

Exploring Rural Georgia Residents' Extension Needs for Improving Food Access

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Introduction

Extension helps build resilient rural communities by increasing access to healthy food, acting as a bridge between educational, activist, and economic-based institutions for food systems change (Morgan & Fitzgerald, 2014). There is an opportunity to create long-term, sustainable Extension programs that promote food access in rural communities, but the needs of residents must first be determined for successful implementation (Garst & McCawley, 2015). Extension does not often have opportunities to evaluate community needs prior to program implementation, yet achieving community-based health intervention outcomes requires assessment in early stages (Benge & Warner, 2019). Investigating Extension resources needed by rural residents to build healthy and resilient communities is relevant to the 2016-2020 American Association for Agricultural Education National Research Agenda, as priority area six calls for vibrant and resilient communities, especially in rural areas.

Conceptual Framework

Audience segmentation is a marketing strategy commonly used in agricultural education research to increase the effectiveness of programs for specific groups (Chaudhary et al., 2017; Slater, 1996; Warner et al., 2016). Audience segmentation identifies homogeneous subgroups within a population based on shared characteristics (Grunig, 1989; Lee & Kotler, 2011). Extension programs can benefit from audience segmentation approaches because programs can be tailored to the needs, motivations, values, beliefs, and interests of a specific subgroup (e.g., Andreasen, 2006; Carroll et al., 2022; Gibson et al., 2020; Huang et al., 2017; Lamm et al., 2019). Therefore, the purpose of this study was to identify specific subgroups of rural Georgia residents related to food access and availability based on preferred Extension program and resources.

Methods

Data were collected in November 2022 from rural Georgia residents aged 18 and older using an online questionnaire ($N = 780$). Respondents were recruited using non-probability opt-in sampling methods (Baker et al., 2013). The sample collected was based on rurality and did not incorporate other demographic characteristics, which limits the findings and generalizability of the study. The research design was approved by the University of Georgia Institutional Review Board (IRB #00005553).

Respondents were asked to indicate the likelihood of using the following Extension resources if they were available in their community: free cooking classes, farmers' market coupons, free classes on home gardening, free or discounted weekly box of fresh fruits and vegetables, fresh fruits and vegetables available in gas stations/ convenience stores, mobile trucks or food markets, community gardens, free nutrition classes, free programs to help prevent and/ or manage chronic disease, like diabetes, heart disease, and cancer, and free exercise classes. Items were adapted from the Missoula Food Bank (2021) and measured on a five-point Likert scale (1 = *never*; 5 = *all of the time*).

Descriptive statistics were used to rank the likelihood of using the listed Extension resources if available in respondents' communities. Hierarchical cluster analysis with Ward's method and squared Euclidian distance was conducted to identify specific subgroups based on expressed

needs. Three subgroups were identified from the resulting dendrogram. Subsequently, K-means clustering was conducted with Ward's method to divide the dataset into the appropriate subgroups. Chi-squared analysis was conducted to determine if there were associations between the cluster groups based on need and respondents' demographic characteristics.

Results

Overall, respondents were likely to use free or discounted weekly box of fresh fruits and vegetables ($M = 3.96$, $SD = 1.16$), farmers' market coupons ($M = 3.75$, $SD = 1.17$), and mobile trucks or food markets ($M = 3.75$, $SD = 1.17$). Respondents were neither likely nor unlikely to use free cooking classes ($M = 3.16$, $SD = 1.35$), free classes on home gardening ($M = 3.25$, $SD = 1.31$), and free nutrition classes ($M = 3.39$, $SD = 1.29$).

Three distinct clusters emerged from the analysis and were named low ($n = 144$), medium ($n = 323$), and high ($n = 313$) likelihood of using Extension resources. Chi-squared analysis indicated significant differences between cluster groups' demographic characteristics, including sex ($X^2 = 8.78$, $p = .01$, $\Phi = 0.11$), age ($X^2 = 57.01$, $p < .001$, $\Phi = 0.19$), marital status ($X^2 = 19.85$, $p = .03$, $\Phi = 0.11$), employment ($X^2 = 53.40$, $p < .001$, $\Phi = 0.19$), receiving SNAP benefits ($X^2 = 11.86$, $p = .02$, $\Phi = 0.08$), and educational level ($X^2 = 31.14$, $p < .001$, $\Phi = 0.14$). Members of the high likelihood cluster were likely to be younger, employed full time, and received SNAP benefits. Members of the medium likelihood cluster were likely to be between 28 to 67 years old and employed part-time. Members of the low likelihood cluster were likely to be older and retired or unemployed but not looking for work.

Conclusions and Recommendations

Respondents were most interested in Extension resources that provided coupons or other market-based solutions to alleviate the financial stress of purchasing healthy foods. Extension should partner with economic resource organizations to enhance community resilience related to food access given this result. It is possible the likelihood of purchasing fruits and vegetables in gas stations/convenience stores would also increase if price was not a barrier.

Respondents represented in the high likelihood cluster were fully employed individuals likely to receive SNAP benefits who may benefit most from Extension resources. Extension should target members of the high likelihood cluster with interventions that provide coupons or other market-based solutions. Extension programs for the high likelihood cluster should be held outside of this cluster's normal working hours, which could be determined by future questionnaires. Programs should provide tangible resources, like the ingredients to cook a meal, to encourage the high likelihood cluster to attend.

Respondents in the low and medium likelihood clusters may have more opportunities to engage in programs considering their work schedules are less time consuming. It is also possible respondents in the low and medium likelihood cluster are more food secure as they do not receive SNAP benefits as often as the high likelihood cluster. The low and medium likelihood clusters may be interested in helping with a community garden or food pantry, also benefitting the high likelihood cluster. Future studies should further examine available Extension resources to determine if subgroups need different support depending on their demographic characteristics to create targeted and effective programs.

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