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Understanding Shareholder Satisfaction and Retention in CSA Incentive Programs

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Abstract

Innovations in Community Supported Agriculture (CSA) have intensified during the COVID-19 pandemic, including the use of employer voucher programs. With many first-time shareholders trying the CSA model, evaluating shareholder satisfaction may help improve retention rates. We evaluate a dataset of new and experienced shareholders enrolled in a pilot CSA voucher program to determine what variables impact their decisions to join or recommend CSA. We find that increased levels of shareholder engagement during the CSA season and certain shareholder motivations for initially joining a CSA are associated with increased satisfaction and likelihood of joining a CSA in the future.

Keywords: Community Supported Agriculture; CSA incentive programs; CSA innovations; shareholder retention

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Introduction

Community Supported Agriculture (CSA) in the United States has seen a surge in innovation in recent years. CSAs are attempting to expand markets by reaching nontraditional shareholders and adapting to consumer demand for healthy, convenient food options. Among these innovations is the expansion of workplace benefits programs that subsidize CSA shares. As models that increase the accessibility of CSA, workplace incentive programs can provide insights into how CSA is perceived by an expanded shareholder base.

Understanding the first-time shareholder experience has become more important now that COVID-19 is driving consumer interest in CSA. During the initial wave of the pandemic in the United States, many consumers turned to more direct and local forms of food acquisition (Ricker and Kardas-Nelson, 2020; Urgenci, 2020). CSA provided consumers a sense of security during the food purchasing experience in an environment where they could avoid large crowds and that eliminated steps in the supply chain. Many CSAs reported demand beyond what could be satisfied in their preseason planning.[1] Consequently, many farms sold out their shares or redirected would-be wholesale production for institutions or restaurants into share expansion. Additionally, many farms that had not previously offered CSA pivoted to this production-distribution option. Finally, non-farm organizations, such as restaurants, food hubs, and even the federal government, adopted food box strategies to meet the needs of newly unemployed consumers and take advantage of consumer shifts in food purchasing (Helmer, 2020; USDA, 2020; Woods, 2020). These shifts point to a rapidly evolving food acquisition landscape in which CSA may play a larger role.

Yet there are risks inherent to the entrance of inexperienced CSA shareholders and producers. New CSA producers must learn different marketing, packaging, and logistic techniques. While COVID-19 required many changes for farm-product handling regardless of market orientation, producers new to CSA generally need a few seasons to make the model work well for themselves and for their shareholders. A rapid influx of new farmers might lead to CSAs that fall below the standard expected by shareholders, thereby damaging the perception of the model. While shareholders who value the "community" aspect of CSA with respect to sharing production risk might give more latitude to inexperienced CSA producers, new shareholders and those who expect a certain standard of quality might avoid CSA in future seasons if they have a negative experience.[2] Given the expansion of the shareholder base in 2020, farms are under pressure to ensure their CSAs operate correctly to maintain an acceptable year-to-year shareholder retention level.

Our manuscript focuses primarily on consumer behavior and perception of CSA in the context of workplace programs designed to attract and hopefully retain new employees in corresponding wellness benefit programs. Specifically, we use survey data gathered during the establishment of a workplace CSA incentive program in central Kentucky from 2015-2018 to understand the aspects of the shareholder experience that are associated with an increased likelihood to buy or recommend

[1] COVID-19 response data are gathered from communication with CSA technical assistance organizations at local, regional and national levels. We are part of the CSA Innovation Network (www.csainnovationnetwork.org) and have been updated on CSA demand dynamics throughout the pandemic.
[2] Personal communication with the CSA Innovation Network.

a CSA in the following year. While our manuscript involves work done prior to the pandemic, it offers insights into how CSA models can be adapted to a new consumer audience. Understanding specific shareholder values and attributes associated with satisfaction can help farmers and employers, who together provide CSA incentive programs, focus recruitment and messaging to improve retention of new subscribers.

These insights are important because many first-time shareholders may not be able to fully take advantage of the traditional CSA model. It requires creative meal preparation skills, time to attend box pickups, and usually a high upfront payment. Additionally, the seasonality and diversity of produce inherent to CSA require new shareholders to learn how to plan meals rapidly around a shifting mosaic of foods. Finally, many farms give little lead time to their shareholders on what to expect in their box each week. While experienced shareholders can adapt to the requirements of the CSA model, newer shareholders may encounter significant challenges in their experience. By understanding where farms might target their marketing, communication, and engagement activities, we identify how they might make their CSAs more attractive to a larger audience.

Program Background

The authors worked with various employers in central Kentucky to develop a CSA incentive program. In this program, each employer would fund a voucher for their workers to participate in CSA. The method and amount of that incentive varied by workplace, but generally involved a $100 to $200 voucher applied to the price of a full season CSA produce share. Most farms offered installment plans to further reduce the financial burden inherent in a large upfront payment. As such, the incentive programs generated interest and participation from individuals who had never experienced a CSA before. Consequently, we are able to use pre- and post-season surveys of program participants to evaluate how both first-time and experienced shareholders perceived the program. While participating farms had their own marketing strategies (e.g., meat/egg add-ons, digital versus paper newsletters, etc.), the vouchers were limited to funding vegetable shares. These farms agreed to have similar-sized and priced options available for the voucher program in the first few years to avoid undercutting one another. Finally, all farms had active websites, email communication, and newsletters. The engagement areas are important for our analysis since we evaluated the association between the use of these resources and shareholder satisfaction as well as willingness to join/recommend a CSA.

The CSA incentive program started in 2015 with a small pilot of employees at the University of Kentucky. The University's Health and Wellness program, part of the benefits office, initially contacted employees to assess interest in receiving a $200 voucher in exchange for participating in a CSA program. After receiving a list of interested individuals, we randomly selected 95 participants to receive a voucher offer. Employees could view four different farm CSA options and decide whether to sign up and pay the remaining cost of the CSA (typically an additional $350–$450). After two weeks, we offered a few more vouchers to fill the remaining spots after we determined who accepted and who declined the offer.

We collected data on shareholder behavior change via a survey (see Rossi, Woods, and Allen, 2017) and presented the data to the University of Kentucky benefits office as well as a few employers around central Kentucky. The University and four other employers agreed to fund vouchers for a larger pilot program for 2016. In 2017 and 2018, the University of Kentucky and a few regional employers established the CSA voucher program as a general employee benefit. Vouchers ranged between $100 and $200. CSA shareholders were given the option to complete standardized pre- and post-CSA surveys, which is how we collected data for this manuscript.

Currently, 15 employers in Kentucky offer approximately 1,300 CSA (Brooke Gentile, Executive Director of the Kentucky Farm Share Coalition, personal communication), of which nearly 1,000 were claimed this year in a time of widespread economic uncertainty. Considering the shareholder base (regardless of incentive structure) in central Kentucky was around 800 in 2014, it appears that the voucher project has had a significant impact on expanding the CSA shareholder base beyond the traditional locavore demographic. In 2020, incentive expansion provided many individuals with an easy alternative option for food acquisition.

Literature Review

Shareholder retention is one of the most challenging issues for CSA farms (Woods and Tropp, 2015; Woods, Ernst, and Tropp, 2017; Galt et al., 2019). High upfront payments, novelty of food preparation requirements, and lack of consumer choice can act as a disincentive to participate. However, after a shareholder participates in the model, their experiences of the program are critical to their likelihood of joining a CSA in the future (Durrenberger, 2002; Pole and Kumar, 2015). Similarly, many CSAs rely on testimonials from shareholders to peers as an effective recruitment tool. As such, understanding shareholder recruitment and retention is a pressing challenge to CSA researchers and practitioners.

Farms have explored various innovations and modifications to their share structure to respond to shareholder feedback and make the model more accessible (Woods, Ernst, and Tropp, 2017). Customization has become a popular resource for shareholders as it allows for some degree of consumer choice (Woods Ernst, and Tropp, 2017; Galt et al., 2019). Technology has evolved to assist farmers in the logistics of ordering, packing, and delivering fully or partially customized shares. The adoption of customization may increase after the pandemic because many CSA farms, especially those operating in other sectors such as farmers markets, expanded their e-commerce. Alongside expanded electronic ordering systems, CSAs have invested in making their websites more accessible and visible, especially in situations where a state department of agriculture or farmer support organization compiled and organized consumer-facing directories.

Other farms and organizations have focused on making CSA more economical. Cost-offset programs, such as our CSA voucher program, reduce the price of entry (Rossi, Woods, and Allen, 2017; Woods, Ernst, and Tropp, 2017). Combined with innovations like payroll deduction, CSA is more attractive to income-limited households. Additionally, sliding scale and fully subsidized models through vegetable RX programs reach households that do not have access to an employer-funded CSA. Finally, the pandemic is helping to speed up the use of online SNAP redemption

systems for CSA programs—a critical movement that will help technical assistance providers and farms process SNAP benefits within a CSA context (members of the CSA Innovation Network, personal communication).

Regarding logistics, some farms are experimenting with more targeted delivery options while folding the extra costs into the share payment structure. Others are developing multifarm aggregation models to provide market access to newer or under-resourced farmers. These models allow each farmer to produce fewer varieties of produce as well as delegating some marketing and logistic responsibilities to a designated organization (Flora and Bregendahl, 2012; Woods, Ernst, and Tropp, 2017; Si et al., 2020). Finally, some farmers are developing hybrid models of CSA that incorporate CSA box drops at farmers' markets and the ability to augment the base share with other items from the market stand. All of these innovations are aimed toward meeting the changing demands of a shifting consumer base in order to create a satisfactory experience.

Many advocates worry that these changes move CSA away from its foundational ideals of engaging the community to share risk. By attempting to increase shareholder satisfaction, farmers may overextend themselves and undermine their personal and financial well-being (Galt, 2013). Additionally, by reshaping CSA toward customization and consumer choice, the CSA box may start looking like other box products offered by food delivery services or large retailers (Galt et al., 2019). This risk has intensified due to the proliferation of CSA-like box products and online shopping/curbside pickup at grocery stores during the COVID-19 pandemic.

At the same time, the movement toward technologically mediated programs, consumer choice, and distribution innovations may have become more permanent fixtures in CSA because of the pandemic experience. The digital realm provides a different avenue for shareholder engagement—and engagement is an important variable in developing long-term participation. To counter the potential dilution of CSA's distinctiveness, farms must further emphasize what makes their product unique, and newly developed or refined digital platforms provide many possibilities for CSAs (Woods and Tropp, 2015).

Despite concerns with CSA's mission drifting away from foundational ideas of risk sharing, it should be noted that CSA's traditional prepayment structure is already exclusionary (even with payment plans) to many individuals. Participants in CSA are predominantly white and middle/upper class (Durrenberger, 2002; Perez, Allen, and Brown, 2003; Ostrom, 2007). Additionally, CSA requires consumers to (1) have or develop food preparation skills to eat seasonally and vegetable-centrically, (2) time to attend regular pickups, develop food preparation skills, and augment box contents with retail purchases, and (3) a household size or social network that is appropriately-sized to the size of the CSA share. Regarding this latter point, the standard share size can be far too large for a single-person or small household. Understanding how to choose a CSA size and share type poses challenges for new shareholders.

Because of these structural challenges, as well as the rapid emergence of a broader shareholder base during the pandemic, CSA innovations are likely to continue. The innovation that characterizes our particular dataset—the incentivized workplace CSA—was originally aimed at

broadening access to and knowledge about CSA. Our primary mode of promotion has been to work with benefits and wellness organizations. This aim was shaped by the observation that CSA has transformative potential, not just in terms of farmer income and sustainable farming practice, but also on the health and food consumption habits of shareholders (Durrenberger, 2002; Perez, Allen, and Brown, 2003; Brown and Miller, 2008; Russell and Zepeda, 2008; Landis et al., 2010; Cohen, Gearheart, and Garland, 2012; Wilkins, Farrell, and Rangarajan, 2015; Vasquez et al., 2016; Allen IV et al., 2017; Hanson et al., 2017; Vasquez et al., 2017).

Using a smaller portion of this current data set that only included new shareholders, we found that participants in a CSA incentive program gained cooking skills, consumed more vegetables, and perceived changes in their health along with a number of indicators (Rossi, Woods, and Allen, 2017). The repetitive and iterative structure of the CSA (weekly deliveries, constantly changing produce box, inundation with certain items during peak harvest) requires the shareholder to continuously learn, adapt, and innovate with respect to vegetable-centric meal planning (Rossi et al., 2017). Given that increased vegetable consumption is associated with a number of positive health outcomes (Dauchet et al., 2006; Boeing et al., 2012; Bellavia et al., 2013; Bechthold et al., 2019), CSA incentive programs within diverse organizations could have broader public health implications (Berkowitz et al., 2019). This point is reinforced by studies that show wellness programs, most of which focus on exercise and not diet, generally lead to positive returns on investment for employers, which is a proxy of positive health outcomes (Parks and Steelman, 2008; Baicker, Cutler, and Song, 2010; Berry, Mirabito, and Baun, 2010; Chapman, 2012).

The challenge of a CSA incentive program (and pandemic-induced expansions of the shareholder base) is that many new shareholders are completely unfamiliar with the CSA concept. The traditional shareholder base is defined by a few core values, such as interest in supporting local farmers, sustainability, and developing community (Ostrom, 2007; Hvitsand, 2016). In practice, however, the rationale for joining a program is more complex and balances these ideals with more individualistic concerns (Ostrom, 2007; Pole and Gray, 2013). In an incentivized model, different motivations for joining emerge, such as seeing the program as a good opportunity to get access to high-quality food at a discount. Additionally, since we have been working through wellness programs, participants might be more attracted to CSA's potential health benefits.[3]

The learning curve associated with CSA may lead to an unsatisfactory experience, and therefore, lower retention rates, if supplementary support is not given to the shareholder to keep them engaged and learning. The contribution of this paper, then, is to provide some context about how different shareholder attitudes and characteristics contribute to shareholder satisfaction and likelihood of joining or recommending the program in future years. As our shareholder base has been diversified beyond traditional, early-adopter CSA members through the incentive structure, we provide insights into what characteristics of new shareholders are potentially associated with program satisfaction. Additionally, since the wellness programs we worked with offered cooking classes, recipe cards, and other share usage strategies, we can measure how shareholders'

[3] It should be noted here that health improvement was not a significant motivator of CSA participation among longtime shareholders in a separate study we conducted (see Allen et al., 2017).

participation in these programs impacts their perception of and experience with the CSA. These programs were exclusive to shareholders and provided tips for using CSA produce

Methods

Survey and Data

Beginning with our pilot program in 2015, we offered pre- and post-CSA surveys to all participants. Both surveys asked questions about shareholder food consumption behaviors, perceptions of shareholder well-being, and basic demographics. The post-season survey also asked retrospective questions about satisfaction with the CSA experience as well as their willingness to recommend or buy a CSA with and without a voucher. The post-season questions are the focus of our analysis for this manuscript.

Participants received a small incentive to complete each survey. All surveys were distributed through SurveyMonkey, an online survey platform. CSA voucher participants were contacted multiple times via email with the survey opportunity. Pre-season surveys were administered in April or May. Post-season surveys were given in October or November. The timing of the surveys depended on when participating farms began and ended their seasons.

In 2015, 95 individuals joined a CSA with a voucher from the University of Kentucky. All participants except two completed both the pre- and post-CSA survey. In 2016, 150 out of the 180 total shareholders from three different organizations completed both surveys. In 2017, 227 out of a possible 320 shareholders completed both surveys from three different employers. In 2018, the final year that we offered a survey incentive, 276 participants completed both surveys out of 457 possible respondents from five employers. We received a total of 746 usable responses, which is a 70% response rate from all voucher participants in these employer programs.

The pre- and post-CSA surveys all contained a core set of 27 questions that asked shareholders to measure their (1) frequency of participation in 17 different food lifestyle behaviors, such as daily consumption of fruits and vegetables, and (2) perception of their own health and well-being along 11 different indicators. Behavior and perception changes are the subject of previous publications (Allen et al., 2017; Rossi, Woods, and Allen, 2017; Rossi et al., 2017;) and are not critical to this analysis.

More relevant to this manuscript are questions that were unique to the pre- and post-CSA surveys. In particular, our analysis revolves around five specific questions asked in the post-CSA survey. The first two questions are about the likelihood of joining a CSA in the following year. These questions were phrased in the following way: (1) After your experience with a CSA, how likely are you to join again next year with a subsidy from your employer? and (2) After your experience with a CSA, how likely are you to join again next year without a subsidy from your employer?

The second two questions are about the likelihood of recommending a CSA. They are phrased in the following way: (3) How likely are you to recommend a CSA subscription to a coworker with

a subsidy from your employer? and (4) How likely are you to recommend a CSA subscription to a coworker without a subsidy from your employer? Each participant was asked to rate these questions using a 5-point Likert scale with the following options: 1 = Extremely Unlikely, 3 = Unsure, and 5 = Extremely Likely.

Finally, we evaluate responses to the question, "Rate your overall satisfaction with the CSA experience." Participants indicated their satisfaction with the CSA program using a 7-point Likert scale with the following options: 1 = Did not meet expectations, 4 = Met Expectations, and 7 = Exceeded Expectations.

In addition to these questions, we gathered information about shareholder demographics, household characteristics, experience with CSA, motivations for joining the CSA program, and CSA resources used while participating in the CSA program.

Probit Regressions

Probit regressions were used to explore potential determinants of four shareholder decisions: (1) "Join with a Voucher," (2) "Join without a Voucher," (3) "Recommend with a Voucher," and (4) "Recommend without a Voucher." Behind shareholder i decision (i.e., *j*) to recommend and join the CSA program is the expected utility associated with participating in the CSA program (y_{ij}^*). We assume the latent variable y_{ij}^* is a function of observed and unobserved variables behind the decisions to join and recommend the CSA, and can be described as:

$$y_{ij}^* = \boldsymbol{x}_i'\boldsymbol{\beta} + \varepsilon_{ij} \quad (1)$$

where $\boldsymbol{x}_i$ is a vector of observable variables that could be correlated with shareholders' decisions to join a CSA in the future or recommend the CSA program, such as shareholder demographics, and household characteristics, experience with CSA, motivations for joining the CSA program, and CSA resources used while participating in the CSA program; $\boldsymbol{\beta}$ is a vector of coefficients capturing the correlation between the various observable variables and the shareholder decisions; and is the random disturbance term.

We do not observe y_{ij}^*, but we only observe whether the shareholder is likely or extremely likely to join or recommend the CSA program such that,

$$y_{ij} = \begin{cases} 1 & \text{,if } y_{ij}^* \geq 0 \\ 0 & \text{otherwise} \end{cases} \quad (2)$$

where y_{ij}^* is the dependent variable to be used in the probit regressions evaluating the factors influencing shareholder likelihood of joining the CSA program in the future, or recommending the CSA program to others. This variable takes the value of 1 if shareholders are "likely" or "extremely likely" to join the CSA program in the future or recommend the CSA program to others, and 0 otherwise. Since dependent variables were originally on a 5-point Likert scale, we recoded responses that were "likely" and "extremely likely" (to recommend or join) as the positive record

of selection (i.e., 1). All other responses were coded 0. Table 1 describes the recoded variables for each question, which serve as dependent variables in each probit model.

Table 1. Descriptive Statistics of Probit Regressions' Dependent Variables

	No (0)		Yes (1)	
	N	**%**	***N***	**%**
Join with voucher	87	11.8%	648	88.2%
Join without voucher	443	60.2%	293	39.8%
Recommend with voucher	56	7.6%	680	92.4%
Recommend without voucher	285	38.7%	451	61.3%

The probability of shareholder *i* recommending or joining the CSA program (i.e., decision *j*) is defined as (Greene, 2008),

$$\begin{aligned} P(y_{ij} = 1 \mid \boldsymbol{x}_i) = P(y_{ij}^* \geq 0 \mid \boldsymbol{x}_i) &= P(\boldsymbol{x}_i'\boldsymbol{\beta} + \varepsilon_{ij} \geq 0 \mid \boldsymbol{x}_i) \\ &= P(\varepsilon_{ij} \geq -\boldsymbol{x}_i'\boldsymbol{\beta} \mid \boldsymbol{x}_i) = P(\varepsilon_{ij} \leq \boldsymbol{x}_i'\boldsymbol{\beta} \mid \boldsymbol{x}_i) \\ &= F(\boldsymbol{x}_i'\boldsymbol{\beta}) = \Phi(\boldsymbol{x}_i'\boldsymbol{\beta}), \end{aligned} \tag{3}$$

where $F(.)$ is the cumulative distribution function for the random variable ε_{ij}. We assume ε_{ij} is normally distributed, therefore Φ(.) is the cumulative normal distribution. Hence, the binary choice model described in equation (3) is estimated using a probit regression (Greene, 2012). Following Greene (2008), the average marginal effects for the variables included in were calculated following Greene (2008).

Ordered Logistic Regressions

An ordered logistic regression (Greene, 2008) was used to evaluate the factors influencing shareholder satisfaction with the CSA experience. Results from the ordered logistic regression provide insights into the factors influencing shareholder level of satisfaction with the CSA experience. Three ordered logistic regressions were estimated, one for the sample of all shareholders, one for the sample of shareholders with previous experience with CSAs, and one for the sample of shareholders with no previous experience with CSAs.

Independent Variables in Probit and Ordered Logistic Regressions

The variables included in the probit and ordered logit regressions are described in Table 2. The variables included in the estimated regressions include shareholder demographic characteristics; household characteristics; and variables capturing shareholder interest in local foods, CSA experience, food choice, and CSA program engagement. CSA experience allows us to see whether previous experience with a CSA program is associated with different evaluations of the CSA incentive program. Household size was included to control for any effects on program satisfaction and willingness to buy/recommend CSA caused by a mismatch between household and share size.

Table 2. Variable Descriptions for Probit and Ordered Logistic Regressions

Variable	Description	Values	Probit	Ord. Logit
Dependent Variables				
Join with a voucher	How likely are you to join again next year with a subsidy from your employer?	1 = Extremely Unlikely 3 = Unsure 5 = Extremely Likely	x	
Join without voucher	How likely are you to join again next year with a subsidy from your employer?		x	
Recommend with voucher	How likely are you to recommend a CSA subscription to a coworker with a subsidy from your employer?	Recoded to binary 0 (not join/not rec) = 1 to 3 1 (join/rec) = 4 to 5	x	
Recommend without voucher	How likely are you to recommend a CSA subscription to a coworker without a subsidy from your employer?		x	
Program satisfaction	Rate your overall satisfaction with the CSA experience.	1=Not meet expectations 4=Met Expectations 7=Exceeded Expectations		x
Independent Variables				
Demographic Variables				
Age	Please indicate your year of birth.	Recoded as age: continuous	x	x
Sex	Please indicate your sex.	binary: 0=male / 1=female	x	x
Household income	What range describes your total yearly household income before taxes?	$25k intervals up to $250k recoded as continuous from range midpoint	x	x
Household size	How many people live in your household (including yourself)?	Continuous	x	x
CSA experience	Mark any previous year in which you participated in a CSA at any location: Before 2010, 2010, 2011, 2012, 2013, … 2017	0 = No previous year marked 1 = Any previous year marked	x	

Table 2 (continued).

Variable	Description	Values	Probit	Ord. Logit
Food Choice Variables: Pre-CSA Survey Questions				
Wanting to lose weight	Which of the following factors caused you to join your CSA initially?	1 = Less of a factor 4 = Somewhat of a factor 7 = A significant factor	x	x
Wanting to support local farms and farmers			x	x
Wanting access to better quality food			x	x
Helping my family eat better			x	x
Wanting knowledge about how my food is produced			x	x
The voucher			x	x
Engagement Variables: Post-CSA Survey Questions				
CSA newsletter	How many times during the season did you use the following resources to use your CSA?	0 = Never 1.5 = 1 to 2 times 3.5 = 3 to 4 times 5.5 = 5 to 6 times 7.5 = 7 to 8 times 9.5 = 9 to 10 times 11.5 = more than 10 times	x	x
CSA website			x	x
Conversations with CSA staff			x	x
Conversation with family and friends			x	x
Cooking classes			x	x
Interactions with other shareholders			x	x

Notes: Program satisfaction is also used as an independent variable in the probit regressions of the "recommend" and "join" dependent variables. CSA Experience is used to segment ordered logistic regression models by experience.

We can further segment participants based on personal values they ascribe to different food choices. The six food choice variables from the pre-survey control for the values participants bring to the CSA experience. Here we include diverse aspects, such as concern with family, safety of food, health concerns, and the impact of the voucher itself. The six specific food choice questions used to construct the variables included in the regressions are listed in Table 2.

Similarly, we included six program engagement variables in all the regression models (see Table 2). These variables measured participants' use of different resources to consume their weekly produce box. These variables allow us to identify how different avenues of engagement with their experience contribute to shareholders' willingness to buy/recommend CSA and satisfaction with the CSA.

Diagnostic Tests

We tested for collinear relationships among the independent variables included in the various estimated regressions using a variance inflation factor (VIF). We also conducted specification tests for the probit models. Following each probit model, we evaluated the percent of actual responses that the model correctly predicted based on the demographic and other independent variables with a cutoff of 0.5 using the "estat classification" command in Stata. We also plotted the true positives (i.e., sensitivity) versus false positives (i.e., specificity) of the model and then measured the area under the curve (i.e., receiver operating characteristic) using the "lroc" command in Stata. The higher the area under the curve, the better the model is at classifying choices in a binary response model. Finally, we validated our models using the Hosmer-Lemeshow Goodness-of-Fit test. This test groups individuals by their probability of a particular response. It then tests whether these groups have different proportions of observed versus expected responses. Low p scores indicate that these proportions differ and that the model is incorrectly specified. Results from this test are presented in Table 5. For ordered logistic regressions, we conducted the Brant tests to ensure that the parallel regression assumption holds true.

Results and Discussion

Survey sample descriptive statistics of the demographic variables included in the probit and ordered logit regressions are presented in Table 3. CSA program participants are, on average, 42 years old, with a household income of around $110,000. Approximately half of the survey respondents were first-time shareholders. On average, households held between two and three individuals.

Table 3. Independent Variable Means in Aggregate and by Experience Level

Variable	All Shareholders	New Shareholders	Experienced Shareholders
Number of participants	736	353	383
Age	42.6 (10.8)	42.2 (11.0)	43.3 (10.5)
Household income	$110K ($57K)	$104K ($57K)	$118K ($57K)
Household size	2.4 (1.2)	2.5 (1.1)	2.3 (1.1)

Note: Standard deviations for age, income, and household size are included in parentheses.

In Table 4, we present descriptive statistics of the dependent and the independent variables, other than shareholder and household characteristics, included in all regressions. Overall satisfaction with the CSA program was high. On average, participants scored their experiences 5.6 out of 7, while shareholders with 1 year (or more) of experience with CSAs gave the program a higher score. This trend continued through all the dependent variables. Experienced shareholders averaged a higher score for recommending and joining a CSA with or without a voucher compared to first-time shareholders. *t*-tests suggest that all differences between experienced and first-time shareholders are significant (see the last column of Table 4).

Table 4. Means for All Variables Used in Regression Models

	All Shareholders *N* = 736		New Shareholders *N* = 353		Experienced Shareholders *N* = 383		*t*-test
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	
Dependent Variables (post-CSA survey responses)							
Satisfaction with CSA program (1-7 Likert)	5.6	1.4	5.3	1.6	5.8	1.2	***
Join with a voucher (1-5 Likert)	4.3	1.0	4.1	1.1	4.5	1.0	**
Join without a voucher (1-5 Likert)	2.7	1.3	2.6	1.2	2.9	1.3	***
Recommend with a voucher (1-5 Likert)	4.5	0.8	4.4	0.9	4.7	0.8	***
Recommend without a voucher (1-5 Likert)	3.4	1.2	3.2	1.2	3.5	1.2	***
Independent Variables							
Food Choice Variables (pre-CSA survey responses) –7 point scale							
Wanting to lose weight	4.1	2.1	4.1	2.1	4.0	2.1	
Wanting to support local farms and farmers	6.1	1.2	6.1	1.2	6.2	1.2	
Wanting access to better quality food	6.4	1.0	6.3	1.1	6.5	1.0	*
Helping my family eat better	5.9	1.5	5.9	1.5	5.8	1.5	
Wanting knowledge about how my food is produced	4.8	1.8	4.8	1.9	4.8	1.7	
The voucher	6.0	1.6	6.0	1.6	6.0	1.6	

Table 4 (continued).

	All Shareholders $N = 736$		New Shareholders $N = 353$		Experienced Shareholders $N = 383$		*t*-test
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	
Engagement Variables (post-CSA survey) – times per CSA season							
CSA newsletter	7.2	4.2	6.5	4.3	8.0	4.0	***
CSA website	5.0	4.3	4.4	4.4	5.6	4.6	***
Conversations with CSA staff	2.1	3.0	1.5	2.4	2.9	3.5	***
Family and friends	4.4	3.7	4.3	3.6	4.6	3.9	
Cooking classes	0.4	1.3	0.3	1.2	0.5	1.5	*
Interactions with other shareholders	3.8	4.1	3.7	4.1	3.9	4.2	

Note: Two-tailed *t*-tests were conducted on means comparing experienced and first-time shareholders. Significance: ***$p < 0.01$, **$p < 0.05$, *$p < 0.10$.

On average, all shareholders rated their likelihood of joining CSA 4.3 out of 5 with a voucher and 2.7 without (see Table 4). Similarly, participants are likely to recommend the CSA with a voucher (4.5 out of 5) though are a bit closer to "unsure" without a voucher (3.4 out of 5). The same relationship holds true when we examine the means for these same questions by CSA experience level. Differences between the with/without voucher conditions are significant at a 1% level in *t*-tests for all segments and in each recommend/join condition. Again, the voucher is critical to inducing participation in a certain segment of consumers. It is possible, then, that once a shareholder experiences the incentive, their future willingness to join CSA will depend on the existence of the incentive.

Food choice variables, the motivation shareholders give for joining a CSA, are very similar among new and experienced shareholders. The highest scores are related to accessing better quality food, helping families eat better, supporting farmers, and the voucher incentive itself. The only factor with a significant difference by CSA experience level is shareholders joining CSA to acquire better-quality food.

The engagement variables provide a bit more contrast, with the experienced shareholders having a higher frequency of interacting with CSA resources throughout the season. Farm websites and newsletters were among the most-used resources, whereas discussions with family, friends, and other shareholder peers were also important to participants. Experienced shareholders were more engaged overall, probably because they already had figured out that CSA success requires external resources.

Probit Regression for Joining a CSA Next Year

In this section, we examine the impact of different variables on shareholders' personal decisions about whether or not to join a CSA in the future. We present probit regression results for the "joining a CSA in the future" dependent variable in Table 5. Regression results suggest program satisfaction is highly correlated with shareholder likelihood of joining a CSA next year with or

without a voucher. As expected, if someone enjoys their experience with the CSA voucher program, one would expect that they would consider doing it again. Beyond satisfaction, previous experience with a CSA is not associated with a higher likelihood of joining next year, regardless of whether the voucher incentive is offered again.

Results from the probit regressions suggest that satisfaction with the CSA voucher program is associated with an 11.4% increase in the probability of shareholders joining a CSA program without a voucher in the future (see Table 5). The percentage increase for each variable is represented by the marginal effect's values in Table 5. We only present marginal effects for variables that are significant in the probit regression.

Only one food choice variable is associated with the likelihood of joining a CSA without a voucher. Individuals who had a higher initial rating for 'helping my family eat better' as a reason for joining the CSA seemed to have more of a commitment to joining a non-incentivized CSA program in the future. The marginal effect of 0.045 represents a 4.5% increase in the probability of recommending a program. Here, individuals have the motivation to acquire what they perceive to be better food than what they might find in other venues. As all of the farms in our employer program are USDA Organic Certified, a subset of shareholders may see CSAs as a valuable option for acquiring quality produce at a lower price than they might find at a specialty market or retail locale. It may also be simply that these shareholders perceive farm-fresh food as important for their household's everyday experience. The supporting farms variable does not seem to be associated with individuals' decisions to join a CSA in the future. This observation may support previous research that suggests that shareholders ultimately make choices that benefit themselves and not necessarily their communities (Pole and Gray, 2013).

One engagement variable (i.e., measured by the use of different resources during the CSA experience) is positively correlated with the likelihood of joining a CSA without a voucher—the number of times participating in cooking classes during the CSA season. This result suggests that parallel programming such as cooking classes is likely to increase shareholder engagement with the CSA and willingness to participate in a CSA program in the future.

Finally, individuals who placed a higher emphasis on the voucher as a reason for joining have a 5% decrease in the probability that they will join a CSA without the incentive. This result may suggest that a subgroup of program participants views CSA as an interesting idea, but only attractive at a reduced price. Previous experience was not a significant variable in explaining the likelihood of joining a CSA in the future. If someone participated in a CSA in previous years, and then received an incentive for the first time, they might be expected to join again regardless of whether they are offered a voucher. But we do not see this relationship. Instead, a voucher incentive and satisfaction with the CSA program are far more important. As such, CSA incentive programs may not lead to long-term shareholder based expansion unless great care is given to (1) developing long-term financial sustainability for incentive funding and/or (2) pairing incentive programs with farms and programming options that lead to a better shareholder experience.

Table 5. Results for Probit Regressions for Likelihood to Join/Recommend CSA

	Join without Voucher		Join with Voucher		Rec without Voucher		Rec with Voucher	
	Coef	**ME**	**Coef**	**ME**	**Coef**	**ME**	**Coef**	**ME**
Demographic Variables								
Age	-0.004		-0.004		0.011*	0.003	-0.005	
Sex–female	-0.010		-0.129		0.217		0.353	
Income	0.002		0.002		0.001		0.000	
Household size	0.057		0.067		0.010		0.035	
Program satisfaction	0.412***	0.114	0.396***	0.061	0.334***	0.107	0.597***	0.050
CSA experience	0.136		0.232		0.079		0.113	
Food Choice Variables								
Wanting to lose weight	-0.031		0.053		-0.036		-0.127**	-0.010
Wanting to support local farms	0.101		0.093		0.105*	0.034	0.244**	0.020
Wanting access to better quality food	-0.014		0.094		0.006		-0.116	
Helping my family eat better	0.164***	0.045	0.038		0.082		0.087	
Knowledge about how food is produced	-0.050		-0.057		0.046		0.021	
The voucher	-0.192***	-0.053	-0.046		-0.094**	-0.030	-0.048	
CSA Engagement Variables								
CSA newsletter	-0.017		-0.001		-0.019		0.009	
CSA website	0.008		-0.026		0.020		0.005	
Conversations with CSA Staff	0.032		0.011		0.067**	0.021	0.078	
Conversations with family and friends	-0.031		0.028		-0.007		0.057	
Cooking classes	0.111**	0.030	-0.071		-0.037		-0.216***	-0.018
Interactions with other shareholders	-0.008		0.004		-0.013		0.002	
Additional Statistics								
N	396		396		396		396	
Pseudo R2	0.209		0.221		0.176		0.432	
Wald Test	74.78***		59.81***		82.61***		88.64***	
% Predicted correctly	74.0%		89.7%		69.7%		94.2%	
Hosmer-Lemeshow Goodness of fit	6.00		5.93		8.43		7.31	

Notes: Coef = Probit Coefficient. ME = Marginal Effects. Marginal effects only shown if the variable is significant in the model. Level of significance for marginal effects is the same for all coefficients.
Significance: ***$p < 0.01$, **$p < 0.05$, *$p < 0.10$. Additional statistics include results for specification tests.

Likelihood of Recommending a CSA

The two questions about recommending a CSA reveal a bit more about how participants value CSA beyond their immediate experience. Participants' recommendations to others acknowledge implicitly that other individuals use their best judgment in deciding whether to join a CSA. It costs little to the shareholder to make a recommendation to someone else, but it does indicate whether they feel the CSA model has value.

Yet, there are still differences when a voucher is involved. As indicated in Table 4, participants are more likely to recommend CSA with a voucher. The voucher matters in these recommendations, because shareholder scores without a voucher are closer to "unsure" regarding promotion to others. Given that peer-to-peer marketing can be an effective strategy for building CSA's community aspect, these questions provide an understanding of who might be effective peer marketers.

As we have observed in workplace-based CSA programs, success depends on having an active and engaged "champion" of the model who presents the voucher idea to participants or funders in their workplace. Similarly, workplace champions can help organize workplace drops, pre- and post-season program evaluations, and communications with farms or farm support organizations. What characteristics of an effective champion can we glean from these questions? We turn to the probit regression results to answer this question.

First, when observing the "recommend with voucher" condition, a few variables are significantly associated with a choice to recommend. Program satisfaction is associated with a 5 percent increase in the probability of recommending the CSA program (see Table 5). In contrast, previous experience seems not to be associated with the shareholder decision to recommend.

There is a statistically significant association between shareholder interest in supporting local farms and farmers, and the decision to recommend the CSA program, although this variable only accounts for a 2% increase in the probability of recommending the program. Nevertheless, these shareholders appear to value the program because it provides small and medium-sized farms with a market for diversified produce. Participants who joined because they wanted to lose weight and those who participated in cooking classes were less likely to recommend the CSA voucher program. Perhaps their experience did not meet their expectations in terms of the health benefits received or the quality of supplementary programming.

Shifting to the "recommend without" a voucher regression results, we see various associations between the dependent and independent variables emerge. The evaluation of this shareholder decision provides insights into the CSA model in general. Was the performance of the model in the subsidized year satisfying enough that shareholders would promote it without the subsidy?

Probit regression results suggest those who initially joined a CSA because of the voucher are again less likely to recommend a CSA without an economic incentive. This 3% decrease in probability to recommend indicates that for many participants, the voucher itself is a factor for encouraging participation and recommendation. While this subset likely has other motivations beyond the voucher for participation, the absence of a voucher might push these individuals toward other

market channels for produce acquisition. Further exploration of this subset of participants should be considered as CSA incentive programs evolve.

On the other hand, shareholders who joined because they wanted to support local farms have a 3% increase in the probability that they will recommend the program, even without a voucher. Supporters of local agriculture would likely be candidates to promote CSA within and outside of their workplace. Another indicator associated with willingness to recommend the program is having conversations with the CSA staff. Shareholders who actively engage with resources provided by the farms and with the farmers themselves are more active promoters of the CSA model in general. In short, when searching for a workplace or organizational champion for workplace CSA promotion, it makes sense to find someone who is already invested in the model, wants to support local agriculture, and regularly engages with CSA staff and other external resources that help them navigate their CSA experience.

While there are differences in the variables associated with the likelihood of recommending the CSA program with and without a voucher, the one variable that is highly associated with recommending the CSA program is program satisfaction. Increased satisfaction is associated with a 10% increase in the probability that a shareholder will recommend the program without an incentive (and a 5% increase with the voucher). As such, we further examine which variables are associated with higher levels of satisfaction for the full shareholder sample as well as for first-time and experienced shareholder segments.

Results from Diagnostic Tests

As we conclude our discussion of our probit models, it is worth noting that the specification tests provide validation to our models. In terms of collinear relationships among variables, we calculated a mean variance inflation factor of 1.2. No individual VIF above 1.5, so multicollinearity appears not to be a significant concern. Following each probit regression, we evaluated each model for its ability to predict actual responses based on the variables included in the regression models (see percent predicted correctly in Table 5). The recommend/join without voucher models are at 70% and 74% correctly predicted responses, respectively. The recommend/join with voucher models are at 94% and 90% correctly predicted responses, respectively. While the recommend and join without voucher models perform better than random chance, they are rather average. However, when plotting true and false positives, the area under the curve is above 0.80 for all models, which is considered a good fit. Finally, each model has a Hosmer-Lemeshow Goodness of Fit test statistic that is nowhere near significant (see Table 5). These results indicate that the proportion of observed versus expected choices is proportionate across respondent groups when segmented by their original probability of choosing the positive condition. The latter two test results suggest that our regression models fit the data well.

CSA Satisfaction

Shareholder satisfaction is generally related to higher retention rates (Durrenberger, 2002; Pole and Kumar, 2015; Galt et al., 2019). We included the same independent variables from the probit

regressions in the ordered logit regressions aiming to evaluate the factors associated with shareholder satisfaction. Results from the ordered logit regressions are presented in Table 6. It should be noted that following each ordered logit regression, we conducted the Brant Test and found no evidence that the parallel regression assumption was violated.

First, we examined shareholder satisfaction with the CSA program using all respondents who completed the surveys regardless of experience. The logit regression results suggest that a few of the engagement variables were correlated with the likelihood of a participant giving the CSA program a higher overall rating. Both variables related to CSA communication (newsletter and website) are positively correlated with the level of satisfaction with the CSA program. As such, an individual who used these resources more often was more likely to have a better experience overall. Additionally, individuals who had interactions with their family and friends around how to use the CSA were more likely to be satisfied with the experience.

Here, it seems that individuals drew from the expertise of others to use produce from their CSA box. During follow-up focus groups from this project, many shareholders discussed how they shared their produce and swapped tips for preparation with others. It is, however, difficult to disentangle the causality and directionality of engagement and satisfaction; an individual who is more satisfied initially may seek out these resources and engage in discussion.

It is here where the food choice variables can provide some clarity. In this case, only the variable "wanting to know about how my food is produced" had a significant positive impact on satisfaction. Those who are more interested in food production processes may be predisposed to be more engaged with the CSA experience. As CSAs require active learning to vary meal planning with seasonal produce, it may be that CSAs are most effective for a specific personality type.

Income is positively associated with the likelihood of satisfaction. Those with more income may be less limited in their ability to acquire supplementary food items (spices, meats, cheeses, other vegetables) to diversify meal experiences. Another possibility is that individuals to whom a CSA is a smaller portion of their income will put less pressure on the CSA to provide a superior experience than that of a grocery store or farmers' market.

Next, we examine how different variables are associated with satisfaction when considering first-time and experienced shareholders as separate groups. When we observed simple means by experience group in Table 4, experienced shareholders had mean satisfaction ratings that were statistically higher than the first-time shareholder group. This result is not surprising. Someone who enjoyed their first time in a CSA would probably enjoy it subsequent times. Otherwise, they would not have joined again. Consequently, we evaluate each group to see if different variables are correlated with higher satisfaction ratings.

Table 6. Ordered Logistic Regression Results of Voucher Satisfaction

	All Shareholders		First-Time Shareholders		Experienced Shareholders	
	Coef	**SE**	**Coef**	**SE**	**Coef**	**SE**
Demographic Variables						
Age	0.000	0.009	-0.006	0.011	0.018	0.016
Sex–female	-0.109	0.216	-0.216	0.265	0.327	0.401
Income	0.004**	0.002	0.003	0.002	0.008**	0.004
Household size	0.003	0.091	0.053	0.106	0.000	0.198
Food Choice Variables						
Wanting to lose weight	0.056	0.050	0.085	0.062	-0.076	0.098
Wanting to support local farms	0.035	0.084	0.019	0.114	0.073	0.147
Wanting access to better quality food	0.159	0.101	0.019	0.123	0.490***	0.195
Helping my family eat better	-0.045	0.077	-0.046	0.093	-0.034	0.155
Knowledge about how food is produced	0.119**	0.062	0.138*	0.076	0.176	0.117
The Voucher	-0.011	0.059	-0.015	0.086	0.072	0.096
Engagement Variables						
CSA newsletter	0.098***	0.027	0.110***	0.035	0.080*	0.047
CSA website	0.068***	0.022	0.066**	0.028	0.076**	0.038
Conversations with CSA staff	0.052	0.036	0.059	0.052	0.035	0.059
Conversations with family and friends	0.052*	0.028	0.042	0.038	0.070	0.047
Cooking classes	0.095	0.084	0.212*	0.127	-0.116	0.127
Interactions with other shareholders	0.009	0.023	-0.017	0.030	0.072*	0.042
Additional Statistics						
N	396		254		141	
LR Chi^2	86.81***		55.01***		40.76***	
Pseudo R^2	0.069		0.064		0.109	

Notes: Coef = Variable coefficient in ordered logit. SE = Standard Error. Significance levels: *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.10$.

First-time shareholders are more likely to score satisfaction higher if they engaged with resources provided by farms (newsletter and website) to use their produce (see Table 6). Additionally, there is a positive association between satisfaction and participation in cooking classes offered by their employer or support organization. Most of the employer organizations representing this shareholder sample had cooking classes, demos, webinars, and/or recipe cards centered on specific items received in the CSA at different points during the season. As the seasonality of the produce box is one of the main challenges noted in open-response questions in our survey (and follow-up focus groups), supplementary programming and resources provide learning opportunities for those new to the CSA concept. Given that the only other variable statistically associated with a higher level of satisfaction is "wanting knowledge about how food is produced" prior to the CSA program, different engagement opportunities are important for helping a first-time shareholder navigate the CSA experience in a satisfactory manner. Income is not significant among this group of shareholders, nor is the voucher as an important motivating factor for originally joining the CSA.

The ordered logit regression used to evaluate factors associated with experienced shareholders' satisfaction with the CSA program have a few weakly significant coefficients. "Wanting access to better quality food" has the strongest significance. It may be that those who have participated in CSA before feel that the quality of produce received directly from a farm is better than what they might get elsewhere. Income and "wanting knowledge about how food is produced" also play roles in experienced shareholder satisfaction with the CSA program. Individuals in this shareholder segment who are more satisfied appear to be the typical CSA consumer (i.e., a higher-income foodie). Where this segment and the first-time shareholder segment overlap, however, are in the resources provided by the farms themselves. If farms and employer organizations can push participants toward different CSA resources and programs, shareholders in both segments are more likely to be satisfied with their experience. In short, offering a CSA incentive is not enough to guarantee satisfaction. Farms and employer organizations must think carefully about how to provide shareholders with supplementary learning and support opportunities.

Conclusion

Incentive programs are novel innovations in the CSA world which predate COVID-19, but which may offer similar insights into how new subscribers evaluate their experience. Based on our analysis, the key to retaining these new subscribers is to provide supplemental resources, programs, and avenues for engagement with their peers, family, and CSA farmers. Farmers might consider focusing on both their newsletters and websites to provide an interactive space for shareholders, especially in situations where social distancing is emphasized. In conversations with many technical assistance providers during COVID-19, CSA farmers have made this pivot quickly as e-commerce platforms became a necessity for reaching customers within and outside their CSA businesses. In employer-based programs, special consideration should be given to employee outreach and engagement. These communications are likely to be effective if both the farms and a liaison within the employer organizations are communicating with shareholders. New shareholders need particular assistance in accessing resource options and strategies for using their seasonal produce box.

It is critical to note here that while employer programs were growing before the pandemic, the nature of work and employer-based programming may be altered significantly in the coming years. Whether workplace incentive programs survive is an open question, and the funding for such endeavors may evaporate if the economy takes a protracted and significant hit. However, the workplace CSA model can be extended to diverse programs and organizations, and maybe incorporated with modifications, into food assistance programs.

In these cases, it is important to consider the impact of vouchers and incentives on the long-term market opportunities of farmers. Vouchers help capture initial participation. But the value of a voucher must be weighed over and against the goals of an organization, as well as financial and wellness outcomes of employees and communities for an employer, to justify the expense. If a balance cannot be struck, we may see a yearly fluctuation in enrollment, which would create new difficulties for farmer decision making. Additionally, inexperienced shareholders increase the workload for farmers regarding their outreach and shareholder engagement. Farmers could

alleviate these by focusing on their communications via newsletter, website, and social media strategies. Additionally, technical assistance providers and farmer coalitions might fill consumer education and shareholder facilitation roles. To conclude, while CSA is experiencing a dramatic shift in demand in 2020, farmers and support personnel must continue to develop innovative strategies to provide all shareholders useful resources, communications, and venues for engagement.

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References

Allen IV, J.E., J. Rossi, T.A. Woods, and A.F. Davis. 2017. "Do Community Supported Agriculture Programmes Encourage Change to Food Lifestyle Behaviours and Health Outcomes? New Evidence from Shareholders." *International Journal of Agricultural Sustainability* 15:70–82.

Baicker, K., D. Cutler, and Z. Song. 2010. "Workplace Wellness Programs Can Generate Savings." *Health Affairs* 29:304–311.

Bechthold, A., H. Boeing, C. Schwedhelm, G. Hoffmann, S. Knüppel, K. Iqbal, S. De Henauw, N. Michels, B. Devleesschauwer, and S. Schlesinger. 2019. "Food Groups and Risk Of Coronary Heart Disease, Stroke and Heart Failure: A Systematic Review and Dose-Response Meta-Analysis of Prospective Studies." *Critical Reviews in Food Science and Nutrition* 59:1071–1090.

Bellavia, A., S.C. Larsson, M. Bottai, A. Wolk, and N. Orsini. 2013. "Fruit and Vegetable Consumption and All-Cause Mortality: A Dose-Response Analysis." *American Journal of Clinical Nutrition* 98:454–459.

Berkowitz, S.A., J. O'Neill, E. Sayer, N.N. Shahid, M. Petrie, S. Schouboe, M. Saraceno, and R. Bellin. 2019. "Health Center–Based Community-Supported Agriculture: An RCT." *American Journal of Preventive Medicine* 57:S55–S64.

Berry, L., A.M. Mirabito, and W. Baun. 2010. "What's the Hard Return on Employee Wellness Programs?" *Harvard Business Review* December:2012–2068.

Boeing, H., A. Bechthold, A. Bub, S. Ellinger, D. Haller, A. Kroke, E. Leschik-Bonnet, M.J. Müller, H. Oberritter, M. Schulze, P. Stehle, and B. Watzl. 2012. "Critical Review:

Vegetables and Fruit in the Prevention of Chronic Diseases." *European Journal of Nutrition* 51:637–663.

Brown, C., and S. Miller. 2008. "The Impacts of Local Markets: A Review of Research on Farmers Markets and Community Supported Agriculture (CSA)." *American Journal of Agricultural Economics* 90:1298–1302.

Chapman, L.S. 2012. "Meta-Evaluation of Worksite Health Promotion Economic Return Studies: 2012 Update." *American Journal of Health Promotion* 26:1–12.

Cohen, J., S. Gearhart, and E. Garland. 2012. "Community Supported Agriculture: A Commitment to a Healthier Diet." *Journal of Hunger & Environmental Nutrition* 7:20–37.

Dauchet, L., P. Amouyel, S. Hercberg, and J. Dallongeville. 2006. "Fruit and Vegetable Consumption and Risk of Coronary Heart Disease: A Meta-Analysis of Cohort Studies." *Journal of Nutrition* 136:2588–2593.

Durrenberger, E.P. 2002. "Community Supported Agriculture in Central Pennsylvania." *Culture and Agriculture* 24:42–51.

Flora, C.B., and C. Bregendahl. 2012. "Collaborative Community-Supported Agriculture: Balancing Community Capitals for Producers and Consumers." *International Journal of Sociology of Agriculture and Fo*od 19.

Galt, R.E. 2013. "The Moral Economy is a Double-Edged Sword: Explaining Farmers' Earnings and Self-Exploitation in Community-Supported Agriculture." *Economic Geography* 89:341–365.

Galt, R.E., K. Bradley, L.O. Christensen, and K. Munden-Dixon. 2019. "The (Un) Making of 'CSA People': Member Retention and the Customization Paradox in Community Supported Agriculture (CSA) in California." *Journal of Rural Studies* 65:172–185.

Greene, W.H. 2008. *Econometric Analysis*, 6th ed. Upper Saddle River, NJ: Prentice Hall.

Hanson, K.L., J. Kolodinsky, W. Wang, E.H. Morgan, S.B.J. Pitts, A.S. Ammerman, M. Sitaker, and R.A. Seguin. 2017. "Adults and Children in Low-Income Households that Participate in Cost-Offset Community Supported Agriculture Have High Fruit and Vegetable Consumption." *Nutrients* 9:726.

Helmer, J. 2020. "Restaurants are Transforming into Grocery Stores to Survive the Pandemic." *Civil Eats*. Available online: https://civileats.com/2020/04/22/restaurants-are-transforming-into-grocery-stores-to-survive-the-pandemic/.

Hvitsand, C. 2016. "Community Supported Agriculture (CSA) as a Transformational Act—Distinct Values and Multiple Motivations Among Farmers and Consumers." *Agroecology and Sustainable Food Systems* 40:333–351.

Landis, B., T.E. Smith, M. Lairson, K. Mckay, H. Nelson, and J. O'Briant. 2010. "Community-Supported Agriculture in the Research Triangle Region of North Carolina: Demographics and Effects of Membership on Household Food Supply and Diet." *Journal of Hunger and Environmental Nutrition* 5:70–84.

Ostrom, M.R. 2007. "Community Supported Agriculture As an Agent of Change." In C. Hinrichs and T. Lyson, eds. *Remaking the North American Food System*, pp. 99-120.

Parks, K.M., and L.A. Steelman. 2008. "Organizational Wellness Programs: A Meta-Analysis." *Journal of Occupational Health Psychology* 13:58.

Perez, J., P. Allen, and M. Brown. 2003. "Community Supported Agriculture on the Central Coast: The CSA Member Experience." *Center for Agroecology and Sustainable Food Systems* 1–4.

Pole, A., and M. Gray. 2013. "Farming Alone? What's Up with the 'C' in Community Supported Agriculture." *Agriculture and Human Values* 30:85–100.

Pole, A., and A. Kumar. 2015. "Segmenting CSA Members by Motivation: Anything But Two Peas in a Pod." *British Food Journal* 117(5).

Ricker, H., and M. Kardas-Nelson. (2020). "Community Supported Agriculture Is Surging Amid the Pandemic." *Civil Eats*. Available online: https://civileats.com/2020/04/09/community-supported-agriculture-is-surging-amid-the-pandemic/.

Rossi, J., J.E. Allen, T.A. Woods, and A.F. Davis. 2017. "CSA Shareholder Food Lifestyle Behaviors: A Comparison Across Consumer Groups." *Agriculture and Human Values* 34:855–869.

Rossi, J.J., T.A. Woods, and J.E. Allen. 2017. "Impacts of a Community Supported Agriculture (CSA) Voucher Program on Food Lifestyle Behaviors: Evidence from an Employer-Sponsored Pilot Program." *Sustainability* 9:1543.

Russell, W.S., and L. Zepeda. 2008. "The Adaptive Consumer: Shifting Attitudes, Behavior Change and CSA Membership Renewal." *Renewable Agriculture and Food Systems* 23(2):136-148.

Si, Z., T. Schumilas, W. Chen, T. Fuller, and S. Scott. 2020. "What Makes a CSA a CSA?" *Canadian Food Studies/La Revue canadienne des études sur l'alimentation* 7:64–87.

United States Department of Agriculture. 2020. *USDA Announces a Third Round of Farmers to Families Food Box Program Purchases*. Rep. 0330.20. Washington, DC: USDA.

Urgenci. (2020). "Community Supported Agriculture Is a Safe and Resilient Alternative to Industrial Agriculture in the Time of Covid-19." *URGENCI*. Available online: https://urgenci.net/community-supported-agriculture-is-a-safe-and-resilient-alternative-to-industrial-agriculture-in-the-time-of-covid-19/.

Vasquez, A., N.E. Sherwood, N. Larson, and M. Story. 2017. "Community-Supported Agriculture as a Dietary And Health Improvement Strategy: A Narrative review." *Journal of the Academy of Nutrition and Dietetics* 117:83–94.

Vasquez, A., N.E. Sherwood, N. Larson and M. Story. 2016. "A Novel Dietary Improvement Strategy: Examining the Potential Impact of Community-Supported Agriculture Membership." *Public Health Nutrition* 19:2618–2628.

Wilkins, J.L., T.J. Farrell, and A. Rangarajan. 2015. "Linking Vegetable Preferences, Health and Local Food Systems Through Community-Supported Agriculture." *Public Health Nutrition* 18:2392–2401.

Woods, C.R. (2020). "Groups Work to Support Local Farms and Access to Food During COVID-19." *Charlottesville Tomorrow*. Accessed online: https://www.cvilletomorrow.org/articles/groups-work-to-support-local-farms-and-access-to-food-during-covid-19/.

Woods, T., M. Ernst, and D. Tropp. 2017. Community Supported Agriculture—New Models for Changing Markets. Washington, DC: USDA.

Woods, T.A., and D. Tropp. 2015. "CSAs and the Battle for the Local Food Dollar." *Journal of Food Distribution Research* 46:17-29.