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COVID-19 Impact on Produce Perks

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Investigating fruits and vegetables consumption among low-income individuals who visited the farmers' market during the pandemic

Despite the benefits of diets containing fresh fruits and vegetables (F&V) such as a lower risk of heart disease, very few Americans, especially low-income individuals, consume enough to meet the recommended amounts. Factors that prevent low-income individuals from consuming enough fresh F&V are time, cost, access, availability, and lack of knowledge (Garner et al., 2020). To help people in poverty to have access to sufficient nutrition, the Food and Nutrition Service of the United States Department of Agriculture (USDA) introduced a nutrition assistance program called the *Supplemental Nutrition Assistance Program* (SNAP), previously known as food stamps. SNAP provides financial assistance to qualifying low-income individuals and families in order to supplement their ability to purchase foods that are needed for good health.

As an effort to increase fruits and vegetables (F&V) consumption among low-income population, numerous farmers' market implemented multiple incentive programs such as a dollar-to-dollar matching program, Women, Infant, and Children (WIC) Farmers' Market Nutrition Program (FMNP), or senior nutrition program. These programs aim to make F&V more affordable and accessible to low-income and food insecure individuals. These incentive programs do not only help low-income households to have more access to high quality F&V, but also generate more revenue to local farmers and vendors who participate in the programs.

The economic impact of the COVID-19 pandemic has affected the health and well-being of individuals across the country, especially low-income (Jenco, 2020). Many of them lost their full-time or part-time jobs and have been struggling to pay for necessities such as housing, food, and medical care. Low-income individuals have been negatively impacted by the COVID-19 pandemic more than other groups (Hill & Sharma, 2020). Data have shown that unhealthy eating

patterns during the pandemic are higher among adults who have less access to quality, healthy foods (Ashby, 2020). The purpose of this research is to examine how the COVID-19 pandemic affects F&V consumption of low-income individuals who use the dollar-to-dollar matching program at farmers markets in Ohio.

LITERATURE REVIEW

Farmers' market incentive programs

The USDA initiated several nutrition assistance programs such as SNAP, Women, Infants, and Children (WIC) to help increase consumption of F&V among low-income families. Electronic benefit transfer (EBT) is a system that allows individuals and families to access their SNAP benefits using a card similar to a credit/debit card. Federal benefits are deposited into the EBT account of SNAP recipient and are available to use through the swipe of the EBT card at authorized retailers including those at participating farmers' markets (Hasin & Smith, 2016). Throughout the US, farmers' markets are encouraged to accept SNAP and WIC benefits to increase access to affordable and fresh F&V among low-income households. Existing research has shown positive outcomes of such programs including increased in fresh F&V consumption and healthier diet among food insecure individuals (Polacsek et al., 2018).

The Produce Perks is a dollar-to-dollar matching program in Ohio. The program provides incentives to encourage low-income families to eat more F&V while supporting local farmers and strengthening local economies. Currently, the Produce Perks program provides up to \$25 match on SNAP/EBT purchases. That is the program will match \$1-for-\$1 for every SNAP/EBT amount spent up to \$25 at the farmers' market. The Produce Perks credits (dollars) can be used on purchase F&V at the farmers' markets and the credits never expire. From 2018 to 2020, Produce Perks changed its match amount several times, especially during the pandemic.

Up until April 2018, Produce Perks offered the dollar match up to 10 dollars. From May 2018 to February 2020 (before COVID-19 spread in the US), the program offered the match up to 20 dollars. During the beginning of the pandemic (March 2020 to June 2020), Produce Perks modified its policy and offered unlimited match to SNAP users. From July 2020 until present, the program changed the policy to offering the match up to 25 dollars per transaction.

Our research question is “How does the COVID-19 pandemic affect F&V consumption and farmers’ market visits among low-income population who utilize a food assistance program?”

METHODS

Fruits and vegetables consumption before and during the pandemic

In order to collect data during the COVID-19 pandemic, we reached out to several local farmers’ market managers in Northeast Ohio and proposed the data collection plan that followed the COVID-19 market safety regulations. We received the permission to collect data from market managers at three local farmers’ markets. Because the farmers’ markets only opened once a week, the research team collected data at the markets for five weeks in September and October, 2021. The researchers set up a station next to the SNAP transaction kiosk at the market. When the SNAP users finished the transaction, they were approached by the researchers asking if they would like to participate in the survey in exchange for a chance to enter a drawing for a 25-dollar gift card. The participants completed the survey in a paper and pencil format. Sixty-eight respondents filled out the survey at the markets.

The purpose of the survey was to compare fruits and vegetable consumption before (from January 2018 to December 2019) and since the pandemic began (from January 2020 to the time of the survey completion). The participants reported change in F&V intake by indicating if their consumption of total fruits and vegetable as well as of different forms of F&V (canned,

frozen, fresh) had changed since the beginning of the pandemic compared to before the pandemic¹. Response options for these questions were “less,” “the same,” and “more.” (Litton & Beavers, 2021). They were also asked to explain why they purchased more or less fresh F&V as an open-ended question. Then, the participants completed the shortened, 6-item food security form (Blumberg et al., 1999). For each question, they were asked to compare their experience in the year before and during the pandemic. The answers “often” or “sometimes”; “yes”; and “almost every month” or “some months but not every month” were coded as affirmative, and the sum of affirmative answers yielded the score ranging from 0 to 6. A score of 0 or 1 indicated food security, 2 to 4 indicated low food security (LFS), and 5 to 6 indicated very low food security (VLFS). The participant rated how the COVID-19 pandemic affected their family’s need for food at home, physical health, mental health, and overall well-being on a 5-point scale (1 = strongly disagree, 5 = strongly agree). Lastly, they answered demographic questions.

RESULTS

Fruits and vegetable consumption before and during the pandemic comparison

While the consumption of canned F&V reported by the majority of the participants remained unchanged, 54.4% of the participants reported that they consumed more fresh F&V during the pandemic and 27.9% reported consuming more frozen F&V during the pandemic compared to before the pandemic. Forty-seven percent of the participants said that they increased the consumption of total F&V during the pandemic (see Table 1).

The analysis of the open-ended responses revealed that the main reason why the participants reported higher F&V consumption was due to the availability and the increase in the dollar-match amount from Produce Perks as well as access to other food assistance programs

¹ we referred to during the pandemic (“Since the COVID-19 pandemic) using March 2020 as the start period of the outbreak

such as WIC and food stamps (SNAP). Another main reason was they wanted to change to healthier dietary habit and lifestyles. Many participants also mentioned that they stayed home more, thus, more time to cook and control what they ate.

Table 1: F&V consumption before and during the pandemic comparison

| | Canned FV | Frozen FV | Fresh FV | Total FV |
|------|-----------|-----------|----------|----------|
| Less | 14 | 20.6% | 11 | 14.7% |
| Same | 46 | 67.6% | 21 | 30.9% |
| More | 8 | 11.8% | 37 | 54.4% |
| | | | 7 | 10.3% |
| | | | 28 | 41.2% |
| | | | 32 | 47.1% |

Regarding the level of food insecurity, the majority of the participants (76.5%) reported that their food insecure level did not change while 11.5% reported higher food insecurity and 12% reported lower food insecurity.

The effects of the COVID-19 pandemic on well-being

When comparing the responses from those who reported they were food insecure to those who reported food secure regarding their well-being during the pandemic, the results showed that the food insecure group said the pandemic affected their family needs for food at home more than the food secure group [$M_{insecure} = 3.41$, $SD = 1.45$ vs $M_{secure} = 2.71$, $SD = 1.37$, $t(66) = 2.02$, $p < .05$]. However, both groups reported that the pandemic had the same level of effects on their physical health [$M_{insecure} = 3.22$, $SD = 1.42$ vs $M_{secure} = 2.93$, $SD = 1.25$, $t(66) = 0.90$, $p > .1$], mental health [$M_{insecure} = 3.52$, $SD = 1.40$ vs $M_{secure} = 3.37$, $SD = 1.24$, $t(66) = 0.47$, $p > .1$], and overall well-being [$M_{insecure} = 3.56$, $SD = 1.55$ vs $M_{secure} = 3.37$, $SD = 1.22$, $t(66) = 0.56$, $p > .1$].

Farmers' market visit behavior survey questions and results

From the 68 surveys that were completed at three separate farmers' markets, we were able to collect the following data related to farmers' market visit behavior.

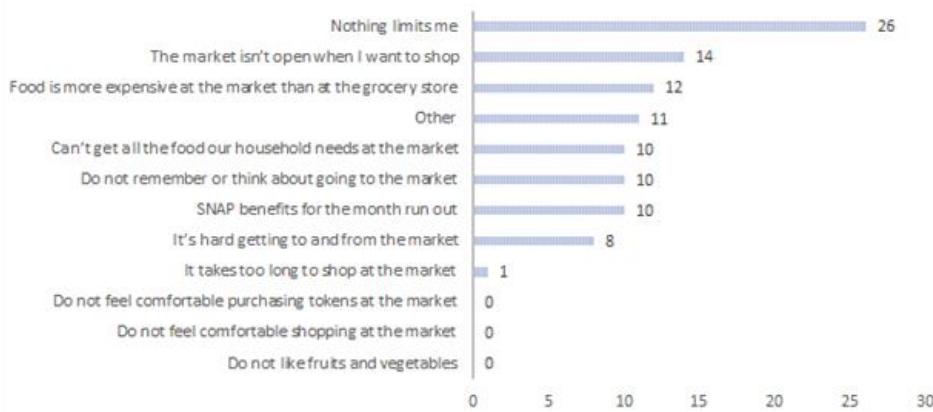
What reasons make you want to shop at the market?



Nearly 100% of all surveyed stated they shopped at farmers markets to get fresh fruits and vegetables. Of the total 68 surveys completed, 93% used the SNAP-EBT Produce Perks Program when they attended the farmers' market and 83% stated they made their purchases at the farmers' markets to support local farmers and their local economy. Almost 54% of those surveyed stated that making purchases at the farmers' markets made them felt more included in the community. When asked if there were other reasons shoppers selected the farmers' markets for purchasing produce, 13% provided reasons that ranged from healthy and organic produce to enjoying the fresh air, safe outdoor shopping experience and fellowship with others at the market.

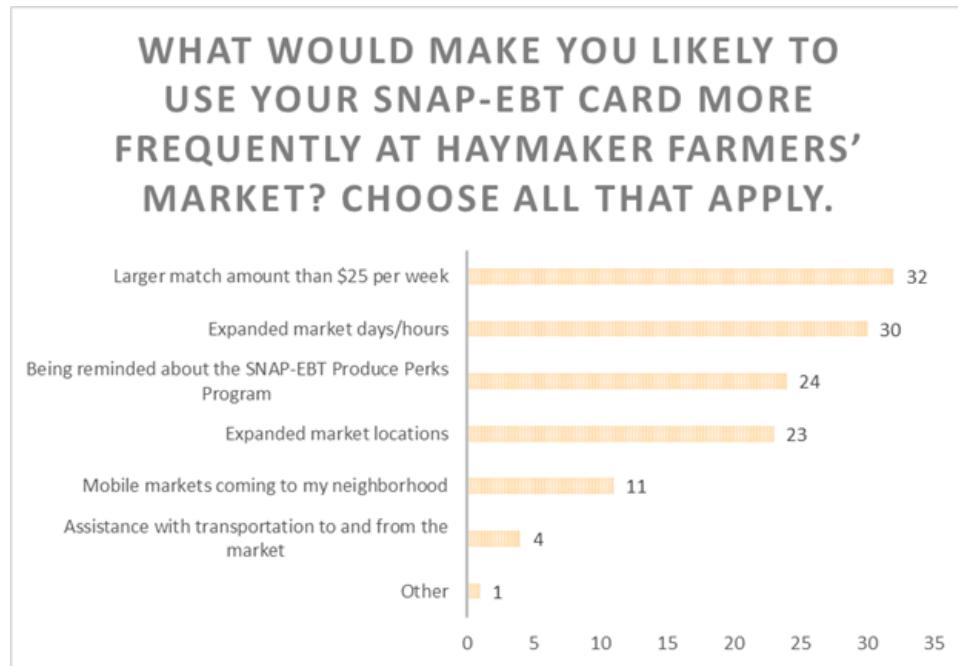
What reasons limit the number of times you shop at the farmers market?

WHAT REASONS LIMIT THE NUMBER OF TIMES YOU SHOP AT THE FARMERS MARKET?



Over 38% of respondents did not feel that their shopping trips were limited at all. Based on those surveyed, there were a variety of reasons that limited the number of times they shopped at the farmers' markets, with the leading two factors being that the market was not open when buyers wanted to shop (20% of the participants), and that food was more expensive at the farmers' market than at the grocery store (18% of those surveyed). Eleven respondents selected “other” as their reason for not shopping more at the farmers' markets and that included concerns on weather, both heat and rain, along with the limited availability due to seasonality of produce. While little can be done to impact the weather or climate in Ohio, there were a variety of issues related to the frequency and length of open hours at the farmers' markets. Almost 15% of respondents stated they may not remember to shop at farmers markets; another 15% said their SNAP benefits run out before month end and nearly 12% said it is difficult getting to and from the farmers' markets. Based on these responses, there may be an opportunity to improve the use of farmers' markets by SNAP-EBT users by expanding business hours, improving the match program, providing reminders of market locations and open hours, and possibly providing public transportation to the market locations.

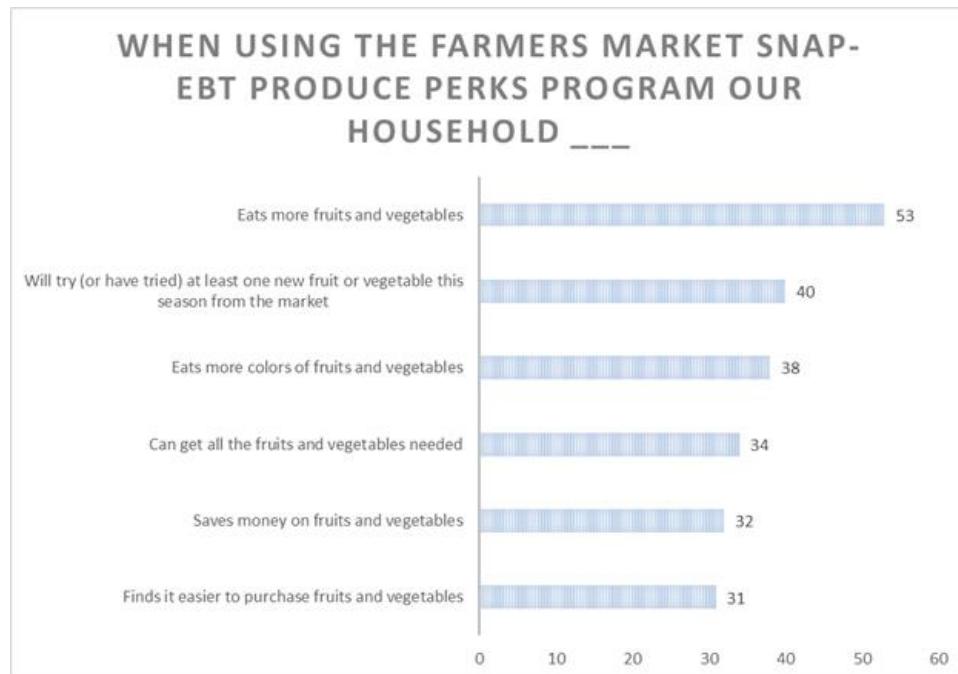
What would make you likely to use your SNAP-EBT card more frequently at farmers' markets?



Of the 68 respondents who participated in our survey, 32 respondents or 47% said they would use their SNAP-EBT card more at the farmers' markets if the match was higher than \$25 per week. This statement is also supported by our analysis of the historical farmers' market data where we saw significant increases in purchases during the Covid unrestricted match period. During the period of March – June 2020, the average SNAP-EBT match sale increased to more than \$38 per sale. Those surveyed also responded that expanding the number of days or hours that the farmers' markets are open would likely increase how frequently they would utilize their SNAP-EBT cards at the markets. Roughly 35% of those surveyed believed that expanding the market locations and receiving reminders about the SNAP-EBT Produce Perks Program would increase the frequency they would visit the farmers' markets and the use the SNAP-EBT Produce Perks Program. A low volume of buyers, 4% indicated that the frequency they visit the farmers'

markets is limited based on transportation needs and 16% believed they would increase their market visit if mobile markets came to their neighborhoods.

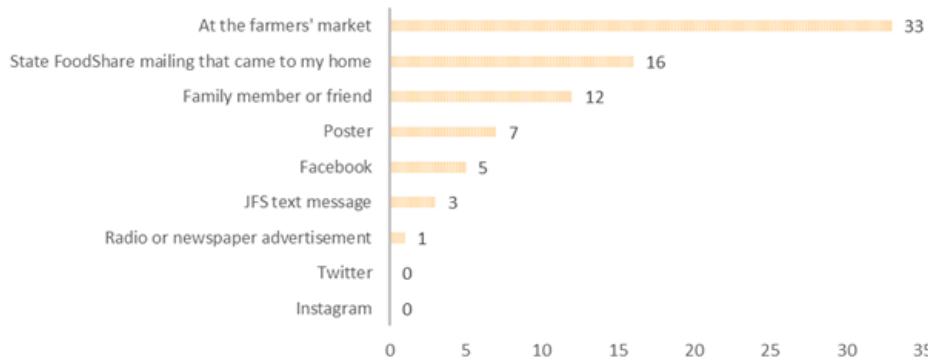
When using the Farmers Market SNAP-EBT Produce Perks Program our household ____.



When asked how using the Produce Perks Program affected their households, 78% of those surveyed stated their family ate more fruits and vegetables and nearly 59% said they tried at least one new fruit or vegetable this year from the market. Almost half of those surveyed said the farmers' market met their produce needs with 56% saying they were able to get all the fruits and vegetables they needed at the market; 47% said that shopping at the farmers' markets for their produce saved them money on their produce; and 46% said it's easier to shop for their produce at the farmers' markets than at traditional grocery stores. Overall, these answers indicated that the SNAP-EBT Produce Perks Program is increasing the volume of fruits and vegetables in the homes of those using the SNAP-EBT card to make their purchases while not increasing the overall cost or creating an inconvenience for most of the buyers.

How did you hear about the Farmers Market SNAP-EBT Produce Perks?

HOW DID YOU HEAR ABOUT THE FARMERS MARKET SNAP-EBT PRODUCE PERKS?



Almost half, 48% of those asked, said they learned of the Produce Perks Program at the farmers' markets. While 24% said their knowledge of the Produce Perks Program came from the State FoodShare mailing and 18% were told by family or friends about the Produce Perks Program. Approximately 10% of those surveyed learned about the program through posters posted in the communities, and another 13% heard of the program through a variety of social media and direct advertising platforms. This would indicate that the majority of those using the Produce Perks Program have learned about this after they get to the farmers' markets and that by increasing awareness of the Produce Perks Program to all SNAP participants could dramatically increase the volume of SNAP recipients that utilize the Produce Perks Program at the farmers' markets.

Strategic marketing recommendations

Based on the provided survey results, we recommend that in order to increase overall awareness of the SNAP program at participating farmers' markets through marketing efforts, the markets can implement several strategic marketing objectives, including expanding marketing efforts to households with children, increasing food share mailing frequency and mail incentives,

and enhancing in-market experiences with Produce Perks and local vendors. We recommend that the markets increase marketing efforts towards families with children, ultimately increasing awareness of the Produce Perks benefits for low-income families as the Ohio survey resulted in 54% of participants having no children in the household, suggesting that there is an opportunity to reach families with children. To do this, Produce Perks and participating markets can work with local schools to identify students and families that may qualify for SNAP benefits, ultimately connecting them to these markets, increasing awareness and use of SNAP.

Another method to increase overall awareness of SNAP benefits for those who would qualify is to increase overall food share mailing frequency to low-income households, as 24% of survey respondents indicated that they first heard about the SNAP-EBT Produce Perks program through state FoodShare mailing that was sent to their home. This indicated that FoodShare mailing could be a successful means of reaching new users. In addition to an increase in mailing frequency, it is also recommended that these programs introduce market incentives in hand with mailing. This could mean sending a monthly newsletter introducing the program and participating markets near the recipient that also includes Produce Perks coins that are redeemable for F&V at the market. By including this incentive, the recipient may be more inclined to learn more and redeem the coins, which increases the likelihood of returning to the market and becoming a frequent SNAP user.

The final recommendation, to enhance in-market experiences for SNAP users and traditional marketgoers alike, is recommended to increase overall market satisfaction and word of mouth of the Produce Perks program, bringing more users to the market and increasing reach of the program, which will ultimately give more low-income households access to more fresh F&V. These enhancements may differ from market to market but could include the offering of

free samples from different vendors in accordance with COVID-19 protocols, introduction or expansion of kids' programs at the market, longer market hours or days of operation, and increased selection of vendors who can participate in the Produce Perks coin program. These strategies, if implemented, can aid in increasing overall consumer satisfaction, leading to increased word of mouth sharing of market benefits, generating more marketgoers and SNAP Produce Perks users, furthering the goal of the program in increasing FFV consumption among low-income individuals and families.

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