RESEARCH BRIEF:

ONLINE GROCERY SHOPPING STUDY

PRIMARY AUTHOR

Alison Gustafson, Associate Professor, College of Nursing, University of Kentucky

AFFILIATES

Angela Trude, Assistant Professor, Human Nutrition, New York University;
Lindsey Hayes-Maslow, Associate Professor, Nutrition, North Carolina State;
Elizabeth Anderson Steeves, Associate Professor, University of Tennessee

STUDY CONDUCTED ON BEHALF OF SHARE OUR STRENGTH
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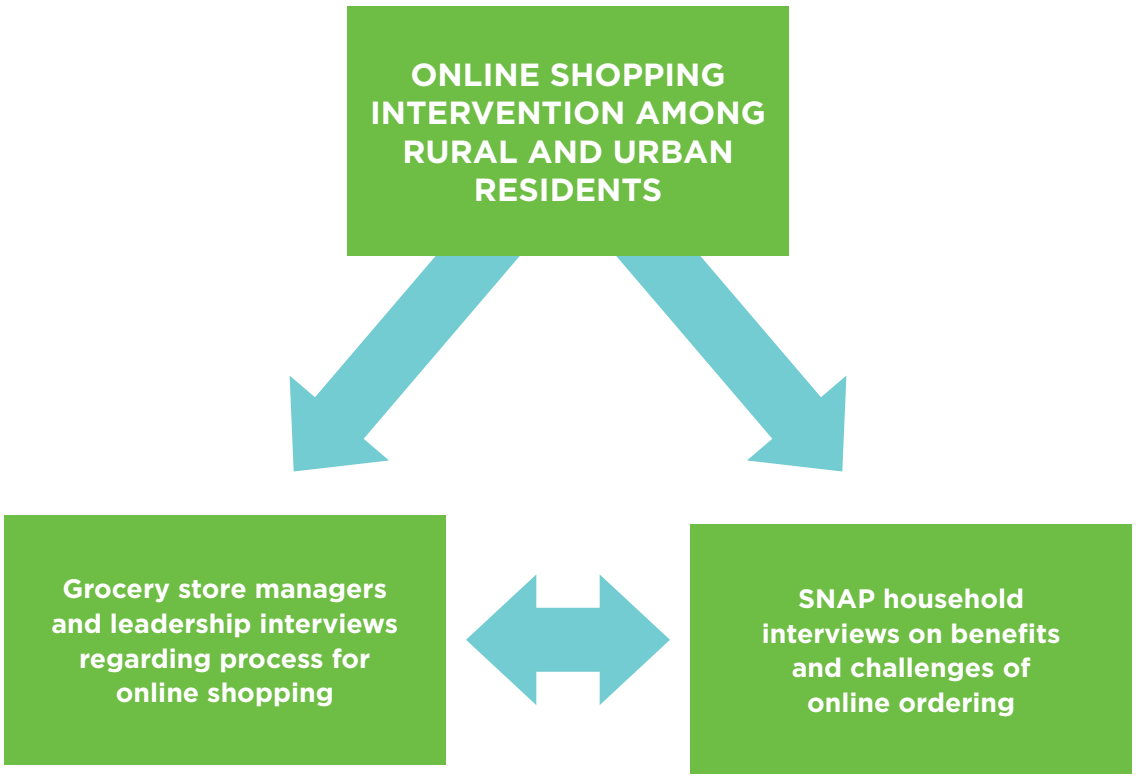
BACKGROUND

The University of Kentucky, in partnership with Share Our Strength with support from Instacart, conducted a multi-phase research project focused on online grocery shopping benefits, facilitators, and challenges. Over the past five years and particularly in the wake of the COVID-19 pandemic, online grocery shopping has grown tremendously. Online grocery ordering has the potential to make it easier to plan and prepare meals, which in turn can support nutritious dietary habits and purchases such as increased fruits and vegetables. On the other hand, ordering groceries online may not be easy for some households—potential barriers include delivery fees, pickup times, and/or access to options. To support food access and nutrition, it is essential to explore what impacts online grocery ordering can have for households and especially for households who are particularly likely to experience food access challenges such as SNAP EBT users and rural households

The main aim of this multi-phase research project was to:

- Test whether an intervention supporting online grocery shopping could improve purchases and intake of fruits and vegetables among households in rural and urban areas.
- Understand households' perceptions of the benefits and challenges of grocery shopping online, especially among those receiving SNAP and for rural and urban households.
- Hear from grocery store managers in rural and urban areas about implementing online ordering—including processes, challenges, and benefits.

FIGURE 1: CONCEPTUAL MODEL FOR ONLINE GROCERY SHOPPING RESEARCH PROJECT



DESIGN

INTERVENTION: During the first component of the study, the researchers tested whether an online shopping intervention could influence purchasing patterns in rural and urban communities. Rural and urban adults in North Carolina, Maryland, and Kentucky (n=237 across 7 counties) were recruited to participate in the 8-week intervention. Recruitment for the intervention targeted low-to-middle-income families, including some who receive SNAP. The intervention had three arms:

1) online shopping + intensive information "O+I" with targeted assistance in meal planning and purchasing, initial assistance with setting up online grocery carts, and reminders to shop

2) online shopping without tailored support "O" except for initial assistance setting up online grocery carts and reminders to shop;

3) a comparison group for brick and mortar shopping "BM". Each week, participants submitted receipts for all foods purchased that would be consumed at home.

Additionally, participants responded to a baseline and post-intervention survey that asked about in-store and online shopping practices, perceptions of benefits and challenges of online shopping, dietary intake, and demographics. Incentives were provided with the intent to help defray costs of delivery or minimum purchasing fees.

INTERVIEWS: To gather contextual information after the intervention, in the second component of the study, a subset of SNAP households with children in rural and urban areas (n=64) were asked to participate in a qualitative interview. The 45-minute structured interview asked SNAP households about online shopping experiences, benefits, and challenges.

Additionally, grocery store retailers (n=23) in rural and urban counties in North Carolina, Tennessee, and New York participated in a 30-minute interview about ways to improve online ordering access and experiences. Store managers were recruited from locations that participated in the 8-week online intervention and via existing community partnerships with grocery stores. Stores represented a variety of those offering online shopping or not, urbanicity (rural or urban), and acceptance of SNAP EBT online.

FINDINGS

INTERVENTION: Receipt analysis found the intervention increased the frequency of online ordering. Households in the O+I arm, which received tailored suggestions and tips, shopped online 65 percent of the time. In contrast, the comparison group of shoppers (BM) shopped online only 15 percent of the time. Supports provided in the intervention likely helped participants to tap into this option.

The primary outcome of interest was whether the intervention to facilitate online ordering affected spending on fruit and vegetable purchases and grocery bill totals. The 8-week receipt analysis found no significant differences across the study arms in their total grocery bill (combining online and in-store) or total online grocery bill. However, the study found that the intervention group who received intensive information and targeted suggestions (O+I arm) spent an average $6.84 (95% CI 3.58–10.11) more on fruits and vegetables compared to those in the comparison group (BM arm). In other words, households in the O+I arm were able to purchase a greater percentage of their total bill on fruit and vegetables without increasing overall grocery costs compared to those in the comparison group.

While the study intervention intended to encourage online shopping, about half of participants in the two online intervention (O and O+I) arms still in fact shopped in-store, as evidenced in the receipts. Thus, a secondary receipt analysis was conducted, where the study arms were essentially disregarded and a comparison was only made between shopping online vs in-store. This secondary receipt analysis again found no significant differences in the total grocery bills when shopping online vs in-store, ignoring story arm. This is a key point since some anecdotally indicate that online shopping is more expensive than in-store, yet the results point to similar total spending. Online shopping generally, ignoring study arm, was associated with spending $5.24 more on average on fruits and vegetables compared to in-store shopping (5.24 95% CI 3.77 - 6.71).

Study participants were also surveyed at baseline about perceptions of online shopping. Baseline surveys indicate that rural households were more likely than urban ones to report challenges fully accessing online ordering, including not having delivery as an option or feeling prices weren't affordable.

INTERVIEWS: To gather more contextual information after the intervention, a subsample of SNAP households were interviewed to dive into the experiences, benefits, and drawbacks of online shopping. SNAP households favorably reported that online shopping offers greater convenience, less stress, time savings, and ability to try new items. Some also indicated they feel like online shopping saves them money. Interviewees also indicated ease and comfort using EBT online. SNAP households also appreciated the anonymity of shopping online and not having to use their SNAP EBT card in store, where they might experience stigma related to public benefit use. Despite benefits, SNAP households noted challenges like inconvenient pick-up times, dissatisfaction with substitutions, and quality of choices made by employed shoppers. Some SNAP households felt that fees made online shopping less worthwhile, though feelings were also mixed. Barriers also exist for retailers to offer SNAP EBT online. Retail managers cite significant major barriers to being able to offer SNAP EBT online purchasing—including technology infrastructure, cost, and staffing.

Retail managers that already offer online ordering most often cited employee-related issues as a challenge with operating online ordering (e.g. training staff to fulfill orders, ordering systems not working and store employees not being able to fix errors). They shared their perceptions of customer challenges (e.g. substitutions, online website not working and customer complaints) and customer benefits (e.g. time savings, convenience, easy to order large quantities). They also remarked that online shopping was particularly useful for certain populations, including households with children.

Brick-and-mortar only managers had at the top of mind the positive impacts of maintaining current in-store operations (e.g. customer connection and a sense of community). They also noted barriers to potentially implementing online shopping (e.g. lack of staffing, cost of implementation). These two themes were paramount even though brick-and-mortar-only managers acknowledged the competition presented by online shopping retail, saw the potential value of online shopping for customers, and were more likely than online retailers to report having to deal with pandemic related challenges, especally for brick-and-mortar stores in rural areas. Ultimately, when

considering the challenges of implementing online ordering and the benefits of in-person connections, the brick-and-mortar only store managers wanted to maintain in-store operations.

Conclusion

Across the study phases, there were some similarities in noted benefits and challenges of online ordering. Intervention participants, SNAP households, and retailers alike mentioned that online shopping saves times for customers. Retailers and SNAP costumers also both mention and acknowledge shopper dissatisfaction with substitutions. Staffing capacity and infrastructure were challenges mentioned by retailers across the board—whether they do or don't currently offer online ordering.

Online ordering has the potential to increase food access and help maximize food budgets especially when paired with supports. Indeed, interviews with SNAP households suggest that meal planning was facilitated by shopping online—with households reporting that they were better able to plan out their shopping so that they were curbing purchases of items they may not need and might be less nutrient dense. The potential for online ordering to support households in buying affordable, nutritious foods is of particular importance for those at greater food risk.

Moreover, providing informational and financial supports within the online ordering context can also help facilitate online shopping by addressing barriers. Even those in the study who only received reminders and basic assistance setting up the cart were more likely to shop online compared to shoppers who received no information at all. The supports provided in the intervention may have also contributed to SNAP interviews' comfort using their EBT online, the ease of the process, and the feedback that they felt they saved money.

Not all households have equitable access to online ordering. Rural shoppers surveyed were less likely to indicate access to delivery within online ordering and have concerns about affordability. Generally, stores that are brick-and-mortar only also tend to be located in rural areas. It's important to consider how to increase access for populations that face particular barriers and could especially benefit.

There is also great opportunity to ensure SNAP EBT users have equitable access to online ordering. Online ordering could have the potential to address stigma amongst SNAP participants, as evidenced by interviews. When considering limited food budgets however, it is also important to address dissatisfaction with substitutions or fees. Future research is needed to further dig into the how these challenges influence SNAP households' long-term continuation of online shopping and affects uptake of online shopping for those who have never done so. Moreover, there is room to address major barriers that retailers cited to offering SNAP EBT online purchasing. Future private-public partnerships and policy opportunities might have the opportunity to support the implementation of SNAP EBT online purchasing in stores that face the greatest challenges, such as smaller or rural stores.

IMPLICATIONS

This program highlights how an online intervention can support food and nutrition access across rural and urban residents as well as SNAP households. However, existing disparities may be exacerbated especially among rural communities without providing equitable access. The study findings suggest that if targeted support (e.g. assistance setting up grocery carts and tailored information) is made available to rural areas, more rural residents will shop online when provided access. Therefore, it may be important to address other barriers, such as the lack of delivery or pickup options, and leverage ways to make shopping affordable including through incentives or coupons. SNAP online expansion can also help to address stigma for SNAP customers who wish to feel more anonymous when using their EBT card online. Moreover, SNAP online expansion also provides an opportunity to increase food access by creating a larger network of food options beyond the neighborhood. Smaller and rural stores face greater barriers to offering online shopping in addition to SNAP EBT online purchasing. Government partnerships could incentivize or build capacity to expand online grocery delivery into areas not served or support local pickup points especially in rural areas. Moreover, there may be policy opportunities to facilitate and streamline implementation of SNAP EBT online purchasing for stores that face the greatest challenges and are located in underserved communities.

Partnerships across industries can enhance the potential for online shopping to support meal planning and purchase of affordable nutritious foods. Retailers can utilize technology to support and retain customers, offering tailored content that also benefits shoppers. Strong cross-sector collaboration can also decrease barriers to access to online grocery shopping, especially among rural and SNAP households. In addition, policymakers can support food access among SNAP households by pairing supports with online ordering. For example, SNAP-Ed (the program which provides nutrition education for SNAP recipients) can be leveraged to help families stretch their food dollars online. It has the potential to be used in a variety of means, including incorporating food skills education curriculum into platforms (such as Cooking Matters) to support meal planning and shopping on a budget. Given online transactions will likely keep growing in years to come, there is a timely opportunity for SNAP-Ed to support nutrition in the online space. There is a key opportunity for professionals in industry, public health, transportation and planning, engineering, economics, marketing, and several other disciplines to collaborate to ensure there is equitable food access across all populations.