork is so hard from Chartwells.” -Focus Group 3</p>	<p>“I've helped a couple of restaurants get on the approved list. It's brutal - not for them to get approved, everything that the restaurant has to do: the forms they have to fill out and all of the documentation and stuff they have to provide.” -Focus Group 1</p>
Communication	<p>“I'm sure there's people who don't even know about the list. So there's a lot going on probably that's just really under the radar and that's just because we have new people joining us all the time and if you don't order very frequently then you don't really know.” -Focus Group 2</p>	<p>“I need all the facts and it doesn't matter how small the purchase is or how big...I have to have who what when where why and how and everybody's name. I would just say that getting all of that information and in one e-mail the first time, which never happens, is the most helpful verses having to go back and forth back and forth back and forth.” -Focus Group 1</p>	<p>“I just ask the chair what kind of food she would like for a particular event or, with the faculty sometimes I help them with their grants and then they have funds for food. Just give them the final say, and when I know what kind of food... So it does take a little time to get it all coordinated before you even get the paperwork started.” -Focus Group 4</p>
Convenience	<p>“I like it that it's not too expensive, but also that there is not too much work on staff. So I like to go to an event and have a caterer take care of everything so...that I don't have suddenly people who are qualified office staff standing there serving food.” -Focus Group 4</p>	<p>“When you're not doing a catering event it's really all of us that are really going above and beyond to go pick it up if we have to pick it up and get it inside and parking is always an issue.” -Focus Group 1</p>	<p>“Whether or not they can be seen on campus, delivery to campus or not, because then that creates an undue burden in terms of like, "okay, well now we have to use someone from our office to go pick up the food."...So there's just a lot of logistical things that go to even getting the food from the vendor to campus.” -Focus Group 3</p>
Who They Talk To	<p>“Our dean for example always wants those donut things. She knows that the people want their donuts, but she also insists that we have fruit trays and stuff...But I think that's her personal approach.” -Focus Group 3</p>	<p>“I talk to the admin who does the event or then whoever else is organizing the event... I talk with them and now we try to stick [with] what we've ordered in the past, and so I'm just disregarding, as I said, the Chartwells menu and just requesting what we had the previous [time].” -Focus Group 4</p>	<p>“We talk to other departments and ask if they have any recommendations for vendors because they're our programs and their departments are way bigger than ours, and they probably have more experience with crowds.” -Focus Group 2</p>

CONT: Table 3. Contributing factors to ordering identified from focus group transcripts.

Budget	<p>“We would find ourselves ordering from Jason's Deli just because it was inexpensive to order a sandwich tray...But, we would hear the complaints from people like, "Jason's Deli again?" -Focus Group 4</p>	<p>“So where it's like you have so much money to spend but yet they want it to be really nice, presentable, and they want the presentation to be good, but you're very limited in what you can do with the resources you have.” -Focus Group 1</p>	<p>“I don't have like any kind of food budget at all for anything, so every time I want to do an event I actually have to collect money from a number of different departments. So I have to write letters to Deans saying "will you please send me \$50 or \$100 to pay for cookies.” -Focus Group 1</p>
Type of Event	<p>“I've noticed with our donor event, because we do serve it on china there, that's the one event that we do have nicer - we tend to order a lot of vegetables to go with the meat and of course with the side and salad.” -Focus Group 4</p>	<p>“I think it's more presentation. Like say, what type of audience do you have? You're either gonna get fancy food or just common.” -Focus Group 3</p>	<p>“Again it's that my budget for those events are driven by who's there. Let's be honest, that's the way it is. I'm not gonna serve a senator pizza.” -Focus Group 3</p>
Vendor Issues	<p>“A lot of it depends on the business and how accommodating they choose to be. Like you were saying with the salad and having everything on the side, that's my experience with Panera is they're kind of what you order is what you get.” -Focus Group 3</p>	<p>“Well the department actually has to pay a fee to use a vendor. If there's more than 20 people then you have to pay 12.75% that actually goes to Chartwells... We have to pay a fee on top of whatever fees the restaurant has.” -Focus Group 3</p>	<p>“It would be nice if all vendors on their webpage had actually pricing available. Some of them, they say they do catering, and then sometimes you can't even find the catering menu, and I'm sorry - you're out already.” -Focus Group 4</p>
Food Waste	<p>“Yeah it's a huge amount of food waste. When you can't always predict when you do something that involves the public, you don't know who's gonna come and who doesn't, and that can be very frustrating because you order all that food and there's organizations that would love to have that in town, but...” -Focus Group 3</p>	<p>“but even then fruit is so perishable that like it's hard if you put out the food alert and you cut your fruit four hours ago. Like, no one's going to take it at a certain point because it's going to get gross” -Focus Group 1</p>	<p>“If you want to order say healthy foods or fruits in particular or cut vegetables...the problem is you can't save it for another meeting. You can't store it in the closet, you can't buy it in the individual packets...you get it and it's gone, you're not getting all the different kinds of fruits...that would be crazy you would be throwing it out a couple hours after you open it up.” -Focus Group 1</p>

CONT: Table 3. Contributing factors to ordering identified from focus group transcripts.

Feedback	<p>“Too much of the same thing but if I give them something that's way too new and not, they're not used to it, it's very much a negative reaction.” -Focus Group 3</p>	<p>“I feel whenever there's something different or there's variety you tend to get really positive feedback. That's what happened for me a lot.” -Focus Group 1</p>	<p>“I have an assistant and an associate dean who are both vegetarians, so I've learned from them that they really object to vegetarians having just to eat the side dishes, not the main part.” -Focus Group 4</p>
Food Preferences	<p>“I find it most limiting that not all vendors have items that work equally well for gluten free, vegetarian, and vegan...The various menus that are being offered - and whether something is healthy? That right now is so low on the list.” -Focus Group 4</p>	<p>“Another thing too is a lot of our faculty, as they change over the years, there are restrictions, like we now have a lot of gluten free, lactose free, vegetarians. So you have to make sure you order food that will be appropriate for everyone who will be attending.” -Focus Group 4</p>	<p>“We've got quite a few people in the library that have dietary issues and so we try to make sure that we've got something that fits everybody's dietary needs.” -Focus Group 1</p>
Personal Motives	<p>“I tend to get really good service from Chartwells because I used to be a director with them...and we have a relationship so I probably have better service and better food especially in the president's office.” -Focus Group 2</p>	<p>“Or I [just] ate what I liked because someone's providing that and I also know the trouble that someone had to go through to go through to get that all setup, so I'm not gonna be complaining about that.” -Focus Group 3</p>	<p>“I think it's my needs and my expectations are spilling over.” -Focus Group 2</p>
Variety	<p>“There's not a lot of variety. We use Root Cellar for other events in the library. They are very very good, but they are expensive.” -Focus Group 1</p>	<p>“I like to have a variety too, not just all sandwiches and chips. I have some salads, soups, and thing like that.” -Focus Group 3</p>	<p>“For me it would be variety because we have a donor luncheon every year...I don't want them to always expect, "Oh. I'm gonna get BBQ at this meeting again.” -Focus Group 4</p>
Healthfulness	<p>“And talking about nutrition values, actually it's kind of hard to - I mean you have to use your own personal judgment because no menu tells you nutritional values...So that's one thing. It would be nice if that was included, but that information currently is not provided.” -Focus Group 4</p>	<p>“Mine has to be the choice of selection because for here it's not people's restrictions on what they choose, but being in the nutrition wing of it all, I always have...a fruit or vegetable, a salad something to round out the meal. I have to look at my five food groups and make sure that they're there otherwise I'll be reminded when they're not.” -Focus Group 1</p>	<p>“That's where a lot of my restrictions come from are the employees and what they can eat and what they can't eat...accommodating those dietary needs is where [nutrition] comes in because vegetables and a fruit tray will go a long way with people that do have specific dietary needs...I would say that nutrition aspect of it does kind of take a back seat to the dietary needs a little bit.” -Focus Group 3</p>

Description of Food Receipt Data

Figure 2 provides an overview of how the receipts in the data set (spanning from January 1st – December 31st 2016) were organized during the analysis process. Receipts were classified based on their meal type (Breakfast, Lunch, Dinner, or Snack). Of the final data set (n=1047), 378 receipts could not be analyzed for a variety of reasons, including: they lacked detailed food information, the meal type was unidentifiable, they were not readable, they were mostly for food supply items, or the information was not for an employee event/meeting. On the other hand, because a few receipts included entries for more than one meal, they were tallied more than once, as applicable (n=17). The final analysis was conducted on 686 receipts. Of these, 74 (11%) were identified as items for breakfast, 375 (55%) for lunch, 96 (14%) for dinner, and 141 (20%) as items for snacks.

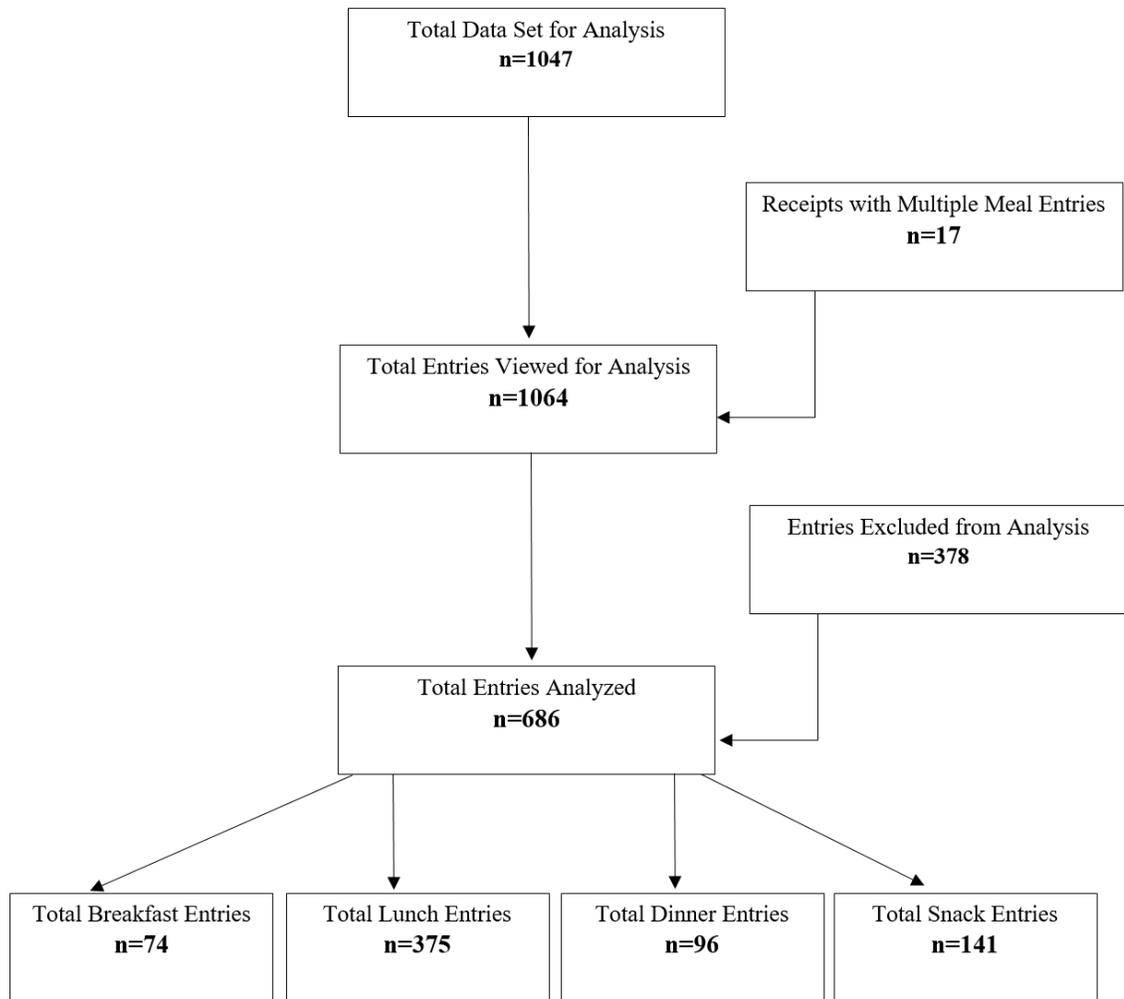


Figure 2. Count of receipts used for analysis.

Table 4 categorizes receipt items by beverages and foods. Beverages offered most often at events/meetings across all meals were non-sugar sweetened beverages (water, coffee, tea, diet soda), and were included in 77% of breakfasts, 49% of lunches, 66% of dinners, and 83% of snacks. Sugar sweetened beverages were also commonly offered among all meals, including 32% of breakfasts, 28% of lunches, 33% of dinners, and 47% of snacks. Fruit juice was offered more commonly at breakfast, whereas alcohol was given predominately at dinner. Milk was rarely offered at events. The most common

desserts were pastries, cakes, cookies/brownies, etc., and were offered at breakfast (78%), lunch (74%), dinner (65%), and snacks (75%); while the lowest were healthy desserts were seldom provided. Various grains were provided most commonly as bagels and breads; breakfast(45%), lunch (33%), dinner (58%), and snacks (31%); and cereals, granola, oatmeal and other whole grains were also provided at breakfast (20%), lunch (21%), and dinner (10%). Eggs and yogurt were offered at less than a third of all breakfast events. Fruit trays were present more often than vegetable trays across all meals. Lunch receipts, which comprised the largest contribution of any group, provided sandwiches at 56% of events. Chicken/Tuna salad and chip sides were also highest in the lunch group at 32% and 56% of events. Meats varied among all groups; dinner (64%), lunch (28%), snacks (23%), and breakfast (12%). Dips/sauces were most often found at dinner (70%), followed by lunch and snacks (35%). Items classified as fried, cheesy, greasy were highest at dinner (72%). Vegetarian options were provided in all the groups approximately half the time. Gluten-free items were rarely offered. Events varied in cost: breakfast (\$501), lunch (\$508), dinner (\$1941), and snacks (\$615). When considered per person, receipts averaged; breakfast (\$11/person), lunch (\$16/person), dinner (\$23/person), and snacks (\$8/person).

Table 4. Description of food receipts. Data organized by meal and foods/beverages provided.

FOOD/BEVERAGE OFFERED	Breakfast		Lunch		Dinner		Snacks		Total	
	n	%	n	%	n	%	n	%	Total	% Total
All Entries	74	10.79	375	54.5	96	14.0	141	20.0	686	100
Beverages										
SSBs	24	32.5	104	28.0	32	33.5	65	47.0	225	33
100% Fruit Juice	7	9.5	0	0	0	0	1	1	9	1.5
Milk	0	0	1	0	1	1	0	0	3	0.5

CONT: Table 4. Description of food receipts. Data organized by meal and foods/beverages provided.

Water, Coffee, Tea, Diet Soda	57	77	183	49	63	65.5	117	83	420	61
Alcohol	1	1.5	2	0.5	14	14.5	11	8	28	4
Desserts										
Healthy Desserts (i.e. unsweetened fruit)	0	0	2	0.5	1	1	0	0	3	.5
Unhealthy Desserts (i.e. pastries, cakes, cookies/brownies, other sweetened or fried desserts)	58	78.5	278	74	62	64.5	106	75	504	73.5
My Plate										
Whole Fruit	53	71.5	106	28.5	22	22	71	50.5	252	37
Vegetables	4	5.5	265	71	68	71	38	27	375	54.5
Whole Grains	6	8	83	22	10	10.5	0	0	99	14.5
Lean Proteins	14	19	301	80.5	59	61.5	23	16.5	397	58
Low-Fat Dairy	4	5.5	0	0	0	0	3	2	7	1
Meal Components										
Bagels, Breads	33	44.5	122	32.5	56	58.5	43	30.50	254	37
Cereals, granola, oatmeal, whole grains	15	20.5	77	20.5	10	10.5	NA	NA	102	15
Eggs: side	8	11	NA	NA	NA	NA	NA	NA	8	1
Yogurt	24	32.5	NA	NA	NA	NA	NA	NA	24	3.5
Vegetable Tray	0	0	7	2	8	8.5	35	25	50	7.5
Fruit Tray	47	63.5	45	12	13	13.5	70	49.5	175	25.5
Dried/Sweetened Fruits	2	3	13	3.5	15	15.5	NA	NA	30	4.5
Fried, Cheesy, Greasy Items	24	32.5	204	54.5	69	72	NA	NA	297	43.5
Sandwiches/Sandwich Tray	15	20.5	211	56.5	11	11.5	NA	NA	237	34.5
Chicken/Tuna Salad	NA	NA	119	32	2	2	NA	NA	121	17.5
Chips: side	NA	NA	210	56	14	14.5	13	9	237	34.5
Soups	NA	NA	16	4.5	0	0	NA	NA	16	2.5
Baked Potato	NA	NA	11	3	0	0	NA	NA	13	2
Pizza	NA	NA	16	4.5	10	10.5	NA	NA	26	4
Tacos	7	9.5	18	5	8	8.5	NA	NA	33	5
Enchiladas, Empanadas, Quesadillas	NA	NA	9	2.5	9	9.5	NA	NA	18	2.5
BBQ	NA	NA	22	6	20	21	NA	NA	42	6

CONT: Table 4. Description of food receipts. Data organized by meal and foods/beverages provided.

Pasta	NA	NA	66	18	17	18	NA	NA	83	12
Meat	9	12	105	28	61	63.5	32	23	207	30
Salad	NA	NA	203	54	40	42	NA	NA	243	35.5
Potato Salad, Cole Slaw, Mashed Potatoes	NA	NA	27	7	20	21	NA	NA	47	7
Dips/Sauces	NA	NA	130	34.5	67	70	49	35	246	36
Nuts/Legumes	NA	NA	49	13	37	38.5	10	7	96	14
Cheese Trays	NA	NA	NA	NA	NA	NA	33	23.5	33	5
Trail Mix, Chex Mix, Popcorn	NA	NA	NA	NA	NA	NA	16	11.5	16	2.5
Vegetarian Option Offered	45	61	206	55	53	55	NA	NA	304	44.5
Gluten-Free Option Offered	0	0	16	4.5	7	7.5	NA	NA	23	3.5
Cost										
Cost of the Event	\$501	NA	\$508	NA	\$1,941	NA	\$615	NA	4	891
Cost of Meal Per Person	\$11	NA	\$16	NA	\$23	NA	\$8	NA	4	\$15

Survey Descriptives

A total of 203 FO-admins agreed to take the Understanding Food Ordering Survey (UFOS). Partially completed surveys were excluded if fewer than 40% of the survey questions were answered (n=65, 32%). The minimum required data for factor analysis was satisfied, and a total of 138 surveys were analyzed. Within 2 weeks after the survey was completed, respondents were invited to take it a second time so that researchers could assess test-retest reliability. A total of 30 FO-admins completed the survey a second time. Descriptive statistics of respondents are included in Table 5. Of the respondents who completed the survey, most were female (82%) between the ages of 23 and 66. With respect to ethnicity, the majority were Caucasian (55%), followed by Hispanic (25%), African American (4%), and Native American (1%). Approximately a

third had completed a postgraduate degree, and a third had an annual household income above \$100,000. Most respondents had been responsible for ordering food for events/meetings for more than 5 years (68%). About half of participants worked in a department with the chair as their supervisor, and half had 5-10 coworkers in their immediate office area. Half of the respondents reported ordering food for events/meetings at least once a week with a typical budget of \$11-\$20 per person. Using a scale from 1-10, with 10 being the highest, 69% of participants chose 5 or higher for how much they enjoyed ordering food for events/meetings. Many participants indicated that they often felt free to order foods for events/meetings based on their own food preferences (34%). Additionally, 34% reported that sometimes, 27% reported often, and 7% reported that always their own food preferences impacted what they ordered for events and meetings. Many participants (45%) were current WellCats members. Many also agreed (44%) and strongly agreed (17%) that their current diet needed improvement. Almost all reported having health-related goals (98%), and over half stated that their health goals either somewhat impact or strongly impact the foods they order.

Table 5. Descriptive characteristics of survey participants (n=138).

DESCRIPTIVE QUESTIONS	% Total
Please select your gender.	
Male	15.1
Female	82.4
I prefer not to reply	2.5
What year were you born?	
1951-1955	13.1
1956-1960	19.4
1961-1965	17.6
1966-1970	11.4
1971-1975	9.6
1976-1980	9.7
1981-1985	10.5
1986-1991	7.9
Ethnicity	

CONT: Table 5. Descriptive characteristics of survey participants (n=138).

Caucasian	55.1
Hispanic/Latino	25.4
Black/African American	4.3
Native American/ Alaska Native	1.4
Asian or Asian American	0
Native Hawaiian or Pacific Islander	0
Something Else	2.9
What is the highest grade or level of school you have finished?	
Finished high school or have GED	15.5
Some college	20.7
Associate's degree	3.4
Bachelor's degree	25.9
Postgraduate	34.5
What is your annual income, meaning all the income from all sources earned last year by family members living in your home?	
\$0-\$19,999	.9
\$20,000-\$39,999	12.6
\$40,000-\$59,999	19.8
\$60,000-\$79,999	9.9
\$80,000-\$99,999	9.9
\$100,000 or more	34.2
I prefer not to answer	12.6
How long have you been employed at Texas State?	
Less than 1 year	4.2
1-5 years	26.1
5-10 years	26.9
10+ years	42.9
Where do you work at Texas State?	
In a Department (Chair is Supervisor)	47.5
In a College (Dean is Supervisor)	17.8
In Upper Administration	11.9
In Facilities	2.5
Other	20.3
How many people work in your immediate office area?	
Less than 5	25.2
5-10	48.9
11-20	14.8
More than 20	11.1
How long have you been responsible for ordering food for events/meetings?	
Less than 1 year	10.9
1-5 yrs	21.2
6-10 yrs	30.7
11-15 yrs	18.2
16-20 yrs	16.1
21+ yrs	2.9
How often do you order food for events/meetings?	
More than once a week	6.6

CONT: Table 5. Descriptive characteristics of survey participants (n=138).

Once a week	43.8
Twice a month	27.7
Once a month	8.8
A few times a year	6.6
Rarely	6.6
What is your typical budget?	
\$10 or less	23.1
\$11-\$20	75.4
\$21-25	1.5
How many pages of paperwork do you complete for an event/meeting?	
1 page	10.4
2 pages	26.9
3 pages	26.9
4 pages	18.7
5 pages	7.5
6 pages	7.5
7 pages	1.5
8 pages	0.7
How often do you use a vendor NOT on the approved vendor list?	
Always	1.5
Very Frequently	12.4
Occasionally	25.5
Rarely	23.4
Never	31.4
I don't know	5.8
On a scale of 1-10, how much do you enjoy ordering food?	
1	9.7
2	7.5
3	7.5
4	6.0
5	21.6
6	11.2
7	15.7
8	12.7
9	3.0
10	5.2
How free do you feel to order foods for events/meetings based on your own food preferences?	
Almost Always	8.9
Often	34.1
Sometimes	31.1
Seldom	17.8
Never	5.9
I don't know	2.2
How often do your own food preferences impact the foods you order for events/meetings?	
Almost Always	7.4

CONT: Table 5. Descriptive characteristics of survey participants (n=138).

Often	26.7
Sometimes	34.1
Seldom	16.3
Never	11.9
I don't know	3.7
Do you currently have health improvement goals?	
Many	14.1
Several	28.9
Some	39.3
A few	15.6
None	2.2
Does this health goal impact the food you order for events/meetings?	
Strongly Impacts	9.9
Somewhat Impacts	42.0
Undecided	11.5
Doesn't Impact Much	20.6
Doesn't Impact At All	15.3
I don't know	0.8
My current diet needs improvement.	
Strongly Agree	17.2
Agree	44.0
Neither Agree nor Disagree	22.4
Disagree	12.7
Strongly Disagree	2.2
I don't know	1.5
Are you a current member of WellCats?	
Yes	45.3
No, but plan to be	12.8
No, and don't plan to be	31.6
No, but I used to attend Total Wellness	10.3

Exploratory Factor Analysis

Survey questions designated for EFA were grouped into an Excel spreadsheet by food ordering factors previously determined by Focus Groups and included (1) general university food ordering policies, (2) what vendors offer, (3) personal values about ordering healthy foods, (4) general feedback from attendees on foods, (5) the influence of coworkers, and (6) the influence of supervisors. A correlation table is shown in Appendix 3.

Principal components analysis (PCA) was used to identify principal components from the survey questions. Initial Eigen values indicated that six components had Eigen values larger than one, among which the first three factors explained 27.5%, 16%, and 12% of the variance, respectively, and the fourth, fifth and sixth factors had Eigen values just over one, each explaining less than 6% of the variance. Solutions that used three, four, five and six factors were explored using varimax and oblimin rotations of the factor loading matrix. Finally, the three-factor solution was favored due to a clear structure with least cross loadings. According to items belonging to each factor, the three factors are labeled as (1) restrictions on ordering, (2) environment, and (3) personal values about ordering healthy foods. Comparing this three-factor solution with the survey questions we originally designed, we can see that the first factor was composed by items designed for general university food ordering policies, what vendors offer, and general feedback from attendees on foods. And the second factor was composed by items originally designed for the influence of coworkers, and the influence of supervisors. The third factor is exactly as designed.

In the three-factor solution, a total of 19 items were retained because they displayed a primary factor loading above 0.3, and no cross-loadings above 0.3. The final PCA was conducted for the remaining 19 items using oblimin rotation, with 3 factors explaining 55.5% of the variance. All items in this analysis had factor loadings above 0.3. The factor loading for the final solution is shown in Table 6. Internal consistency and reliability was also assessed for each scale using Cronbach's alpha. Alphas were high: .838 for restrictions on ordering (10 items), .846 for environment (6 items), and .893 for personal values about ordering healthy foods (3 items). The total 19 item scale also

showed a high Cronbach's alpha of .831. No substantial increases in alphas for any of the measured scales could have been gained by removing additional items.

Table 6. Factor loadings in the three-factor solution with Oblimin rotation.

	Factor 1	Factor 2	Factor 3
To what extent do university policies/red tape affect or restrict the following factors: Allotted Budget	.330		
To what extent do university policies/red tape affect or restrict the following factors: What food can be ordered for the attendees (i.e. students, staff, faculty)	.544		
Rate how challenging each item is when working with vendors. In other words, what makes ordering from vendors difficult? - Not on the approved vendor list	.504		
For the following, how important is it for: - Attendees that the foods accommodate their dietary restrictions (e.g. vegan, gluten-free, vegetarian)?	.677		
For the following, how important is it for: - Attendees that the foods accommodate their food preferences (such as desserts)?	.592		
For the following, how important is it for: - Attendees that the foods be healthy?	.663		
When choosing a vendor for an event/meeting, how important is each of the following? - The vendor has options for those with dietary restrictions (e.g. vegetarian, vegan, gluten-free options)	.829		
When choosing a vendor for an event/meeting, how important is each of the following? - The vendor has healthy options	.870		
When choosing a vendor for an event/meeting, how important is each of the following? - The vendor offers a variety of foods	.811		
When choosing a vendor for an event/meeting, how important is each of the following? - The vendor can deliver on campus	.481		
If you were viewing a menu with the purpose of ordering nutritious foods, how important would you consider the following aspects to be? - Calories of foods listed			.805
If you were viewing a menu with the purpose of ordering nutritious foods, how important would you consider the following aspects to be? - Sodium listed			.950
If you were viewing a menu with the purpose of ordering nutritious foods, how important would you consider the following aspects to be? - Sugar of foods listed			.933
To what extent do you agree with the following about your coworkers? - My coworkers like having healthy food in the office/at events.		-.803	
To what extent do you agree with the following about your coworkers? - My coworkers model a healthy lifestyle.		-.799	

CONT: Table 6. Factor loadings in the three-factor solution with Oblimin rotation.

To what extent do you agree with the following about your coworkers? - My coworkers support me and others being healthy at work (e.g. eating healthy foods and exercising).		-.765	
To what extent do you agree with the following about your supervisor? - My supervisor supports having healthy food in the office/at events.		-.642	
To what extent do you agree with the following about your supervisor? - My supervisor models a healthy lifestyle.		-.617	
To what extent do you agree with the following about your supervisor? - My supervisor supports wellness (i.e. WellCats) of employees at Texas State.		-.771	

Composite scores were generated for each of the 3 factors, as a result of the mean for each item that loaded (primary) on each factor. Higher scores were an indicator of degree of influence on what foods are ordered. Environment was the factor that FO-admins reported being influenced by the most, followed by Restrictions on ordering. Personal values on ordering healthy foods had considerably less influence. Descriptive statistics for each factor are shown in Table 7. Skewness and kurtosis were within acceptable ranges for assuming normal distribution. Additionally, examination of the histograms suggested distributions were normal. Small correlations existed between each of the composite scores: 0.14 between environment and personal; 0.19 between personal and restrictions; and 0.25 between restrictions and environment.

Table 7. Descriptive statistics for the three food ordering determinants (n=138).

	No. of items	M (SD)	Skewness	Kurtosis	Cronbach's Alpha
Restrictions	10	3.72 (.70)	-.651	.926	.838
Personal	3	2.98 (1.17)	.011	-.752	.893
Environment	6	3.93 (.68)	-.939	1.37	.846

Test-Retest Reliability was also conducted using paired samples correlation with a smaller subset of participants who agreed to take the survey twice, n=31. Internal consistency reliability of the second set of test scores was acceptable with a Cronbach's alpha = .767 >.70. Results of test-retest reliability indicated that the correlation between first and second scores was significant $r=.780$, $p<.001$, thus demonstrating consistency of participant responses. Average scores of first and second scores are viewable in Table 8. Paired samples t test indicated no significant differences between the first and second assessment, mean difference=-0.062, with a standard deviation 0.29, $t(30)=-1.18$, $p=.247$.

Table 8. Paired samples statistics among first and second participant surveys.

	N	M (SD)	Standard Error Mean
First Scores	31	3.70 (.42)	.075
Second Scores	31	3.76 (.46)	.082

These analyses indicated that three distinct factors were underlying what influences food ordering and that these factors were internally consistent. A normal distribution suggested that the data was well-suited for parametric statistical analyses.

Confirmatory Factor Analysis

Structure Equation Modeling (SEM) software Onyx (Version 1.0-972) was used to perform a CFA based on the data from 138 FO-Admins. The data came from 19 questions on a Likert-scale survey measuring 3 food ordering factors (restrictions from the environment on ordering, the value on health in the environment, and personal values about ordering healthy foods) as identified in EFA analysis. Figure 3 shows a three-factor model where three latent factors are constructed as suggested by EFA, and the items

originally designed as belonging to the same factor are also connected to explain their designed association. The comparative fit index (CFI) = .921, the Tucker-Lewis fit index (TLI) = .897, and the RMSEA = .074. Those fit indices indicate a good fit between the proposed factor model and the observed data.

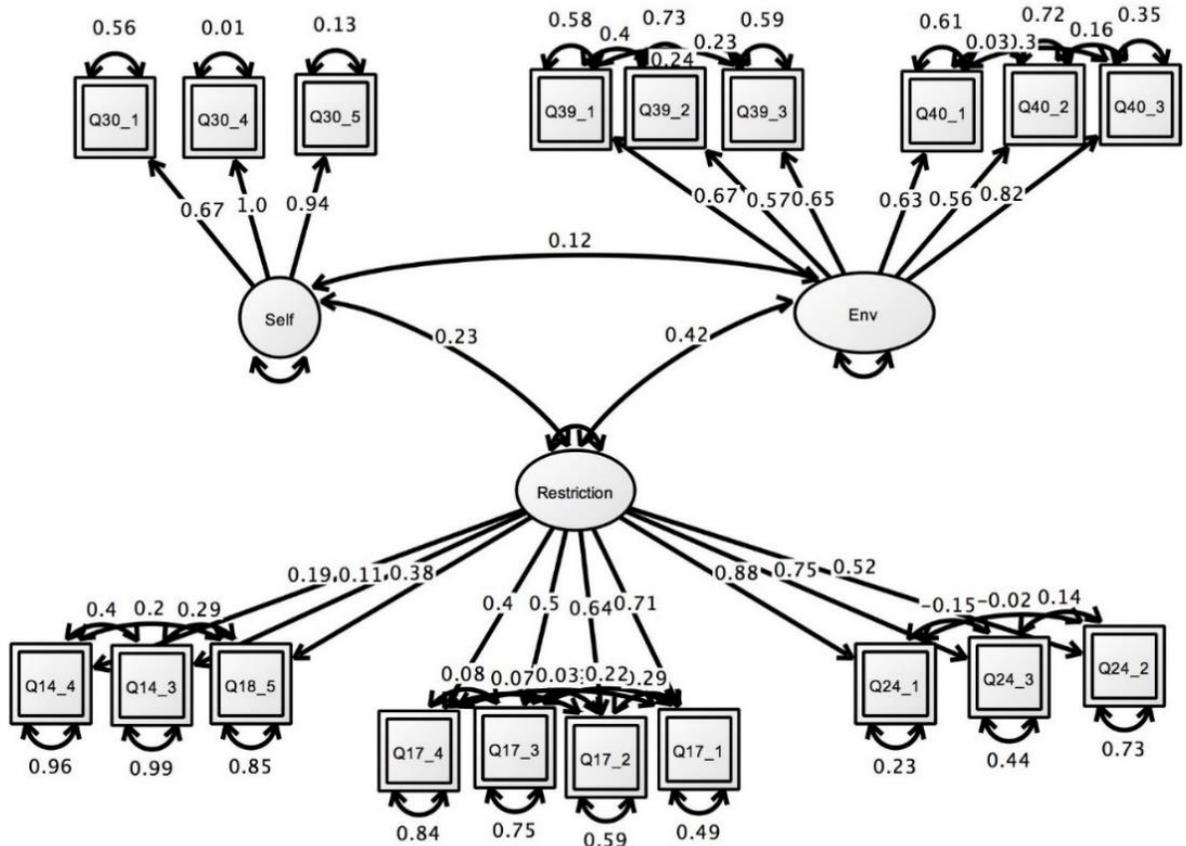


Figure 3. Confirmatory Factor Model for the Food Ordering Survey

Nutrition Knowledge Questionnaire

A previously validated nutrition knowledge questionnaire was also assessed alongside the UFO questionnaire.¹¹⁸ Each domain of knowledge (Familiarity with MyPyramid, Nutrient Content of Foods, and Diet-disease Relationships) was found to have high internal consistency with Cronbach's alpha of .87, .89, and .85, respectively.

The overall internal consistency reliability was 0.95, n=138. Test–retest reliability was conducted in a smaller subset of participants n=31. Internal consistency reliability of the first set of scores and second set of scores was Cronbach’s alpha of .94 and .95, respectively. Results of test-retest reliability indicated that the correlation between first and second scores was significant but low, $r=.534 < .70$, $p=.002$, indicating poor test-retest reliability and low consistency of participant responses. It is reasonable for the nutrition knowledge scale to show low test-retest reliability since the knowledge can be easily changed after the first measure. Average scores of first and second scores are viewable in Table 9. Paired samples t test indicated no significant differences between the first and second assessment, $M=-0.03$, $SD=0.22$, $t(30)=-0.76$, $p=.452$.

Table 9. Paired samples statistics among nutrition knowledge first and second participant surveys.

	N	M (SD)	Standard Error Mean
First Scores	31	0.50 (.21)	.038
Second Scores	31	0.53 (.23)	.042

Composite scores were generated for the complete questionnaire and each of the 3 factors. Higher scores were an indicator of greater degree of nutrition knowledge. The average score for the total questionnaire was 0.50, n=138. My Plate and Diet-Disease Relationships received the highest scores by FO-admins, followed by Nutrient Content of Foods (Table 10).

Table 10. Descriptive statistics for nutrition knowledge (n=138).

	No. of items	M (SD)	Skewness	Kurtosis	Cronbach's Alpha
My Plate	23	0.53 (.22)	-.800	-.043	.875
Nutrient	26	0.47 (.27)	-.542	-.968	.893
Disease	11	0.53 (.33)	-.459	-1.20	.846
Total	60	0.50 (.23)	-.69	-.40	.952

Correlation analysis was conducted to investigate the relationships between nutrition knowledge and food ordering, each of which includes three subscales. Pearson correlation values are presented in Table 11. Correlation was high and significant among nutrition knowledge factors ($r=0.745$, $r=0.576$ and $r=0.643$), $p<.001$, which was to be expected. This result indicated that nutrition knowledge on MyPlate, Nutrients and Disease share a common factor. Correlation was low among food ordering factors ($r=0.140$, $r=0.187$, and $r=0.247$), which was also to be expected because these subscales are factors influencing food ordering, they are not necessarily highly related to each other. Correlation between total nutrition knowledge and environment was significant, $r=.222$, $p<.01$. This result indicates that having more nutrition knowledge is associated with a healthier work environment. It is possible that the interaction between respondents and their coworkers/supervisors, influences the nutrition knowledge they ultimately have.

Table 11. Correlation analysis results of Nutrition Knowledge and Food Ordering Factors

		Total Knowledge	MyPlate	Nutrients	Disease	Total Food Ordering Factors	Self	Environment	Restrictions
Total Knowledge	Pearson Correlation	1	.898**	.945**	.764**	.138	-.043	.222**	.131
	Sig. (2-tailed)		.000	.000	.000	.109	.619	.010	.126
	N	138	138	138	138	137	134	134	137
MyPlate	Pearson Correlation	.898**	1	.745**	.576**	.118	-.005	.145	.091
	Sig. (2-tailed)	.000		.000	.000	.170	.958	.094	.293
	N	138	138	138	138	137	134	134	137
Nutrients	Pearson Correlation	.945**	.745**	1	.643**	.103	-.067	.203*	.104
	Sig. (2-tailed)	.000	.000		.000	.233	.444	.019	.226
	N	138	138	138	138	137	134	134	137
Disease	Pearson Correlation	.764**	.576**	.643**	1	.185*	-.031	.273**	.202*
	Sig. (2-tailed)	.000	.000	.000		.031	.720	.001	.018
	N	138	138	138	138	137	134	134	137
Total Food Ordering Factors	Pearson Correlation	.138	.118	.103	.185*	1	.796**	.580**	.626**
	Sig. (2-tailed)	.109	.170	.233	.031		.000	.000	.000
	N	137	137	137	137	137	134	134	137
Self	Pearson Correlation	-.043	-.005	-.067	-.031	.796**	1	.140	.187*
	Sig. (2-tailed)	.619	.958	.444	.720	.000		.110	.030
	N	134	134	134	134	134	134	132	134
Environment	Pearson Correlation	.222**	.145	.203*	.273**	.580**	.140	1	.247**
	Sig. (2-tailed)	.010	.094	.019	.001	.000	.110		.004
	N	134	134	134	134	134	132	134	134
Restrictions	Pearson Correlation	.131	.091	.104	.202*	.626**	.187*	.247**	1
	Sig. (2-tailed)	.126	.293	.226	.018	.000	.030	.004	
	N	137	137	137	137	137	134	134	137

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

IV. DISCUSSION

Because US employees spend the bulk of their week at work, the foods and beverages they consume at the office can significantly influence the overall composition of their diets. Catered meetings and events in the workplace are unique in that the foods and beverages provided are largely determined by administrative assistants instead of by the individuals attending. While other aspects of the food environment (e.g. cafeteria^{87,90,92-94,119,120}, vending^{81,82,121}) have been studied in the workplace, catered functions have yet to be investigated. Indeed, there are 2 major gaps in the literature: First, no studies have assessed the healthfulness of foods and beverages offered at catered functions, and second, no studies have investigated why administrative assistants order what they do. To our knowledge, this exploratory study was the first of its kind to collect and analyze food records to assess the healthfulness of food and beverages offered at catered functions within a university, and to develop and validate an instrument to identify the factors influencing what administrative assistants order. The method used to classify the healthfulness of foods and beverages organizes them in a fairly simple manner that is aligned with the Dietary Guidelines for Americans.^{117,68} The Dietary Guidelines for Americans, created jointly by the US Department of Health and Human Services and the USDA, provides practical evidence-based guidelines for a healthy eating pattern, and reflects the most comprehensive information from collective nutrition research.⁶⁸ Eating patterns that mirror the Dietary Guidelines for Americans are associated with reduced risk of chronic diseases including cardiovascular disease, type 2 diabetes, some cancers, and obesity. Healthy eating patterns include a variety of foods, are calorically balanced, and instead of including highly processed foods rich in sugar, salt and saturated fat, incorporate the following: a variety of fruits, vegetables (dark

green, red, orange, legumes, and starch), whole grains, low-fat dairy, unsaturated oils, and an assortment of protein foods (seafood, poultry, eggs, nuts, seeds, soy, legumes). Importantly, the Dietary Guidelines for Americans support maintaining a healthy weight by achieving a neutral or negative energy balance^{75,68,122–126} High energy-dense diets, characterized by excessive intake of sugar and fat, and low intake of fruits and vegetables, are associated with elevated BMI and associated comorbidities.^{68,122–126} In a study by Champagne et al., 1,032 participants incorporated different food component strategies for weight loss and weight maintenance.¹²² Substituting carbohydrates for fat, protein for fat, and increasing intake of fruits and vegetables were associated with significant weight reduction and maintenance of a lower weight. Increased consumption of fruits and vegetables contributed to the largest overall change in weight. These findings suggest that overall dietary composition is important contributor to long term energy regulation, weight management, and ultimately health.

Unfortunately, while there were some exceptions, analysis of the receipts revealed that many items commonly served were not healthful. For example, sweetened beverages were included at over one-third of events. Consumption of calories from non-diet soft drinks alone is estimated to be responsible for 15.8% of total energy intake.¹²⁶ Drinking as little as one soda per day has the potential to promote weight gain of up to 15 pounds annually.¹²⁷ With respect to entrées, at least half of the time, food classified as fried, cheesy, and greasy, including items such as pizza, tacos, enchiladas, and BBQ, were available at university functions. Similarly, unhealthy snack options such as chips, were present at over a third of events, including half of all lunches. Finally, desserts were offered at almost 75% of all meals. Taken together, these data indicate that all too often,

meals and snacks were littered with unhealthy foods and beverages, making it too easy for employees to consume extra calories. Regular consumption of high energy dense foods, like many of those offered at Texas State University events, contributes to breaking the caloric bank and promote weight gain.^{75,123,125,126,128}

In order to support a healthier university workforce, reducing the prevalence of high-fat and empty calorie foods and beverages, while including more low energy-dense foods such as fruits, vegetables, whole grains, and lean protein-rich offerings, is essential. Rudimentary alterations in the foods available at work is a valuable initial step that can help to improve diet composition. Simple changes at catered events at Texas State could include eliminating sugary beverages and desserts and replacing side items such as chips with healthier options like fruits and vegetables. A study by Lassen et al. investigated whether changing foods at work affected intakes at five worksites.⁹⁵ In this study, food service managers were trained to improve offerings of fruits and vegetables by enhancing flavor, adding more produce into buffets, and incorporating more produce into prepared dishes. Employee choices were assessed by weighing fruits and vegetable selected. At the conclusion of the study, selection of fruits and vegetables had increased by an average of 0.7 servings per employee compared to baseline. Another study by Backman et al. investigated whether providing additional fruit at work affected intake. In this study, a local fruit delivery company was hired to provide fresh fruit 3 days per week over a period of 12 weeks to the intervention group.⁹⁶ The addition of fruit cost \$2.01 per week per staff member, and each delivery provided one serving of fruit per employee. Food recalls of employees were collected at baseline, week 4, week 8, and week 12. Compared with controls, analysis of the food recalls showed employees in the intervention group

consumed significantly more fruit over the course of the study. Interestingly, per the food recalls, self-reported intake of revealed that the intervention group consumed significantly more vegetables than the controls. To the researchers, this finding indicated that although no additional vegetables were made available in the intervention worksites, increasing access to healthier foods at work resulted in a positive effect on healthier choices overall, even when away from the office. Thus, implementing strategies, such as increasing healthy food availability at worksites, have the potential to improve overall diet composition and healthy food acceptance by employees.^{95,96,122}

While important insights were gained from reviewing food receipts, it was also important to start at the beginning of the food ordering process and investigate the driving factors behind the foods selected by FO-admins. The results of our survey helped to identify a number of pertinent factors that impact what foods are ultimately ordered and included the following:: the value placed on health in the environment via coworkers and supervisors; restrictions such as limiting policies, vendor issues, and feedback from attendees; and the FO-admins' perspectives regarding what constitutes healthfulness of foods and beverages. The fact that coworkers and supervisors was a leading determinant were reflected in the comments of focus group participants. For example, one participant stated: "Our dean, for example, always wants those donut things. She knows that the people want their donuts, but she also insists that we have fruit trays and stuff...but I think that's her personal approach." While to our knowledge there is no literature linking supervisors to food ordering, there is research that can attest to the role that supervisor support plays in the effectiveness of health promotion efforts.¹²⁹⁻¹³¹ In a study by Jenkins et al., researchers administered an open-ended survey to university staff and faculty

(n=2,581) in order to investigate perceptions of the culture for supporting health within a university.¹³¹ An emergent theme gained from the data was the importance of manager support for facilitating healthy behaviors in the workplace. Respondents reported favorable attitudes towards supervisors who encouraged healthy eating habits and exercise, time off for wellness, and staff modeling of health-promoting behaviors. Many respondents also commented that support from their supervisor was an important catalyst in their decision to participate in company-funded health screenings. Hence, supervisor buy-in appears to be an instrumental factor in how employees respond to and perceive the importance of health promotion in the workplace. In the same survey, respondents also reported the positive influence their coworkers who model healthy behaviors have on helping others to be healthy. According to the researchers, supervisors and coworkers who encourage health-promoting habits function as role models for their colleagues, providing social support, motivation, and permission to embrace healthier behaviors. It is possible then that supervisors and coworkers who value, and thus model, healthy eating behaviors could have a similar positive influence on the foods ordered by administrative assistants with whom they work. Therefore, interventions to provide supervisor and coworker nutrition education that emphasizes the value of a collective healthy work environment may be an important component to advancing the success of workplace health promotion and creating a positive wCOH.

Another pertinent factor that affected ordering was restrictions from the environment, including existing university policies, limitations on working with vendors, and feedback from attendees. University policies that restrict the ability of FO-admins to order a greater variety of foods were regularly mentioned in focus groups. Difficulties

most often cited included: the paperwork involved, specific rules around ordering and delivering foods, and budgetary constraints. In regards to paperwork, a focus group participant said, “I don't like the paperwork that is associated with it, and that it changes all the time.” With respect to explicit food ordering rules, a focus group participant commented, “Well, in JCK you have to use Chartwells [the official contracted vendor] and...in the student center you can use any approved caterer, and I can't remember how many are on the list...” Budgetary constraints caused resounding frustration in all focus groups. One focus group participant asserted that, “We would find ourselves ordering from Jason's Deli just because it was inexpensive to order a sandwich tray...But, we would hear the complaints from people like, "Jason's Deli again?"” It is also notable that there are no current policies in place at Texas State University that support the purchase of healthful choices. Previous research on employee wellness suggest that policies do have a significant effect on wellness.^{129,130} For example, numerous studies have demonstrated that strategies to implement positive worksite policies have been effective in improving healthy eating.^{1,132,133} Thus, it is not surprising that the reverse may be true – that failure to establish effective worksite policies supporting healthy eating may contribute to the provision of unhealthy food offerings in the workplace.¹²⁹

Many issues with vendors were described in focus groups and also corroborated by the survey results. Primary issues included: the lack of variety in catering menus, limited number of vendors approved for use by the university, difficulty in finding pertinent information on vendor websites such as the menus, pricing, and nutritional facts, a lack of vendors able to deliver on campus, and poor customer service. One focus group member stated that, “It would be nice if all vendors on their webpage had actually

pricing available. Some of them, they say they do catering, and then sometimes you can't even find the catering menu, and I'm sorry - you're out already.” While to our knowledge, no research has investigated these specific factors associated with vendors, it has been reported that labeling food menus with health information has an impact on the foods ordered. In one study by Roberto, et al. those provided with menus including calorie information consumed on average 250 fewer calories than others given no calorie information.¹³⁴ Thus, working with vendors to encourage them to provide this type of health information on catering menus may be an important contributor to foster selection of healthier foods by FO-admins.

Focus group participants also reported feeling constrained by the feedback they received from attendees at events. For example, one participant commented, “If I give them something that's way too new and...they're not used to it, it's very much a negative reaction.” While to our knowledge, no studies have directly investigated the impact of feedback on food ordering, research has explored the influence of social context on eating behavior.¹³⁵ Studies show that when individuals are with other people, they eat differently than when they are alone, suggesting that conforming to the behavior of others is an adaptive response.¹³⁵⁻¹³⁷ Norms of what constitutes appropriate eating result from the behaviors of other people within a given environment.¹³⁶ Thus, it is reasonable to suggest that FO-admins might also be influenced by the norms and preferences communicated by those they serve. Clearly, strategies and interventions are needed to shift these norms within the worksites. Working with employees through nutrition education interventions could help to reshape their normative behaviors, resulting in a preference for healthier foods.

Finally, FO-admins' perspectives regarding what constitutes the healthfulness of foods and beverages were also an important factor in what foods they ordered for catered events. Many focus group comments corroborate these findings. For example, one participant stated: "I think it's my needs and my expectations are spilling over." In addition, many FO-admins reported that they must rely on their own nutrition knowledge to choose foods. For example, one focus group participant stated the following, "And talking about nutrition values, actually it's kind of hard to - I mean you have to use your own personal judgment because no menu tells you nutritional values...So that's one thing. It would be nice if that was included, but that information currently is not provided." While no studies have investigated the effects of a person's motivations in choosing food for others, research has explored motivations for self-selection. Based on responses to a questionnaire developed by Renner, et al., among respondents, there were 15 factors that contributed to personal eating motivations, including liking, habits, need and hunger, health, convenience, pleasure, traditional eating, natural concerns, sociability, price, visual appeal, weight control, affect regulation, social norms, and social image. Of all factors, liking (has appetite, taste, and enjoyment), habits (is accustomed, food is usual, and is familiar), and need & hunger (provides energy, is filling, and satisfies hunger) received the highest scores. While this has not been investigated, it is possible that an individual's own motivations for eating may also impact the foods they choose when ordering for others. Unfortunately, given that the scores for the nutrition knowledge questionnaire were at around 50%, with lowest scores on questions related to the nutrient content of foods, FO-admins may select unhealthy foods for university catered functions without deliberately intending to. Interventions to address this gap in

nutrition knowledge and encourage healthier eating behaviors may be an important aspect to changing the foods selected by FO-admins.

Limitations

Despite the perspectives gained from our study, our research was not without limitations. Total access to receipt records for data analysis was impossible due to limited availability of full records. Thus, our receipt analysis may not accurately represent the totality of foods ordered for catered events. Additionally, the results of our study are specific to Texas State University. As such, the findings cannot be generalized for other populations and worksites.

Strengths

Despite limited access, this study was the first to analyze catering receipts to assess the healthfulness of foods offered for university functions. Additionally, the questionnaire developed in this study was the first to investigate what factors influence the foods administrative assistants choose to order. Results from the questionnaire offer a valuable perspective on the impact various influencers have on the ordering process, thus providing direct evidence that can be used to inform future targeted interventions.

Implications for Future Research and Interventions

While providing programs for employees to improve nutrition education is important, worksites must also consider the food environment and how it may contribute to employee health. Evaluating the healthfulness of the foods and beverages offered at the worksite and implementing targeted interventions to improve the composition of foods provided can ultimately help to overcome the barriers to healthy eating while at work.⁹⁵ As a result of our research findings, tailored future interventions can directly address

areas needing improvement. Creating food catering guidelines, providing nutrition education tools for FO-admins and supervisors, and crafting targeted efforts to improve the healthfulness of foods at catered functions such as reducing sodas, desserts, and high fat food items, may all be important as part of a multi-component strategy to support making the healthy choice the easy choice in worksite settings. The information garnered from this study can help leadership, worksite wellness managers, health educators, and nutrition experts work together to promote healthy eating behaviors and ultimately, contribute to a more thriving workplace culture of health.

APPENDIX

I. Focus Group Questions

Sample Focus Group Questions: Adult Participation in a Focus Group

Investigation of the food environment at Texas State University: An evaluation of food ordering patterns at employee meetings and events

***The following will be spoken aloud to participants before any questions are asked:*

“Hello! Welcome, and thank you for agreeing to take part in our research study focus group. The purpose of this study is to gather information about the current food environment for events and meetings experienced by employees and to understand the drivers behind why employees who are responsible for ordering choose the foods they do. We are conducting this focus group to help us, as researchers, better understand the food ordering motivations for those in charge of ordering for Texas State University events and meetings.”

Confidentiality

“As a reminder, all information that you provide in today’s Focus Group will be kept private and anonymous. *The information you provide today will in no way affect your employment with the university.* Your name will not be used in any report that is published and the discussion will be kept strictly confidential. We also ask all individuals participating today in the focus group to keep what we talk about private.”

“We will be using a tape recorder today to record answers to questions asked. If you do not want a tape recorder used you may refuse at any time. The tape recorder will only be used to remind staff what participants said and your comments will remain anonymous. All research data will be stored in a locked file cabinet and tapes will be destroyed at the completion of our analysis.”

Payment

“At the end of the focus group we will provide you with a water bottle or lunch box of your choosing as a thank you for participating.”

Ground Rules

1. WE WANT YOU TO DO THE TALKING. We would like everyone to participate. I may call on you if I haven't heard from you in a while so that I can get everyone's feedback.

2. THERE ARE NO RIGHT OR WRONG ANSWERS. Every person's experiences and opinions are important. Speak up whether you agree or disagree. We want to hear a wide range of opinions.

3. WHAT IS SAID IN THIS ROOM STAYS HERE. We want everyone to feel comfortable sharing when sensitive issues come up.

Questions

1. Do you enjoy ordering food for campus events and meetings?
2. What do you like or dislike about ordering food for events and meetings?
3. What are all the factors that you consider when you decide what to order? [leave this open-ended as long as possible]
 - a. Do you feel you are free to order from a vendor of your choice? If no, what impacts the vendors you choose?
 - b. How much control do you feel you have over what foods and beverages you order? Does something in particular impact what you feel you can order? What do you feel most influences what you order?
4. Are there people you talk to about the food you order? If so, who?
5. Do you feel like those you order for have certain food preferences? If so, what preferences do they have?
6. What kind of feedback do you get from those you order for?
7. What about the healthfulness of the foods you order? Do you personally consider the healthfulness of foods when ordering?
8. Is there anything else pertaining to your experience with ordering food for events and meetings that you think we should know?

<p><i>If you have any questions or concerns about your participation in this study, please contact the researchers below. Texas State University School of Family & Consumer Sciences</i></p>	<p><i>For any problems or to learn about research participants' rights, contact Texas State University Institutional Review Board (IRB):</i></p>
<ul style="list-style-type: none"> • Dr. Sylvia Crixell, RD, Professor Phone: 512-245-2155 Email: scrixell@txstate.edu • Lindsey Rambo, Graduate Assistant Phone: 512-565-0671 Email: ldr52@txstate.edu 	<ul style="list-style-type: none"> • Dr. Jon Lasser, IRB Chair Phone: 512-245-3413 Email: lasser@txstate.edu • Ms. Becky Northcut, Director, Research Integrity & Compliance Phone: 512-245-2314 Email: bnorthcut@txstate.edu

II. Complete and Unabridged Survey

Survey questions arranged by Culture of Health organizational elements¹

Food Ordering Survey

Thank you for taking the time to participate in our survey! The survey questions ask about your experiences ordering food for events/meetings that include **faculty and/or staff (not students only)**. Please be patient as this survey will take approximately 25 minutes to complete. We ask that you try to answer all questions if you can; however if you do not wish to answer a question or do not know the answer, select the “I don’t know” option. **As a thank you for participating, you will be prompted at the end of the survey to select your choice of a WellCats t-shirt or water bottle and to enter a drawing for a \$50 Amazon gift card.**

Your responses will remain confidential. Reports on this survey will be generalized and will not mention individuals and no individual data will be shared. As health researchers, we hope that this research will eventually lead to an improved food environment at Texas State.

Completing the survey acknowledges that **your job either currently includes or has included ordering food for events/meetings** for faculty and/or staff.

End of Block

Ordering Demographics

Q2 How long have you been responsible for ordering food for events/meetings at Texas State?

- Less than 1 year (1)
 - 1-5 years (2)
 - 6-10 years (3)
 - 11-15 years (4)
 - 16-20 years (5)
 - 21+ years (6)
-

Q3 How often do you order food for Texas State events/meetings?

- More than once a week (1)
 - Once a week (2)
 - Twice a month (3)
 - Once a month (4)
 - A few times a year (5)
 - Rarely (6)
-

Q4 Do you have experience ordering food for events with the following number of attendees?

	Yes (1)	No (2)	I don't know (3)
> 100 attendees (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
51-100 attendees (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25-50 attendees (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
< 25 attendees (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 Do have experience ordering food for Texas State events/meetings attended

by the following people?

	Yes (1)	No (2)	I don't know (3)
Students (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff (not Faculty) (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administrators (Chairs, Deans) (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Upper Administrators (President, Provost) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 What is your typical budget (in dollars) for events/meetings **per person**?

- \$10 or less (1)
- \$11-\$20 (2)
- \$21-\$25 (3)
- \$26-\$30 (4)
- >\$30 (5)
- Not sure (6)

Q7 Rate how important each of the following is on determining **what** foods you

order for events/meetings.

	Extreme ly importa nt (1)	Very importa nt (2)	Moderate ly important (3)	Somewh at importan t (4)	Not importa nt (5)	I don' t kno w (6)
Number of people attending (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who is attending (staff vs. upper administrators) (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What food attendees/organizers say they want (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relationship with a vendor (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vendor menu variety (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prescribed list of vendors you can order from (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Budget available (per person) (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attendee food restrictions / preferences (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How healthy the food is (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rules specific to event/meeting location (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify) (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8 To what degree do each of the following make ordering foods for

events/meetings **difficult**?

	A great deal (1)	A lot (2)	Some (3)	A little (4)	Not at all (5)	I don't know (6)
Many people are attending (1)	<input type="radio"/>					
A lot of paperwork/forms are required (2)	<input type="radio"/>					
Poor communication from others (e.g. event organizers, supervisor, other departments, etc.) (3)	<input type="radio"/>					
A lot of people are involved in the ordering process (4)	<input type="radio"/>					
Negative relationship with vendor (5)	<input type="radio"/>					
Limited vendor menu options (6)	<input type="radio"/>					
The vendor cannot deliver/cater (7)	<input type="radio"/>					
Limited budget (8)	<input type="radio"/>					
What food attendees/organizers/supervisor say they want (9)	<input type="radio"/>					
Attendee dietary restrictions (10)	<input type="radio"/>					
Trying to provide healthy options (11)	<input type="radio"/>					
Which vendors you can order from (e.g. approved vs. non-approved) (12)	<input type="radio"/>					
Rules specific to event/meeting location (13)	<input type="radio"/>					

Other (please specify) (14)

End of Block

Time/Communication

Q9 Ideally, in order to do a good job and not feel rushed, how much advance notice do you actually need to order food before a typical event/meeting?

- 1 day (1)
- 2 days (2) _____
- 3 days (3)
- 4 days (4)
- 5 days (5)
- 1 week (6)
- 2 weeks (7)
- 3 weeks (8)
- 1 or more months (9)

Q10 In reality, how much advance notice are you actually given to order food before a typical event/meeting?

Q11 If your answers to the previous 2 questions was different, what is going on? What factor(s) contribute(s) most to the difference in your answers?

- Please write your answer: (1)

End of Block

Paperwork

Q2 On average, how many pages of paperwork/number of forms do you have to complete to order food for an event/meeting?

Q13 On average, including yourself, how many people are involved in the paperwork required to order food for an event/meeting?

End of Block

Policy

Q14 To what extent do university policies/red tape impact the following factors involved in food ordering?

	A great deal (1)	A lot (2)	Some (3)	A little (4)	Not at all (5)	I don't know (6)
Requirement/pressure to use Chartwells (1)	<input type="radio"/>					
Being able to use approved or non-approved vendors for events/meetings (2)	<input type="radio"/>					
Allotted budget (3)	<input type="radio"/>					
What food can be ordered for the attendees (i.e. students, staff, faculty) (4)	<input type="radio"/>					
What kinds of food/beverages can be in certain rooms/locations (e.g. red foods - pasta sauce) (5)	<input type="radio"/>					
What kinds of food/beverages can be present at events or meetings (i.e. alcohol) (6)	<input type="radio"/>					
Other (7)	<input type="radio"/>					

Q15 Would the presence of any of the following people at an event change the

way you might normally order for an event/meeting of faculty and/or staff?

	A great deal (1)	A good amount (2)	Somewhat (3)	A little (4)	Not at all (5)	I don't know (6)
Department Chairs/Directors (1)	<input type="radio"/>					
Upper Administrators (Provost, President) (2)	<input type="radio"/>					

Q16 For the people you rated "A great deal" or "A good amount" in the preceding

question, to what extent would the following change?

	A great deal (1)	A good amount (2)	Somewhat (3)	A little (4)	Not at all (5)	I don't know (6)
The quality of the food ordered (1)	<input type="radio"/>					
The total budget available per person (2)	<input type="radio"/>					
The vendor(s) that would be chosen (3)	<input type="radio"/>					
How healthy the foods offered would be (4)	<input type="radio"/>					
The variety of foods that would be offered (5)	<input type="radio"/>					
Other (6)	<input type="radio"/>					

Q17 When choosing a vendor for an event/meeting, how important is each of the following?	Extremely Important (1)	Very Important (2)	Moderately Important (3)	Somewhat Important (4)	Not important (5)	I don't know (6)
The vendor has options for those with dietary restrictions (e.g. vegetarian, vegan, gluten-free options) (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The vendor has healthy options (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The vendor offers a variety of foods (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The vendor can deliver on campus (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The vendor can cater (i.e. set up & tear down) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The vendor doesn't charge extra for catering (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The vendor is on the approved vendor list (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Price: the food is not too expensive (8)

Past experiences with the vendor (9)

The vendor has my favorite foods (10)

Other (11)

Vendor issues

Q18 Rate how challenging each item is when working with vendors. In other

words, what makes ordering from vendors difficult?

	Extremely challenging (1)	Very challenging (2)	Moderately challenging (3)	Somewhat challenging (4)	Not challenging (5)	I don't know (6)
High food cost (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vendor reliability (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vendor customer service (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No catering / delivery offered (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not on the approved vendor list (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Limited menu variety (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No healthy menu options (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No options for dietary restrictions (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (9)



Q19 How often do you use a vendor that is NOT on the approved vendor list?

- Always (1)
- Very frequently (2)
- Occasionally (3)
- Rarely (4)
- Never (5)
- I don't know (6)

Q20 Do you ever use Chartwells when ordering food for events/meetings?

- Yes (1)
- No (2)

Q21 Why do you use Chartwells instead of another vendor?

	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)	I don't know (6)
They are more convenient (1)	<input type="radio"/>					
They are an approved vendor (2)	<input type="radio"/>					
They are cheaper (3)	<input type="radio"/>					
They have the best quality food (4)	<input type="radio"/>					
They are more reliable (5)	<input type="radio"/>					
They have healthy options (6)	<input type="radio"/>					
They can accommodate dietary restrictions (7)	<input type="radio"/>					
They can do everything (deliver, cater, set up, and tear down) (8)	<input type="radio"/>					
Using them requires less paperwork (9)	<input type="radio"/>					

University policy sometimes requires me to use Chartwells (10)

My boss tells me to use Chartwells (11)

I have a good relationship with Chartwells (12)

I have to pay a penalty fee for using another vendor (13)

Other (14)

End of Block

Variety

Q22 Rate how each of the following impacts your <u>ability to offer a variety of foods</u> (including <u>healthy foods</u>) at events/meetings.	A great deal (1)	A lot (2)	Some (3)	A little (4)	Not at all (5)	I don't know (6)
The number of people attending (1)	<input type="radio"/>					
Who is attending (staff vs. upper administrators) (2)	<input type="radio"/>					
Limited vendor menu options (3)	<input type="radio"/>					
The catering menus are different from the regular menu (4)	<input type="radio"/>					
Which vendors you can order from (e.g. approved vs. non-approved) (5)	<input type="radio"/>					
Budget/Cost of food (6)	<input type="radio"/>					
Rules specific to event/meeting location (7)	<input type="radio"/>					
Type of meal being served (ex. breakfast, lunch, dinner, snacks) (8)	<input type="radio"/>					
Attendee dietary restrictions (9)	<input type="radio"/>					

Other (10)

Q23 Rate how often you order the following foods for events/meetings?

	Almost always (1)	Often (2)	Sometimes (3)	Seldom (4)	Never (5)	I don't know (6)
BBQ (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pizza (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salads (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mexican food (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sandwiches/wraps (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetable and fruit trays (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sweets (i.e. donuts, cookies, pastries) (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Breakfast tacos/tacos (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greek/Mediterranean food (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetarian, vegan, or gluten-free options (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block

Food Restrictions / Preferences

Q24 For the following, how important is it for:

	Very important (1)	Important (2)	Moderately important (3)	Slightly important (4)	Not important (5)	I don't know (6)
Attendees that the foods accommodate their <u>dietary restrictions</u> (e.g. vegan, gluten-free, vegetarian)? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attendees that the foods accommodate their <u>food preferences</u> (such as desserts)? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attendees that the foods be <u>healthy</u> ? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You to order food that accommodates <u>dietary restrictions</u> ? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You to order food that accommodates <u>food preferences</u> (such as desserts)? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You to order <u>healthy food</u> ? (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q25 How much more does it cost to accommodate the following?

	A great deal more (1)	Much more (2)	Somewhat more (3)	A little more (4)	Not at all (5)	I don't know (6)
<u>Dietary restrictions</u> (1)	<input type="radio"/>					
<u>Food preferences</u> (e.g. sweets)? (2)	<input type="radio"/>					
<u>Healthy foods?</u> (3)	<input type="radio"/>					

End of Block

Healthfulness

Q26 How **often** do you consider the nutritional quality of the foods you order for events/meetings?

- Almost always (1)
 - Often (2)
 - Sometimes (3)
 - Seldom (4)
 - Never (5)
 - I don't know (6)
-

Q27 Do you ever choose to order mostly packaged foods (e.g. donuts, yogurt in containers, granola bars, bags of items) instead of fresh foods (e.g. fruit/veggie

plate, breakfast tacos) for an event/meeting?

- Yes (1)
 - No (2)
 - I don't know (3)
-

Q28 If you order packaged foods over fresh foods for an event/meeting, what is your reason for doing so?

	Almost always (1)	Often (2)	Sometimes (3)	Seldom (4)	Never (5)	I don't know (6)
It is convenient (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is less expensive (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It will save longer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It will reduce food waste (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is what I prefer to eat (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is what others have requested (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easier to serve (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



<p>Q29 Suppose you wish to order <u>healthful</u> foods for an event/meeting. To what degree would the following factors challenge your ability to do so?</p>	<p>Extremely challenging (1)</p>	<p>Very challenging (2)</p>	<p>Moderately challenging (3)</p>	<p>Somewhat challenging (4)</p>	<p>Not challenging (5)</p>	<p>I don't know (6)</p>
<p>The event location (1)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>The amount of food waste healthier foods generate (2)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Limited healthy options on vendor menus (3)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>The price of healthier foods (4)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Negative feedback when healthy foods are provided (5)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>More planning is required (6)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

University policies (e.g. vendor restrictions, fresh items must be discarded after the event) (7)

Other (8)

Q30 If you were viewing a menu with the purpose of ordering nutritious foods,

how important would you consider the following aspects to be?

	Extremel y importan t (1)	Very importa nt (2)	Moderatel y important (3)	Somewh at important (4)	Not importa nt (5)	I don't kno w (6)
Calories of foods listed (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A "Healthy Choices" list for each restaurant (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetarian/no n-vegetarian items listed (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sodium listed (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sugar of foods listed (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amount of fat in foods listed (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify) (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q31 What is the **likelihood** that people would accept more nutritious food being

offered at events/meetings?

- Very likely (1)
 - Somewhat likely (2)
 - Neutral (3)
 - Somewhat unlikely (4)
 - Very unlikely (5)
 - I don't know (6)
-

Q32 If you could change anything about the ordering process, what would it be?

End of Block

Who Determines What Gets Ordered

Q33 Rate how influential each of the following people are on determining what foods you order for events/meetings. Choose N/A if the group/person does not

apply to your situation.

	Extremel y influential (1)	Very influentia l (2)	Moderatel y influential (3)	Somewha t influential (4)	Not influentia l (5)	N/ A (6)
Students (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Departmen t Chair (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Event Organizer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co- worker(s) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff (non- coworkers) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty (non- coworkers) (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisor (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify) (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q34 With respect to the person(s) who influence what you order, how often do

they request the following?

	Always (1)	Frequently (2)	Sometimes (3)	Seldom (4)	Never (5)	I don't know (6)
BBQ (1)	<input type="radio"/>					
Pizza (2)	<input type="radio"/>					
Salads (3)	<input type="radio"/>					
Mexican food (4)	<input type="radio"/>					
Breakfast tacos (5)	<input type="radio"/>					
Sandwiches/wraps (6)	<input type="radio"/>					
Fruits and vegetables (7)	<input type="radio"/>					
Sweets (e.g. donuts, cookies) (8)	<input type="radio"/>					
Greek/Mediterranean food (9)	<input type="radio"/>					
Vegetarian, vegan, or gluten-free options (10)	<input type="radio"/>					
A specific vendor (11)	<input type="radio"/>					
Other (please specify) (12)	<input type="radio"/>					

End of Block

Feedback

Q35 Do you receive feedback on foods you order for events/meetings?

Yes (1)

No (2)

Q36 Rate how often you receive the following feedback regarding the foods you

order for events/meetings.

	Almost always (1)	Often (2)	Sometimes (3)	Seldom (4)	Never (5)	I don't know (6)
Want fresher items (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Want vegetarian, vegan, gluten-free options (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Would like more local food / local vendors (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Don't like or tired of a certain vendor (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Want more variety (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Want healthier options (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Want more sweet options (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hear positive feedback (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q37 How important is the feedback you receive from attendees at

events/meetings on the foods you order **thereafter**?

- Very important (1)
- Important (2)
- Moderately important (3)
- Slightly important (4)
- Not important (5)
- I don't know (6)

End of Block

Environment

Q38 To what extent do you agree with the following about the university?

	Strongly Agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)	I don't know (6)
I believe that there is enough healthy food at the university. (1)	<input type="radio"/>					
I believe the university cares about the health of its employees. (2)	<input type="radio"/>					

Q39 To what extent do you agree with the following about your supervisor?

	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)	I don't know (6)
My supervisor supports having healthy food in the office/at events. (1)	<input type="radio"/>					
My supervisor models a healthy lifestyle. (2)	<input type="radio"/>					
My supervisor supports wellness (i.e. WellCats) of employees at Texas State. (3)	<input type="radio"/>					

Q40 To what extent do you agree with the following about your coworkers?

	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)	I don't know (6)
My coworkers like having healthy food in the office/at events. (1)	<input type="radio"/>					
My coworkers model a healthy lifestyle. (2)	<input type="radio"/>					
My coworkers support me and others being healthy at work (e.g. eating healthy foods and exercising). (3)	<input type="radio"/>					

Q41 What types of foods do you see most often in your office area?

	Almost always (1)	Often (2)	Sometimes (3)	Seldom (4)	Never (5)	I don't know (6)
Healthful foods (e.g. vegetables, fruits) (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Somewhat healthful foods (e.g . granola, protein/meal replacement bars) (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Somewhat unhealthful foods (e.g pretzels, crackers, baked chips) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unhealthful foods (e.g. cookies, donuts, candy, pastries) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A mix of healthful and unhealthful foods (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q42 How often do your coworkers bring the following types of foods to work?

	Almost always (1)	Often (2)	Sometimes (3)	Seldom (4)	Never (5)	I don't know (6)
Healthful foods (e.g. vegetables, fruits) (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Somewhat healthful foods (e.g. granola, protein/meal replacement bars) (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Somewhat unhealthful foods (e.g. pretzels, crackers, baked chips) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unhealthful foods (e.g. cookies, donuts, pastries, candy) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A mix of healthful and unhealthful foods (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q43 How many people work within your immediate office area?

- Less than 5 (1)
 - 5 - 10 (2)
 - 10 - 20 (3)
 - More than 20 (4)
-

Q44 Are any of your coworkers members of WellCats?

- Yes (1)
- No (2)
- I don't know (3)

End of Block

Personal Opinions

Q45 On a scale of 1-10, how much do you enjoy ordering food? (1=not at all, 10=very much)

Q180 How free do you feel to order foods for events/meeting **based on your own food preferences?**

- Almost always (1)
 - Often (2)
 - Sometimes (3)
 - Seldom (4)
 - Never (5)
 - I don't know (6)
-

Q46 How often do **your own food preferences impact what you order** for

events/meetings?

- Almost always (1)
- Often (2)
- Sometimes (3)
- Seldom (4)
- Never (5)
- I don't know (6)

End of Block

Personal Health

Q47 Do you currently have health improvement goals?

- Many (1)
 - Several (5)
 - Some (2)
 - A few (3)
 - None (4)
-

Q48 What is your primary health goal?

Q49 Does this health goal impact the foods you order for catered

events/meetings?

- Strongly impacts (1)
 - Somewhat impacts (2)
 - Undecided (3)
 - Doesn't impact much (4)
 - Doesn't impact at all (5)
 - I don't know (6)
-

Q50 My current diet needs improvement.

- Strongly agree (1)
 - Agree (2)
 - Neither agree nor disagree (3)
 - Disagree (4)
 - Strongly disagree (5)
 - I don't know (6)
-

Q51 How often do you prefer to eat these foods?

	Daily (1)	A few time per week (2)	A few times per month (3)	Seldom (4)	Never (5)	I don't know (6)
Fruits (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetables (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whole Grains - brown rice, oatmeal, whole grain bread, etc. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Refined Grains and Breads - bagels, white bread, white flour tortillas, etc. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Baked items - cookies, muffins, pastries, etc. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red Meat (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poultry (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fish (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dairy Products (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Cheese (19)	<input type="radio"/>					
Nuts (5)	<input type="radio"/>					
Candy - chocolate, hard candies, etc. (7)	<input type="radio"/>					
Fried Foods (8)	<input type="radio"/>					
Butter (20)	<input type="radio"/>					
Other (9)	<input type="radio"/>					

End of Block

Nutrition Knowledge P1

Q52 The following questions are from a standardized questionnaire regarding nutrition.

Q53 Which one of these is the current government food guide?

- Image:Nutrition knowledge choice 1 (1)
 - Image:Nutrition knowledge choice 2 (2)
 - Image:Nutrition knowledge choice 3 (3)
-

Q54 How well would you say you know the government's food guide, called

MyPlate?

- Never heard of it (1)
 - Heard of, but know very little about it (2)
 - Know some about it (3)
 - Know a lot about it (4)
-

Q55 How much would you say you know about whole grains?

- Never heard of them (1)
 - Heard of, but know very little about them (2)
 - Know some about them (3)
 - Know a lot about them (4)
-

Q56 As far as you know, what are whole grains?

- Grains that still have the bran and germ (1)
 - Milled grains (2)
 - Anything with added fiber (3)
 - Refined flour (4)
 - Not sure (5)
-

Q57 Based on what you know, which of these isn't usually a whole grain?

- Popcorn (1)
 - Oatmeal (2)
 - Flour tortillas (3)
 - Brown rice (4)
 - Not sure (5)
-

Q58 Based on what you know, grains are an important source of...

- Vitamin D (1)
 - Vitamin K (2)
 - B vitamins (3)
 - Vitamin C (4)
 - Not sure (5)
-

Q59 As far as you know, which of these should you look for on a label to tell if a loaf of bread is whole wheat?

- 100% wheat (1)
 - Stone-ground wheat (2)
 - Cracked wheat (3)
 - Whole wheat is first in the ingredient list (4)
 - Not sure (5)
-

Q60 As far as you know, what amount of cooked vegetables is generally

considered a serving?

- 1/4 cup (1)
 - 1/2 cup (2)
 - 1 cup (3)
 - 2 cups (4)
 - Not sure (5)
-

Q61 Based on what you know, what is the amount of vegetables MyPlate (the government's food guide) recommends an adult should eat?

- 1 to 2 cups each day (1)
 - 2 to 3 cups each day (2)
 - 6 to 7 cups each day (3)
 - 5 to 6 cups each week (4)
 - Not sure (5)
-

Q62 Based on what you know, why does MyPlate (the government's food guide) recommend people eat a variety of vegetables?

- To increase protein intake (1)
 - Helps you get all your nutrients (2)
 - It's better for the environment (3)
 - To save money (4)
 - Not sure (5)
-

Q63 Based on what you know, fruit is an important source of which of these

nutrients?

- Protein (1)
 - Vitamin C (2)
 - Calcium (3)
 - Vitamin B12 (4)
 - Not sure (5)
-

Q64 Based on what you know, what type of dairy (milk, cheese, yogurt, etc.) does MyPlate recommend?

- None (1)
 - Whole milk (2)
 - Low fat and fat free (3)
 - A mix of low fat and full fat (4)
 - Not sure (5)
-

Q65 Based on what you know, which of the following are some calcium-rich alternatives to milk?

- Calcium-fortified juice (1)
 - Canned fish with bones (such as sardines) (2)
 - Kale and collard greens (3)
 - All of the above (4)
 - Not sure (5)
-

Q66 Why do you think MyPlate recommends eating low-fat lean meat and

poultry?

- They have more vitamins (1)
 - To keep saturated fat low (2)
 - To save money (3)
 - They have more fiber (4)
 - Not sure (5)
-

Q67 Based on what you know, which of these is a safe way to defrost meat?

- On the kitchen counter (1)
 - In a bowl of hot water (2)
 - In the oven (3)
 - In the refrigerator (4)
 - Not sure (5)
-

Q68 Do you agree that some foods can be high in fat but not cholesterol?

- Agree (1)
 - Disagree (2)
 - Not sure (3)
-

Q69 How would you rate the healthfulness of each of the following types of fat?

	Healthy (1)	Unhealthy (2)	Not sure (3)
Polyunsaturated fat (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monounsaturated fat (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saturated fats (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Omega-3 fats (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Trans</i> fats (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q70 As far as you know, how are oils like olive and canola oil different from solid fats like butter and shortening?

- Oils are usually lower in saturated fat (1)
 - Oils raise LDL (bad) cholesterol (2)
 - Oils are usually higher in saturated fat (3)
 - Oils are always hydrogenated (4)
 - Not sure (5)
-

Q71 As far as you know, which fat do experts say is *most* important for people to eat less of?

- Monounsaturated fat (1)
- Polyunsaturated fat (2)
- Saturated fat (3)
- Trans* fat (4)
- Not sure (5)

Nutrition Knowledge P2

Q72 Do you agree that sunlight helps the body produce vitamin D naturally?

- Agree (1)
 - Disagree (2)
 - Not sure (3)
-

Q73 As far as you know, which of the following has the most calories?

- 1 gram of sugar (1)
 - 1 gram of protein (2)
 - 1 gram of fiber (3)
 - 1 gram of fat (4)
 - Not sure (5)
-

Q74 Do you agree that brown sugar is a healthier choice than white sugar?

- Agree (1)
 - Disagree (2)
 - Not sure (3)
-

Q75 Do you think these are high or low in salt when they are cooked without

added salt?	High (1)	Low (2)	Not sure (3)
Cheese (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pasta without sauce (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red meat (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q76 Do you think these are high or low in fiber?

	High (1)	Low (2)	Not sure (3)
Fish (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Raspberries (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eggs (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red meat (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Broccoli (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Baked potato with skin (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q77 Do you think these foods are high or low in saturated fat when cooked

without adding fat?

	High (1)	Low (2)	Not sure (3)
Fish sticks (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whole milk (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Olive oil (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red meat (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chocolate (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q78 A type of oil which contains mostly monounsaturated fat is...

- Coconut oil (1)
 - Soybean oil (2)
 - Olive oil (3)
 - Palm oil (4)
 - Not sure (5)
-

Q79 Based on what you know, which has more fat per serving?

- Hot dogs (1)
 - Ham (2)
 - They both have the same (3)
 - Not sure (4)
-

Q80 Based on what you know, which has more fat per serving?

- Peanuts (1)
 - Air-popped popcorn (2)
 - They both have the same (3)
 - Not sure (4)
-

Q81 As far as you know, cholesterol is found in...

- Vegetables and vegetable oils (1)
 - Animal products like meat and dairy products (2)
 - All foods that have fat or oil (3)
 - Not sure (4)
-

Q82 As far as you know, if a product is labeled as only containing vegetable oil, it is...

- Low in saturated fat (1)
 - High in saturated fat (2)
 - Could be either high or low in saturated fat (3)
 - Not sure (4)
-

Q83 Would you consider 100 milligrams of sodium to be a low or high amount for one serving of food?

- Low (1)
 - High (2)
 - Not sure (3)
-

Q84 Would you consider 20 grams of fat to be a low or high amount for one serving of food?

- High (1)
 - Low (2)
 - Not sure (3)
-

Q85 Would you consider 5 grams of fiber to be a low or high amount for one serving of food?

- Low (1)
 - High (2)
 - Not sure (3)
-

Q86 Would you consider 10 grams of saturated fat to be a low or high amount for one serving of food?

- Low (1)
- High (2)
- Not sure (3)

End of Block

Nutrition Knowledge P3

Q87 Are you aware of any major diseases that eating enough fruit and vegetables might help prevent?

- Yes (1)
 - No (2)
 - Not sure (3)
-

Q88 If yes, what major diseases does eating enough fruit and vegetables help

prevent? (Separate different answers with a comma)

Q89 Are you aware of any major diseases that eating enough fiber might help prevent?

- Yes (1)
- No (2)
- Not sure (3)

Q90 If yes, what major diseases does eating enough fiber help prevent?

Q91 Are you aware of any major health problems or diseases that are related to how much salt people eat?

- Yes (1)
- No (2)
- Not sure (3)

Q92 If yes, what diseases or health problems do you think are related to salt?

Q93 Do you think these help protect against certain kinds of cancer?

	Yes (1)	No (2)	Not sure (3)
Eating more fiber (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating less salt (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating more red meat (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q94 Do you think these help protect against heart disease?

	Yes (1)	No (2)	Not sure (3)
Eating more fiber (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating more red meat (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q95 Neural tube defects are birth defects of the brain and spinal cord. Can eating any of these vitamins in early pregnancy help prevent these kinds of birth defects?

- Vitamin A (1)
 - Folic acid or folate (2)
 - Vitamin D (3)
 - None of these (4)
 - Not sure (5)
-

Q96 Which of the following statements about exercise and cancer do you agree

with?

- Exercise increases chances of some types of cancer (1)
 - Exercise decreases chances of some types of cancer (2)
 - Exercise makes no difference (3)
 - Not sure (4)
-

Q97 Which of the following statements about calories and weight gain do you agree with?

- Calories from fats are most likely to cause weight gain (1)
 - All calories cause the same weight gain (2)
 - Calories from carbohydrates are most likely to cause weight gain (3)
 - None of these (4)
 - Not sure (5)
-

Q98 Do you follow a special diet, and/or have dietary restrictions? (examples: diabetic, low-sodium, gluten-free, kosher, vegan, lactose-free, etc.)

- Yes - What is it? (1)

 - No (2)
-

Q99 Do you have any health or nutrition-related qualifications, degrees or certifications, etc.?

- Yes - What are they? (1)

- No (2)

End of Block

Personal Demographics

Q100 Where do you work at Texas State?

- In a Department (Chair is supervisor) (1)
 - In a College (Dean is supervisor) (2)
 - In Upper Administration (3)
 - In Facilities (4)
 - Other (please specify) (5)
-

Q101 Please identify your current position at Texas State.

Q102 How long have you been employed at Texas State?

- Less than 1 year (1)
- 1 - 5 years (2)
- 5 - 10 years (3)
- 10+ years (4)

Q103 Which one or more of the following would you say is your background?

- Native American or Alaska Native (1)
 - Asian or Asian American (2)
 - Black/African American (3)
 - Hispanic or Latino (4)
 - Native Hawaiian or other Pacific Islander (5)
 - White/Caucasian (6)
 - Something else - what is it? (7)
-

Q104 What year were your born?

Q105 What is the highest grade or level of school you have finished? (Please choose only one.)

- Less than 8th grade (1)
 - 8th through 11th grade (2)
 - Finished high school or have GED (3)
 - Vocational or technical training (4)
 - Some college (5)
 - Associate's degree (6)
 - Bachelor's degree (7)
 - Postgraduate (8)
-

Q106 What is your annual income, meaning all the income from all sources earned last year by family members living in your home?

- \$0 - \$19,999 (1)
 - \$20,000 - \$39,999 (2)
 - \$40,000 - \$59,999 (3)
 - \$60,000 - \$79,999 (4)
 - \$79,000 - \$99,999 (5)
 - \$100,000 or more (6)
 - I prefer not to answer. (7)
-

Q107 Please select your gender.

- Male (1)
- Female (2)
- I prefer not to reply (3)

Q108 Are you a current member of WellCats?

- Yes (1)
- No, but I used to attend Total Wellness (5)
- No, but plan to be (3)
- No, and don't plan to be (4)

Q109 As a member of WellCats, why did you join? (choose all that apply)

- To jump start my health goals (1)
 - To enhance my nutrition knowledge (2)
 - To take advantage of WellCats exercise classes (3)
 - Because I had coworkers encouraging me (4)
 - Because I had my supervisor encouraging me (5)
 - Other (6) _____
-

Q110 Which programs offered through WellCats have you participated in?

(choose all that apply)

- Cooking classes (1)
 - Exercise classes (2)
 - Lunch & Learn presentations (3)
 - Nutrition consultations (4)
 - None (5)
-

Q111 Would like to receive a WellCats t-shirt or water bottle as a thank you for your participation?

- Yes (1)
 - No (2)
-

Q112 Which gift would you like to receive?

- Image:Wellcats water bottle (1)
 - Image:Wellcats shirt (4)
-

Q113 What size t-shirt would you like?

- Small (1)
 - Medium (2)
 - Large (3)
 - XL (4)
 - XXL (5)
-

Q114 To receive a WellCats t-shirt or water bottle and/or to be entered into our drawing for 1 of 4 \$50 Amazon gift cards, please enter your e-mail address

below.

III. Survey Correlations

Correlations

		Q1 4_3	Q1 4_4	Q1 8_5	Q2 4_1	Q2 4_2	Q2 4_3	Q3 0_1	Q3 0_4	Q3 0_5	Q3 9_1	Q3 9_2	Q3 9_3	Q4 0_1	Q4 0_2	Q4 0_3	Q1 7_1	Q1 7_2	Q1 7_3	Q1 7_4
Q1 4_3	Pe ars on	1	.4 22'	.3 33'	.0 82	.0 25	.0 45	.0 69	.1 68	.2 20'	.0 72	- 03	- 41	.0 22	.1 54	- 0	.1 55	.1 74'	.1 38	.0 84
	Sig . (2- tail ed)		.0 00	.0 00	.3 44	.7 76	.6 07	.4 35	.0 57	.0 12	.4 20	.9 77	.6 51	.8 01	.0 83	.5 79	.0 72	.0 45	.1 09	.3 32
	N	13 5	13 0	13 1	13 4	13 4	13 5	13 2	13 0	13 0	12 8	12 6	12 5	13 1	12 8	12 7	13 5	13 4	13 5	13 4
Q1 4_4	Pe ars on	.4 22'	1	.2 80'	.1 17	.2 05'	.1 64	.0 54	.0 01	.0 62	.0 31	- 37	- 54	.1 01	- 0	- 0	.2 82'	.3 60'	.2 64'	.1 62
	Sig . (2- tail ed)	.0 00		.0 01	.1 82	.0 19	.0 61	.5 44	.9 87	.4 83	.7 30	.6 83	.5 50	.2 57	.8 37	.3 26	.0 01	.0 00	.0 02	.0 65
	N	13 0	13 1	12 8	13 1	13 0	13 1	13 0	12 9	12 9	12 7	12 5	12 3	12 9	12 6	12 5	13 1	13 1	13 1	13 0
Q2 4_1	Pe ars on	.0 82	.1 17	.3 14'	1	.4 51'	.5 00'	.0 36	.2 02'	.2 51'	.2 83'	.2 27'	.2 00'	.2 13'	.2 06'	.3 42'	.6 76'	.4 74'	.3 79'	.3 47'
	Sig . (2- tail ed)	.3 44	.1 82	.0 00		.0 00	.0 00	.6 78	.0 20	.0 04	.0 01	.0 10	.0 24	.0 14	.0 19	.0 00	.0 00	.0 00	.0 00	.0 00
	N	13 4	13 1	13 2	13 6	13 5	13 6	13 4	13 2	13 2	13 0	12 8	12 7	13 3	13 0	12 9	13 5	13 4	13 5	13 4
Q2 4_2	Pe ars on	.0 25	.2 05'	.2 49'	.4 51'	1	.5 36'	.0 10	.0 41	.0 64	.1 73'	.1 26	.0 73	.2 18'	.1 84'	.2 29'	.3 31'	.3 66'	.3 81'	.2 51'
	Sig . (2- tail ed)	.7 76	.0 19	.0 04	.0 00		.0 00	.9 12	.6 43	.4 71	.0 49	.1 57	.4 14	.0 12	.0 37	.0 09	.0 00	.0 00	.0 00	.0 03
	N	13 4	13 0	13 1	13 5	13 6	13 6	13 3	13 1	13 1	12 9	12 7	12 6	13 2	12 9	12 8	13 5	13 4	13 5	13 4
Q2 4_3	Pe ars on	.0 45	.1 64	.3 05'	.5 00'	.5 36'	1	.1 64	.1 80'	.1 45	.2 83'	.2 74'	.1 36	.2 87'	.3 23'	.2 69'	.4 53'	.6 15'	.4 66'	.3 04'
	Sig . (2- tail ed)	.6 07	.0 61	.0 00	.0 00	.0 00		.0 58	.0 39	.0 97	.0 01	.0 02	.1 26	.0 01	.0 00	.0 02	.0 00	.0 00	.0 00	.0 00

	ed)																			
	N	13 5	13 1	13 2	13 6	13 6	13 7	13 4	13 2	13 2	13 0	12 8	12 7	13 3	13 0	12 9	13 6	13 5	13 6	13 5
Q3 0_ 1	Pe ars on	.0 69	.0 54	.0 80	.0 36	.0 10	.1 64	1	.6 63'	.6 16'	.1 56	.0 87	.1 09	.0 97	.0 95	.1 33	.0 70	.0 51	.0 75	.1 50
	Sig . (2- tail ed)	.4 35	.5 44	.3 68	.6 78	.9 12	.0 58		.0 00	.0 00	.0 78	.3 30	.2 26	.2 68	.2 86	.1 37	.4 20	.5 60	.3 89	.0 85
	N	13 2	13 0	13 0	13 4	13 3	13 4	13 4	13 2	13 2	12 9	12 7	12 6	13 1	12 8	12 7	13 3	13 2	13 3	13 2
Q3 0_ 4	Pe ars on	.1 68	.0 01	.1 06	.2 02'	.0 41	.1 80'	.6 63'	1	.9 29'	.0 31	- 16	.0 57	.0 06	.1 02	.1 06	.1 13	.1 15	.0 39	.1 46
	Sig . (2- tail ed)	.0 57	.9 87	.2 33	.0 20	.6 43	.0 39	.0 00		.0 00	.7 26	.8 57	.5 32	.9 49	.2 55	.2 36	.1 99	.1 91	.6 60	.0 97
	N	13 0	12 9	12 8	13 2	13 1	13 2	13 2	13 2	13 2	12 7	12 6	12 4	13 0	12 7	12 6	13 1	13 1	13 1	13 0
Q3 0_ 5	Pe ars on	.2 20'	.0 62	.1 37	.2 51'	.0 64	.1 45	.6 16'	.9 29'	1	.0 45	- 41	.0 89	.0 16	.0 71	.0 52	.0 62	.1 15	.0 56	.1 83'
	Sig . (2- tail ed)	.0 12	.4 83	.1 24	.0 04	.4 71	.0 97	.0 00	.0 00		.6 18	.6 45	.3 23	.8 54	.4 28	.5 64	.0 64	.1 90	.5 28	.0 37
	N	13 0	12 9	12 8	13 2	13 1	13 2	13 2	13 2	13 2	12 7	12 6	12 4	13 0	12 7	12 6	13 1	13 1	13 1	13 0
Q3 9_ 1	Pe ars on	.0 72	.0 31	.1 20	.2 83'	.1 73'	.2 83'	.1 56	.0 31	.0 45	1	.7 40'	.6 26'	.4 51'	.3 19'	.4 69'	.2 59'	.1 09'	.2 09'	.0 24
	Sig . (2- tail ed)	.4 20	.7 30	.1 79	.0 01	.0 49	.0 01	.0 78	.7 26	.6 18		.0 00	.0 00	.0 00	.0 00	.0 00	.0 03	.0 18	.7 85	.3 71
	N	12 8	12 7	12 6	13 0	12 9	13 0	12 9	12 7	12 7	13 0	12 7	12 4	12 9	12 6	12 5	12 9	12 8	12 9	12 8
Q3 9_ 2	Pe ars on	- 03	- 37	.1 17	.2 27'	.1 26	.2 74'	.0 87	- 16	- 41	.7 40'	1	.5 71'	.4 01'	.3 89'	.4 01'	.2 32'	.1 88'	.0 25	.0 83
	Sig . (2- tail ed)	.9 77	.6 83	.1 97	.0 10	.1 57	.0 02	.3 30	.8 57	.6 45	.0 00		.0 00	.0 00	.0 00	.0 00	.0 09	.0 35	.7 83	.3 54
	N	12 6	12 5	12 4	12 8	12 7	12 8	12 7	12 6	12 4	12 4	12 3	12 7	12 6	12 6	12 5	12 6	12 5	12 6	12 5
Q3 9_ 3	Pe ars on	- 41	- 54	- 03	.2 00'	.0 73	.1 36	.1 09	.0 57	.0 89	.6 26'	.5 71'	1	.3 11'	.2 72'	.5 47'	.1 04	.0 21	- 65	- 46
	Sig . (2- tail ed)	.6 51	.5 50	.9 75	.0 24	.4 14	.1 26	.2 26	.5 32	.3 23	.0 00	.0 00		.0 00	.0 02	.0 00	.2 46	.8 14	.4 72	.6 11
	N	12 5	12 3	12 4	12 7	12 6	12 7	12 6	12 4	12 4	12 4	12 3	12 7	12 6	12 6	12 5	12 6	12 5	12 6	12 5
Q4 0_ 1	Pe ars on	.0 22	.1 01	.1 37	.2 13'	.2 18'	.2 87'	.0 97	.0 06	.0 16	.4 51'	.4 01'	.3 11'	1	.6 28'	.5 18'	.1 71	.2 06'	.1 47	.0 58
	Sig . (2- tail ed)	.8 01	.2 57	.1 22	.0 14	.0 12	.0 01	.2 68	.9 49	.8 54	.0 00	.0 00	.0 00		.0 00	.0 00	.0 50	.0 18	.0 93	.5 11
	N	13 1	12 9	12 9	13 3	13 2	13 3	13 1	13 0	13 0	12 9	12 8	12 6	13 3	13 0	12 9	13 2	13 2	13 2	13 1
Q4 0_ 2	Pe ars on	.1 54	- 19	.0 47	.2 06'	.1 84'	.3 23'	.0 95	.1 02	.0 71	.3 19'	.3 89'	.2 72'	.6 28'	1	.5 87'	.2 46'	.2 25'	.1 66	- 28

	Sig . (2-tail ed)	.083	.837	.603	.019	.037	.000	.286	.255	.428	.000	.000	.002	.000	.000	.005	.010	.060	.758
	N	128	126	127	130	129	130	128	127	127	126	126	130	130	129	129	129	129	128
Q40_3	Pe arson	-.050	-.089	.101	.342	.229	.269	.133	.106	.052	.469	.401	.547	.518	.587	.120	.273	.143	.086
	Sig . (2-tail ed)	.579	.326	.256	.000	.009	.002	.137	.236	.564	.000	.000	.000	.000	.000	.013	.050	.108	.333
	N	127	125	127	129	128	129	127	126	126	125	125	125	129	129	128	128	128	128
Q17_1	Pe arson	.155	.282	.295	.676	.331	.453	.070	.113	.162	.259	.232	.104	.171	.246	.220	.148	.773	.512
	Sig . (2-tail ed)	.072	.001	.001	.000	.000	.000	.420	.199	.064	.003	.009	.246	.050	.005	.013	.000	.000	.000
	N	135	131	132	135	135	136	133	131	131	129	127	126	132	129	128	136	135	136
Q17_2	Pe arson	.174	.360	.344	.474	.366	.615	.051	.115	.115	.209	.188	.121	.206	.225	.173	.748	.108	.333
	Sig . (2-tail ed)	.045	.000	.000	.000	.000	.000	.560	.191	.190	.018	.035	.814	.018	.010	.050	.000	.000	.000
	N	134	131	131	134	134	135	132	131	131	128	127	125	132	129	128	135	135	135
Q17_3	Pe arson	.138	.264	.247	.379	.381	.466	.075	.039	.056	-.024	.025	-.065	.147	.166	.143	.573	.708	.175
	Sig . (2-tail ed)	.109	.002	.004	.000	.000	.000	.389	.660	.528	.785	.783	.472	.093	.060	.108	.000	.000	.001
	N	135	131	132	135	135	136	133	131	131	129	127	126	132	129	128	136	135	136
Q17_4	Pe arson	.084	.162	.232	.347	.251	.304	.150	.146	.183	.080	.083	-.046	.058	-.028	.086	.312	.333	.275
	Sig . (2-tail ed)	.332	.065	.008	.000	.003	.000	.085	.097	.037	.371	.354	.611	.511	.758	.333	.000	.000	.001
	N	134	130	132	134	134	135	132	130	130	128	126	125	131	128	128	135	134	135
Q18_5	Pe arson	.333	.280	.1	.314	.249	.305	.080	.106	.137	.120	.117	-.003	.137	.047	.101	.295	.344	.247
	Sig . (2-tail ed)	.000	.001		.000	.004	.000	.368	.233	.124	.179	.197	.975	.122	.603	.256	.001	.000	.004
	N	131	128	132	132	131	132	130	128	128	126	124	124	129	127	132	131	132	132

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