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COMMUNITY SUPPORTED AGRICULTURE VALUES: A COMPARISON ACROSS GROUPS

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COMMUNITY SUPPORTED AGRICULTURE VALUES: A COMPARISON ACROSS
GROUPS

THESIS

A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science in the
College of Agriculture, Food and Environment at the University of Kentucky

By

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2023

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ABSTRACT OF THESIS

COMMUNITY SUPPORTED AGRICULTURE VALUES: A COMPARISON ACROSS GROUPS

Community Supported Agriculture (CSA) programs offer consumers the chance to share the risk with farming operations while gaining access to fresh, local foods. While research on CSA shareholder values such as share affordability or the local impact of participation has been conducted in the past decade and beyond, less attention has been paid to direct value-mapping of the shareholders themselves. This research seeks to determine consumer values around the CSA purchasing decision using the Best-Worst Scaling Approach. Based on a focus group discussion with CSA shareholders in a university wellness voucher program, we used affinity diagramming to develop a list of eleven values. A subsequent survey of 197 University of Kentucky employees registering for the program in 2022 was developed, revealing that for those with CSA experience, the quality of produce and the local impact of their CSA purchasing decision are among the most important attributes, whereas those who chose not to purchase a CSA share most value food affordability. The goal of this research is to open new avenues for CSA administrators to promote CSA programs by targeting priority value clusters and thereby increase the program impact.

KEYWORDS: Community Supported Agriculture, Local Food, Employee Wellness Programs, Best Worst Survey Method, Mixed Logit Model

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Chapter 1: Introduction

1.1 Overview

The average American adult spends close to half of their waking hours at work (Robert Wood Johnson Foundation, 2008). Workplaces influence employee health, not only by the physical environment of the workplace, but also as a setting where healthy activities and behaviors can be promoted. A variety of initiatives have been proposed and used in promoting health, wellness, and engagement in organizations and institutions. Such interventions may focus on continuing education, recreational and team-building activities, or exercise-related incentive programs. Diet interventions as part of employee engagement programs are especially important, but also represent a challenging subset of employee wellness schemes for administrators. These programs, however, offer significant positive food lifestyle changes for participants (Rossi and Woods, 2018). For an American population in which most healthcare costs are diet related (Pollitz and Rae, 2020), interventions for food, diet, and overall lifestyle are critical in reducing health care costs and improving health care outcomes.

One such workplace initiative is offering vouchers for Community Supported Agriculture (CSA) shares as part of a broader program to encourage health and engagement among employees (Rossi et al. 2017). CSA, a model in which consumers purchase a share of fruits and vegetables produced by a local farm before the growing season begins, has a longstanding history of impact on participant health outcomes, regardless of whether that was the initial goal of the consumer or not (Rossi et al. 2017). CSA participation is tied to increases in fruit and vegetable consumption, a decrease in

consumption of food away from home, and increases in interest in food preparation and preservation among shareholders, all of which are associated with better health outcomes.

The goal of the employer, recognizing these benefits, is to encourage greater participation in wellness programs. For CSA programs, this can be a challenge for larger employers when faced with an employee base with heterogeneous values around food lifestyle. Subsequently, administrators of CSA voucher programs are faced with how to best promote these programs considering consumers hold a diverse set of values. What values do consumers have around the decision to purchase a CSA share? To answer this question, we surveyed 197 employees at the University of Kentucky (UK) who claimed a CSA voucher in 2022. The survey, which grew out of affinity diagramming exercises in focus group discussions with UK CSA shareholders themselves, utilized best worst analysis design, based on work by Finn and Louviere (1992) and Lusk and Briggeman (2009). We surveyed both those with CSA experience and those considering CSA, leading to a comparison between the two groups. Our findings indicate a diverse set of values for each group. Those surveyed with no prior CSA experience consider affordability the top consideration when purchasing a CSA share, while those who have prior experience in CSA consider quality produce, nutrition and health, and the local impact of CSA as the most important values. Additionally, we sought to validate our results with a series of behavioral questions which correspond with the best worst section. These results give especially important insights, especially into the affordability concerns of those with no CSA experience

This paper will first give a background on CSA and workplace incentive programs. After reviewing the literature around the benefits and of CSA as well as

employee wellness programs in general, I will describe the methods used to conduct the focus groups and design the subsequent survey, including affinity diagramming and the best worst survey method. Finally, I present data, discuss results, and offer conclusions.

There are multiple goals of pursuing this research. First, health and wellness administrators at workplaces and institutions will be better equipped to understand the heterogeneous values employees have around a potential CSA purchase. Administrators will also better understand the motivating factors for those who choose to participate in CSA, allowing them to recruit new participants more effectively. Finally, by understanding the values of current subscribers, administrators will be better equipped to market the program in a more targeted way, leading to greater retention of participants over time. For policymakers and health promoters, seeing the value differences of CSA subscribers vs. non-subscribers will enable greater insight into promoting CSA. Finally, CSA farmers themselves will be better equipped with this knowledge of consumer values to grow and market their CSA.

1.2 Background on CSA and Workplace Incentive Programs

Demand for local food has increased drastically in the US for almost every market channel that sells food. This includes channels such as independent grocery stores, farmers markets, and even larger food retailers (Tropp and Woods, 2015; USDA, 2022,). Community Supported Agriculture, or CSA, is a direct-to-consumer production and distribution model within the local food system which has seen a wealth of innovations in recent years (Rossi and Woods, 2020). The CSA model is one in which a consumer buys a share, typically of produce, before the growing season begins. The farmer then brings a box of produce to a convenient location for the consumer on a weekly or bi-weekly basis.

Thus, the consumer shares some of the risk of production with the farmer as they agree to receive a share of what is harvested, even though that may mean receiving less when there are weather or other events causing harvest loss. In turn, the consumer has access to fresh, nutritious produce on a regular basis during the growing season.

The origin of the CSA concept can be traced to the mid-1960s in Japan (Van En, 1995). Around that time, homemakers in the area began noticing increasing amounts of farmland being sold and developed, drastic increases in imported food, and the migration of farmers away from rural areas into cities. The homemakers approached a local farm with requests to purchase fresh produce directly from the farm. The farmers agreed, but only if multiple families would commit to support the farm. Thus, a contract was drawn up under the “teikei” concept. Translated literally, teikei means partnership, but the deeper meaning refers to “food with the farmers face on it.” Today, millions of people in Japan participate in arrangements operating under the teikei concept, sharing the harvest of thousands of farmers (Bougherara et al. 2019).

Concurrent with the growth of teikei in Japan was a similar movement in Switzerland in the early 1970s. This Swiss movement consisted of a greater emphasis on the connection between producer and consumer amid increased interest in biodynamic farming. While it took another decade for the CSA concept to take root in the U.S., it has since grown to include multiple variations, including share customization, pay-as-you-go models, and the adaptation of the model to fit many different products such as dairy, meat, and flowers. Today, there are over 7,244 CSA farms in the U.S with over \$225 million in sales (USDA, 2022). Many of these operations offer on-farm education and enrichment to enhance the farmer-customer connection.

Among the recent innovations in CSA is a program at the University of Kentucky (UK). In 2015, the University began a CSA voucher program, in which UK employees on a UK health plan were offered a voucher to apply to the purchase of a CSA share (Rossi, Woods, and Allen, 2017). The shares, ranging from roughly \$300-\$900, are offered in partnership with local farms and the voucher covers \$100-\$200 of the cost of the share, depending on the size of the share. While initially funded by a USDA grant, administrators within UK Health and Wellness saw the immense value of the voucher program and it now has full funding from the University for up to 1,000 \$200 vouchers. By offering the voucher, the University aims to help employees have a healthier diet and have fewer overall healthcare claims in the long-term.

The UK CSA voucher program is especially positioned to attract new, nontraditional shareholders into CSA. The university accomplishes this by promoting the program within a university community in which many are unaware of CSA. Additionally, UK seeks to overcome affordability concerns of potential participants by offering the voucher. Finally, UK brings in partner farms that are equipped to support new participants throughout the course of the CSA season.

This model, while successful in bringing CSA into the workplace, brings multiple challenges to program administrators in recruiting and retaining participants in the program. First, while a voucher helps alleviate affordability concerns, CSA shares still represent a significant up-front cost to the consumer. First-time shareholders are also placed in a new food environment when starting a CSA share and must learn new food preparation and storage techniques while adjusting their diet to consume a larger amount of produce day to day. For the program to grow, administrators rely on peer

recommendation and support and word of mouth. Thus, retaining members year-over-year is vital for program success, especially because it is costly to replace lost participants. These problems, while certainly applicable to wellness administrators, are also key concerns of CSA producers themselves.

Researchers have generated compelling evidence that CSA has numerous benefits for consumers, employers, and farmers. In the following section, I give a review of literature that shows these particular benefit areas. However, for these benefits to be realized, greater audiences must be reached to further CSA membership. While some CSA members join CSAs because of perceived benefits to themselves, their local economy, or their environment, others are more interested in saving money and acquiring fresh produce conveniently. Thus, I review literature related to food and health, as well as studies that focus on understanding values and motivation. This literature informs my broader contribution to understanding CSA consumer behavior and values in the context of subsidized diet-related wellness interventions. As we will see from prior research, the natural question for UK Health and Wellness, workplace wellness program administrators, and CSA farmers themselves is not a question of the benefit of CSA programs, but rather of recruiting, retention, promotion, and messaging for new and existing participants.

Chapter 2: Literature Review

2.1 Challenges for CSA

Existing literature shows that shareholder recruitment and retention are key concerns for CSA farmers (Woods, Ernst, and Tropp, 2017). These concerns are likewise

a key focus of administrators of CSA voucher programs. Consumers face high up-front costs to participate in CSA programs, even with a voucher. Consumers also face a learning curve, as they must learn to prepare and store a large amount of produce. As many consumers do not typically consume as much or as large a variety of produce as is contained in a CSA share, consumers must learn novel food preparation and storage methods quickly if they participate in a CSA. For the UK voucher program specifically, many consumers fall in this category. Thus, a main challenge of a CSA incentive program is overcoming the novelty of the model for the average consumer (Rossi and Woods, 2020).

Another key challenge is retaining the participant in the program from one year to the next. Rossi and Woods (2020) found that experienced CSA shareholders in the voucher program were more satisfied with the program overall, more engaged with program resources, and more likely to recommend CSAs to others. It is therefore of great advantage to CSA voucher program administrators to incentive year-over-year participation as it will enhance the success of the program in these areas (participant satisfaction, engagement, and peer recommendation). Additionally, without effective retention measures in place, CSA programs face significant membership losses which leads to considerable effort in replacing those lost participants (Galt et al. 2018).

The challenge in recruitment for CSA programs arises from the diverse nature of consumer segments in the CSA consumer population. As findings from Pole and Kumar (2015) indicate, those interested in CSA may be primarily interested because of health-related reasons, convenience, cost-savings, a connection to a local farm, or various other reasons. Additionally, consumers may have multiple reasons among these for joining a

CSA. The challenge arises because the messaging required to recruit and retain these diverse groups requires different strategies. For example, the strategy that is most effective to recruit consumers interested in health will be different from the strategy for those interested in cost-savings. Understanding what the segments are, the proportion of consumers in each segment, and the best strategy for each group is vital in recruiting and retaining CSA participants across time. I first discuss the benefits of CSA for farmers and consumers and the health-context of CSA participation before turning back to a discussion of value segmentation.

2.2 CSA Benefits for Farmers and Consumers

The CSA model offers many benefits to farmers/producers. First, CSA may lead to higher returns for products compared to wholesale markets (Allen et al. 2017) and increase the survival rate and economic well-being of producer enterprises (Rossi et al. 2017). While the CSA model does not always translate into dramatic increases in net farm income for farmers, it has potential to allow for greater predictability and consistency from year to year for the farmer (Woods, Ernst, and Tropp, 2017). Second, diverse and resilient horticultural practices typically accompany CSA, leading to both economic competitiveness and ecological resilience at the farm level:

By propagating novel and heirloom varieties of agricultural products, producers may be more competitive by offering a unique item into the market. Additionally, horticultural diversification serves as a form of in situ banking of genetic variations of common produce. As such, local food systems potentially introduce a measure of economic, ecological, and social sustainability into communities. (Rossi, Woods, and Allen, 2017)

Consumers also benefit from the CSA model for diverse reasons. Convenient and reliable access to fresh foods has been a heightened concern of the consumer during the COVID-19 pandemic. Without consistent supply at grocery stores, interest in direct-to-consumer methods has increased substantially (Rossi and Woods, 2020). With supply chain issues still evolving, consumers view reliable access to fresh foods as a primary factor in food-sourcing decisions. Additionally, the impact of CSA participation on the environment has been explored (Rossi et al. 2017). Not only are there benefits at the farm level with diversified and organic production, but the model also seeks to decrease the environmental transportation costs associated with conventional produce distribution.

2.3 CSA and Health

The American consumer faces a diverse set of decisions around food purchases. In a summary of recent literature, Vasquez, et al. (2016) point out that the US food environment is marked by the substitution of fresh food with processed items and a substantial increase in food consumed away from home. These trends are correlated with diet-related health issues such as heart disease, obesity, and diabetes. Compared with the other member countries of the OECD, per capita health care expenditures are increasing much faster in the US (OECD, 2021). In Kentucky specifically, diet-related health care costs are significant. According to the 2020 KFF Employer Benefits Survey, Kentucky has the 4th highest death rate from cardiovascular disease in the US, while 40% of the population is diagnosed with hypertension and 13% is diagnosed with diabetes (Pollitz and Rae, 2020).

According to Mokdad et al. (2018), poor diet quality is a leading cause of excess morbidity and mortality. Their findings show that diet quality is responsible for more

deaths than any other risk factor, and over 10% of all disability-adjusted life years in the US. The US Office for Disease Prevention and Health Promotion (2020) states that diet health is a factor in reducing risk for a myriad of health conditions, including heart disease, high blood pressure, type 2 diabetes, oral disease, and some cancers. Further, they state that there is a direct link between maintaining a healthy weight and avoiding these issues. Their summary of research shows that individuals who are at a healthy weight are less likely to develop chronic disease risk factors such as high blood pressure and dyslipidemia, as well as less likely to develop chronic diseases and experience complications during pregnancy, and less likely to die at an earlier age. Fruit and vegetable consumption is tied to a diverse set of health benefits and, according to the previous source, is a vital part of reducing diseases as part of a healthy diet. The first benefit of fruit and vegetable consumption is the supply of dietary fiber, whose intake is linked to a lower occurrence of cardiovascular disease and obesity (Salvin and Lloyd, 2012). Produce also supplies necessary vitamins and minerals and is a source of antioxidants and other agents that aid in disease prevention.

Despite this, according to the Produce for Better Health Foundation (2021), the average American consumes fruit 5.8 times per week, or less than once per day. Meanwhile, the average American consumes vegetables 7.5 times per week, or about once per day. The total fruit and vegetable consumption gap for adults and children, as of 2017-2018, is 2.5 cup equivalents/day for fruits and 2.3 cup equivalents/day for vegetables. As Berkowitz et al. (2019) point out, despite large advances in health promotion in recent decades, diet quality has not drastically increased, and the disparity is especially large for fruit and vegetable consumption.

Existing literature shows that health outcomes and eating behaviors of those who participate in CSAs are positively impacted, whether this was the original goal of the shareholder or not (Rossi et al. 2017). A survey conducted by The Kentucky Farm Share Coalition, which is a partner in administering the UK CSA voucher program, found that 85% of CSA participants in their program consumed the recommended amount of vegetables. This contrasts with the 5.6% of Kentuckians who do so (KY Farm Share Coalition, 2019). In terms of eating behaviors, a study of first-time participants in a CSA program led to fruit and vegetable consumption increases, on average, by 2.7 servings per day. CSAs place consumers into a different type of food environment, leading to greater access to fresh fruits and vegetables, and typically leading to long-term changes in eating and lifestyle behaviors (Rossi et al. 2017).

CSA, while most often considered for its benefits to farmers and the local economy, has a long track record of improving wellness for shareholders. As Biddle et al. (2021) report, a diet high in vegetables translates to lower risk for cardiovascular disease, and a mere 10% of Americans consume the recommended servings of vegetables per day. Their study compared participants before and after participating in UK's CSA voucher program and found that participation in such a program can effectively reduce blood pressure and increase vegetable intake and self-reported quantity and variety of vegetable consumption, thereby reducing the risk of cardiovascular disease. In a separate survey by Vasquez et al. (2016), participants in three employer-based CSA programs in Minnesota were compared to a non-CSA participant group. Those who participated in CSA reported a significant increase in the number of vegetables consumed in the household and a significant decrease in the frequency of eating out, especially at fast-food restaurants.

Again, CSA participants also reported an increase in the amount and variety of produce consumed.

Results from a randomized controlled trial conducted from 2017-18 by Berkowitz et al. (2019) showed the effect of a subsidized CSA intervention on diet quality for socioeconomically vulnerable individuals. The authors found that metrics for healthy eating and food security over a one-year time horizon were higher among the intervention group (which participated in a CSA) than for those who did not. Similarly, Basu et al. (2020) conducted a study using nationally representative health data and a community-based randomized trial. Their study tested the results of 2 interventions for low-income US persons- an unconditional cash transfer (\$300/year) vs a subsidized CSA share (\$300/year subsidy). While both the cash transfer and the CSA subsidy were important public health interventions for low-income persons in the US, the CSA subsidy provided significant societal savings on health care and decreases in diet-related diseases.

Several studies have identified changes in behavior associated with participation in CSA. In a survey of participants in a CSA program in New York City, Cohen et al. (2012) found a significant increase in CSA participants' fruit and vegetable consumption and food prepared at home. Curtis et al., as previously cited, found that CSA members also became more interested in cooking and canning/preserving, and also noted increases in Vitamin C, Vitamin B, and folic acid availability among participants. Seguin-Fowler et al. (2018) found that cost-offset CSA models paired with nutrition education for food-insecure populations improved household health after even one season of participation. They found that households who participated in CSA increased fruit and vegetable intake and that CSA may even increase food security among low-income participants. Overall,

then, CSA programs typically result in positive food outcomes, lifestyle/behavioral changes, health improvements, decreases in diet-related diseases, and greater food security among participants.

2.4 Employee Wellness and CSA

Employee wellness programs bring a diverse list of benefits for employees and employers. Building on existing literature, Rossi, Woods, and Allen (2017) note that these programs can reduce costs associated with healthcare and worker's compensation claims, help in decreasing employee absenteeism, improve worker satisfaction, and increase worker productivity. Using a critical meta-analysis of existing literature, Baicker et al. (2010) claim that medical costs fall by about \$3.27 for every dollar spent on wellness programs, in addition to the \$2.73 saved in absenteeism costs for every dollar spent on wellness programs. Thus, excitement and momentum for workplace wellness programs has increased in the last two decades. In 2019, 84% of large employers (>200 workers) offering health benefits offered a workplace wellness program (Politz and Rae, 2020).

CSA participation, long tied to health behavior changes and positive health outcomes (Curtis et al. 2015), has become a tool for University and Employee wellness programs. Voucher programs such as the University of Kentucky's grew out of a growing concern for rising insurance costs, an increasing emphasis on wellness in the workplace, and desire to fulfill Corporate Social Responsibility. Work by Rossi and Woods (2018) indicates that when the CSA voucher program was piloted at UK in 2016, every \$1 invested in CSA vouchers generated \$2.47 in savings on diet-related medical expenses for employees who started the program in a poorer place of health.

Positive health outcomes have been evident for participants in the UK CSA program, especially for those who were of the highest risk when entering the program (Rossi, Woods, and Allen, 2017). Additionally, positive food behavior and lifestyle changes were observed for participants. Data from Curtis et al. (2015) found that in general, CSA participation tends toward shifting participant dietary intake and food preparation toward consuming more fresh produce while decreasing grain intake and food consumed away from home.

2.5 CSA and Value Segmentation

As Muro-Rodriguez et al. (2021) point out, the traditional study of food values depended on the assumption that consumers make food purchasing decisions based on the attributes they desire of the food product itself. Naturally, then, the first research into food purchasing behavior focused on specific food attributes, especially those that could be measured and quantified. Lusk and Briggeman (2009) were among the first to propose another perspective in this area: a food values scale to aid in understanding personal food preferences. This notion has direct implications for CSA farmers, promoters, and voucher program administrators, who want to understand what current or potential shareholders think about their CSA or CSA program. The bottom line for understanding food values for such stakeholders is participant satisfaction and loyalty. Additionally, when satisfaction and loyalty are present, the likelihood of repeat participation and shareholders recommending the program to others increases dramatically (Gomez-Canto et al. 2018).

The bigger picture around food values was aptly framed by Lusk and Briggeman (2009). Their work utilized best worst scaling, a subset of paired comparison, as introduced by Finn and Louviere (1992), and found that safety, nutrition, taste, and price

were among the most important food values to consumers, while the values of fairness, tradition, and origin were among the least important. They noted, however, significant heterogeneity in the importance placed on food values. Their research helps identify the subjective nature of food choice, while also identifying the major categories present in food decisions.

Brangule-Vlagsma et al. (2002) state that value systems are central to understanding consumer behavior and are an important basis for market segmentation. They posit that values help to explain consumer behavior because they play a central role in consumers' cognitive structures and, importantly, values are relatively stable over time. More recent research has shown that food values are quite stable over time. Work by Ellison and Opecek (2021) shows that while the Covid-19 pandemic has caused substantial changes in food acquisition and purchasing behaviors, the underlying food values driving those purchases have remained largely the same.

Some preliminary consumer behavior research has been conducted surrounding CSA values. Cooley and Lass (1996) surveyed Massachusetts CSA participants (N=192) on their motivations for joining a CSA. The most important reasons were quality of produce, support for local farming, and environmental/food safety concerns. O'Hara and Stagl (2001) detail the results of a survey in upstate New York involving 74 CSA participants. Respondents were tasked with ranking their main reasons for joining a CSA; the top eight motivations (ranked as very important or important) were: getting fresh vegetables, getting organically grown vegetables, wanting to be supportive of local farms, concern for the environment, wanting to reduce packaging, knowing where food comes from, and doing something for health. Other motivations such as 'sharing the risk with

farmers' and 'a stronger sense of community' ranked significantly lower (as either merely "important" or as "indifferent"). This lines up with more recent work from Vasquez (2016), whose findings indicated that the main reason CSA members reported for participating in the program was access to fresh food. Interestingly, participants in CSA, when compared to a control group, are more concerned about pesticides, have a higher preference for personal interaction when buying food products, consider themselves more politically active (O'Hara and Stagl, 2001). Additionally, those who participate in local food systems typically have higher expectations for product quality (in attributes such as freshness, taste, and safety), and place a high value on supporting local producers (Bougherara et al. 2019).

Findings from Pole and Kumar (2015) from a survey of CSA participants in New York State indicate that there are various motivations for joining a CSA, and that CSA participants are not a homogeneous group. The authors separated CSA participants into four subgroups based on motivations to join. The four primary motivations were a desire to build a sense of community, desire for local/organic produce, desire for seasonal/fresh produce, and price sensitivity/convenience. The first group (No Frills) most highly valued seasonal/fresh produce, the second (Foodie) valued local/organic produce in addition to freshness, the third group did not score highly in any category and was thus dubbed the "Nonchalant Member," and the final group (Quintessential) scored high on all categories. Brehm and Eisenhauer (2008) also indicated the diverse nature of CSA participant motivation. Their findings suggest that concerns over quality of the food and how the food is grown are the most common motivating factors for CSA participation, but community-based concerns are also significant.

At a more basic level, the methods described by Connors et al. (2001) illustrate that five individual food values of taste, health, cost, time, and social relationships drive personal choice in foods. Other less prominent values of symbolism, ethics, variety, safety, waste, and quality also play into individual food choices, which are shaped by life experiences over time.

2.6 Changes in Consumer Attitudes toward CSA

It is worth noting that, as Tropp and Woods (2015) point out, the CSA model had continued to evolve over time with digital business tools and engagement with different customer groups. The traditional model, which employed single share purchases before the growing season began with the aim of helping farmers with cash flow and with risk-sharing, is less flexible for some customer groups. Almost half of CSAs surveyed by Tropp and Woods indicated that the use of installment payments was increasing for their CSA. Additionally, over half reported using part-season or special shares. Finally, communication with shareholders was noted to be increasing by most farm managers, especially through social media and email, which shows the increasing requirement of relationship-intensive management of CSA operations.

Chapter 3: Methods

Based on this review of literature, it is evident that multiple groups among the CSA community depend on an accurate understanding of CSA consumer segments to recruit and retain participants. To better understand these values, we first determined to have focus group discussions with shareholders themselves. This allowed for a more direct, open-ended discovery of values that reflect the mind of consumers involved in

CSA. Next, we developed a survey based on the focus group discussions, which allows for more generalized results in hopes that our research will be useful to health and wellness programs, CSA administrators, and CSA farmers themselves. The research in focus groups and the subsequent survey were approved under UKY IRB #77627.

3.1 Affinity Diagramming

A key starting point to exploring ranking and heterogeneity of values related to CSA is to identify the range of possible values to consider in the first place. We explored this through a series of qualitative interactions with participants (employees) in the UK CSA voucher program. We arrived at the affinity diagramming method for our focus groups in working with Dr. Lauren Cagle, a UK professor of Writing, Rhetoric, and Digital Studies. This method, commonly used in website interface design, is a group brainstorming exercise in which participants organize related facts into distinct clusters (Harboe and Huang; 2015, Judge et al. 2008; Lucero, 2015). In website design, this ultimately leads to a user experience in which like categories are grouped appropriately on a website or interface. Affinity diagramming offers a way to help focus group participants organize ideas into categories based on similarities (Shafer et al. 2005). This exercise, by having participants identify patterns and establish related qualitative groups, leads participants to create distinct value sets around a given category.

Two focus groups were conducted at the University of Kentucky to determine general values from CSA shareholders. On August 4th, 2022, the first group (first-time shareholders) convened for a 90-minute session. The session was held on campus and consisted of 6 UK employees who were in their first year of participating in the UK CSA program. The second focus group (experienced shareholders) was conducted on August

5th, 2022. The 10 employees that participated in that session had been in the program 2 years or more, and many had been with the program since its inception in 2015.

We chose to survey these two distinct groups to determine what differences could be found among the groups and to aid CSA administrators in promotion and retention. As previously cited, literature indicates that retaining first-time shareholders in CSA programs is vital for program success. Thus, knowing the values of first-time shareholders allows CSA program administrators to better retain first-time participants as well as recruit new participants into the program. Knowing what changes have occurred in the attitudes of long-term CSA shareholders allows CSA program administrators to be more effective in retaining shareholders and improving the program.

3.2 General Findings from Focus Group Sessions

The beginning exercise of the focus groups was to discuss how the participants heard about the program. For those new to CSA, University Health and Wellness emails and word-of-mouth from previous participants/co-workers were the most common ways the participants initially heard about the program. For those with more CSA experience, 4 out of 10 participants said that email was the method they first heard about the program. Some of the participants indicated that they were familiar with CSA model before deciding to participate, but that was not always the case. Knowledge of the CSA model varied widely, with some participants speaking in language of “the farm I support,” with others not even being aware of which farm they receive produce from. The participants in the first-time group stressed the importance of figuring out how to manage the amount of produce common in a CSA share. All the participants mentioned utilizing the UK CSA Facebook page to understand how to do this. Additionally, they mentioned the UK Health

and Wellness CSA newsletter, other social media, and communication from the individual farm as resources for how to utilize the produce in the CSA share. Almost all participants indicated that participating in CSA has changed their eating and shopping habits and that they eat more produce when compared to when not receiving a CSA share.

The second exercise consisted of an affinity diagramming exercise designed to help determine participant values. For our purposes, the affinity diagramming exercise served to help us understand what values the CSA voucher program participants have in relation to their CSA share and how they would group those values into larger categories. The opening question of the exercise instructed the participants to think about what they value about their CSA share. Then, the participants wrote down each of these values individually on a separate sticky note. The participants were allowed to write down as many values as they could recall. Once each participant had several values in hand, the group part of the exercise commenced. For this portion, 8-10 large sheets were taped to the walls on each side of the room. The participants were split into two groups and instructed to place their value notes on the separate sheets. Once all the values were placed, the participants, together as a group, were told to organize the value notes into like categories, with each category having its own separate sheet.

3.3 CSA Values: New CSA Participants

Overall, the main value categories generated by new CSA participants during the first focus group were variety of produce, quality of produce, and convenience/choice. These are discussed below, along with ideas participants had in emphasizing these values in recruitment and retention.

Variety of Produce included things like:

- Trying new recipes,
- Experiencing new foods
- Variety of foods
- Not “shopping” for produce but eating what is in season

For recruiting and retention, variety of produce was discussed by participants as a strong attribute for both recruiting new participants and retaining them. Most participants said that this was not a strong attribute that attracted them to the UK CSA Voucher Program, but it was a key factor in their decision to sign up for the program for a second year.

For promotion, the attribute of variety of produce could be utilized through Facebook and other social media in the area of recipe sharing. Participants stressed that video demos of recipes are important for those starting to receive a CSA share. Additionally, education plays a large role, with participants calling for an explanation/timeline of what to expect over the course of the season. Related to this is the burden of the CSA farmer/program to adjust expectations, talk about the seasonality of share- mainly, what the share looks like changes from May-July, etc. Finally, within this category, participants stressed the importance of CSA program administrators and farmers to break the stereotypes of what CSA share/experience looks like and perhaps even show a “day in the life” of a CSA participant for those considering CSA or just getting started.

The second value was the **quality of produce**. Values listed here were:

- Access to organic produce

- Consistent quality of produce
- Produce that is hand-picked the day of pickup

For recruiting and retention this was not as important an initial factor in deciding to join CSA program according to focus group participants, but it is a very important piece in retention/keeping the participant interested in coming back. For promotion, some ideas that the participants had in this category were to have potential members to try produce from a CSA farm to be able to see the quality difference of the produce for themselves. They also mentioned that there needs to be communication that conveys to potential participants that the produce may not look better, but it almost always tastes better than what can be bought at the grocery store. More ideas in this category were that UK Employees are interested in the CSA Voucher program but want to see a “guinea pig” in their sphere who will vouch for the program. For marketing, the program should be pitched to people who enjoy cooking, participants said. Quality of produce may not be the ultimate incentive for employees to sign up for the program (that is likely the cost savings for these participants), but it is a key driver of retention.

The third category was the **convenience/choice** afforded by being part of a CSA. This included things like:

- Ease of pick-up
- Share size choices
- The option to avoid the farmers market if so desired
- Ease of sign-up
- Pick-up location convenience
- Ability to visit with the farmer at pick-up

For recruiting and retention, participants said this represents a very strong potential driver in attracting new participants and in retention. For promotion, participants mentioned several ways convenience can be emphasized. First, respondents mentioned that having a “day in the life” in print or video form could show the convenience and advantages of CSA participation. Second, participants mentioned the importance of social media in promoting what is going on at the farm. They emphasized that the convenience aspect of CSA membership may not be the initial driver of participation, but it is key in retaining participants.

3.4 CSA Values: Experienced CSA Participants

Group 2, which consisted of participants who have been a part of the UK CSA Voucher program for two years, were taken through the same affinity diagramming exercise described above. The values highlighted by this group were learning, engagement, and experience, supporting local food, affordability/value, and health.

Learning, engagement, and experience broke down into three subcategories:

Learning included:

- Variety of produce
- The opportunity to try new foods
- Surprise at the new types of produce offered in a CSA share
- Learning how to use different foods
- Trying new vegetables/recipes

Engagement included the family experience, access to the farm, and community.

Experience highlighted the overall lifestyle change brought about by participating in CSA.

For promotion, participants said that it is important for participants to meet farmers for this community aspect to be more at the forefront. They mentioned that it would be extremely helpful in retention if a Fall and Winter Share would be possible. They believed it would help in retaining participants and giving a fuller sense of community and variety of foods year-round. For recruiting and retention in this category, participants in the experienced group noted that it is easier to attract those who are already concerned about healthy eating/already in a healthier community to participate in CSA. They noted that this category is strong in retaining participants, when they see the variety of new foods and the value of the community aspect of participating in a CSA.

The second category, **supporting local food**, consisted of values like:

- Eating local foods
- Eating organic
- Supporting local agriculture and the local economy
- Ethical sourcing of food
- Connection to food

For promotion and retention, this value could be highlighted in multiple ways. First, CSA can be emphasized as a method that is truly “local” in terms of impact. By supporting a farmer in the local community, the participant can know that they are supporting food that is grown close by and feel more of a connection to the food they consume. Second, it is important to emphasize the impact on the local economy. Each farm supports multiple jobs and has an impact on other local businesses.

For the third category, **affordability**, participants emphasized that the CSA voucher program allowed them access to produce at a lower cost than the grocery store, especially

for organic produce. They stressed that a CSA share is accessible through the voucher program, and that the voucher program has a long history of successfully delivering value. This cannot be overemphasized is promotion and retention. A large hurdle for many considering CSA is that it is not affordable. Every long-term participant, however, emphasized that CSA participation has made getting fresh, organic produce more affordable for them and their families.

Finally, the group talked about the **health** benefits of CSA participation. This included:

- Changed eating habits
- Exposure to new foods
- Help in achieving wellness goals
- A change in overall lifestyle

This value is also vital for administrators in promoting CSA. While it may be difficult for potential participants to see the health benefits of joining a CSA, all experienced participants pointed to CSA's ability to change diet and overall lifestyle in terms of health.

3.5 General observations from Focus Groups 1 & 2

In terms of general observations from the two focus groups, we noticed the following differences between the first and second group. First-timers had the new-to-CSA experience fresh in their mind and had more specific feedback on how to promote the program. The Experienced group had more of a vision for big-picture, systemic changes to the CSA model, along with some specific feedback. Both groups came up

with similar suggestions in terms of **variety, affordability, health, and community**. The first group seemed to be more price-sensitive (emphasis on value), while the second group seemed to place more of an emphasis on farm impact/community aspects and placed a heavy emphasis on improving access to the program. Finally, for most participants, there were several values driving them to continue to participate in the program, not just one single value.

Chapter 4: Best Worst Scaling Method

In focus groups, interaction and collaboration between participants often stimulates deeper insights into issues than a survey. Still, surveys provide the ability to poll more people and give more generalized results. Our focus-group design and subsequent survey was conducted to draw out the values from the shareholder directly and prove useful to health and wellness programs, CSA administrators, and CSA farmers themselves. Table 1 includes the 11 CSA food values identified for this survey based on our work in the two focus groups and the affinity diagramming. The values were selected based on discussions in the focus groups from the shareholders themselves, and reflect the attributes brought up the most by respondents in the two sessions.

To determine the relative importance that CSA consumers place on these values, we designed a Best-Worst Scaling (BWS) experiment (Louviere, et al. 2015). The BWS method, originally introduced by Finn and Louviere (1992) has been further built upon in recent years. This method has gained popularity in diverse areas such as health care (Mühlbacher et al. 2016), ethics (Guerrini et al. 2021), and business marketing research (Parvin et al. 2016). Results from these studies suggest that the best-worst approach tends toward a better measure of respondent values than other frequently used rating

approaches (Lusk and Briggeman, 2009) because it forces choice and ranking between options.

Best Worst Scaling is an extension of paired comparison, a survey method in which two objects are presented to the subject and the subject then must decide which object possesses more of a specified attribute (Louviere, et al. 2015). In BWS, a set of choices are presented, rather than just two objects. The subject then chooses which object is “best” or “worst,” or in our case, “most important” or “least important” among the objects. As Lusk and Briggeman (2009) point out, BWS avoids many rating scale issues, not least of which is that respondents are forced to make trade-offs between values and thus cannot simply rank all values as “most important.” Additionally, with traditional rating scales, different respondents have their own personal view of what the scale represents, with a “3” on the scale for one respondent corresponding with another respondent’s “4” for the same question. BWS, by forcing people to choose the best and worst options, avoids this issue. Respondents must choose which issues are more or less important, and unlike rating scales, there is only one way for respondents to interact with the question, by making a definite choice.

BWS, these authors point out, is also a way to measure subjective quantities with known measurement properties that can be readily interpreted and applied. BWS provides much more information, state Lusk and Briggeman, than paired comparisons. For our use, BWS made the most sense for multiple reasons. First, BWS allowed us to ask questions about multiple values brought up during the focus group discussions while maintaining simplicity of questioning. BWS advocates point out that humans are more likely to accurately answer questions around the extremes than items in the middle. BWS

ensures that the respondent cannot merely rate everything as “most important.” It forces a choice among alternatives in which some respondents see all choices as valid.

BWS has some limitations as a method. In practicality, BWS surveys are generally longer for the participant to take than other methods as multiple sets of choices must be presented. This can lead to survey fatigue. Secondly, BWS does not use an absolute measure, but rather measures respondents’ preferences based on how attributes are presented in relation to each other. Finally, BWS must be carefully constructed to include the most important attributes, as respondents are limited to those choices.

Ideally, for BWS, the attributes presented should be mutually exclusive and independent. In reality, however, the lines between attributes tend to be closer together in terms of their definition and how the respondent perceives them. The line between two values may seem distinct to the survey writer but be less distinct to the survey respondent. Thus, it is important for survey writers to use precise attribute terms and definitions. Additionally, Campbell and Erdem (2015) note that the physical position of items in a Best Worst survey is important. In their research, over half of respondents used the position of the item in the list as a schematic cue in their decision-making process. We therefore randomized attribute position in our survey to help mitigate this issue.

For BWS to work, multiple sets of choices must be presented to be labeled as Best/Worst. For our case, a balanced incomplete block design (BIBD) is used. A BIBD is “a type of experimental design in which each choice option appears equally often and co-appears equally often with each other choice option” (Louviere, et al. 2013). By utilizing a BIBD, surveyors can ensure that choice set sizes presented to individuals in the choice experiment are always equal. For our survey, there are eleven comparison sets; each of

the eleven objects occurs five times in sets of five and co-occurs with the other ten objects twice.

Survey participants were asked to rank 11 different attributes as most important or least important in 11 comparison sets of five attributes each. The full survey text can be found in the appendix. The following verbiage was used before each question: *Suppose you are deciding whether to purchase a CSA subscription. Which of the following considerations is most important to your choice? Which is least important?* Clarifying verbiage was provided with each value to assist with clear value meaning and included an application to CSA specifically. The food values and descriptions are shown in Table 1.

TABLE 1: CSA FOOD VALUES AND DESCRIPTION

	Description
	Variety. You value different food types and flavors. CSAs provide an opportunity to experience new and diverse foods.
	Quality. You are motivated to find fresh, tasty, and flavorful foods. CSA farms have a reputation for quality items.
	Community Relationships. Food is important to developing relationships. CSAs provide opportunities to engage with your family, community, and/or peers.
	Nutritional Health. You consider the overall health benefit of the food you are buying. CSAs encourage wellness and healthy eating.
	Culturally Appropriate. You prefer foods that reflect your cultural values and experiences. CSAs contain products and recipes that are culturally important to you.
	Affordability. Price is a strong motivator for you. CSA seems affordable compared to similar items at grocery stores.
	Convenience. You do not like spending a lot of time acquiring food. CSAs provide a convenient food acquisition experience.
	Local Impact. You prefer food that is grown, raised, or produced by farmers in your community or state. By subscribing to a CSAs, you support the local economy.
	Farm Connection. You like to know where your food is coming from and how it is produced. CSAs allow you to have closer relationships with your farmers.
	Sustainability. You consider the impact your food choices have on the environment. CSA production methods minimize negative impacts.
	Future Farmer Education. You value opportunities to support the next generation of farmers. By supporting a CSA, you help young farmers gain valuable production experience.

The subsequent questions appeared as in this example below:

FIGURE 1: Example of a BWS Question

Suppose you are deciding whether to purchase a CSA subscription. Which of the following considerations is **most important** to your choice? Which is **least important**?

Under each column of least & most important value, choose one option.

Least Important Value		Most Important Value
<input type="radio"/>	Local Impact	<input type="radio"/>
<input type="radio"/>	Affordability	<input type="radio"/>
<input type="radio"/>	Culturally Appropriate	<input type="radio"/>
<input type="radio"/>	Farm Connection	<input type="radio"/>
<input type="radio"/>	Convenience	<input type="radio"/>

Chapter 5: Value-Behavior Questions

In addition to the best worst scaling portion of the survey, participants were asked a series of value-behavior questions. This second set of questions was designed to separate respondents into distinct groups based on behavior. These questions appeared in the survey in three randomized blocks of questions with 8 behaviors per block. Two values-related behaviors were selected for each of the eleven values with the intention to validate value ranking with self-reported behaviors. These categories were linked to the BWS questions so that grouping and comparison could be made in later analysis. The behavior indicators and corresponding value clusters are shown in Table 2. The question asked, “please indicate how frequently you do the following,” and were asked on a three-point scale- never or rarely, sometimes, frequently. Figure 2 shows an example of one of the three value-behavior questions.

Table 2: Food Value Behaviors and Value Clusters

Behavior Indicators	Values Cluster
I read nutrition labels when I buy food	<i>Health and Nutrition</i>
I watch or read health-related media	<i>Health and Nutrition</i>
I buy in bulk to save money	<i>Affordability</i>
I take extra time to shop for the lowest price between stores	<i>Affordability</i>
I buy food that is higher quality even if it is more expensive	<i>Quality</i>
I shop at multiple stores to get the best quality products	<i>Quality</i>
I buy organic foods	<i>Sustainability</i>
I try new foods or recipes	<i>Variety</i>
I buy a variety of fruits and vegetables	<i>Variety</i>
I do all my food shopping at one location	<i>Convenience</i>
I use grocery delivery, curbside pickup, and/or online ordering	<i>Convenience</i>
I buy food from local, independent grocers and restaurants	<i>Local Impact</i>
I buy from new local businesses	<i>Local Impact</i>
I buy food directly from farmers	<i>Farm Connection</i>
I have conversations with people who grow my food	<i>Future Farmer Education</i>
I visit local farms or orchards	<i>Farm Connection</i>
I volunteer with organizations in my community	<i>Community</i>
I share food with my coworkers, neighbors, and/or extended family	<i>Community</i>
I support youth education programs	<i>Future Farmer Education</i>
I interact with coworkers outside of my workplace	<i>Community</i>
I go out of my way to recycle	<i>Sustainability</i>
I buy foods that remind me of my upbringing	<i>Cultural</i>
I eat foods or dishes that reflect my cultural values	<i>Cultural</i>

FIGURE 2: Example of Value-Behavior Question

Please indicate how frequently you do the following:

	Never or Rarely	Sometimes	Frequently
I do all my food shopping at one location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use grocery delivery, curbside pickup, and/or online ordering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy food from local, independent grocers and restaurants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy food directly from farmers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I volunteer with organizations in my community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I share food with my coworkers, neighbors, and/or extended family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I visit local farms or orchards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have conversations with people who grow my food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Chapter 6: Data Analysis

In BWS, it is assumed that participants evaluate all pairs of items shown in each choice set, and subsequently choose the pair that maximizes the difference between choices- one best and one worst (Louviere, et al. 2015). If we denote J as the number of attributes in each BWS question (5 CSA food values in our case), then $J(J-1)$ BW pairs of BW choices are possible (which in our case would be 20).

Following this BWS approach, the data analysis was conducted using random utility framework (McFadden, 1974). In this framework, the indirect utility, U , which the

$$U_{njt} = \beta_{jt} - \beta_{kt} + \varepsilon_{njt}, \quad (1)$$

participant n gets from the selected BW pairs in each question t is the difference in utility between the j best and k worst values plus the error term:

where β is the vector of estimated importance parameters of the best and worst attributes, relative to a reference attribute normalized to zero for identification purposes.

In this paper, we use the Mixed Logit Model for panel data as heterogeneity in consumer preference for food values is expected. Formally, for T choice sets (11 in our case), in the Mixed Logit model the probability that an individual n selects j as best and k as worst is expressed as:

$$P_{nj} = \int_{\beta} \prod_{t=1}^T \frac{e^{[\beta_{njt} - \beta_{nkt}]}}{\sum_{l=1}^J \sum_{m=1}^J e^{[\beta_{nlt} - \beta_{nmt}] - J}} f(\beta_n) d\beta_n, \quad (2)$$

where $f(\beta)_n$ is the density of the importance parameters β_n . The model parameters are assumed to follow a normal distribution.

Chapter 7: Results

7.1 Description of Survey Groups

The data were collected through an online Qualtrics survey sent to 660 UK employees in March 2023, with the assistance of the UK Health and Wellness administrators that managed the voucher program. A total of 197 participants answered all questions and summary statistics are shown in Table 3. Participants were recruited from among those who claimed a UK CSA voucher in the 2022 CSA season. The participant pool included those who claimed a voucher and purchased a CSA share, and those who claimed a voucher but did not follow through with participating in CSA. Thus, the survey was completed by respondents who were interested in CSA, while not all respondents participated in CSA. Thus, a comparison could be made between multiple

groups. While our main purpose was to investigate those who subscribed vs. those who claimed a voucher but did not follow through with a subscription, investigating those with CSA experience vs. those with none provided interesting insights into CSA consumer values and thus these groups were included for this purpose. Additionally, we asked all survey respondents if they planned to claim a voucher in 2023, which yields our final two groups, those who plan to claim a voucher for the 2023 season and those who indicate “maybe” or “no” in answer to this question. The groups are as follows:

- **Group 1 (Subscribers, n=119):** Claimed a voucher and subscribed to a CSA in 2022
- **Group 2 (Non-Subscribers, n=78):** Claimed a voucher but did not subscribe to a CSA in 2022
- **Group 3 (Experienced, n=144):** CSA experience
- **Group 4 (Non-Experienced, n=53):** No CSA experience
- **Group 5 (Plan to Participate in 2023, n=106):** Indicated “Yes” for planning to claim a voucher for CSA in 2023
- **Group 6 (Do Not Plan to Participate in 2023, n=91):** Indicated “No” or “Maybe” for planning to claim a voucher for CSA in 2023)

It is worth noting that groups 3 and 4 include participants from the first two groups. Thus, some non-subscribers who have CSA experience are included in both groups 2 and 3. Results for groups 1 and 2 are presented in Table 4, while results for groups 3 and 4 are included in Table 5, and groups 5 and 6 are presented in Table 6.

The Subscribers group represents those who claimed a voucher and subscribed to a CSA in 2022. Among this group, 37% were first-time CSA participants in 2022. It would follow that these participants would follow closely the values held by the first focus group, who also were new to CSA. This group had much higher levels of education (94% had a college degree or higher) than Non-Subscribers (82%). Subscribers were also a higher-income group than Non-Subscribers, which foreshadows later discussion of perceived share affordability being a concern for CSA program administrators. Subscribers were much less likely to be in the lowest income bracket; 5% of Subscribers were in this bracket, compared with 19% of Non-Subscribers. On the other hand, more Subscribers were found in the top three income brackets.

The Non-Subscribers group claimed a CSA voucher from the university but did not subscribe to a CSA in 2022. Thus, they showed interest in CSA participation but ultimately did not follow through for one or multiple reasons. This group, as pointed out above, generally had lower levels of education than Subscribers, and were in lower income brackets. There were also more respondents in this group who had a household with two or more members. Additionally, this group showed fewer years' experience at UK, in general, when compared to the Subscribers group. Finally, it is important to note that only 30% of Non-Subscribers planned to claim a voucher in 2023, vs. 70% of Subscribers.

The third group, CSA Experience, consists of those respondents who have participated in a CSA prior to 2023. For our purposes, it is helpful to compare this group to the final subset of our survey, group 4- those with no prior CSA experience. These groups show similar trends to groups 1 and 2. This group is largely new to CSA, with

46% having just started CSA in 2022. Those with CSA experience are more concentrated in older age groups; while a quarter of those with no CSA experience are in the 18-34 age group, only 17% of experienced CSA users fall in this category, with nearly 30% being in the range of 45-54. Experienced CSA users also show higher education levels as a group, with nearly 64% holding a graduate or professional degree, vs. 43% for those with no CSA experience. As with our first comparison, those with CSA experience show higher levels of income and are also more likely to have fewer members in the household in comparison to those who have not participated in CSA. As before, those with CSA experience are much more interested in signing up for CSA in the current year. Finally, it is interesting to note that the CSA experienced group has much higher levels of years worked at the university, with 57% having worked 7+ years at UK, vs. 35% of those with no CSA experience. These results will be further discussed in the discussion and conclusion of this paper.

Demographic results indicated several key differences between the four groups presented in this paper. To summarize, Group 1 (those who subscribed to and participated in CSA recently) had higher levels of education, were more likely to be in higher income brackets, were less likely to have children under the age of 18, and more likely to live in a 1-person household than group 2, who had requested a CSA voucher but did not follow through by purchasing a share. Additionally, group 1 typically had a longer tenure at their place of work. For groups 3 and 4, results generally followed the same trend. Those with CSA experience had very similar demographic results as Subscribers, and those with no CSA experience followed closely Non-Subscribers.

Table 3: Summary Statistics of Basic Demographics

Variable	Definition	Total Survey (N=197)
Gender	Female	79.8%
	Male	20.2%
Age	18-34	19.18%
	35-44	37.21%
	45-54	25.58%
	55-64	15.12%
	65+	2.33%
Education	No College Degree	11.05%
	College Degree	29.07%
	Graduate/Professional Degree	58.14%
Ethnicity	White Caucasian	82.39%
	Black or African American	5.11%
	Hispanic/Latin	4.55%
	Other/Multiple Ethnicity	2.84%
	Asian or Asian American	2.27%
	American Indian or Alaskan Native	1.14%
Income	\$25,000 - \$49,999	10.47%
	\$50,000 - \$74,999	15.70%
	\$75,000 - \$99,999	16.28%
	\$100,000 - \$124,999	19.19%
	\$125,000 - \$149,999	8.14%
	\$150,000 - \$174,999	8.14%
	\$175,000 - \$199,999	7.56%
	\$200,000 or more	9.88%
Number in Household	1	14.53%
	2	37.21%
	3	22.09%
	4	17.44%
	5 or more	8.72%
Children under 18	0	54.97%
	1	21.64%
	2	15.20%
	3	6.43%
	4	1.75%
Years of CSA Participation prior to 2023 season	0	27.04%
	1	33.67%
	2	14.29%
	3	9.18%
	4	4.08%
	5+	11.73%
Plan to use a voucher in 2023	Yes	53.77%
	No	16.08%
	Maybe	30.15%
Years worked at UK	1-3	31.39%
	4-6	17.45%
	7+	51.16%

Table 4: Summary Statistics for Group 1 (Subscribers) and Group 2 (Non-Subscribers)

Variable	Definition	Subscribers (n=119)	Non-Subscribers (n=78)
Gender	Female	79.81%	85.07%
	Male	20.19%	13.43%
Age	18-34	17.31%	22.39%
	35-44	37.50%	35.82%
	45-54	25.96%	25.37%
	55-64	16.35%	13.43%
	65+	2.88%	1.49%
Education	No College Degree	5.77%	17.91%
	College Degree	25.96%	24.33%
	Graduate/Professional Degree	66.35%	46.27%
Ethnicity	White Caucasian	84.91%	79.71%
	Black or African American	3.77%	5.80%
	Hispanic/Latin	1.89%	8.70%
	Other/Multiple Ethnicity	2.83%	2.90%
	Asian or Asian American	2.83%	1.45%
	American Indian or Alaskan Native	0.94%	1.45%
Income	\$25,000 - \$49,999	4.81%	19.40%
	\$50,000 - \$74,999	13.46%	19.40%
	\$75,000 - \$99,999	16.35%	14.93%
	\$100,000 - \$124,999	19.23%	19.40%
	\$125,000 - \$149,999	8.65%	7.46%
	\$150,000 - \$174,999	10.58%	4.48%
	\$175,000 - \$199,999	7.69%	7.46%
	\$200,000 or more	12.50%	5.97%
Number in Household	1	18.27%	8.96%
	2	36.54%	38.81%
	3	21.15%	23.88%
	4	18.27%	14.93%
	5 or more	5.77%	13.43%
Children under 18	0	58.25%	50.75%
	1	20.39%	23.88%
	2	17.48%	10.45%
	3	1.94%	13.43%
	4	1.94%	1.49%
Years of CSA Participation prior to 2023 season	0	8.62%	55.13%
	1	37.07%	26.92%
	2	20.69%	5.13%
	3	11.21%	6.41%
	4	4.31%	3.85%
	5+	18.09%	2.56%
Plan to use a voucher in 2023	Yes	69.75%	28.21%
	No	13.45%	20.51%
	Maybe	16.81%	51.28%
Years worked at UK	1-3	25%	40.30%
	4-6	14.42%	22.39%
	7+	60.58%	37.32%

Table 5: Summary Statistics for Group 3 (CSA Experience) and Group 4 (No CSA Experience)

Variable	Definition	CSA Experience (n=144)	No CSA Experience (n=53)
Gender	Female	80.26%	86.96%
	Male	19.84%	10.87%
Age	18-34	16.66%	26.09%
	35-44	37.30%	36.96%
	45-54	28.57%	17.39%
	55-64	15.08%	15.22%
	65+	2.38%	2.17%
Education	No College Degree	8.73%	17.39%
	College Degree	26.19%	36.96%
	Graduate/Professional Degree	63.50%	43.48%
Ethnicity	White Caucasian	83.08%	80.43%
	Black or African American	4.62%	6.52%
	Hispanic/Latin	3.08%	8.70%
	Other/Multiple Ethnicity	3.08%	2.17%
	Asian or Asian American	3.08%	0.00%
	American Indian or Alaskan Native	0.77%	2.17%
Income	\$25,000 - \$49,999	5.56%	23.91%
	\$50,000 - \$74,999	13.49%	21.74%
	\$75,000 - \$99,999	16.67%	15.22%
	\$100,000 - \$124,999	19.84%	17.39%
	\$125,000 - \$149,999	9.52%	4.35%
	\$150,000 - \$174,999	10.32%	2.17%
	\$175,000 - \$199,999	6.35%	10.87%
	\$200,000 or more	11.90%	4.35%
Number in Household	1	15.87%	10.87%
	2	33.33%	47.83%
	3	22.22%	21.74%
	4	21.43%	6.52%
	5 or more	7.14%	13.04%
Children under 18	0	53.60%	58.70%
	1	21.60%	21.74%
	2	17.60%	8.70%
	3	4.80%	10.87%
	4	2.40%	0.00%
Years of CSA Participation prior to 2023 season	0	0%	100%
	1	46.15%	0%
	2	19.58%	0%
	3	12.59%	0%
	4	5.59%	0%
	5+	16.09%	0%
Plan to use a voucher in 2023	Yes	60.27%	35.85%
	No	16.44%	15.09%
	Maybe	23.29%	49.06%
Years worked at UK	1-3	27.78%	39.13%
	4-6	14.29%	26.09%
	7+	57.15%	34.7%

Table 6: Summary Statistics for Group 5 (Plan to Participate in 2023) and Group 6 (Do not Plan to Participate in 2023)

Variable	Definition	Participate Next Season (n=106)	Do not plan to participate (n=91)
Gender	Female	76.60%	88.46%
	Male	23.40%	10.26%
Age	18-34	21.28%	16.66%
	35-44	36.17%	38.46%
	45-54	24.47%	26.92%
	55-64	14.89%	15.38%
	65+	3.19%	1.28%
Education	No College Degree	8.51%	14.11%
	College Degree	23.40%	35.90%
	Graduate/Professional Degree	65.96%	48.72%
Ethnicity	White Caucasian	78.35%	87.34%
	Black or African American	5.15%	5.06%
	Hispanic/Latin	6.19%	2.53%
	Other/Multiple Ethnicity	2.06%	3.80%
	Asian or Asian American	4.12%	0.00%
	American Indian, Alaskan Native	1.03%	1.27%
Income	\$25,000 - \$49,999	6.38%	15.38%
	\$50,000 - \$74,999	10.64%	21.79%
	\$75,000 - \$99,999	14.89%	17.95%
	\$100,000 - \$124,999	20.21%	17.95%
	\$125,000 - \$149,999	10.64%	5.13%
	\$150,000 - \$174,999	12.77%	2.56%
	\$175,000 - \$199,999	7.45%	7.69%
	\$200,000 or more	9.57%	10.26%
Number in Household	1	12.77%	16.67%
	2	42.55%	30.77%
	3	18.09%	26.92%
	4	17.02%	17.95%
	5 or more	9.57%	7.69%
Children under 18	0	57.45%	51.95%
	1	18.09%	25.97%
	2	17.02%	12.99%
	3	4.26%	9.09%
	4	3.19%	0.00%
Years of CSA Participation prior to 2023 season	0	17.92%	37.78%
	1	35.85%	31.11%
	2	16.04%	12.22%
	3	9.43%	8.89%
	4	4.72%	3.33%
	5+	16.02%	6.66%
Plan to use a voucher in 2023	Yes	100%	0.00%
	No	0%	34.78%
	Maybe	0%	65.22%

Table 6: Summary Statistics for Group 5 (Plan to Participate in 2023) and Group 6 (Do not Plan to Participate in 2023)

Years worked at UK	1-3	28.72%	34.61%
	4-6	19.15%	15.39%
	7+	52.13%	50.00%

7.2 Value Frequency Comparisons

For the CSA food values themselves, Figures 5-8 below show the frequency each attribute was selected as best for each group respectively. While this method may seem simplistic, observation and plotting of choice frequencies helps in later identification of reference attributes, as will be discussed. From the Group 1 frequencies, the top three attributes were quality (selected as best 19% of the times it was available as an option), followed by health (14.3%) and affordability (13.8%). Variety, Local Impact, and Convenience were all in the 11.5%-12.1% range, while sustainability was selected as best 9.1% of the time. The rest of the attributes (farm connection, community relationships, future farmer education, and cultural appropriateness) were all selected as best less than 4% of the time by Group 1. For Group 2, affordability was by far the most selected attribute. It was selected as the best attribute in 28% of scenarios in which it was presented. It was followed by Quality at 16.6% and health at 13.4%. Convenience was higher relative to group 1 for non-subscribers.

For Group 3, which were those with prior experience as CSA shareholders, the top three attributes based on frequency were Quality, Affordability, and Health. Group 4 selected Affordability as best at the highest percentage of any of the groups. Interestingly, those with no CSA experience rated convenience higher than any other group.

Figure 3: Frequency of Attributes Selected as Best (Group 1: Subscribers)

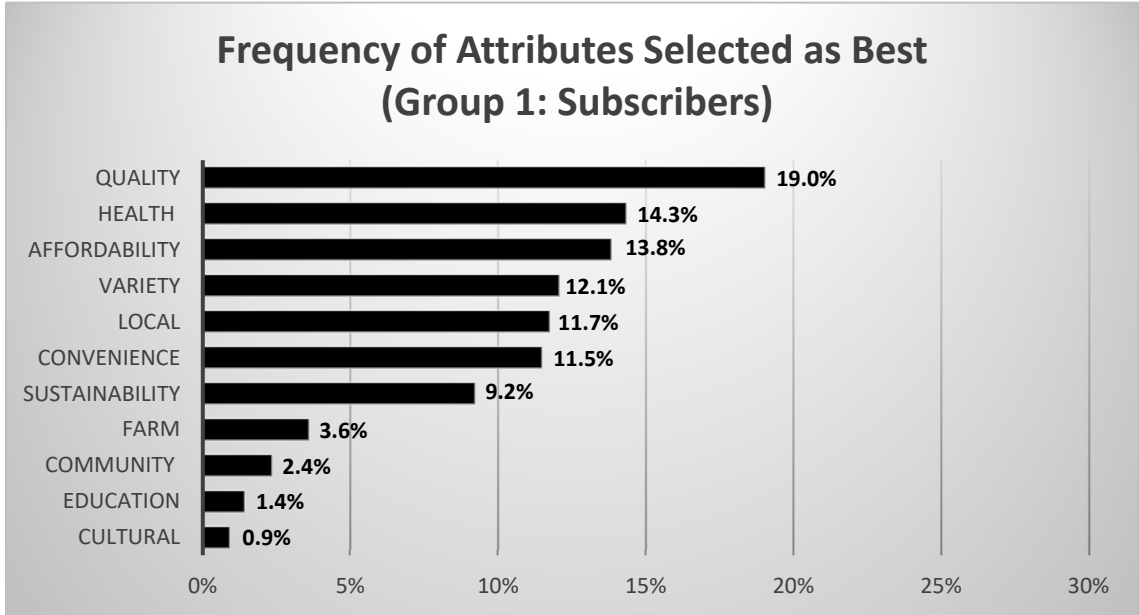


Figure 4: Frequency of Attributes Selected as Best (Group 2: Non-Subscribers)

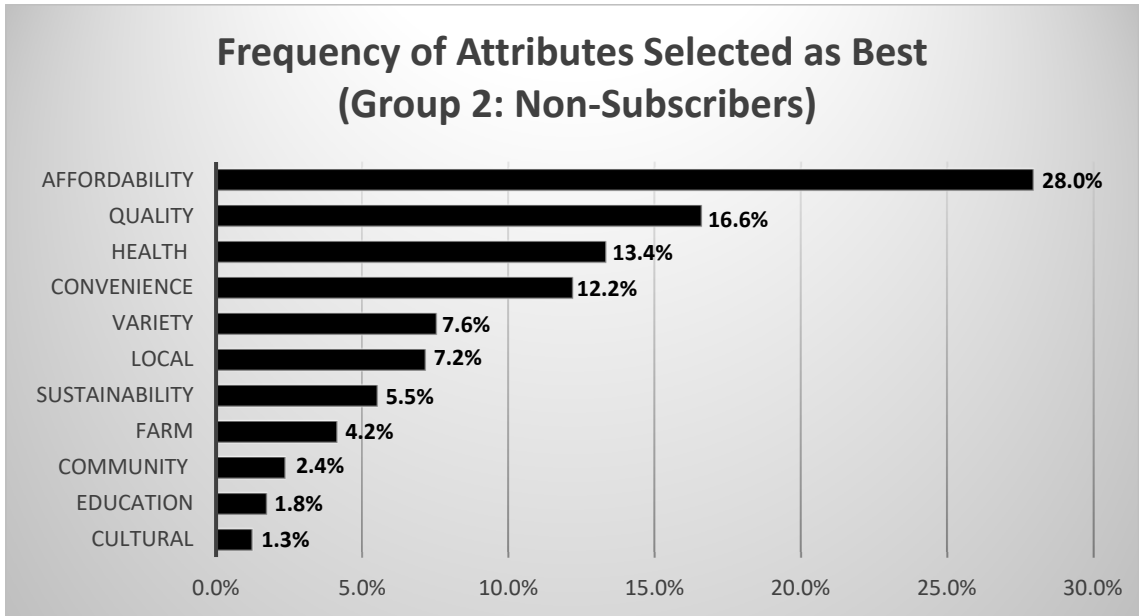


Figure 5: Frequency of Attributes Selected as Best (Group 3: CSA Experience)

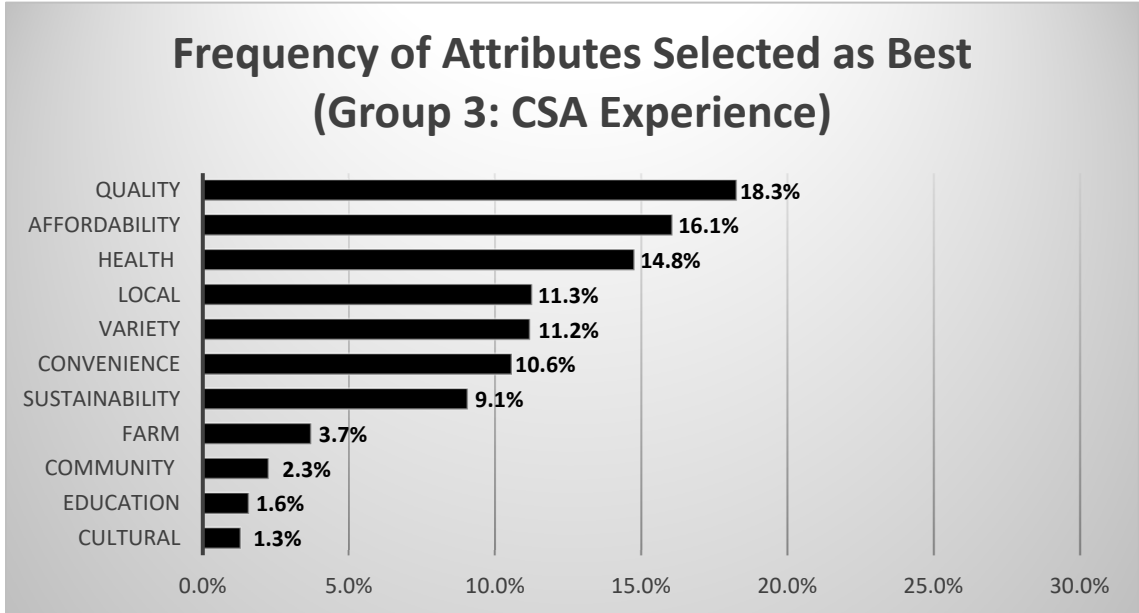


Figure 6: Frequency of Attributes Selected as Best (Group 4: No CSA Experience)

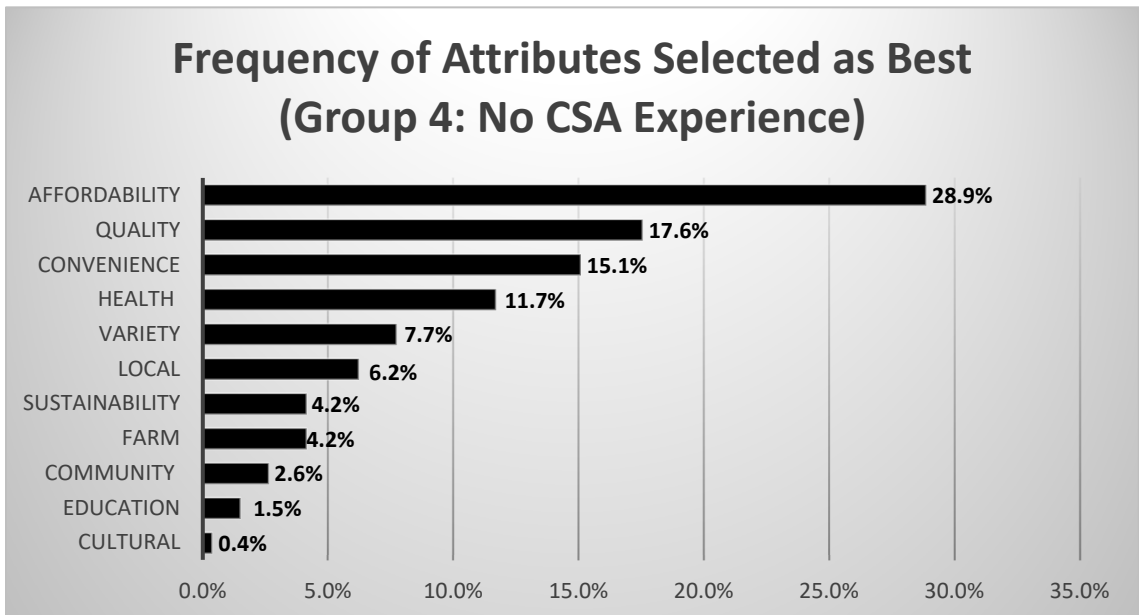


Figure 7: Frequency of Attributes Selected as Best (Group 5: Plan to Participate in 2023)

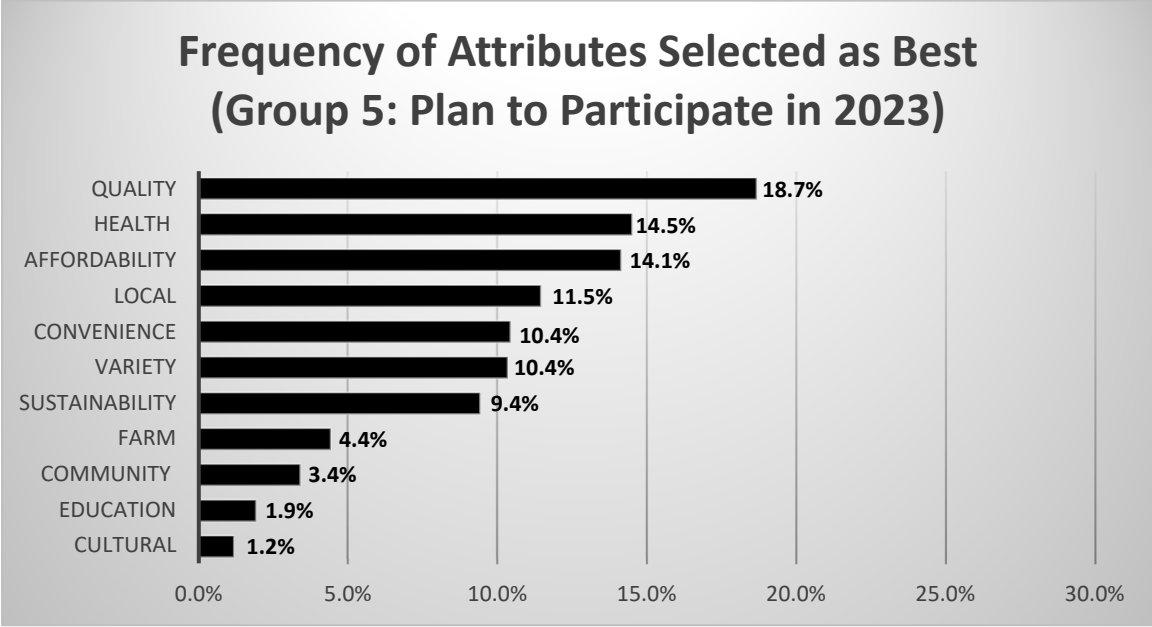
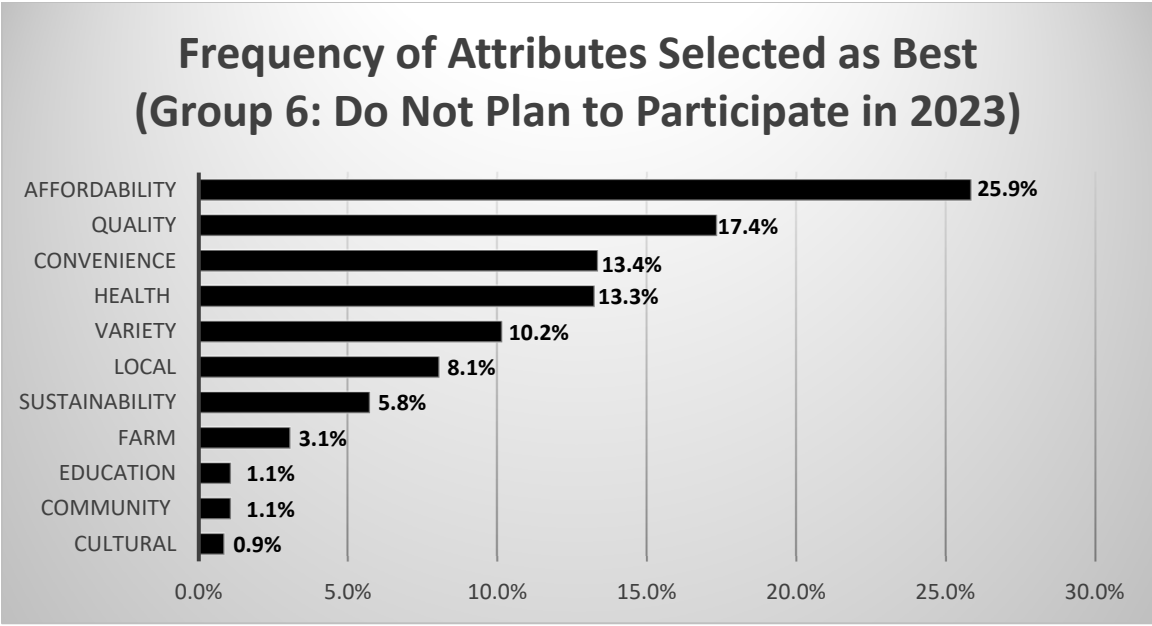


Figure 8: Frequency of Attributes Selected as Best (Group 9: Do Not Plan to Participate in 2023)



7.3 Mixed Logit Model Results

Based on Caputo and Lusk (2019), we report the coefficients of the 11 Food Values relative to the least important value, “Culturally Appropriate” (based on the calculation of the percentage of times it was selected best or worst). Six subgroups were compared for value ranking through separate analyses. As described, the first group claimed a CSA voucher in 2022 and subscribed to a CSA, while the second group received a voucher but did not subscribe. The third group were those with prior CSA experience, while the fourth had no CSA experience at all. Finally, two additional groups were added: those who plan on subscribing to CSA in the following season and those who do not. As discussed above, the Mixed Logit model estimates tell a similar story to the frequency analysis, but also considers the times each value was selected as worst. The following tables (Tables 7-12) show the results from the Mixed Logit Model for each group.

Table 7: Mixed Logit Model Estimates- Group 1 (Subscribers)
n=119

Values	Mean	St. Dev.
Quality	4.559*** (0.161)	0.299* (0.176)
Health	3.887*** (0.166)	1.230*** (0.142)
Affordability	3.781*** (0.189)	2.296*** (0.188)
Local Impact	3.705*** (0.166)	1.065*** (0.195)
Variety	3.661*** (0.168)	1.353*** (0.150)
Sustainability	3.545*** (0.159)	0.762*** (0.152)
Convenience	3.095*** (0.189)	2.409*** (0.182)
Farm Connection	1.957*** (0.149)	1.218*** (0.135)
Community	1.660*** (0.133)	0.146 (0.174)
Education	1.033*** (0.139)	1.099*** (0.197)
Cultural	Baseline	
Model Statistics		
Log likelihood	-2419.4725	
Number of Observations (N)	23,860	

Note: One asterisk (*), (**), and (***) denote mean importance of the attribute is statistically different from Cultural at the 90% level or higher, 95% level, and 99% level, respectively. Numbers in parentheses are standard errors.

Table 8: Mixed Logit Model Estimates- Group 2 (Non-Subscribers)
n=78

Values	Mean	St. Dev.
Affordability	4.739*** (0.257)	2.051*** (0.188)
Quality	3.737*** (0.188)	0.716*** (0.2)
Health	2.869*** (0.186)	1.006*** (0.154)
Local Impact	2.469*** (0.173)	0.939*** (0.169)
Convenience	2.454*** (0.234)	2.443*** (0.21)
Sustainability	2.295*** (0.168)	0.612*** (0.163)
Variety	2.287*** (0.190)	1.703*** (0.185)
Farm Connection	1.710*** (0.167)	0.945*** (0.21)
Community	1.552*** (0.164)	0.758*** (0.167)
Education	1.117*** (0.153)	0.268 (0.214)
Cultural	Baseline	
Model Statistics		
Log likelihood	-1661.7808	
Number of Observations (N)	15,880	

Note: One asterisk (*), (**), and (***) denote mean importance of the attribute is statistically different from Cultural at the 90% level or higher, 95% level, and 99% level, respectively. Numbers in parentheses are standard errors.

Table 9: Mixed Logit Model Estimates- Group 3 (CSA Experience)
n=144

Values	Mean	St. Dev.
Quality	4.212*** (0.145)	0.747*** (0.134)
Local Impact	3.332*** (0.14)	0.856*** (0.121)
Health	3.311*** (0.145)	1.138*** (0.126)
Affordability	3.271*** (0.159)	1.980*** (0.143)
Variety	3.145*** (0.143)	1.149*** (0.128)
Sustainability	3.092*** (0.137)	0.822*** (0.142)
Convenience	2.817*** (0.179)	2.164*** (0.139)
Farm Connection	1.854*** (0.131)	1.047*** (0.109)
Community	1.584*** (0.12)	0.417*** (0.12)
Education	1.005*** (0.122)	1.028*** (0.112)
Cultural	Baseline	
Model Statistics		
Log likelihood	-3058.215	
Number of Observations (N)	29,140	

Note: One asterisk (*), (**), and (***) denote mean importance of the attribute is statistically different from Cultural at the 90% level or higher, 95% level, and 99% level, respectively. Numbers in parentheses are standard errors.

Table 10: Mixed Logit Model Estimates- Group 4 (No CSA Experience)
n=53

Values	Mean	St. Dev.
Affordability	5.303*** (0.299)	2.383*** (0.233)
Quality	4.369*** (0.25)	0.918*** (0.221)
Health	3.429*** (0.241)	1.443*** (0.202)
Variety	3.142*** (0.253)	1.936*** (0.21)
Local Impact	2.891*** (0.222)	0.513*** (0.213)
Convenience	2.777*** (0.283)	3.606*** (0.341)
Sustainability	2.566*** (0.215)	0.571*** (0.155)
Farm Connection	1.974*** (0.214)	1.002*** (0.210)
Community	1.554*** (0.194)	0.119 (0.195)
Education	1.341*** (0.202)	1.095*** (0.217)
Cultural	Baseline	
Model Statistics		
Log likelihood	-1026.7335	
Number of Observations (N)	10600	

Note: One asterisk (*), (**) and (***) denote mean importance of the attribute is statistically different from Cultural at the 90% level or higher, 95% level, and 99% level, respectively. Numbers in parentheses are standard errors.

Table 11: Mixed Logit Model Estimates- Group 5 (Plan to Participate in 2023)
n=107

Values	Mean	St. Dev.
Quality	3.894*** (0.159)	1.001*** (0.160)
Health	3.271*** (0.149)	0.337 (0.230)
Sustainability	2.904*** (0.157)	0.983*** (0.145)
Convenience	2.825*** (0.201)	2.322*** (0.166)
Local Impact	2.801*** (0.159)	1.143*** (0.160)
Affordability	2.663*** (0.175)	1.702*** (0.119)
Variety	2.655*** (0.160)	1.410*** (0.170)
Farm Connection	1.935*** (0.146)	0.921*** (0.128)
Community	1.516*** (0.140)	0.755*** (0.146)
Education	0.933*** (0.132)	0.784*** (0.157)
Cultural	Baseline	
Model Statistics		
Log likelihood	-2361.253	
Number of Observations (N)	21,640	

Note: One asterisk (*), (**) and (***) denote mean importance of the attribute is statistically different from Cultural at the 90% level or higher, 95% level, and 99% level, respectively. Numbers in parentheses are standard errors.

Table 12: Mixed Logit Model Estimates- Group 6 (Do not plan to participate in 2023)
n=92

Values	Mean	St. Dev.
Affordability	4.958*** (0.201)	1.681*** (0.163)
Quality	4.547*** (0.188)	0.248 (0.184)
Convenience	4.176*** (0.256)	2.564*** (0.203)
Health	3.873*** (0.198)	1.058*** (0.171)
Local Impact	3.529*** (0.193)	0.999*** (0.193)
Variety	3.437*** (0.199)	1.625*** (0.161)
Sustainability	3.170*** (0.185)	0.858*** (0.159)
Farm Connection	2.028*** (0.185)	1.505*** (0.177)
Community	1.619*** (0.155)	0.181 (0.193)
Education	1.294*** (0.159)	1.083*** (0.150)
Cultural	Baseline	
Model Statistics		
Log likelihood	-1764.652	
Number of Observations (N)	18,100	

Note: One asterisk (*), (**), and (***) denote mean importance of the attribute is statistically different from Cultural at the 90% level or higher, 95% level, and 99% level, respectively. Numbers in parentheses are standard errors.

For employees that claimed a voucher and subscribed to a CSA (Group 1), Quality was still significantly above the other attributes and was indeed only chosen as “worst” in the survey only 4 times total, or 0.4% of the time it was presented. Health and Affordability coefficients were very close attributes, with Local Impact very close behind. The last three attributes (Farm Connection, Community Relationships, and Future Farmer Education) were all far behind the other attributes.

For employees who claimed a voucher but did not subscribe to a CSA (Group 2), Affordability was significantly higher than any other attribute, followed by Quality, before a large gap to the next set of attributes. That set, consisting of Health, Local Impact, Convenience, Sustainability, and Variety, was clustered in the same range. It was

followed by the same set of three as Group 1 at the bottom of the list: Farm Connection, Community Relationships, and Future Farmer Education.

For Group 3, those with CSA experience, Quality was the #1 attribute. Group 3, however, chose Local Impact as second and was the only group which had this attribute in the top three attributes.

Group 4 consists of those who have never participated in CSA, of which there were 53 respondents in the survey. For this group, affordability was also the highest attribute, yet to an even greater degree than Group 2. Quality and Health were 2nd and 3rd, but with clear separation between values. Variety was a close 4th.

For Group 5, those who plan to participate in the voucher program in 2023, quality and health were the top two attributes, which followed the order present in group 1, those who subscribed last season. The third attribute for group 5, however, was sustainability. Following this were convenience and local impact.

For Group 6, which consists of those who do not plan to participate in the voucher program in 2023, affordability, quality, and convenience were the top three attributes.

It is also valuable to note the differences in standard deviation for each mean reported. A high standard deviation shows that the data is widely spread, and a low standard deviation shows that the data are clustered closely around the mean. Statistically, 95% of that data lies within two standard deviations. In our case, a high standard deviation shows that there is less consensus about the true mean for a given attribute, while a low standard deviation indicates that there is more agreement about where to rate that attribute.

For example, affordability is the top attribute for Group 2 (Non-Subscribers), but it also has one of the highest standard deviations (2.051) of any attribute. This means the data for this attribute is more widely spread, and thus shows less respondent agreement around where this attribute should be ranked. On the other hand, quality is ranked lower for this group, but the standard deviation is lower as well, showing more consensus among respondents.

7.4 Behavioral Question Results

In addition to the questions on CSA Food Values, the survey also asked respondents to report the frequency with which they participate in certain behaviors.

Results from two paired t-Tests for these behaviors are shown in Table 13 and Table 14. The first test compared groups 1 and 2 in this study: group 1 (Subscribers) received a voucher and subscribed to a CSA in 2022, while group 2 (non-Subscribers) received a voucher but did not purchase a share. These questions were randomized and are based on the value clusters identified.

Two means show statistically significant differences at the 95% significance level. First, non-subscribers mean for “I take extra time to shop for the lowest price between stores” was significantly lower than that of subscribers. Second, CSA subscribers mean for “I buy food directly from farmers” was significantly higher than that of non-subscribers. No other mean differences were significant for these group means.

The two results are interesting and pertinent. The first result indicates that non-subscribers show greater price sensitivity than those who have subscribed to CSA. This

lines up with the Mixed Logit analysis results, in which affordability was a top concern for those who requested a voucher but did not subscribe. The second result also aligns with the Mixed Logit analysis. Local impact and farm connection were selected as best a greater frequency of times by CSA subscribers, so it makes sense that those who subscribe to CSA would more often also buy food directly from farmers.

Table 13: Subscriber Vs. Non-Subscriber *t*-Tests of Food Lifestyle Behaviors

Behavior Indicators	CSA Subscribers		CSA Non-Subscribers		Paired Diffs	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
<i>Health and Nutrition</i>						
I read nutrition labels when I buy food	1.58	0.06	1.51	0.07	0.06	0.09
I watch or read health-related media	1.20	0.06	1.34	0.08	-0.14	0.10
<i>Affordability</i>						
I buy in bulk to save money	1.15	0.07	1.34	0.08	-0.17	0.11
I take extra time to shop for the lowest price between stores	0.89	0.07	1.18	0.07	-0.28**	0.12
<i>Quality</i>						
I buy food that is higher quality even if it is more expensive	1.42	0.05	1.36	0.07	0.07	0.09
I shop at multiple stores to get the best quality products	1.09	0.07	1.17	0.09	-0.09	0.11
I buy organic foods	1.15	0.07	1.01	0.09	0.14	0.12
<i>Variety</i>						
I try new foods or recipes	1.62	0.05	1.63	0.66	-0.02	0.08
I buy a variety of fruits and vegetables	1.68	0.05	1.68	0.06	0.01	0.08
<i>Convenience</i>						
I do all my food shopping at one location	1.1	0.08	0.99	0.08	0.11	0.12

Table 13: Subscriber Vs. Non-Subscriber *t*-Tests of Food Lifestyle Behaviors

Behavior Indicators	CSA Subscribers		CSA Non-Subscribers		Paired Diff	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
I use grocery delivery, curbside pickup, and/or online ordering	0.83	0.09	0.82	0.11	0.00	0.14
Local Impact						
I buy food from local, independent grocers and restaurants	1.18	0.06	1.12	0.07	0.07	0.10
I buy from new local businesses	1.23	0.06	1.18	0.07	0.05	0.09
Farm Connection						
I buy food directly from farmers	0.97	0.06	0.75	0.08	0.22**	0.10
I have conversations with people who grow my food	0.47	0.06	0.64	0.09	-0.18	0.11
I visit local farms or orchards	0.84	0.06	0.85	0.08	-0.02	0.10
Community						
I volunteer with organizations in my community	0.62	0.07	0.56	0.08	0.06	0.11
I share food with my coworkers, neighbors, and/or extended family	1.12	0.06	1.00	0.08	0.12	0.09
I support youth education programs	0.96	0.07	1.07	0.08	-0.11	0.11
I interact with coworkers outside of my workplace	1.03	0.06	0.9	0.09	0.12	0.11
Sustainability						
I go out of my way to recycle	1.62	0.06	1.51	0.09	0.13	0.10
Cultural						
I buy foods that remind me of my upbringing	1.12	0.05	1.13	0.07	-0.17	0.08
I eat foods or dishes that reflect my cultural values	0.89	0.06	0.87	0.08	0.03	0.10

Note: Asterisks denote level of significance of paired *t*-Test. **Significant at the 95% level

Table 15 shows the results from the second paired *t*-Test, which tested mean differences for the last two groups: those with CSA Experience and those with no CSA Experience. These groups showed several statistically significant differences in means. The first was in the Health and Nutrition category. Two statistically significant differences were in the next category (Affordability) and two behavioral mean differences were also found in the Quality category. Finally, there was one statistically significant difference in each of the following categories: Local Impact, Farm Connection, and Community.

For Health and Nutrition, there was a significant difference in the behavior “I read nutrition labels when I buy food.” The mean for this behavior was significantly higher for those who have CSA experience vs those with none. This least lines up with the frequency table results. Experienced CSA users selected Health as “best” in terms of values a greater percentage of the time than non-CSA users. For Mixed Logit results, however, both groups rated this value in the same place relative to other values. This result may further impact the point made by Rossi et. al (2017) that CSA participation improves health outcomes, regardless of whether that was the initial goal of the consumer or not. This prior research showed that many participants make behavioral changes in terms of food lifestyle after CSA participation, as it places them in a new food environment. The fact that CSA users are more likely to read nutrition labels specifically may show the impact of being placed into a new food environment and that CSA positively impacts food acquisition behavior in terms of health.

Second, both behaviors in the Affordability category showed significant differences between groups. Those with no CSA experience were more likely to buy in

bulk to save money and to take extra time to shop for the lowest price between stores. As stated before, those with no CSA experience often see perceived affordability as the biggest barrier to participation. That this group shows more price sensitivity in this behavioral analysis, then, is not surprising.

Third, two behavioral means showed statistically significant differences in the Quality category. The first behavior was “I buy food that is higher quality even if it is more expensive.” The mean for Experienced CSA was higher for this behavior, showing that quality food is potentially more important for CSA users than those who have never participated in CSA. Interestingly, Mixed Logit results showed that Quality was indeed a higher ranked attribute for those with CSA experience. Those without CSA experience placed Affordability at the top of the list, followed by Quality. The second behavior in this category showing a statistically significant difference between the two groups was “I buy organic foods.” Buying organic is a significant behavior because it covers multiple behavioral categories. Buying organic foods potentially shows an interest in health, the environment, and sustainable farming practices as well as a desire for quality-tasting produce (Mondelaers et al. 2009). Those with CSA experience show a much higher mean for this behavior. That experienced CSA users value organic foods more highly fits with our Mixed Logit results. Those with CSA experience rated Local Impact and Sustainability higher in Mixed Logit results than those with no CSA experience, who more highly valued Affordability and Variety.

In the area of Local Impact, buying food from local, independent grocers and restaurants was more common for experienced CSA users. This result fits with Mixed Logit results as well, as Local Impact was ranked higher for experienced users than those

with no experience. Indeed, Local impact was second only to quality for experienced users. Our definition of Local Impact for this survey was preferring food that is grown, raised, or produced by farmers in the community or state of the consumer and supporting the local economy. As Ostrom (2007) claims, it is worth noting that the value of CSA on a large scale is that it helps to change consumer attitudes toward food purchasing, especially around local impact. Our results line up with what is expected of CSA participation in general.

For Farm Connection, CSA users showed a significant difference in the behavior “I buy food directly from farmers,” with this group showing a much higher mean for this behavior than those with no CSA experience. While both groups rated Farm Connection lower than other values on the BWS section, I believe this difference reflects values in the Local Impact area as well. Finally, for Community, CSA users were much more likely to share food with coworkers, neighbors, and/or extended family. While Community was not rated as best at a high rate by either group, this result again shows that CSA users may be more likely to participate in community activities that have local impact.

Table 14: CSA Experience Vs. No CSA Experience *t*-Tests of Food Lifestyle Behaviors

Behavior Indicators	CSA Experience		No CSA Experience		Paired Diffs	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
<i>Health and Nutrition</i>						
I read nutrition labels when I buy food	1.60	0.05	1.41	0.09	0.19*	0.10
I watch or read health-related media	1.22	0.06	1.35	0.09	-0.13	0.11
<i>Affordability</i>						

Table 14: CSA Experience Vs. No CSA Experience *t*-Tests of Food Lifestyle Behaviors

Behavior Indicators	CSA Experience		No CSA Experience		Paired Diff	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
I buy in bulk to save money	1.16	0.06	1.37	0.10	-0.20*	0.12
I take extra time to shop for the lowest price between stores	0.94	0.07	1.20	0.06	-0.26**	0.13
Quality						
I buy food that is higher quality even if it is more expensive	1.45	0.05	1.26	0.09	0.19*	0.10
I shop at multiple stores to get the best quality products	1.11	0.06	1.13	0.11	-0.02	0.12
I buy organic foods	1.16	0.07	0.93	0.10	0.23*	0.13
Variety						
I try new foods or recipes	1.65	0.04	1.54	0.09	0.10	0.09
I buy a variety of fruits and vegetables	1.70	0.04	1.61	0.08	0.10	0.08
Convenience						
I do all my food shopping at one location	1.02	0.07	1.13	0.10	-0.11	0.13
I use grocery delivery, curbside pickup, and/or online ordering	0.84	0.08	0.80	0.13	0.04	0.15
Local Impact						
I buy food from local, independent grocers and restaurants	1.23	0.06	0.96	0.08	0.28**	0.11
I buy from new local businesses	1.23	0.05	1.13	0.09	0.10	0.10
Farm Connection						
I buy food directly from farmers	0.98	0.06	0.63	0.08	0.35***	0.11
I have conversations with people who grow my food	0.54	0.06	0.54	0.11	-0.01	0.12

Table 14: CSA Experience Vs. No CSA Experience *t*-Tests of Food Lifestyle Behaviors

Behavior Indicators	CSA Experience		No CSA Experience		Paired Diffs	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
I visit local farms or orchards	0.86	0.06	0.78	0.09	0.08	0.11
Community						
I volunteer with organizations in my community	0.63	0.06	0.48	0.10	0.15	0.12
I share food with my coworkers, neighbors, and/or extended family	1.14	0.05	0.87	0.09	0.27***	0.10
I support youth education programs	0.99	0.06	1.02	0.11	-0.03	0.12
Sustainability						
I go out of my way to recycle	1.61	0.05	1.46	0.11	0.15	0.11
Cultural						
I buy foods that remind me of my upbringing	1.10	0.05	1.20	0.08	-0.10	0.09
I eat foods or dishes that reflect my cultural values	0.90	0.06	0.83	0.10	0.08	0.11

*Note: Asterisks denote level of significance of paired t-Test. *Significant at the 90% level
 Significant at the 95% level *Significant at the 99% level*

Chapter 8: Discussion

In comparing the six groups of this survey, it is worth noting strong evidence of heterogeneity in attitudes towards CSA food values among those who have participated in CSA vs. those who have not. This may be partly reflected by the evident demographic differences between groups. Group 1 (those who subscribed to and participated in CSA recently) had higher levels of education, were more likely to be in higher income brackets, were less likely to have children under the age of 18, and more likely to live in a

1-person household. Additionally, they typically had a longer tenure at their place of work.

These results indicate that several key differences in values for those considering CSA but not yet able to fully commit. As indicated, a significant portion of survey participants received a voucher for a CSA but did not follow through with purchasing a share. Those respondents consistently rated affordability and convenience much higher than those who subscribed, while ranking the local impact of the decision to participate in CSA and the impact of CSA membership of sustainability much lower than subscribers. Each of these is considered below.

For affordability, our results line up generally with Lusk and Briggeman (2009) who state that food price is a significant value for food purchasing for all consumers. As noted in Mixed Logit results, affordability was third for subscribers and an overwhelming first for non-subscribers. More specifically, it is worth noting that questions about perceived CSA affordability are a common concern for potential CSA participants, researchers, CSA program administrators, and CSA farmers themselves (Ostrom, 2007). Survey comments revealed a plethora of responses from non-subscribers that they saw the value of CSA in terms of access to quality produce, increases in healthy behaviors, or other attributes, but were surprised at the cost of a share. As discussed, perceived affordability is thus a substantial issue facing CSA voucher program administrators and CSA farmers themselves.

For issues of perceived affordability, workplace voucher programs and CSA farmers may benefit from several different approaches in attracting those who are interested in CSA but are on the fence because of the price of a share. First, as noted by

focus group participants, CSA shares may break down into a lower cost per week than shopping at the grocery store. This comparison often requires work by the potential CSA participant to calculate. For the CSA farmer or program administrator, making this process easier may increase the likelihood of signups. Online calculators or messaging that show the average cost per week of a share may help these potential participants see the value of a CSA share. Second, as noted previously, the use of installment plans is increasing for CSA payment. This method, while to some not a true CSA model, would allow those who are in lower income brackets to access the program more easily. Focus group participants mentioned this as a way to attract new participants and it is something university voucher programs may consider as they are more positioned to coordinate and handle such a program. Finally, it is worth noting that while CSA share prices have largely increased over the past several years, the value of the voucher has not increased. This is an important for UK voucher program administrators, as well as other CSA programs, to consider.

Those who are considering CSA but have not participated are more likely to be larger households. CSA promoters can take advantage of this by touting the quantity of produce available in a CSA share and that this may help a larger family on several levels. First, CSA participants emphasized in focus groups the cost savings of CSA participation, which is a key consideration for those on the fence about participation. Second, focus group findings and Mixed Logit results show that those with CSA experience see the convenience of the CSA model as a benefit of the model, and not a negative. CSA promoters can build messaging around the program that participation makes getting fresh produce more convenient.

CSA subscribers showed, on average, that they had been at the university longer than those who requested a voucher but did not ultimately sign up for a CSA share. Having a longer period of employment at your place of work often means that you know more about what is offered in terms of benefits. UK can address this issue in multiple ways. First, finding ways to make the program more visible to new employees would go a long way towards furthering the program with this group. Second, a peer support program in which current UK CSA voucher program participants give information and support to those who are considering the program or are new to the program could help in recruiting and retaining new participants.

It is interesting to note the results from those who planned to participate in CSA in 2023 (n=107). This group represents more than half of our survey, and these results provide interesting food for thought for UK CSA program administrators. First, quality produce is still first on the mind of those planning to participate in CSA. That health is the next concern is not surprising either. This group, however, highly rates the sustainability aspect of CSA participation and is the only group to put it in the top three values around purchasing a CSA share. Additionally, this group values convenience and even ranks it higher than any other group. This accords with focus group results, in which participants told us that they highly value the convenience of picking up a CSA share rather than shopping for produce every week. Finally, this group also highlights the local impact of CSA participation and holds this value highly.

The Mixed Logit results for those who plan to participate in CSA in 2023 are perhaps the most revealing for CSA administrators and farmers. Affordability was the 6th-rated value for those planning to participate in CSA in the 2023 season. Above this were

value considerations such as the quality of the produce available in a CSA, the health benefits of CSA, the impact on sustainability of participation, and the convenience of participating in CSA vs. other methods of obtaining produce. By implication, these are vital values to emphasize for voucher program administrators.

The question then becomes: how do CSA promoters convince non-shareholders of these attributes? For quality of produce, Zepeda and Jinghan (2006) suggest that the enjoyment of cooking increases the probability of buying local food by 50%. Similarly, focus groups suggested that CSA program administrators could host cooking demonstrations for potential participants in the CSA program. This could include cooking shows, food festivals, community events, or recipes that feature produce found in a CSA.

For affordability concerns, it is worth noting that the literature suggests that concerns over the cost of food prevail across income categories (Zepeda and Jinghan, 2006). These authors suggest that there are two main ways to communicate about this. First, there is the growing concern with what we eat, how we eat, and what effect it has on us. Thus, emphasizing the health benefits of participating is key for CSA promotion. Second, as focus group participants emphasized, CSA participation typically results in cost savings over the course of the CSA season, as shares typically feature large quantities of produce each week. Thus, campaigns to emphasize the cost differences between CSA participation vs simply buying at the grocery store would UK CSA administrators attract more into the program.

For our final group, those who do not plan to participate in CSA in 2023, our results very closely mirrored those with no CSA experience. For this group, affordability, quality, and convenience were the top three factors when considering joining a CSA. It is

interesting to note that the convenience aspect of CSA was rated highly by both those returning to CSA and those planning not to participate. Finding a way to promote CSA based on convenience, then, is key for CSA administrators. This is an advantage of the CSA model to those who have participated in the program, while it is seen as a barrier by those who do not participate.

Chapter 9: Conclusion

The link between institutional wellness programs and employee health and engagement has prompted institutions, policy makers and those involved in food systems to investigate how to recruit and retain employees in such programs. More broadly, those administering food systems, and specifically in our case CSA, are interested in consumer values and behaviors as a way of categorizing consumers in the effort to promote their programs to first-time users and to retain those already in the program. While studies categorizing CSA consumers exist, our research continues that work with a novel exploration of shareholder values via focus groups and a BWS based on the focus group findings. From our results, attitudes toward CSA change for those who have participated in CSA. Future research could focus even more on how CSA values change over time. This further research would help CSA administrators and farmers be better equipped to recruit and retain subscribers. Continued work in investigating the segmentation of CSA participants would also aid in this work.

For CSA administrators faced with recruiting new employees to CSA programs, our research offers several findings. First, finding ways to promote CSA programs based on the health benefits of CSA may be the most effective, as this value was rated approximately the same by both groups in relative importance. Additionally, affordability

was the largest concern for those who claimed the CSA voucher but did not follow through with subscribing. There are multiple ways to focus on this issue. Emphasizing the value of a CSA share by having messaging that displays a break-down into a weekly cost may aid in educating potential participants in the affordability of a CSA share and was mentioned as a helpful exercise by focus group participants. Second, as was also mentioned in focus groups, finding a way to allow payments via installments, while not a true CSA model, allows for those in lower income brackets to access CSA shares.

Our findings from those who plan to participate in CSA in the future indicate that the affordability advantages of participating in CSA are less important than other factors. Thus, CSA administrators can promote the program to existing shareholders on the basis of other factors, such as the quality of produce and the health benefits of participation.

For CSA farmers marketing their shares, our findings indicate that recruiting those with no experience to join CSA may come down to marketing based on the four biggest factors for that group: the affordability of a CSA share, the quality of the produce, the health benefits of receiving a CSA share, and the variety of produce offered. With affordability being the highest-rated factor for this group, CSA farmers and marketers can center messages around the value of a CSA share. It is important for CSA farmers and marketers to realize, however, that CSA values change for consumers who have participated in CSA. For this group, the quality of the produce, the health benefits, and the impact on the local community is more important than affordability. The impact of participating in CSA on local farms and the local economy is especially important for past CSA participants, while it is of lesser importance to those who have never subscribed to a CSA. Additionally, for those planning to participate in CSA in the coming

season, the sustainability aspect of CSA and the convenience of participating stand out as highly rated reasons to participate. While emphasizing the value of the CSA share is vital for recruiting new participants, emphasizing quality of produce, local impact, sustainability, and convenience is key for shareholder retention.

Appendix 1: Full Survey Text

Block 1

What do you value when buying a CSA share?

Researchers at the University of Kentucky are inviting you to take part in a survey. You are eligible to participate because you expressed interest in UK's Community Supported Agriculture (CSA) voucher program in 2022. You must be 18 years or older to participate. Your responses will help us understand more about what people value about their CSA. The survey will take approximately 10-15 minutes to complete. There are no known risks to participating in this study.

Once your survey is complete, you will have the option to **receive a \$20 check**. To receive this incentive, you will be asked to voluntarily provide your name, mailing address, and email address. Personal identifying information will be kept in strict confidence and only used to provide you with your check. We will limit the incentive to the first 200 individuals who complete the survey. **You must complete the survey by March 25th, 2023 to receive the check.**

We will not use personal identifying information on research documents, presentations, or publications. We will keep confidential all research records that identify you to the extent allowed by law. However, there are some circumstances in which we may have to show your information to other people. For example, we may be required to show information which identifies you to people who need to be sure we have done the research correctly; these would be people from such organizations as the University of Kentucky.

Your participation is voluntary. If you do participate, you are free to discontinue the survey at any time and/or skip questions. By completing the survey, you give consent to us to use your answers in our data analysis. Please be aware, while we make every effort to safeguard your data once received from the on-line survey company, given the nature of on-line surveys, as with anything involving the Internet, we can never guarantee the confidentiality of the data while still on the survey company's servers, or while en route to either them or us. It is also possible the raw data collected for research purposes will be used for marketing or reporting purposes by the survey/data gathering company after the research is concluded, depending on the company's Terms of Service and Privacy policies.

You have a choice about whether or not to complete the survey, but if you do participate, you are free to skip any questions or discontinue at any time. You will only receive the survey incentive if you complete the survey. Please note, you are allowed

to skip some questions within the survey and still be eligible for the incentive.

If you have questions about the study, please feel free to contact me at **jairusrossi@uky.edu**.

If you have complaints, suggestions, or questions about your rights as a research volunteer, contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 1-866-400-9428.

Thank you for your interest and participation.

Jairus Rossi, PhD
College of Agriculture Food and Environment
University of Kentucky
(859) 257-7269
jairusrossi@uky.edu

I have read the survey description above, am at least 18 years old, have expressed interest in UK's CSA voucher program, and agree to participate.

- Yes
 - No
-

Food Purchasing Values Choices

Please choose the option which best describes you.

- I received a CSA voucher from UK in 2022 and subscribed to a CSA.
 - I received a CSA voucher from UK in 2022 but decided not to subscribe to a CSA.
-

Prior to the 2023 season, how many years have you participated in a CSA (with or without a voucher)?

Do you plan to use a voucher on a CSA subscription in 2023?

- Yes
 - No
 - Maybe
-

Which values were most and least related to your interest in a CSA

subscription?

In this section, you will be given a series of 11 choice questions. Each choice question presents 5 values related to your CSA decision. You will choose which values are **MOST** and **LEAST IMPORTANT** to your decision.

You will see a combination of the following values which are loosely defined by the following statements:

Variety - You value different food types and flavors. CSAs provide an opportunity to experience new and diverse foods.	Affordability - Price is a strong motivator for you. CSA seems affordable compared to similar items at grocery stores.
Quality - You are motivated to find fresh, tasty, and flavorful foods. CSA farms have a reputation for quality items.	Convenience - You do not like spending a lot of time acquiring food. CSAs provide a convenient food acquisition experience.
Community Relationships - Food is important to developing relationships. CSAs provide opportunities to engage with your family, community, and/or peers.	Local Impact - You prefer food that is grown, raised, or produced by farmers in your community or state. By subscribing to a CSAs, you support the local economy.
Nutritional Health - You consider the overall health benefit of the food you are buying. CSAs encourage wellness and healthy eating.	Farm Connection - You like to know where your food is coming from and how it is produced. CSAs allow you to have closer relationships with your farmers.
Culturally Appropriate - You prefer foods that reflect your cultural values and experiences. CSAs contain products and recipes that are culturally important to you.	Future Farmer Education - You value opportunities to support the next generation of farmers. By supporting a CSA, you help young farmers gain valuable production experience.
Sustainability - You consider the impact your food choices have on the environment. CSA production methods minimize negative impacts.	

Suppose you are deciding whether to purchase a CSA subscription. Which of the following considerations is **most important** to your choice? Which is **least important**?

Under each column of least & most important value, choose one option.

Least Important Value		Most Important Value
<input type="radio"/>	Affordability	<input type="radio"/>
<input type="radio"/>	Farm Connection	<input type="radio"/>
<input type="radio"/>	Culturally Appropriate	<input type="radio"/>
<input type="radio"/>	Convenience	<input type="radio"/>
<input type="radio"/>	Local Impact	<input type="radio"/>

Suppose you are deciding whether to purchase a CSA subscription. Which of the following considerations is **most important** to your choice? Which is **least important**?

Under each column of least & most important value, choose one option.

Least Important Value		Most Important Value
<input type="radio"/>	Local Impact	<input type="radio"/>
<input type="radio"/>	Farm Connection	<input type="radio"/>
<input type="radio"/>	Convenience	<input type="radio"/>
<input type="radio"/>	Culturally Appropriate	<input type="radio"/>
<input type="radio"/>	Affordability	<input type="radio"/>

Values Definitions

Variety - You value different food types and flavors. CSAs provide an opportunity to experience new and diverse foods.	Affordability - Price is a strong motivator for you. CSA seems affordable compared to similar items at grocery stores.
Quality - You are motivated to find fresh, tasty, and flavorful foods. CSA farms have a reputation for quality items.	Convenience - You do not like spending a lot of time acquiring food. CSAs provide a convenient food acquisition experience.
Community Relationships - Food is important to developing relationships. CSAs provide opportunities to engage with your family, community, and/or peers.	Local Impact - You prefer food that is grown, raised, or produced by farmers in your community or state. By subscribing to a CSAs, you support the local economy.
Nutritional Health - You consider the overall health benefit of the food you are buying. CSAs encourage	Farm Connection - You like to know where your food is coming from and how it is produced. CSAs allow you to

wellness and healthy eating.	have closer relationships with your farmers.
Culturally Appropriate - You prefer foods that reflect your cultural values and experiences. CSAs contain products and recipes that are culturally important to you.	Future Farmer Education - You value opportunities to support the next generation of farmers. By supporting a CSA, you help young farmers gain valuable production experience.
Sustainability - You consider the impact your food choices have on the environment. CSA production methods minimize negative impacts.	

Suppose you are deciding whether to purchase a CSA subscription. Which of the following considerations is **most important** to your choice? Which is **least important**?

Under each column of least & most important value, choose one option.

Least Important Value		Most Important Value
<input type="radio"/>	Affordability	<input type="radio"/>
<input type="radio"/>	Community Relationships	<input type="radio"/>
<input type="radio"/>	Variety	<input type="radio"/>
<input type="radio"/>	Culturally Appropriate	<input type="radio"/>
<input type="radio"/>	Future Farmer Education	<input type="radio"/>

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Nutritional Health - You consider the overall health benefit of the food you are buying. CSAs encourage wellness and healthy eating.	Farm Connection - You like to know where your food is coming from and how it is produced. CSAs allow you to have closer relationships with your farmers.
Culturally Appropriate - You prefer foods that reflect your cultural values and experiences. CSAs contain products and recipes that are culturally important to you.	Future Farmer Education - You value opportunities to support the next generation of farmers. By supporting a CSA, you help young farmers gain valuable production experience.
Sustainability - You consider the impact your food choices have on the environment. CSA production methods minimize negative impacts.	

Suppose you are deciding whether to purchase a CSA subscription. Which of the following considerations is **most important** to your choice? Which is **least important**?

Under each column of least & most important value, choose one option.

Least Important Value		Most Important Value
<input type="radio"/>	Nutritional Health	<input type="radio"/>
<input type="radio"/>	Sustainability	<input type="radio"/>
<input type="radio"/>	Convenience	<input type="radio"/>
<input type="radio"/>	Future Farmer Education	<input type="radio"/>
<input type="radio"/>	Culturally Appropriate	<input type="radio"/>

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Culturally Appropriate - You prefer foods that reflect your cultural values and experiences. CSAs contain products and recipes that are culturally important to you.	Future Farmer Education - You value opportunities to support the next generation of farmers. By supporting a CSA, you help young farmers gain valuable production experience.
Sustainability - You consider the impact your food choices have on the environment. CSA production methods minimize negative impacts.	

Suppose you are deciding whether to purchase a CSA subscription. Which of the following considerations is **most important** to your choice? Which is **least important**?

Under each column of least & most important value, choose one option.

Least Important Value		Most Important Value
<input type="radio"/>	Affordability	<input type="radio"/>
<input type="radio"/>	Sustainability	<input type="radio"/>
<input type="radio"/>	Nutritional Health	<input type="radio"/>
<input type="radio"/>	Variety	<input type="radio"/>
<input type="radio"/>	Farm Connection	<input type="radio"/>

Values Definitions

Variety - You value different food types and flavors. CSAs provide an opportunity to experience new and diverse foods.	Affordability - Price is a strong motivator for you. CSA seems affordable compared to similar items at grocery stores.
Quality - You are motivated to find fresh, tasty, and flavorful foods.	Convenience - You do not like spending a lot of time acquiring food.

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Community Relationships - Food is important to developing relationships. CSAs provide opportunities to engage with your family, community, and/or peers.	Local Impact - You prefer food that is grown, raised, or produced by farmers in your community or state. By subscribing to a CSAs, you support the local economy.
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Culturally Appropriate - You prefer foods that reflect your cultural values and experiences. CSAs contain products and recipes that are culturally important to you.	Future Farmer Education - You value opportunities to support the next generation of farmers. By supporting a CSA, you help young farmers gain valuable production experience.
Sustainability - You consider the impact your food choices have on the environment. CSA production methods minimize negative impacts.	

Suppose you are deciding whether to purchase a CSA subscription. Which of the following considerations is **most important** to your choice? Which is **least important**?

Under each column of least & most important value, choose one option.

Least Important Value		Most Important Value
<input type="radio"/>	Future Farmer Education	<input type="radio"/>
<input type="radio"/>	Affordability	<input type="radio"/>
<input type="radio"/>	Quality	<input type="radio"/>
<input type="radio"/>	Local Impact	<input type="radio"/>
<input type="radio"/>	Sustainability	<input type="radio"/>

Values Definitions

Variety - You value different food types and flavors. CSAs provide an opportunity to experience new and diverse foods.	Affordability - Price is a strong motivator for you. CSA seems affordable compared to similar items at grocery stores.
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opportunities to engage with your family, community, and/or peers.	By subscribing to a CSAs, you support the local economy.
Nutritional Health - You consider the overall health benefit of the food you are buying. CSAs encourage wellness and healthy eating.	Farm Connection - You like to know where your food is coming from and how it is produced. CSAs allow you to have closer relationships with your farmers.
Culturally Appropriate - You prefer foods that reflect your cultural values and experiences. CSAs contain products and recipes that are culturally important to you.	Future Farmer Education - You value opportunities to support the next generation of farmers. By supporting a CSA, you help young farmers gain valuable production experience.
Sustainability - You consider the impact your food choices have on the environment. CSA production methods minimize negative impacts.	

Suppose you are deciding whether to purchase a CSA subscription. Which of the following considerations is **most important** to your choice? Which is **least important**?

Under each column of least & most important value, choose one option.

Least Important Value		Most Important Value
<input type="radio"/>	Variety	<input type="radio"/>
<input type="radio"/>	Quality	<input type="radio"/>
<input type="radio"/>	Nutritional Health	<input type="radio"/>
<input type="radio"/>	Culturally Appropriate	<input type="radio"/>
<input type="radio"/>	Local Impact	<input type="radio"/>

Values Definitions

Variety - You value different food types and flavors. CSAs provide an opportunity to experience new and diverse foods.	Affordability - Price is a strong motivator for you. CSA seems affordable compared to similar items at grocery stores.
Quality - You are motivated to find fresh, tasty, and flavorful foods. CSA farms have a reputation for quality items.	Convenience - You do not like spending a lot of time acquiring food. CSAs provide a convenient food acquisition experience.

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Sustainability - You consider the impact your food choices have on the environment. CSA production methods minimize negative impacts.	

Suppose you are deciding whether to purchase a CSA subscription. Which of the following considerations is **most important** to your choice? Which is **least important**?

Under each column of least & most important value, choose one option.

Least Important Value		Most Important Value
<input type="radio"/>	Variety	<input type="radio"/>
<input type="radio"/>	Farm Connection	<input type="radio"/>
<input type="radio"/>	Convenience	<input type="radio"/>
<input type="radio"/>	Quality	<input type="radio"/>
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<input type="radio"/>	Sustainability	<input type="radio"/>
<input type="radio"/>	Local Impact	<input type="radio"/>
<input type="radio"/>	Community Relationships	<input type="radio"/>
<input type="radio"/>	Convenience	<input type="radio"/>

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<input type="radio"/>	Affordability	<input type="radio"/>
<input type="radio"/>	Nutritional Health	<input type="radio"/>
<input type="radio"/>	Quality	<input type="radio"/>
<input type="radio"/>	Convenience	<input type="radio"/>

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<input type="radio"/>	Community Relationships	<input type="radio"/>
<input type="radio"/>	Sustainability	<input type="radio"/>
<input type="radio"/>	Farm Connection	<input type="radio"/>

What other values motivate your CSA purchasing decisions?

Please indicate how frequently you do the following:

	Never or Rarely	Sometimes	Frequently
I read nutrition labels when I buy food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I watch or read health-related media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy in bulk to save money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take extra time to shop for the lowest price between stores	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy food that is higher quality even if it is more expensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I shop at multiple stores to get the best quality products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try new foods or recipes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy a variety of fruits and vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate how frequently you do the following:

	Never or Rarely	Sometimes	Frequently
I do all my food shopping at one location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use grocery delivery, curbside pickup, and/or online ordering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy food from local, independent grocers and restaurants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy food directly from farmers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I volunteer with organizations in my community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I share food with my coworkers, neighbors, and/or extended family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I visit local farms or orchards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have conversations with people who grow my food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate how frequently you do the following:

	Never or Rarely	Sometimes	Frequently
I go out of my way to recycle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy organic foods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy foods that remind me of my upbringing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I eat foods or dishes that reflect my cultural values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I support youth education programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy from new local businesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I interact with coworkers outside of my workplace	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I share information about CSA on social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I share information about local foods on social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please rate your interest in locally produced foods.

	Not Interested		Somewhat Interested		Very Interested
Interest Level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

You previously mentioned that you received a CSA voucher, but decided not to subscribe to a CSA. What would have to change for you to consider subscribing to a CSA?

How would you convince your peers to join a CSA if they haven't done so yet? Please suggest some strategies or ideas.

Do you have any suggestions for programs that UK could offer to support or supplement your CSA experience?

For the purpose of classifying these responses, we now ask some basic questions about you.

Please indicate your gender.

▼

What is your age?

What best describes your highest level of education?

Which of the following best describes you?

- Asian or Asian American
- Black or African American
- Hispanic / Latin
- White Caucasian
- American Indian or Alaskan Native
- Native Hawaiian or Pacific Islander
- Other / Multiple Ethnicity
- Prefer not to answer

What is your approximate average annual household income?

How many years have you worked at UK?

How many people (including yourself) currently live in your household?

How many children under the age of 18 currently live in your household?

What is your zip code?

Thank you for completing the survey! If you would like to receive the \$20 incentive, please provide your name, email address, and mailing address. We will only use this information to send you the check. Once all checks are sent, we will delete your personal information.

Name	<input type="text"/>
Address	<input type="text"/>
Email	<input type="text"/>

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VITA

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Conference Presentations

2023. Pierce, Thomas. "Kentucky Produce Auctions and Regional Terminal Markets: An Analysis of Demand Conditions." Southern Agricultural Economics Association Annual Conference, Oklahoma City, OK

2022. Pierce, Thomas. "Identifying CSA Consumer Segments to Improve Shareholder Retention in a Rapidly Changing Market Environment." Food Distribution Research Society Annual Conference, Pensacola, FL

Teaching Positions

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Course: Agribusiness Management

Professional Positions

Research Assistant Intern

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