Farmers Market Use and Perceived Barriers to Farmers Market Access Among SNAP Recipients in Washington State

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Abstract

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Background: Activities are underway in Washington State to increase access to farmers markets for SNAP and SNAP-eligible participants. A variety of stakeholders are involved in implementing activities to make farmers markets more accessible. These include addressing the economic, environmental, and social barriers. However, these activities are not necessarily in-line with the actual barriers, as stated by low-income shoppers, to shopping at farmers markets. The purpose of this study is to identify the commonly stated barriers among both SNAP participants and SNAP-Ed Stakeholders in Washington State to using farmers markets, and to examine whether the challenges perceived by SNAP-Ed Stakeholders align with the stated barriers of SNAP participants.

Methods: This study used data that was obtained from a mixed-methods evaluation, conducted by the University of Washington Center for Public Health Nutrition (CPHN) from January 2016 to January 2017, of all SNAP-Ed affiliated farmers market access work in Washington State.

Sources of data for this study included a statewide SNAP participant telephone survey and two time points of SNAP-Ed Stakeholder interviews. CPHN developed a multi-staged, clustered, random sample of SNAP participants for the SNAP Participant Survey, stratified by exposure to farmers market access activities, rurality, and primary language. This survey was conducted over the telephone and all survey responses were entered into a secure database. Descriptive statistics were used to explore the relation between the stated barriers to farmers market access and SNAP-Ed exposure, key sociodemographic characteristics, distance from farmers markets, and frequency of farmers market use. Two-sample t-tests and Pearson's chi square tests were performed to analyze if the stated barriers varied significantly by any of the independent variables. The semi-structured SNAP-Ed Stakeholder interviews were transcribed and coded in Atlas.ti data analysis software, then analyzed for key themes that emerged related to significant challenges or barriers to improving farmers market access for low-income shoppers. Results from each data source were then compared to assess if farmers market access barriers as perceived by SNAP-Ed Stakeholders were in alignment with the barriers stated by SNAP participants.

Results: Among SNAP participants, barriers related to lack of convenience were most often stated as the number one barrier to shopping at farmers markets. Other stated barriers included lack of affordability, lack of awareness, and lack of comfort. These varied by socioeconomic status and distance from the nearest farmers market. SNAP-Ed Stakeholders stated similar barriers, including the SNAP/EBT process, the perception of higher prices, and lack of awareness, transportation, comfort, and convenience. However, there was some discordance between the two groups in the emphasis placed on these factors as barriers to farmers market access.

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INTRODUCTION

The diets and physical activity levels of most Americans do not meet the recommendations of the Dietary Guidelines for Americans.[1] Most Americans eat too few fruit, vegetables, whole grains, and fat-free or low-fat milk products, and consume greater than the recommended amounts of fat, sweetened beverages and sodium. This is contributing to the more than two-thirds of American adults who are either overweight or obese.[1] Nutrition-related socio-economic disparities exist; compared to middle or upper income individuals, low-income adults have lower nutrition-related knowledge, are less likely to meet many of the Dietary Guidelines for Americans,[2] are more likely to suffer from chronic disease,[3] and are more than twice as likely to rate their health as poor or fair.[4] This may be in part due to the unique challenges low-income populations face, including limited access to healthy, affordable foods; limited resources; cycles of food deprivation and overeating; high stress environments; the lack of opportunities for physical activity; increased exposure to marketing of unhealthy products; and limited access to healthcare.[5]

The United States Department of Agriculture's (USDA) Supplemental Nutrition Assistance Program (SNAP) alleviates hunger and improves nutrition by increasing the food purchasing power of low-income households to ensure that they have access to an adequate diet.[6] The federal government developed the SNAP-Education (SNAP-Ed) grant program to facilitate SNAP in addressing food insecurity by supporting evidence-based nutrition education and obesity prevention interventions for persons eligible for SNAP.[7] The *Dietary Guidelines for Americans Social Ecological Framework for Nutrition and Physical Activity Decisions (SEM)* guides SNAP-Ed interventions;[8] the USDA Food and Nutrition Services (FNS) stipulates that in

addition to providing individual or group-based direct nutrition education, SNAP-Ed-funded agencies are expected to use comprehensive interventions that address multiple levels of the framework to reach the target populations in ways that are relevant and motivational to them, while addressing constraining environmental and/or social factors. One example of an appropriate intervention, provided in the SNAP-Ed guidance, is working to bring farmers markets to low-income areas.[7] Strategies include advising an existing farmers market on the process for obtaining Electronic Benefits Transfer (EBT) machines to accept SNAP benefits, supporting farmers markets to provide financial incentives to purchase fruit and vegetables at the farmers market,[7] or providing farmers market tours to low-income shoppers who are unfamiliar with farmers markets.[9] This intervention is in accordance with the USDA strategic plan to promote healthy diet and physical activity behaviors by increasing access to locally grown fruit and vegetables by expanding the use of SNAP EBT in farmers markets and promoting greater use of farmers markets by SNAP participants.[10] Not only does this intervention aim to increase access to an adequate diet, but it may also help to improve the nutrition of low-income households; evidence shows a positive association between shopping at a farmers market and daily consumption of fruit and vegetables.[11,12,13,14]

In recent years the number of farmers markets in the United States has increased from under 2,000 in 1994 to over 8,000 in 2013. With this increase in the number of farmers markets is the potential increase in access for low-income populations;[15] from 2011 to 2014, the number of SNAP households shopping at farmers markets has increased by 52%.[16] However, the shift in SNAP benefits from paper coupons to EBT in 2002 had a severe impact on the ability of farmers markets to accept SNAP benefits. Although the federal government established grant programs

in 2011 to assist with the implementation of EBT at farmers markets,[15] lack of EBT acceptance at farmers markets still poses a substantial barrier to farmers market utilization by low-income residents.[17] Furthermore, farmers markets that accept EBT still experience low redemption rates,[18] indicating that barriers to shopping at farmers markets exist for low-income shoppers beyond the acceptance of their SNAP benefits. Previous studies found that these can include lack of convenience for SNAP shoppers, perceived higher prices, lack of awareness that EBT cards are accepted at farmers markets,[18, 19, 20, 21] lack of awareness of the existence of nearby farmers markets,[20, 21, 22, 23] lack of transportation,[20, 21, 24] and cultural or language obstacles.[14, 20, 21]

In 2014, the Washington State SNAP-Ed program began to support the development of community strategies to increase low-income shoppers' participation at farmers markets and to improve the redemption of nutritional assistance benefits. The strategies utilized aimed to change behavior through policy, systems and environmental interventions in addition to direct nutrition education.[25] To increase participation at farmers markets, it is important to understand the existing barriers and develop targeted strategies that address these barriers. Despite the identification of common access barriers in the literature, most studies utilize self-selection, convenience sampling, or target urban areas for data collection rather than a random, representative sample of urban and rural SNAP participants.

To better understand the many ways that farmers markets and their partners work to improve access for low-income shoppers, the University of Washington Center for Public Health Nutrition (CPHN) conducted the Washington State SNAP-Ed and Farmers Market Access Evaluation. As part of this evaluation, in 2016, the Washington State Institutional Review Board

approved a data sharing agreement between CPHN and DSHS allowing CPHN access to contact information for a random sample of Washington State SNAP participants for statewide survey recruitment. This presented a unique opportunity to survey a random, representative sample of SNAP participants in Washington State, reaching those who already go to the farmers markets, as well as those who do not and those who may or may not experience barriers to shopping at farmers markets. Furthermore, this evaluation also included interviews with SNAP-Ed key stakeholders, defined as individuals involved in work in Washington State to increase access to fruit and vegetables for low-income shoppers through farmers markets, who have their own perspective on barriers experienced by the SNAP participant and SNAP-eligible populations they serve. The purpose of this study is to explore the actual and perceived barriers and challenges to increasing access to farmers markets for SNAP participants who reside in Washington State. More specifically, this study aims to identify the commonly stated barriers among SNAP participants to using farmers markets; to identify commonly stated challenges among SNAP-Ed key stakeholders to increasing access to farmers markets for SNAP participants; and to examine whether perceived challenges of SNAP-Ed key stakeholders to increasing access to farmers markets align with the stated barriers by SNAP participants.

METHODS

This analysis of the barriers to accessing farmers markets was part of a larger study conducted by CPHN, the purpose of which was to identify and describe the full range of SNAP-Ed affiliated farmers market access work in Washington State, as well as to explore any potential associations between SNAP-Ed farmers market work and Washington SNAP participants' farmers market use and fruit and vegetable consumption. CPHN researchers assembled an Advisory Group co-

chaired by the WA DOH SNAP-Ed Program Manager and the Washington State Farmers Market Association (WSFMA) Food Access Coordinator to help inform the parent study. This group included WA DOH SNAP-Ed Contractors, Washington State University (WSU) Extension SNAP-Ed Contractors, SNAP-Ed supported WSFMA Food Access Regional Leads, Farmers Market Managers, Health Educators, and other key farmers market access leaders. Data collection methods for the parent study included document review, two time points each of stakeholder interviews and statewide farmers market surveys, and one statewide SNAP participant telephone survey. The data used for this analysis of the barriers to accessing farmers markets were obtained from the two time points of the key stakeholder interviews and from the SNAP participant telephone survey.

Sampling and Recruitment

I. SNAP Participant Survey

CPHN developed a multi-staged, clustered, random sample of SNAP participants stratified by exposure to farmers market access activities, rurality, and primary language. Records of all SNAP participants in Washington State, as managed by the Department of Social and Health Services (DSHS), which administers the program, comprised the sampling frame. To stratify the sample by potential SNAP-Ed exposure, researchers analyzed Washington State SNAP-Ed contractor work plans to identify the counties with ongoing farmers market-related SNAP-Ed activities; the "exposed" group was defined as SNAP participants who lived in a county with farmers market-related SNAP-Ed programming, while the comparison group was defined as SNAP participants who lived in a county without farmers market-related SNAP-Ed programming. This stratification occurred at one time point and may not reflect the current

distribution of farmers market-related SNAP-Ed programming. Researchers used the National Center for Health Statistics classification scheme[27] to classify counties as urban or rural and selected 13 counties to reflect a balance of rurality by exposure.[a] From these 13 counties researchers drew a clustered random sample of SNAP participants from the Washington State DSHS Database who lived in zip codes whose boundary was either two miles (in urban counties) or five miles (in rural counties) from a farmers market. Food access research indicates that urban dwellers who live within one mile of a food retailer have strong food access, while rural dwellers who live within five miles of a food retailer have strong food access.[28,29] No surveyed SNAP participant lived more than 20 miles from their nearest farmers market. Researchers then stratified the sample into 80% English speaking and 20% Spanish speaking to reflect languages spoken in low-income households in Washington State.[30,31] This sampling method allowed for a random sample of SNAP participants with comparable access to farmers markets, but with varying degrees of access to SNAP-Ed funded activities and a range of rurality.

In August 2016 CPHN researchers mailed an introductory letter and a study information sheet to 2,500 SNAP participants. From September to November a team of trained research assistants called, recruited, and surveyed SNAP participants until successfully completing 400 surveys. Research assistants called each SNAP participant a maximum of three times, and left voicemails when possible. Each participant received a $20 grocery store gift card for completing the survey. Eligibility criteria for the SNAP Participant Survey required that individuals received SNAP benefits at the time of the survey, spoke either English or Spanish, were at least 18 years of age, and were one of the household's primary grocery shoppers.

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[a] Washington State did not have any large metropolitan counties without SNAP-Ed funded partners. As a result, all of the comparison group counties were medium-sized metropolitan counties or smaller.

[b] A Regional Lead is a position created by the Washington State Farmers Market Association (WSFMA) to coordinate efforts of farmers market, food security, and nutrition stakeholders within their regions to improve the amount, quality,

II. Key Stakeholder Interviews

To be eligible for the Key Stakeholder Interview, participants must have been involved in work in Washington State to increase access to fruit and vegetables for low-income shoppers through farmers markets. These participants are hereafter referred to as SNAP-Ed Stakeholders. To develop the time point 1 (T1) SNAP-Ed Stakeholder sample, researchers of the parent study identified all WA DOH leadership who supported SNAP-Ed farmers market access work, examined WA DOH SNAP-Ed Contractor work plans to identify all SANP-Ed Contractors engaged in farmers market work, and identified all WSFMA staff and "Regional Leads"[b] receiving SNAP-Ed funding. Researchers used a snowball sampling method whereby interview participants who were initially identified were asked if they knew of any additional stakeholders. The sample for the time point 2 (T2) interviews included all organizational representatives from T1 who identified that they were engaged in SNAP-Ed affiliated farmers market work over the 2016 farmers market season, as well as new Fiscal Year 2017 SNAP-Ed Contractors engaged in farmers market access efforts.

Study Tools and Procedures

I. SNAP Participant Survey

CPHN developed the SNAP Participant Survey with input from the Advisory Group and based on preliminary findings from the Key Stakeholder Interviews and the Farmers Market Survey.[c] Researchers piloted the SNAP Participant Survey in English and Spanish with four SNAP-

[b] A Regional Lead is a position created by the Washington State Farmers Market Association (WSFMA) to coordinate efforts of farmers market, food security, and nutrition stakeholders within their regions to improve the amount, quality, and efficiency of farmers market outreach and programming for low-income shoppers

[c] The statewide farmers market online survey was administered in February 2016 and again in November-December 2016 to managers of farmers markets across the state to identify and describe farmers market access/promotion work during and since the 2015 and 2016 market season

eligible food bank clients and eight SNAP participant community volunteers before researchers finalized the survey and had it professionally translated into Spanish.[32]

Trained research assistants conducted the SNAP Participant Survey over the phone. The survey consisted of a mix of multiple choice, Likert scale, dichotomous, and free response questions that were organized in the following categories: shopping behaviors, use of SNAP/EBT, farmers market activity participation, nutrition incentives, comfort shopping at farmers markets, fruit and vegetable consumption, attitudes towards health and diet, food security, and demographics. The survey took approximately 25 minutes to administer. Study data were collected and managed using REDCap electronic data capture tools[33] hosted at the Institute of Translational Health Sciences.[d] Researchers audio recorded the surveys with permission, uploaded the audio files into REDCap, saved the audio files without identifying information, and immediately deleted the audio files from all recording devices. Researchers set permissions so that all identifying information that was entered into REDCap was impossible to download.

Socioeconomic, Demographic, and Distance Measures

Our study evaluated the following demographic variables: gender, age, race, and primary language. Race was categorized using a binary code of "White" or "Non-white." Primary language was identified as "English" or "Spanish" based on the language in which the survey was conducted. Education was combined into four categories: some high school or less, high school degree, some college, and college degree or higher. Employment was classified into five

[d] REDCap (Research Electronic Data Capture) is a secure, web-based application designed to support data capture for research studies, providing: 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources. REDCap at ITHS is supported by the national Center For Advancing Translational Sciences of the National Institutes of Health under Award Number UL1 TR000423

categories: not employed, full time employment, part time or seasonal employment, retired, or on disability. Annual household income was combined into three groups: less than $15,000, $15,000 to less than $25,000, and $25,000 or greater. We assessed food security using a validated two-item screener that was developed for food security assessment in the U.S. context.[34]

We assessed distance to the nearest farmers market using the following variables: rurality, reported time to travel to the nearest farmers market, and mode of transportation to the nearest farmers market. Rurality was based on participant county of residence and categorized as "Large metropolitan," "Medium metropolitan" or "Small/non-metropolitan."[27] Distance to the nearest farmers market was combined into three categories: less than ten minutes, 11-20 minutes, and greater than 20 minutes. Mode of transportation was categorized as "driving" or "other." The survey also asked participants about their frequency of shopping at a farmers market in the last year. Answers were categorized as never, less than once a month, and once a month or greater.

Barriers to Shopping at Farmers Markets

To assess the *major barriers* among SNAP participants to using farmers markets, we analyzed the survey question: "What would you say is the number one reason, if any, that keeps you from shopping at farmers markets?" We then grouped answers categorically as "convenience," "financial," "awareness," "comfort," and "other barriers."

Convenience barriers related to the inconvenience of shopping at farmers markets and included location of the nearest farmers market, transportation, operating time, and selection of produce. Location of farmers markets encompassed answers related to farmers markets being too far

away, in locations that were not easy to get to, or in a location that did not provide parking. Transportation included the lack of reliable transportation to get to the farmers markets during operating hours. Operating time included barriers related to opening hours, days of operation, seasonality, or participants not having the time to make it to a farmers market. Selection of produce included answers related to the lack of variety of produce at farmers markets in comparison to other food vendors or that the nature of farmers markets required an additional trip to another food vendor to complete their shopping necessities.

Financial barriers related to price and availability of SNAP/EBT. Barriers related to price included participant answers that farmers markets were too expensive or statements from participants that they did not have enough money to shop at farmers markets. SNAP/EBT barriers included lack of acceptance of SNAP/EBT at farmers markets, or the lack of awareness that farmers markets accept SNAP/EBT.

Awareness barriers consisted of answers related to forgetting about farmers markets as a place to buy produce, being unfamiliar with the location of farmers markets or how they work, and the poor advertisement of farmers markets.

Comfort barriers included answers related to the difficulty of shopping at farmers markets once there, including difficulty in navigating farmers markets with children or with disability, exposure to variable weather conditions, crowded shopping conditions, perceived stigma of using SNAP/EBT, or that some people just do not care for farmers markets.

In addition to stating the number one barrier that keeps participants from shopping at farmers markets, participants were also able to offer general comments about why they do or do not shop at farmers markets.

Shopping Experience

Participants who reported that they shop at farmers markets at least once during the farmers market season were also asked about their experience at the farmers market. They were asked to respond, on a Likert scale, to the following questions:

- "How comfortable would you say that you feel when you shop at or visit a farmers market?"
- "When I get to the farmers market, I know how to shop there, and how to find the food I want to buy."
- "Farmers markets are an affordable option to buy fruits and vegetables for my family and me."
- "Farmers markets are a welcoming place for all individuals to visit and shop at."
- "It's easy to use my SNAP/EBT benefits at the farmers market."

The survey also provided participants with the opportunity to offer additional explanation or comments to their answers.

II. Key Stakeholder Interviews

Document review and the USDA SNAP-Ed Evaluation Framework[26] informed the development of the Key Stakeholder Interview Guide, which was designed to identify and describe all farmers market access activities and partners, and to gather feedback on stakeholders' experiences working with SNAP-Ed. Before finalizing the interview guide, CPHN obtained feedback from the Advisory Group. CPHN researchers then piloted the interview guide with three different stakeholders, each of whom held a different position in relation to farmers market access work.

The purpose of the T1 interviews, conducted from January – February 2016, was to identify and describe farmers market access and promotion work during and since the 2015 farmers market season. Questions related to activities to promote farmers market access for low-income populations, individual and organizational partners involved in work to promote farmers markets to low-income populations, and opinions about SNAP-Ed contributions to farmers market access for low-income shoppers. The purpose of the T2 interviews, conducted from November – December 2016, was to determine if SNAP-Ed Stakeholders experienced any change in their farmers market work over the 2016 market season. SNAP-Ed Stakeholders were asked the same set of questions, but if they had also been interviewed during T1 they were asked to comment on any changes in their role, in their work to promote farmers market access for low-income populations, and in the partners they engaged with in work related to farmers market access. All T1 and T2 interviews were conducted over the phone using the interview guide. Interviews lasted 40 to 60 minutes, were recorded with permission, and were professionally transcribed.[35]

Analysis

I. SNAP Participant Survey

SNAP Participant Survey responses were uploaded into STATA statistical software version 14.2[36] for analysis. Independent variables included SNAP-Ed exposure, sociodemographic characteristics, measures of distance from farmers markets, and frequency of farmers market use. Dependent variables included major barriers to farmers market use and shopping experience at the farmers market. Two-sample t-tests and Pearson's chi square tests were performed to analyze differences in key sociodemographic characteristics, distance from farmers markets, and frequency of farmers market use between the exposed and comparison groups.

Major barriers: Descriptive statistics were used to explore the relationship between the stated barriers to farmers market access and SNAP-Ed exposure, key sociodemographic characteristics, distance from farmers markets, and frequency of farmers market use. Two-sample tests of proportion and Pearson's chi square tests were performed to determine if the stated barriers varied significantly by any of the independent variables. We ran a linear regression to account for any significant differences between the exposed and comparison groups. We coded and used content analysis to analyze respondents' comments related to farmers market access from open-ended survey comments to further explain results from the closed-ended questions. We set the criterion for statistical significance at $p < .05$.

Shopping experience: Descriptive statistics were used to explore the relationship between farmers market shopping experience and SNAP-Ed exposure, key sociodemographic characteristics, distance from farmers markets, and frequency of farmers market use. Two-sample tests of proportion and Pearson's chi square tests were performed to determine if shopping experience varied significantly by any of the independent variables. We coded and used content analysis to analyze the comments related to farmers market shopping experience from open-ended survey comments to further explain results from the closed-ended questions. We set the criterion for statistical significance at $p < .05$.

The Washington State Institutional Review Board (WSIRB) approved both the parent study and use of data for this analysis of farmers market access barriers (D-091415-H16.01).

II. Key Stakeholder Interviews

Interview transcripts were analyzed using Atlas.ti software version 7.[37] Three trained CPHN qualitative researchers developed a codebook based on the interview guide and emerging themes of the interviews and conducted the coding of interview transcripts. Researchers double coded the first 30% of interviews in order to finalize the codebook and to develop code definitions. Discordant coding was resolved through discussion and, when required, consultation with the principal investigator. The analysis focused on key themes regarding significant challenges or barriers to improving farmers market access for low-income shoppers.

RESULTS

I. SNAP Participant Survey

Of the 2,500 letters that were initially distributed, 2,369 individuals were contacted by telephone before the target of 400 completed surveys was reached. We were unable to reach 684 of the 2,369 contacted SNAP participants due to inaccurate contact information, and excluded them from the study. We excluded an additional 73 SNAP participants because they did not meet the eligibility criteria. Of the remaining 1,612 individuals included in the sample, 341 (21%) refused to participate, 871 (54%) could not be reached after three call attempts, and 400 (25%) successfully completed the survey.[e]

Respondent Characteristics

Respondent characteristics are summarized in Table 1. A total of 400 SNAP participants completed the survey, of which 146 (37%) were in the comparison group and 254 (63%) were in

[e] According to the Pew Research Center, the average response rate for telephone surveys was 9% in 2012. Despite declining response rates, telephone surveys that are weighted to match the demographic composition of the targeted population still provide accurate data on most political, social, and economic measures.[38]

the exposed group. The response rate of the exposed and comparison groups were similar, and the proportion of exposed versus comparison group respondents was representative of the sampling strategy. A majority of respondents were female (67%), between the ages of 31 and 65 (64%), identified as White (64%), responded to the survey in English (87%), reported a household income of less than $15,000 (71%), and screened as food insecure (77%). The largest proportion of respondents reported being unemployed (42%) or on disability (21%) and to have a high school (28%) or some college (34%) education. There were no significant differences between the comparison and exposed groups except for race; the comparison group was more likely to have respondents who identified as White than the exposed group. The proportion of survey respondents who reported their race as White is an over-representation of the reported race for all SNAP participants residing in the included counties.[31] Compared to the overall Washington State SNAP participant population, our sample had a lower median household income, a greater proportion of individuals who were unemployed, and a greater proportion of individuals with a disability.[32,33,34]

Among the total sample, there was an even distribution of respondents from large metropolitan counties (33%), medium metropolitan counties (32%), and small/non-metropolitan counties (35%). Over 80% of respondents stated that they lived within 20 minutes to the nearest farmers market, and slightly fewer (74%) reported that their primary mode of transportation was driving. Half of the respondents reported that they had not shopped at a farmers market within the last year; of the 50% of respondents who reported that they shopped at a farmers market at least once during the farmers market season, 31% reported that they shopped at a farmers market once per month or more. Rurality classification differed significantly between comparison and exposed

groups ($p<0.01$) by virtue of the sampling design and the fact that all large metropolitan counties in Washington State had some SNAP-Ed programming related to farmers market access; a majority of comparison group respondents lived in a small/non-metropolitan county (62%), whereas a majority of the exposed group respondents lived in a large metropolitan county (51%). The comparison group was also significantly more likely ($p<0.01$) to report driving as their primary mode of transportation to their farmers markets.

Major Barriers to Shopping at Farmers Markets

Table 2 displays SNAP respondents' reported barriers to shopping at farmers markets. Fifty-one percent of SNAP respondents reported barriers of inconvenience, most frequently because of inconvenient hours of operation (16.6%), followed by a limited selection of produce relative to other places that sell produce (14.0%), the inconvenient location of the farmers markets (12.9%), and lack of reliable transportation (7.4%). Some respondents commented that it was inconvenient to make an extra trip to the farmers market for produce. One respondent stated, "I know of farmers markets but I never go to them because they seem like an extra trip to make. I already buy all of my fruits and vegetables at the grocery store, so I don't want to make another trip… it's just not convenient." Another respondent stated that they "have to remember when it's there. The grocery store is always there and open." Other respondents identified a lack of variety of produce in comparison to grocery stores, the limited time of the respondent, the lack of a direct bus route to the farmers market, the inconvenience of transporting produce from the farmers market, and the lack of demand for fruit and vegetables sold at the farmers market because the respondent has other sources of fresh produce, including their own garden.

Twenty-two percent of respondents reported financial barriers, either because farmers markets were too expensive (12.2%) or because the farmers market did not accept SNAP/EBT or the respondent was not aware of these services (9.5%). Respondents stated "I like going to farmers markets but sometimes I have to try to limit the times I go because they can be quite expensive"; "several of the stands do not accept EBT"; or that they were "not aware EBT benefits could be used at farmers markets."

Other reported barriers to farmers market shopping included lack of knowledge of farmers markets' purpose, location, and/or hours of operation (7.4%), and lack of comfort when shopping at farmers markets (6.9%). Respondents were not required to explain what they meant by lack of comfort, but of the respondents who elaborated, most referred to the lack of physical comfort, stating that they do not like to shop in the hot weather or that they have allergies or health issues. One respondent referred to the lack of social comfort, commenting that there is "social stigma with using EBT and getting coupons at the farmers market." Only nine percent of the respondents stated that they experienced no barriers to shopping at farmers markets, indicating that over 90% of SNAP respondents experience at least one barrier to shopping at farmers markets.

By exposure and sociodemographic characteristics

Table 2 displays the reported barriers to shopping at farmers markets by SNAP-Ed exposure and sociodemographic characteristics. Individual barriers varied significantly across SNAP-Ed exposure, age, race, language, economic status, and education.

Exposure: A significantly greater proportion of respondents from the exposed group, who lived in counties where SNAP-Ed funded partners worked with farmers markets, reported no barriers to shopping at farmers markets than respondents from the comparison group, who lived in counties where no SNAP-Ed funded partners worked with farmers markets (12% vs. 4%, *p=0.015*). This remained significant when controlling for race and rurality, both of which differed significantly between the comparison and exposed groups; SNAP shoppers in the exposed group were 3.5 [1.32-9.34] times more likely to report no barriers to shopping at farmers markets compared to shoppers in the comparison group.

Age: The barriers "inconvenient hours of operation," "lack of SNAP/EBT acceptance at the farmers market," and "lack of comfort when shopping at the farmers market" varied significantly by age. Hours of operation as a barrier trended downwards with age; 23% of 18-30 year olds reported hours of operation as a major barrier, compared to five percent of respondents over the age of 65 (*p=0.02)*. Lack of SNAP/EBT acceptance at the farmers market also trended downwards with age; 16% of 18-30 year olds reported lack of SNAP/EBT as a barrier, compared to five percent of respondents over the age of 50 (*p=0.036)*. Conversely, a significantly higher proportion of respondents ages 51-65 reported lack of comfort as their number one reason for not shopping at farmers markets, compared to the overall population (13% vs. 7%, *p=0.034*).

Race and Language: Compared to non-White respondents, White respondents were significantly more likely to report a barrier of inconvenience (56% vs. 42%, *p=0.012*). Conversely, a significantly greater proportion of non-White respondents replied that there are no barriers to shopping at farmers markets (16% vs. 5%, *p<0.01*). These trends are similar when looking at primary language, in which respondents who completed the survey in English were more likely

to state a barrier of inconvenience than respondents who completed the survey in Spanish (53% vs. 35%, $p=0.020$), and less likely to state no barriers (7% vs. 22%, $p<0.01$). Respondents who completed the survey in Spanish were also significantly more likely to state lack of awareness as a major barrier to shopping at farmers markets compared to respondents who completed the survey in English (15% vs. 6%, $p=.030$) and less likely to state lack of comfort as a major barrier (0% vs. 8%, $p=0.049$).

Household Income, Employment, and Food Security: Hours of operation as the number one barrier to shopping at farmers markets varied significantly by household income ($p=0.01$) and by employment status ($p<0.01$). This barrier trended upwards for both; respondents who were employed or had a higher household income were more likely to state hours of operation as their number one barrier. Financial barriers and lack of farmers market awareness differed significantly by food security status. Respondents who were screened as food insecure were more likely to state financial reasons for not shopping at farmers markets compared to respondents who were screened as food secure (25% vs. 14%, $p=0.033$); food secure respondents were more likely than food insecure respondents to state lack of awareness as a barrier (14% vs. 6%, $p=0.012$).

Education: The only reported barrier to differ significantly by education was lack of awareness of farmers markets; respondents with a high school education were more likely to report lack of awareness as a barrier compared to the overall population (16% vs. 7.4%, $p<0.01$).

Summary: *Inconvenience,* due to limited hours of operation or the location of farmers markets, as the number one barrier to shopping at farmers markets was greater for younger populations who were White, completed the survey in English, employed, and who had a higher household income. *Lack of comfort* was a greater barrier for populations over the age of 50; *lack of awareness* of farmers markets was a greater barrier for respondents who completed the survey in Spanish, who were screened as food secure, and who had a high school education; and *financial barriers* were greater for respondents screened as food insecure. Respondents who completed the survey in Spanish and who identified as non-White were significantly more likely than respondents who completed the survey in English and who identified as White to report *no barriers* to shopping at farmers markets; "no barriers" was the number one response to this question for respondents who completed the survey in Spanish and who identified as non-White.

By proximity to farmers markets and frequency of use

Table 2 displays the reported barriers to shopping at farmers markets by stated proximity to farmers markets and frequency of farmers market use. Inconvenient hours of operation, location of the nearest farmers market, and mode of transportation as SNAP respondents' number one barrier to farmers market use varied significantly by distance to farmers market. As their reported travel time to farmers markets increased, respondents were more likely to state the location of the farmers market ($p<0.01$) and lack of transportation ($p=0.02$) as major barriers to shopping at a farmers market. Conversely, for respondents who lived closer to farmers markets, hours of operation became more of a barrier ($p<0.01$).

Non-drivers were significantly more likely to report lack of transportation as their number one reason for not shopping at farmers markets than drivers ($p=0.049$), while drivers were significantly more likely than non-drivers to report inconvenient hours of operation as their number one reason for not shopping at farmers markets ($p=0.045$).

As would be expected, respondents who experienced no barriers to shopping at farmers markets shopped at farmers markets more frequently than respondents who did experience barriers, and respondents who reported lack of awareness of farmers markets shopped at farmers markets less frequently than respondents who did not report awareness as a barrier. Eighteen percent of respondents who reported shopping at farmers markets one or more times per month reported no barriers, compared to seven percent of respondents who shopped at farmers markets less than one time per month and four percent of respondents who never shopped at farmers markets ($p<0.01$). The reverse trend was reported for awareness as the number one barrier; respondents who never shopped at farmers markets were significantly more likely ($p<0.01$) to state lack of awareness of farmers markets as a barrier (12%) than respondents who did shop at farmers markets (3%).

SNAP Participants' Reported Farmers Market Shopping Experience

Researchers also asked respondents who indicated that they shopped at a farmers market about their experiences while shopping there. Their responses are displayed in Table 3.

- Ninety-two percent of respondents were either "very comfortable" or "comfortable" when they shopped at or visited a farmers market. Women and individuals under the age of 51 were significantly more likely to feel comfortable shopping at the farmers market than men or older individuals.
- Eighty-nine percent of respondents agreed that they knew how to shop at a farmers market and how to find the food they wanted to buy.

- Ninety-one percent of respondents agreed that farmers markets are a welcoming place for all individuals to visit or shop at.
- Eighty-one percent of respondents agreed that farmers markets are an affordable option to buy fruit and vegetables. Respondents who shopped at farmers markets one or more times a month during the farmers market season were significantly more likely to agree to this statement then respondents who shopped at farmers markets less than once a month during the farmers market season.
- Eighty-nine percent of respondents who had shopped at farmers markets and used their SNAP/EBT benefits at the farmers market agreed that it was easy for them to use their benefits there.

Respondents who reported shopping at a farmers market were also asked to explain why they felt either comfortable or uncomfortable when they shopped at a farmers market. Of the respondents who chose to respond to this question (n=192), approximately 90% of the responses were positive and referred to the community feel and friendliness of farmers markets; the trust in quality, organic, and/or fresh produce offered at farmers markets; the connection to the farmer and to where food is grown; the helpfulness of the staff and vendors; and the layout and open space to shop in. Despite the overwhelmingly positive remarks about the comfort of shopping at farmers markets, there were some respondents who stated why farmers markets might be uncomfortable (approximately 10% of those who responded). Most comments referred to the number of people and the crowds at farmers markets, so that the respondent either avoided farmers markets or purchased what they needed and quickly left. Other comments referred to the lack of organization in comparison to grocery stores, such as one respondent who stated that farmers markets are "less organized and I have to look for things more. I feel like everything is better organized at the grocery store;" the difficulty in using benefits because of the need to "use the exact amount at the register," the long lines to redeem benefits, and the difficultly in distinguishing what items can and cannot be purchased with EBT; experiences of disrespect from

the vendors or the feeling that farmers markets attract a "bourgeois crowd"; and lack of accommodations for persons with disabilities, which makes it "frustrating to shop."

A set of respondents (n=7, <2%) offered suggestions on how to make farmers markets more accessible. These suggestions included better advertisement of the farmers market; better organizational layout along with a map to show where items may be found at the farmers market; availability of transportation to the farmers market; and better information about farmers markets. One respondent stated:

> *"I feel like I'm missing a lot of information, and wish it was more accessible. I can't afford fruit and vegetables, and sometimes I have to leave them completely out of my shopping. So these programs are out there and it makes me feel uninformed that these programs are there, yet so many people don't know about them, that the programs are almost not for the people. I wish there was more information that was more widespread, because it sounds like these kinds of programs are available, but not really, because nobody knows about them."*

II. Key Stakeholder Interviews

A total of 36 (84% response rate) SNAP-Ed Stakeholders were interviewed during T1, representing 14 different counties. A total of 31 (89% response rate) SNAP-Ed Stakeholders were interviewed during T2, representing 18 different counties. SNAP-Ed Stakeholders included SNAP-Ed Contractors; Regional Leads; county or state-level representatives for WA DOH, WSFMA, and WSU Extension; farmers market managers; and partners involved in farmers market access work. Due to turnover, some of the SNAP-Ed Stakeholders who were interviewed in T1 were replaced by another individual in T2. As such, 16 stakeholders, or their replacement, were interviewed during both time points, equating to 51 unique organizational representatives interviewed and 18 counties represented (Table 4). All counties included in the exposed group

for the SNAP Participant Survey were also represented in the Key Stakeholder Interviews; comparison counties were selected explicitly for their lack of a SNAP-Ed funded contractor.

In both T1 and T2, SNAP-Ed Stakeholders were asked what they viewed as the most significant challenges or barriers to improving farmers market access for low-income shoppers. Although the two time points represented two separate market seasons and included interviews from a different set of SNAP-Ed Stakeholders, answers largely remained consistent. During both time points SNAP-Ed Stakeholders perceived the major barriers to farmers market access for low-income shoppers to include lack of reliable transportation, the lack of awareness that SNAP/EBT is accepted or the burdensome processes of redeeming SNAP/EBT at the farmers market, the perception of higher prices, lack of social comfort, inconvenience, and lack of awareness. During both time points SNAP-Ed Stakeholders' most frequently cited barrier was lack of reliable transportation to the farmers market. This was followed by the barrier of expense; SNAP-Ed Stakeholders believed low-income shoppers either perceived farmers markets to be more expensive than grocery stores, or that low-income shoppers did not shop at farmers markets because of the lack of SNAP/EBT at the farmers market. During both time points SNAP-Ed Stakeholders commented that the lack of shopping comfort for low-income shoppers at the farmers market and the inconvenience of shopping at farmers markets could be barriers; these barriers were more frequently expressed during T1. Finally, SNAP-Ed Stakeholders from both time points commented that lack of awareness of farmers markets was a potential barrier for low-income populations, but rarely was this referenced as a major barrier. Because answers largely stayed consistent from T1 to T2, the following discussion of the major barriers to shopping at farmers markets for low-income shoppers, from the perspective of the SNAP-Ed Stakeholders, is

a collection of comments from both time points. Although the views expressed below are representative of the comments obtained from the SNAP-Ed Stakeholder interviews, they are arranged in a manner to be more easily compared to the SNAP Participant Survey responses.

Transportation

The most commonly perceived barrier among SNAP-Ed Stakeholders to improving access to farmers markets for low-income shoppers was lack of transportation to farmers markets, whether due to the lack of personal vehicles or the absence of reliable public transportation. SNAP-Ed Stakeholders recognized that farmers markets are sometimes located in affluent areas so low-income shoppers who may not have reliable transportation are not able to walk to farmers markets. One SNAP-Ed contractor commented that "most of the people that live within walking distance to the market are fairly affluent retirees because that's the neighborhood it's in, and transportation to the market is limited or non-existent." Furthermore, even if public transportation is available, there is the added barrier of transporting purchases from the farmers market back home. As one SNAP-Ed contractor stated:

> *"It's not just getting you from point A to point B… there are some buses that only allow you to bring so many bags of groceries with you, or so many products with you… so if somebody goes and gets a couple of bags of produce, that concern, it is going to be 'can I take it on the bus?'"*

Not only is lack of transportation seen as preventing low-income shoppers from shopping at farmers markets, it is also seen as reducing the impact of other efforts to improve access to farmers markets. As one Regional Lead commented:

> *"Transportation is a big issue because people who are on services don't necessarily have cars, so they need to get to the places that they need to get to, and depending on what day of the week it is, will determine how they get there. So, like our Sunday market, which we did match… there's no bus."*

Expense

Another commonly perceived barrier among SNAP-Ed Stakeholders to increasing access to farmers markets is the expense of farmers markets, including the perception of higher prices and the lack of awareness that farmers markets accept EBT. Although SNAP-Ed Stakeholders commented that price was a major barrier, many implied that this was a perceived barrier, as they felt that the use of farmers market incentives and the acceptance of EBT could make farmers markets just as affordable as other retailers of fresh produce:

> *"... it's not like they couldn't afford it, because between WIC and Fresh Match and EBT, they probably have enough to buy it, but they ... probably for the value of their money, they feel like they could use more ... use their EBT anyway at the grocery store better. But you get the $40 from WIC and you get the extra money from Fresh Match, you're going to spend it there, but I think the barrier would be the feeling like it's more expensive."*
> (SNAP-Ed contractor)

While some SNAP-Ed Stakeholders recognized that there are farmers markets that do not accept EBT, or that shoppers are not aware of this service, and that these are barriers for low-income shoppers in and of themselves, other SNAP-Ed Stakeholders commented that just accepting EBT is not enough to overcome this barrier. Even if farmers markets accept EBT and low-income shoppers are aware of this, price may still inhibit low-income shoppers from frequenting farmers markets. This is evidenced by one Regional Lead who recognized the efficacy of farmers market financial incentives for low-income shoppers and who stated that, even with the acceptance of EBT at farmers markets:

> *"Without the matching funds we just don't have nearly the same rates of redemption of EBT at our markets or people using EBT."*

Furthermore, some SNAP-Ed Stakeholders described the system in place for using EBT at some farmers markets as singling out low-income shoppers when SNAP participants are required to

cash in their EBT for tokens, setting them apart from the general population. One SNAP-Ed contractor equated this token system to the former system for free and reduced school lunch, when students were required to have a meal ticket:

> *"There was the social stigma associated with having the meal ticket, so now people can identify that you're participating in the program… the program was fundamentally getting at the right level, but then we had to approve upon it…similarly, when you look at [nutrition incentive matching programs], if we're able to get more folks coming to farmers markets because they get the incentive, that results in leveling out the price field…[and] gives us the opportunity to improve upon it over time."*

Similarly, another SNAP-Ed Contractor commented:

> *"…accepting EBT and doing the token is really not a fully, in my mind, a fully successful response, because people feel, other people know that I'm using tokens and that identifies me…so, what I think, successful EBT card use at a farmers market is for the vendors to take the EBT cards."*

Convenience and Comfort

SNAP-Ed Stakeholders also perceived the inconvenience of shopping at farmers markets compared to other grocery outlets, as well as the lack of shopping comfort for low-income shoppers, as potential barriers to shopping at farmers markets. SNAP-Ed Stakeholders commented that, because of the limited days and hours of operation, farmers markets can be difficult to get to and shoppers may not always remember that farmers markets are an additional avenue to buy fresh produce. Some SNAP-Ed Stakeholders commented that until farmers markets become more mainstream and provide a similar shopping environment as grocery stores, they will be more inconvenient to shop at, and this may inhibit shoppers from incorporating shopping at farmers markets as part of their routine.

> *"One of the biggest challenges and barriers is the limited time that farmers markets are available… nine months out of the year. So I think those are hard. They're like every year you have to rev up to get people to see why they're going to come to a farmers market when they get used to going to a grocery store, for example, on a regular basis… You*

almost have to like kind of restart every year to get the word out, get people excited and get them to come down and get them to do something outside of their normal routine." (SNAP-Ed contractor)

Another SNAP-Ed contractor captured how the whole process of shopping at farmers markets could be an unpleasant experience for low-income shoppers:

"When they have to come to an information booth, or when they have to sign here, and sign here, and sign here, so I have to go to the WIC booth to get my check. And I have to go to the information booth to get my EBT. And then once I get my EBT, then I go to this person to get my [nutrition incentive]. And then I go to the Healthy Families Booth to get my extra bag of produce. It's like holy-moley. Nobody else has to go through this except the low income who struggle to get there anyway, and struggle to have the dollar."

The lack of comfort is perceived as experienced not only in the inconvenience of the shopping experience, but also through language barriers and the feeling of not belonging to farmers markets because they are viewed as "an upper-class thing" instead of "a community venue where everyone is welcome and where there are options for everyone." To address this barrier, one Regional Lead suggested that:

"The first line of defense and the first person that these recipients are going to see is a person behind a booth and that's the gatekeeper for them. And how they are treated right there is absolutely the most important. That's the calling card right there. Signage is great and having signage that isn't judgy is great, but it's that person-to-person, first-person contact when they bring out their EBT card to get those tokens."

<u>Awareness</u>

SNAP-Ed Stakeholders also mentioned lack of awareness as a major barrier to farmers market access, although not as frequently as the above barriers. One Regional Lead recognized the challenge of promoting farmers markets and commented that:

"You can print as much information as you want… but unless it gets in the right place or the right hands or to the right people to give to the right people, it doesn't happen."

While awareness may not be a commonly stated barrier among SNAP-Ed Stakeholders, interviewees did comment on their proposed and existing efforts to try to increase awareness to farmers markets. These included the use of SNAP Ambassadors, promotion through other events or services that target the same population, and the compilation of resources to know what farmers markets services are available and where these services are offered.

Perceived Barriers: SNAP-Ed Stakeholders versus SNAP Participants

SNAP-Ed Stakeholders recognized many of the major barriers to shopping at farmers markets stated by SNAP Participant Survey respondents. Similar to the results of the SNAP Participant Survey, SNAP-Ed Stakeholders' perception of barriers to farmers market access were many and varied, and revolved around convenience barriers, financial barriers, comfort barriers, and lack of awareness.

SNAP-Ed Stakeholders stated that the lack of personal or public transportation to the farmers markets could pose a challenge for low-income shoppers to frequent their nearest farmers market. This was the most commonly stated barrier expressed in the Key Stakeholder Interviews. Respondents to the SNAP Participant Survey also stated lack of transportation as a reason for not shopping at farmers markets, but this barrier was among the least reported barriers; rather, a majority of SNAP Participant Survey respondents stated lack of convenience as their number one barrier to shopping at farmers markets, due to inconvenient hours of operation, limited selection of produce necessitating an extra trip to a grocery store, or inconvenient location of their farmers market. Considering over 70% of the SNAP Participant Survey respondents reported that they drive, SNAP-Ed Stakeholders may be over-estimating the barrier of transportation to farmers

market access. Furthermore, although SNAP-Ed Stakeholders acknowledged inconvenient hours of operation as a potential barrier to farmers market access among low-income populations, SNAP-Ed Stakeholders did not recognize this barrier nearly as often as other perceived barriers. Part of this discrepancy may in part be due to the sampling method of the SNAP Participant Survey, which included only SNAP participants who lived in close proximity to a farmers market; results from the SNAP Participant Survey indicate that as distance from farmers markets increases, SNAP participants are more likely to state transportation and location of farmers markets as barriers than SNAP participants who live closer to a farmers market. It could also be that SNAP participants view transportation as a barrier, but that other barriers prevent them from shopping at farmers markets before transportation even becomes as issue.

SNAP-Ed Stakeholders also recognized the financial barriers to farmers market access for low-income shoppers, but stated that low-income shoppers perceived farmers market produce to be more expensive at farmers markets than at other produce vendors and that SNAP participants are not always aware that farmers markets accept EBT. Among SNAP Participant Survey respondents, 22% stated a financial barrier as their number one reason for not shopping at farmers markets; 13% stated farmers markets are too expensive and nine percent stated lack of SNAP/EBT as their number one barrier. Among SNAP Participant Survey respondents who reported shopping at a farmers market, over 80% agreed that farmers markets are an affordable place to buy their fruit and vegetables and almost 90% agreed that it was easy to use SNAP/EBT at the farmers markets. This indicates that SNAP-Ed Stakeholders correctly believe that although financial barriers to farmers market access do exist, acceptance of SNAP/EBT, in combination with other nutrition incentive programs for low-income populations, can make farmers markets

an affordable option to buy fruit and vegetables for low-income shoppers. Based on the frequency of SNAP-Ed Stakeholders' comments regarding financial barriers, SNAP-Ed Stakeholders may actually be overstating financial barriers in comparison to other access barriers for low-income shoppers. That is not to say, however, that financial barriers are of no concern. Among SNAP Participant Survey respondents who shopped at a farmers market, approximately 19% still did not agree that farmers markets are affordable places to buy fruit and vegetables and that even the acceptance of EBT at the farmers market did not make produce an affordable purchase at the farmers market.

A common theme that came through the Key Stakeholder Interviews was the concern that low-income shoppers may experience a lack of social comfort at farmers markets. However, only seven percent of the SNAP Participant Survey respondents stated lack of comfort as their number one barrier to shopping at farmers markets. Among SNAP Participant Survey respondents who shopped at a farmers market, approximately 90% agreed that farmers markets are comfortable places to shop, are easy to navigate, and are welcoming places for all individuals. Although SNAP Participant Survey respondents did comment on lack of comfort as a barrier to shopping at farmers markets, their comments were often in relation to physical comfort rather than social acceptance. SNAP Participant Survey respondent comments regarding lack of comfort included crowded shopping conditions, individual lack of mobility, allergies, and variable weather conditions. When discussing the social aspect, the vast majority of SNAP Participant Survey respondents commented on the friendly nature, helpfulness, and community feel of their local farmers market, and only a handful commented on any stigma associated with using their SNAP/EBT benefits at the market. SNAP-Ed Stakeholders, on the other hand, commented on the

stigmatization of and inconvenient shopping experience for low-income shoppers at farmers markets.

SNAP-Ed Stakeholders and SNAP Participant Survey respondents both commented on the tendency to forget about farmers markets, as shopping at farmers markets is not always easy to incorporate into a weekly routine. Although lack of awareness was not the most commonly stated barrier to shopping at farmers markets for low income shoppers by either SNAP-Ed Stakeholders or SNAP Participant Survey respondents, both groups offered suggestions on how to increase awareness of farmers markets.

DISCUSSION

The purpose of this study was to explore the barriers experienced by SNAP participants to shopping at farmers markets and to examine if SNAP-Ed Stakeholders who are involved in work to increase access to farmers markets for low-income populations perceived these same barriers. A majority of the SNAP Participant Survey respondents stated that their number one reason for not shopping at a farmers market was related to the inconvenience of shopping at farmers markets, closely followed by the price of produce sold at the farmers market. Reported barriers remained largely consistent across sociodemographic characteristics, although results did indicate some differences in experienced barriers between SNAP-Ed exposure, age, race, language, economic status, and proximity to the nearest farmers market. The most commonly perceived barrier to farmers market access for low-income shoppers among SNAP-Ed Stakeholders, on the other hand, was the lack of reliable transportation. Although SNAP-Ed Stakeholders commented on many of the same barriers that were stated by SNAP participants,

their interpretation of these barriers, as well as the emphasis they placed on various barriers, differed from results of the SNAP Participant Survey.

Results from this analysis of the barriers to accessing farmers markets indicate that low-income shoppers experience a number of barriers to shopping at farmers markets, a majority of which are related to lack of convenience, including inconvenient hours of operation, limited selection of produce, and inconvenient location of farmers markets. These findings are consistent with other studies, which have found that among low-income and marginalized populations, inconvenient location and limited market hours were among the major limitations to farmers market shopping.[20,42,43,44,45] Although price and uncertainties regarding payment methods have also been reported as barriers to farmers market access for this population,[43,44] Webber et. al. found that the convenience of attaining food was a primary concern for low-income shoppers, even if that meant paying a higher price for items,[46] and a systematic review by Freedman et. al. found that among studies that included low-income populations there was evidence that prices at farmers markets were considered to be fair and reasonable.[20] The results of this analysis are not dissimilar from studies that have researched barriers to farmers market access among the general population. In studies looking at all U.S. shoppers, researchers have found that income levels do not vary significantly between farmers market shoppers and non-shoppers,[47,48] and that distance traveled to get to a farmers market, seasonal variation in food availability,[49,50] and hours of operation are among the top reported barriers to shopping at farmers markets,[47, 49, 50] with very few respondents stating cost of local food as a major barrier.[50] Furthermore, current research indicates that reported barriers to shopping at farmers markets among the general population are similar when compared across different sociodemographic characteristics. A literature review of

the U.S. farmers market consumer base concluded that demographics of farmers market shoppers are beginning to better reflect the communities in which farmers markets are situated, indicating that proximity to farmers markets may be a better indicator of farmers market shopping behavior than individual constructs.[51]

This analysis reveals that a majority of SNAP participants in Washington State experience at least one barrier to shopping at farmers markets, but that for SNAP participants who do shop at farmers markets, a majority find farmers markets to be comfortable, easy to navigate, welcoming, and affordable. This provides further support to current literature that barriers to farmers market access are primarily based on convenience factors rather than on financial or comfort factors. However, SNAP participants who were screened as food insecure were significantly more likely to state a financial barrier to shopping at farmers markets than participants screened as food secure. This, combined with the finding that participants who frequent farmers markets more than once a month are significantly more likely to agree that farmers markets are affordable, may suggest that individuals who are food insecure do not consider farmers markets a viable option for their shopping needs, and/or that farmers market outreach efforts are not reaching the lowest income populations. Results from the SNAP Participant Survey also indicate that respondents who were screened as food-secure were more likely than food-insecure respondents to report lack of awareness as their number one barrier to shopping at farmers markets. This may indicate that SNAP-Ed Stakeholders' efforts to promote farmers markets through events and services that target the same population are effective at informing this population about farmers markets, but not at advertising farmers markets as a financially viable option to buy fruit and vegetables; one SNAP-Ed Stakeholder commented that

"90-some percent of this population had not even heard of [nutrition incentives], and was unaware," while another stated that, although improving, "about 98 percent of individuals who attended our focus group didn't know that they could use their SNAP benefits at the farmers market."

Although respondents who completed the survey in Spanish were more likely to state no barriers to shopping at farmers markets and less likely to state barriers of inconvenience, they were also more likely than respondents who completed the survey in English to report lack of awareness of farmers markets. This finding suggests that Spanish-speaking SNAP participants may experience fewer barriers to accessing farmers markets; however, this population may also be less aware of farmers markets than other groups. This could indicate that outreach efforts in Washington State to increase awareness of farmers markets among low-income populations have not yet reached their targeted, diverse population. This barrier also came through in the Key Stakeholder Interviews; SNAP-Ed Stakeholders commented that unless advertisements are culturally appropriate and reach the intended populations, then they will not be effective. Considering SNAP participants who shop at farmers markets more than once a month are more likely to report no barriers to shopping at farmers market and less likely to indicate lack of awareness as a barrier, effective and targeted marketing strategies in multiple languages may increase farmers market usage among low-income populations. SNAP-Ed Stakeholders recognized the need for targeted and culturally appropriate outreach and commented that targeted outreach efforts are currently underway in Washington State.

While only nine percent of the SNAP participants indicated no barriers to farmers market access, those who lived in counties with SNAP-Ed-funded partners working to increase access to farmers markets were significantly more likely to state no barriers to shopping at farmers markets. This could indicate that Washington SNAP-Ed programming to increase low-income participation at farmers markets is succeeding in reducing barriers to access. However, results from the Key Stakeholder Interviews indicate that there may be misconceptions as to the most prevalent barriers experienced by SNAP participants, indicating that there is greater potential for successful interventions. Although it is beyond the scope of this analysis to investigate current strategies underway in Washington State to increase access to farmers markets among low-income populations, stakeholders involved in farmers market access work should consider these SNAP participant-stated barriers when designing appropriate strategies. This is under investigation in the parent study, and current literature suggests a number of strategies to increase access to farmers markets for low-income populations; these include promoting awareness among low-income households about farmers' markets through the formation of diverse partnerships;[52, 53, 54] engaging the surrounding communities to raise awareness;[52, 53, 54, 55] educating targeted populations on the benefits of consuming fruit and vegetables, as well as financial literacy;[11,52] increasing the convenience of farmers markets,[11, 52, 55] reducing stigma;[11, 52] and integrating complementary programming such as financial incentives, cooking demonstrations, transportation, and children's' programming into farmers market activities.[11, 53] Many of these proposed interventions address barriers that were stated by both the SNAP participants and SNAP-Ed Stakeholders.

Study limitations include disproportionate representation of SNAP Participant Survey respondents who identified as White than the general Washington State SNAP population. As such, there may be cultural barriers that were not adequately captured in the SNAP Participant Survey. That said, this SNAP Participant Survey did have a representative sample of Hispanic/Latino and Black/African American survey respondents. Additionally, SNAP participants were only asked to state their number one reason for not shopping at farmers markets. Thus, data do not capture additional barriers that may exist even if major barriers are appropriately addressed. Lastly, analysis did not look at how farmers market shopping behaviors impact consumer behavior. Even if barriers to farmers markets are reduced and low-income shoppers increase their use of farmers markets, this does not guarantee an increase in fruit and vegetable consumption, which is the ultimate goal of SNAP-Ed programming. However, current evidence does suggest a positive association between shopping at a farmers market and daily consumption of fruit and vegetables.[11,12,13,14]

Considering the variety of stated barriers to farmers market access among SNAP participants, it will take comprehensive strategies that address multiple levels of the social ecological framework[8] to increase low-income shoppers frequency of farmers market use. Addressing convenience barriers may be difficult, as it requires coordination with multiple farmers market stakeholders and their partners. However, as new farmers markets are opened, operating time and location should be priority considerations, so that farmers markets are open in a variety of locations that are accessible by public transportation, in areas that are part of the target population's normal routine, and are open throughout the week and at variable times. Targeted promotion of farmers markets in multiple languages, and more directed information regarding

farmers market incentive programs and SNAP/EBT acceptance may also prove beneficial. Although lack of awareness was not one of the most frequently stated barriers to shopping at a farmers market, SNAP Participant Survey respondents who completed the survey in Spanish and who reported that they did not shop at a farmers market during the most recent farmers market season were more likely to state lack of awareness as a barrier. Marketing and outreach efforts to reach more diverse populations may need to be expanded, such as through community engagement and formation of new partnerships. Beyond marketing, strategies to incentivize low-income populations to attend their farmers markets are also needed. Approximately 50% of the SNAP Participant Survey respondents had not shopped at a farmers market, yet over 80% of the respondents who had frequented a farmers market agreed that it was comfortable, affordable, and easy to navigate. This could indicate that utilizing strategies to get non-users to attend a farmers market for their first time could reduce some of their stated barriers. The Farmers Market Coalition has identified strategies that have proven successful across the nation, including the implementation and promotion of financial incentive programs, promotion of farmers markets on public transportation that stops at the farmers market, cooking demonstrations, and children's programming.[53] Lastly, the expansion of farmers market-related SNAP-Ed programming may also reduce barriers to shopping at farmers markets. Individuals who lived in counties with farmers market-related SNAP-Ed programming were significantly more likely to experience no barriers to shopping at farmers markets than those who lived in counties without this programming. As programming is expanded, it allows for a greater accumulation of knowledge and the sharing of best practices to increase access to farmers markets for low-income populations.

TABLES

Table 1: SNAP Participant Characteristics

Characteristic	Total (n=400), No. (%)*	Comparison (n=146), No. (%)	Exposed** (n=254), No. (%)	Test of differences
Gender				
Male	132 (33.2)	52 (35.6)	80 (31.7)	
Female	266 (66.8)	94 (64.4)	172 (68.3)	0.43
Age				
18-30	79 (19.8)	37 (25.3)	42 (16.5)	
31-51	138 (34.5)	44 (30.1)	94 (37.0)	
51-65	109 (27.3)	40 (27.4)	69 (27.2)	
65+	74 (18.5)	25 (17.1)	49 (19.3)	0.16
Race				
White	254 (63.5)	106 (72.6)	148 (58.3)	
Other	146 (36.5)	40 (27.4)	106 (41.7)	**<0.01**
Primary Language				
English	348 (87.0)	131 (89.7)	217 (85.4)	
Spanish	52 (13.0)	15 (10.3)	37 (14.6)	0.22
Household Income, $				
< 15,000	257 (71.2)	90 (70.3)	167 (71.7)	
15,000 to < 25,000	76 (21.1)	24 (18.8)	52 (22.3)	
≥ $25,000	28 (7.8)	14 (10.9)	14 (6.0)	0.21
Food Security***				
Food Secure	92 (23.5)	37 (26.1)	55 (22.1)	
Food Insecure	299 (76.5)	105 (73.9)	194 (77.9)	0.38
Employment				
Not employed	167 (42.0)	64 (44.1)	103 (40.7)	
Full time	38 (9.5)	17 (11.7)	21 (8.3)	
Part time or seasonal	51 (12.8)	18 (12.4)	33 (13.0)	
Retired	57 (14.3)	20 (13.8)	37 (14.6)	
Disability	85 (21.4)	26 (17.9)	59 (23.3)	.61
Education				
< High school	74 (18.6)	28 (19.2)	46 (18.3)	
High school	113 (28.4)	42 (28.8)	71 (28.2)	
Some college	137 (34.4)	56 (38.4)	81 (32.1)	
College or more	74 (18.6)	20 (13.7)	54 (21.4)	.26
Rurality				
Large Metro	130 (32.5)	0 (0.0)	130 (51.2)	
Medium Metro	128 (32.0)	56 (38.4)	72 (28.3)	
Small/non-metro	142 (35.5)	90 (61.6)	52 (20.5)	**<0.01**
Distance to nearest farmers market				
< 10 minutes	151 (46.2)	55 (45.8)	96 (46.4)	
11-20 minutes	112 (34.3)	39 (32.5)	73 (35.3)	
>20 minutes	64 (19.6)	26 (21.7)	38(18.4)	0.60
Mode of transportation				
Driving	255 (73.9)	107 (84.3)	148 (67.9)	
Other	90 (26.1)	20 (15.7)	70 (32.1)	**<0.01**
Frequency of shopping at farmers market during the farmers market season				
Never	200 (50.4)	81 (55.5)	119 (47.4)	
< 1/month	76 (19.1)	29 (19.9)	47 (18.7)	
≥1/month	121 (30.5)	36 (24.7)	85 (33.9)	0.15

*Percentages are representative of the total number of participants who answered the question and may not be equivalent to the total population
**Exposed = participants who live in counties with SNAP-Ed funded partners working with farmers markets
***Food security was assessed using a validated two-item screener.[34]

Table 2: Major barriers to shopping at farmers markets

	Convenience Barriers					Financial Barriers			Awareness	Comfort	Other	No Barriers
	Hours of Operation	Selection of produce	Location of FM	Lack of Transport	TOTAL Convenience	Too Expensive	Lack of SNAP/EBT	TOTAL Financial				
	n (%)*	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Total (N=397)	**63 (16.6)**	**53 (14.0)**	**49 (12.9)**	**28 (7.4)**	**193 (50.9)**	**48 (12.7)**	**36 (9.5)**	**84 (22.2)**	**28 (7.4)**	**26 (6.9)**	**14 (3.7)**	**34 (9.0)**
Exposure**												
Comparison (n=140)	25 (17.9)	17 (12.1)	21 (15.0)	10 (7.1)	73 (52.1)	19 (13.6)	17 (12.1)	36 (25.7)	10 (7.1)	12 (8.6)	3 (2.1)	**6 (4.3)**
Exposed (n=239)	38 (15.9)	36 (15.1)	28 (11.7)	18 (7.5)	120 (50.2)	29 (12.1)	19 (7.9)	48 (20.1)	18 (7.5)	14 (5.9)	11 (4.6)	**28 (11.7)**
Gender												
Male (n=126)	20 (15.9)	21 (16.7)	20 (15.9)	8 (6.3)	69 (54.8)	12 (9.5)	11 (8.7)	23 (18.3)	10 (7.9)	7 (5.6)	6 (4.8)	11 (8.7)
Female (n=251)	43 (17.1)	31 (12.4)	29 (11.6)	20 (8.0)	123 (49.0)	36 (14.3)	25 (10.0)	61 (24.3)	18 (7.2)	19 (7.6)	7 (2.8)	23 (9.2)
Age												
18-30 (n=73)	**17 (23.3)**	11 (15.1)	5 (6.8)	4 (5.5)	37 (50.7)	9 (12.3)	**12 (16.4)**	21 (28.8)	6 (8.2)	**3 (4.1)**	2 (2.7)	4 (5.5)
31-50 (n=131)	**23 (17.6)**	13 (9.9)	20 (15.3)	9 (6.9)	65 (49.6)	14 (10.7)	**15 (11.5)**	29 (22.1)	9 (6.9)	**8 (6.1)**	7 (5.3)	13 (9.9)
51-65 (n=101)	**19 (18.8)**	12 (11.9)	11 (10.9)	8 (7.9)	50 (49.5)	13 (12.9)	**5 (5.0)**	18 (17.8)	8 (7.9)	**13 (12.9)**	4 (4.0)	8 (7.9)
65+ (n=74)	**4 (5.4)**	17 (23.0)	13 (17.6)	7 (9.5)	41 (55.4)	12 (16.2)	**4 (5.4)**	16 (21.6)	5 (6.8)	**2 (2.7)**	1 (1.4)	9 (12.2)
Race												
White (n=246)	46 (18.7)	33 (13.4)	**39 (15.9)**	19 (7.7)	**137 (55.7)**	30 (12.2)	24 (9.8)	54 (22.0)	15 (6.1)	19 (7.7)	8 (3.3)	**13 (5.3)**
Other (n=133)	17 (12.8)	20 (15.0)	**10 (7.5)**	9 (6.8)	**56 (42.1)**	18 (13.5)	12 (9.0)	30 (22.6)	13 (9.8)	7 (5.3)	6 (4.5)	**21 (15.8)**
Primary Language												
English (n=333)	56 (16.8)	46 (13.8)	**48 (14.4)**	27 (8.1)	**177 (53.2)**	42 (12.6)	33 (9.9)	75 (22.5)	**21 (6.3)**	**26 (7.8)**	10 (3.0)	**24 (7.2)**
Spanish (n=46)	7 (15.2)	7 (15.2)	**1 (2.2)**	1 (2.2)	**16 (34.8)**	6 (13.0)	3 (6.5)	9 (19.6)	**7 (15.2)**	**0 (0.0)**	4 (8.7)	**10 (21.7)**
Household Income, $												
< 15,000 (n=248)	**35 (14.1)**	32 (12.9)	32 (12.9)	24 (9.7)	123 (49.6)	28 (11.3)	21 (8.5)	49 (19.8)	20 (8.1)	20 (8.1)	9 (3.6)	27 (10.9)
15,000 to < 25,000 (n=71)	**15 (21.1)**	13 (18.3)	10 (14.1)	2 (2.8)	40 (56.3)	11 (15.5)	9 (12.7)	20 (28.2)	3 (4.2)	5 (7.0)	1 (1.4)	2 (2.8)
≥ $25,000 (n=28)	**10 (35.7)+**	4 (14.3)	4 (14.3)	1 (3.6)	19 (67.9)	4 (14.3)	1 (3.6)	5 (17.9)	2 (7.1)	0 (0.0)	0 (0.0)	2 (7.1)
Food Security***												
Food Secure (n=87)	18 (20.7)	14 (16.1)	12 (13.8)	5 (5.7)	49 (56.3)	7 (8.0)	5 (5.7)	**12 (13.8)**	**12 (13.8)**	4 (4.6)	3 (3.4)	7 (8.0)
Food Insecure (n=284)	44 (15.5)	37 (13.0)	37 (13.0)	21 (7.4)	139 (48.9)	40 (14.1)	30 (10.6)	**70 (24.6)**	**16 (5.6)**	22 (7.7)	11 (3.9)	26 (9.2)
Employment												
Not employed (n=160)	**25 (15.6)**	17 (10.6)	20 (12.5)	14 (8.8)	76 (47.5)	16 (10.0)	14 (8.8)	30 (18.8)	14 (8.8)	14 (8.8)	8 (5.0)	18 (11.3)
Full time (n=36)	**15 (41.7)**	6 (16.7)	2 (5.6)	0 (0.0)	23 (63.9)	2 (5.6)	6 (16.7)	8 (22.2)	4 (11.1)	0 (0.0)	0 (0.0)	1 (2.8)
Part time (n=46)	**15 (32.6)**	7 (15.2)	6 (13.0)	1 (2.2)	29 (63.0)	5 (10.9)	5 (10.9)	10 (21.7)	1 (2.2)	1 (2.2)	0 (0.0)	5 (10.9)
Retired (n=55)	**2 (3.6)**	11 (20.0)	11 (20.0)	4 (7.3)	28 (50.9)	12 (21.8)	3 (5.5)	15 (27.3)	3 (5.5)	2 (3.6)	1 (1.8)	6 (10.9)
Disability (n=80)	**5 (6.3)**	11 (13.8)	10 (12.5)	9 (11.3)	35 (43.8)	13 (16.3)	8 (10.0)	21 (26.3)	6 (7.5)	9 (11.3)	5 (6.3)	4 (5.0)
Education												
< High school (n=69)	8 (11.6)	11 (15.9)	8 (11.6)	4 (5.8)	31 (44.9)	10 (14.5)	7 (10.1)	17 (24.6)	**3 (4.3)**	3 (4.3)	4 (5.8)	11 (15.9)
High school (n=106)	18 (17.0)	14 (13.2)	17 (16.0)	8 (7.5)	57 (53.8)	6 (5.7)	6 (5.7)	12 (11.3)	**17 (16.0)**	9 (8.5)	2 (1.9)	9 (8.5)
Some college (n=130)	18 (13.8)	15 (11.5)	20 (15.4)	13 (10.0)	66 (50.8)	20 (15.4)	15 (11.5)	35 (26.9)	**6 (4.6)**	10 (7.7)	5 (3.8)	8 (6.2)
College or more (n=73)	19 (26.0)	13 (17.8)	4 (5.5)	3 (4.1)	39 (53.4)	11 (15.1)	8 (11.0)	19 (26.0)	**2 (2.7)**	4 (5.5)	3 (4.1)	6 (8.2)
Rurality												
Large metro (n=121)	20 (16.5)	17 (14.0)	13 (10.7)	12 (9.9)	62 (51.2)	15 (12.4)	10 (8.3)	25 (20.7)	7 (5.8)	9 (7.4)	5 (4.1)	13 (10.7)
Medium metro (n=122)	22 (18.0)	19 (15.6)	16 (13.1)	12 (9.9)	67 (54.9)	15 (12.4)	13 (10.7)	28 (23.0)	11 (9.0)	6 (4.9)	4 (3.3)	6 (4.9)
Small/non-metro (n=136)	21 (15.4)	17 (12.5)	20 (14.7)	6 (4.4)	(64 (47.1)	18 (13.2)	13 (9.6)	31 (22.8)	10 (7.4)	11 (8.1)	5 (3.7)	15 (11.0)
Distance to nearest FM												
< 10 minutes (n=144)	**35 (24.3)**	25 (17.4)	**5 (3.5)**	**2 (1.4)**	67 (46.5)	24 (16.7)	17 (11.8)	41 (28.5)	7 (4.9)	9 (6.3)	3 (2.1)	17 (11.8)
11-20 minutes (n=108)	**22 (20.4)**	13 (12.0)	**12 (11.1)**	**9 (8.3)**	56 (51.9)	12 (11.1)	13 (12.0)	25 (23.1)	4 (3.7)	7 (6.5)	6 (5.6)	10 (9.3)
> 20 minutes (n=63)	**3 (4.8)**	6 (9.5)	**23 (36.5)**	**7 (11.1)+**	39 (61.9)	7 (11.1)	3 (4.8)	10 (24.1)	2 (3.2)	6 (9.5)	4 (6.3)	2 (3.2)
Mode of transportation												
Driving (n=245)	**52 (21.2)**	40 (16.3)	35 (14.3)	**11 (4.5)**	**138 (56.3)**	29 (11.8)	22 (9.0)	51 (20.8)	13 (5.3)	14 (5.7)	7 (2.9)	22 (9.0)
Other (n=87)	**10 (11.5)**	7 (8.0)	8 (9.2)	**9 (10.3)**	**34 (39.1)**	15 (17.2)	11 (12.6)	26 (29.9)	3 (3.4)	10 (11.5)	6 (6.9)	8 (9.2)
Frequency of shopping at FM during the FM season												
Never (n=188)	24 (12.8)	25 (13.3)	29 (15.4)	19 (10.1)	97 (51.6)	21 (11.2)	16 (8.5)	37 (19.7)	**23 (12.2)**	18 (9.6)	5 (2.7)	**8 (4.3)**
< 1/month (n=71)	12 (16.9)	16 (22.5)	9 (12.7)	4 (5.6)	41 (57.7)	10 (14.1)	8 (11.3)	18 (25.4	**2 (2.8)**	3 (4.2)	2 (2.8)	**5 (7.0)**
≥1/month (n=117)	27 (23.1)	12 (10.3)	9 (7.7)	4 (3.4)	52 (44.4)	17 (14.5)	12 (10.3)	29 (24.8)	**3 (2.6)**	5 (4.3)	7 (6.0)	**21 (17.9)**

Shaded cells with bolded text represent results that differ significantly ($p<0.05$) by SNAP participant characteristics

* Percentage of row total; participants were not required to answer any question they did not want to, so sub-categories may not add up to the total number of participants

**Exposed = participants who live in counties with SNAP-Ed funded partners working with farmers markets

*** Food security was assessed using a validated two-item screener.[34]

+ Calculated with Fisher's Exact test

Table 3: Agreement to statements regarding farmers market shopping experience

	Farmers markets are comfortable (n=196)	Farmers markets are easy to navigate (n=197)	Farmers markets are welcoming for all (n=197)	Farmers markets are affordable (n=197)	It is easy to use SNAP/EBT at farmers markets (n=62)
	% Agree	**% Agree**	**% Agree**	**% Agree**	**% Agree**
Total	92.3	88.8	91.4	81.2	88.7
Exposure*					
Comparison	93.8	93.8	96.9	81.5	83.3
Exposed	91.6	86.4	88.6	81.1	90.0
Gender					
Male	**85.7**	89.8	91.8	81.6	92.9
Female	**94.5**	89.1	91.2	81.0	87.5
Age					
18-30	**95.0**	82.5	92.5	77.5	90.0
31-51	**92.2**	92.3	92.3	84.6	93.5
51-65	**82.9**	90.2	85.4	82.9	83.3
65+	**100.0**	86.8	94.7	76.3	77.8
Race					
White	90.5	87.4	89.8	79.5	88.6
Other	95.7	91.4	94.3	84.3	88.9
Primary Language					
English	91.3	87.4	90.2	79.3	87.7
Spanish	100.0	100.0	100.0	95.7	100.0
Household Income					
< 15,000	93.2	90.6	91.5	82.1	88.1
15,000 to < 25,000	88.9	87.0	87.0	73.9	92.9
≥ $25,000	88.9	77.8	94.4	94.4	66.7
Food Security**					
Food Secure	92.0	90.0	92.0	82.0	94.1
Food Insecure	92.4	89.0	91.0	81.4	86.7
Employment					
Not employed	92.8	90.5	90.5	78.6	91.7
Full time	90.5	90.5	95.2	95.2	83.3
Part time or seasonal	93.9	84.8	90.9	78.8	92.9
Retired	100.0	83.3	95.8	83.3	57.1
Disability	85.3	91.2	88.2	79.4	100.0
Education					
< High school	100.0	93.3	100.0	86.7	100.0
High school	91.3	89.1	95.7	80.4	92.9
Some college	88.1	91.2	89.7	79.4	90.5
College or more	94.3	83.0	84.9	81.1	81.0
Rurality					
Large metro	92.5	85.1	88.1	88.1	85.7
Medium metro	92.5	90.7	92.6	92.6	100
Small/non-metro	92.1	90.8	93.4	93.4	85.7
Distance to nearest farmers market					
< 10 minutes	90.9	85.2	92.0	75.0	83.3
11-20 minutes	93.2	89.0	91.8	82.2	89.5
> 20 minutes	93.9	97.1	91.2	94.1	100.0
Mode of Transportation					
Driving	92.0	89.4	92.1	82.1	88.9
Other	93.5	87.0	89.1	78.3	88.2
Frequency of shopping at a farmers market during the farmers market season					
< 1/month	89.3	88.2	88.2	**73.7**	87.5
≥1/month	94.2	89.3	93.4	**86.0**	89.1

Shaded cells with bolded text represent results that differ significantly by SNAP participant characteristic

*Exposed = participants who live in counties with SNAP-Ed funded partners working with FMs

**Food security was assessed using a validated two-item screener.[34]

Table 4: Stakeholders represented in key stakeholder interviews

Stakeholder Type	# Represented, T1	# Represented, T2	# Represented, Total*
Local SNAP-Ed Contractor	15	18	25
Regional Lead**	6	7	9
State-level SNAP-Ed contractors and administrators	5	4	6
Other	10	2	11
TOTAL	**36**	**31**	**51**

*Does not double count stakeholders who were interviewed during both time points

**Positions developed by WSFMA to act as a regional coordinator of farmers market, food security, and nutrition stakeholders within their regions

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