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Building Volunteer Engagement in the Tennessee Extension Master Gardener Program from the Ground Up

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Cover Page Footnote

We would like to acknowledge the excellent support and engagement of our EMG volunteers in this survey and the program overall. Their passion, talent, and dedication make the program impactful.

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Building Volunteer Engagement in the Tennessee Extension Master Gardener Program from the Ground Up

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Abstract. This study was designed to assess key volunteer attitudes and perceptions about local and state Extension Master Gardener (EMG) volunteer programs. EMG volunteers in Tennessee completed a total of 759 surveys between January 22 and March 10, 2020. Survey responses showed there was a strong positive perception of local EMG groups and the connection with the University of Tennessee system overall. When respondents were segmented, answers to key questions showed illuminating differences between volunteers with positive and neutral or negative views of the program. The variations in answers show areas of potential emphasis to support healthy local group culture and broader efficacy of the EMG program.

INTRODUCTION

The Extension Master Gardener (EMG) program exists to train dedicated and engaged volunteers as educators who can expand the reach of consumer horticulture teaching and training. As a key component of educational outreach from land-grant universities, the EMG program and its volunteers have been the subjects of many different studies conducted from many different perspectives. Research has been conducted on volunteer recruitment, motivation, retention, and attitudes (Relf & McDaniel, 1994; Rohs et al., 2002; Rohs & Westerfield, 1996; Schrock et al., 2000; Strong & Harder, 2011). Studies have also investigated the demographics of the program (Dorn et al., 2018), training methods and resources (Dorn & Hobbs, 2020; Jeannette & Meyer, 2002; Langelotto-Rhodaback, 2010; Moore & Bradley, 2015; Moravec, 2006; Young, 2007), and the impact of educational efforts (Borisova et al., 2012). Most surveys have been conducted on a state, regional, or national level (Bumgarner & Donaldson, 2017; Dorn et al., 2018; Takle et al., 2016; Wilson & Newman, 2011). While these studies provide valuable perspectives on training and outreach, additional research is needed to investigate how volunteer engagement is influenced by attitudes about and participation in local groups.

EMG program organization differs by state; however, EMG programs usually have local units (county and/or regional) that are part of a statewide program, with leadership and membership at both the local and state level. The critical point of entry, training, and engagement is often par-

tially or entirely local. Therefore, the culture and dynamics of the local EMG programs are a cornerstone of effective and sustainable state programs.

Since the lens of the local group is central for EMG volunteers, a complete understanding of volunteer engagement will need to consider local groups' strengths, weaknesses, and needs. These aspects will enable local and statewide training and programming to be designed and implemented to support local group culture while building a strong statewide program that connects these smaller local programs. Therefore, the central goal of this effort was the design, implementation, and analysis of a survey instrument distributed statewide to EMG volunteers that focused on their views and perceptions of the EMG program from the local and statewide level.

A team of Extension specialists, county agents, and EMG volunteers developed this project to support the current and future effectiveness of the EMG program through a better understanding of volunteer engagement and perceptions of the program. Specific objectives were to 1) assess volunteer attitudes about the local and statewide EMG program; 2) identify key differences in perspective between volunteers who have positive views of the program from those with neutral or negative views; and 3) determine needs and opportunities to strengthen local group culture—specifically, attitudes about and participation in local groups—to enhance overall volunteer engagement and impact.

METHODS

The survey consisted of six question blocks. These included overview and demographics sections and four question blocks focused on local group perception (17 questions), education and outreach preferences (21 questions), local group involvement (five questions), and statewide program perceptions (14 questions). Types of questions included matrix tables based on a 0 to 10 Likert scale, open-ended, multiple choice, multiple check box, dropdown, and individual rating. The research team used this range of question types to provide feedback useful at both the local and state levels. While a formal pilot study was not employed, many of the questions in this survey had been used previously for program evaluation of individual counties conducted by the author team. The survey was constructed and deployed using SurveyMonkey. The project was approved as an exempt project by the University of Tennessee Institutional Review Board (IRB number 19-05491-XM).

On January 7, 2020, volunteers were given notice via email of an upcoming statewide volunteer survey. The survey link was then sent out in emails each addressed to all volunteers in a single county EMG program. These emails were sent on January 22, January 23, and January 28 for eastern, western, and middle Tennessee counties, respectively. Surveyors pulled email addresses for individual volunteers from the state EMG volunteer reporting database where all volunteers report service hours. They used all active EMG volunteer email addresses. A reminder notice was sent via email on March 3. The survey was closed on March 10, 2020 without additional reminder notices in order to prevent data from being impacted by COVID-19 disruptions.

EMG volunteers completed a total of 759 surveys between January 22 and March 10, 2020. The research team sent 2,857 initial emails. Bounce-back emails (33) were removed for a corrected total of 2,824. The overall response rate was 28.4% (759/2,824). This response rate is slightly lower (28% vs. 43%) than the 2015 Tennessee EMG survey (Bumgarner & Donaldson, 2017). The lack of reminder emails due to COVID disruptions likely contributed to the overall response rate. It should also be noted that county-level response rates varied from 11.8% to 51.7%, suggesting that local differences in groups played a role in volunteers' likelihood to respond. Data was compiled at the completion of the survey period. Analysis for this discussion focused on a subset of the survey including 12 questions in the local perception question block (1a) and 13 questions in the statewide program perceptions block (4a). Means, standard deviations, and 95% confidence intervals were calculated to determine if statistically significant differences were present in the responses.

Additional statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) Version 26. The authors used a K-means clustering technique to create

groups based on specific answers to questions about local groups. The K-means clustering can be used to determine what types of groups exist (Everitt et al., 2011). The questions used for the K-means cluster analysis were scale questions with a Cronbach's alpha of 0.792 to measure scale reliability. The three segments that resulted from the means clustering can be used to describe these groups as statistically significant at a $p < 0.05$ with a calculated p value of 0.001.

RESULTS AND DISCUSSION

The respondents in this survey were predominately retired (66.4%). However, 22.4% worked full-time, 10.8% worked part time, and 0.4% were students. In terms of experience in the EMG program, 52.1% of participants had been involved in the program for five years or fewer, 32.4% for six-fourteen years, and 15.4% for 15 or more years. Seventy-six percent of respondents were female. A majority (59.3%) of respondents were over the age of 65, while 29.9% were 55-64, and 12.9% were 54 or younger. Of respondents, 95.4% were white, 3.6% were black, and less than 1% each identified as American Indian/Alaskan native, Asian, and Pacific Islander. In terms of ethnicity, 99.1% self-reported as non-Hispanic.

Results demonstrated that the overall volunteer perception of local Master Gardener (MG) programs in Tennessee is positive. As shown in Figure 1, the two statements with the highest mean ratings were "I am proud to be a part of my local MG program" (8.8) and "I really enjoy working with other MGs in the local group" (8.7). Statements regarding service projects, recognition, use of skills, welcoming new members, communication, and overall county program quality were also rated positively, between 7.7 and 8.4. Statements describing the perception of finding "my place/role" (6.7) and "MGs are recognized for their contributions" (6.6) indicate areas of potential weakness in local groups in matching individual skills to outreach positions and recognizing individual contributions.

The "negative" statement "Our MG group needs new/fresh ideas" stood out as lower than all other statements, even when the data were reversed for comparison purposes. This statement showed that respondents disagree on whether or not there is a need for new or fresh ideas. This lack of agreement means many do not recognize the need for change, which may create challenges in addressing and implementing change at the local level.

Results demonstrated that overall perceptions of the mission of the EMG program and its connection with the University of Tennessee Extension system were positive (Figure 2). The statements "I understand the mission of EMGs," "I am in complete agreement with the mission of the MG program," and "I love the idea of being affiliated with the University of Tennessee Extension system" were the three highest means (8.8, 8.8, and 8.6, respectively).

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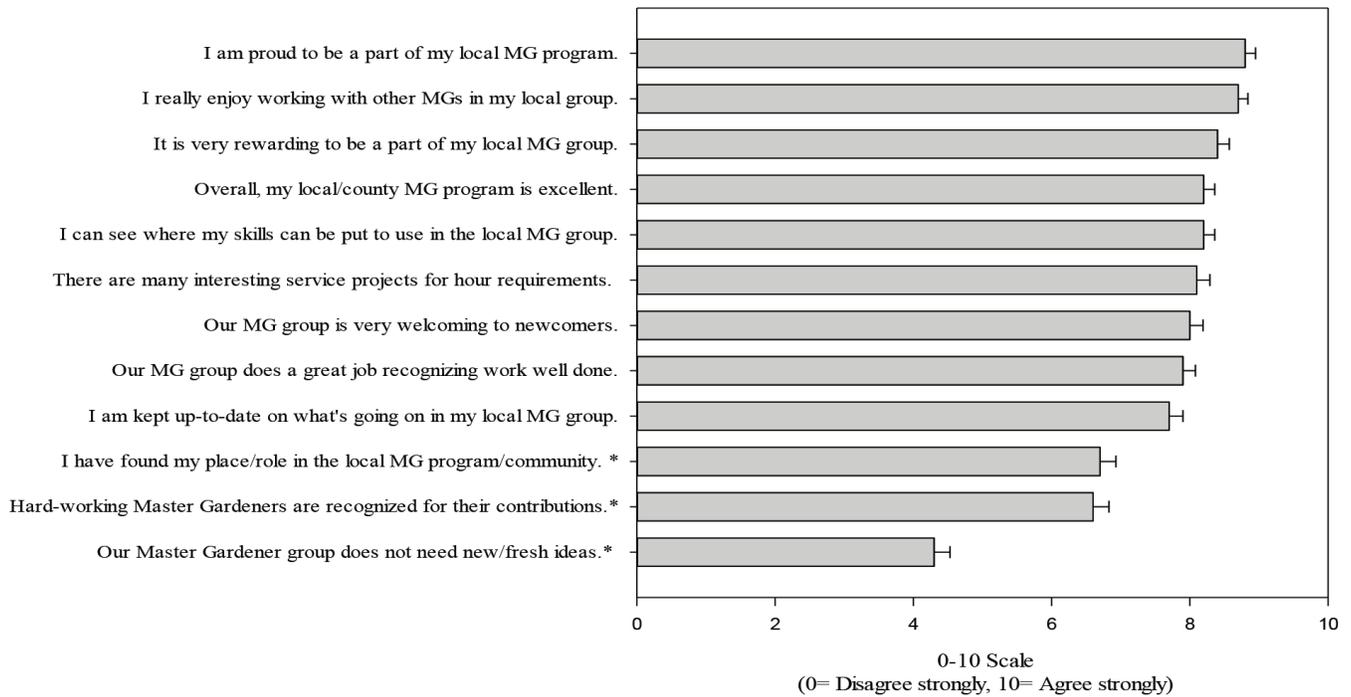


Figure 1. Overall perception of local EMG programs as rated in the 12 questions in survey question set 1a (n = 759) with 95% confidence intervals. Items marked with * were originally written in the negative and reversed for comparison. Originally presented as “I have not really found my place/role in the local MG program/community,” “Some hard-working Master Gardeners are not recognized for their contributions,” and “Our MG group needs new/fresh ideas.”

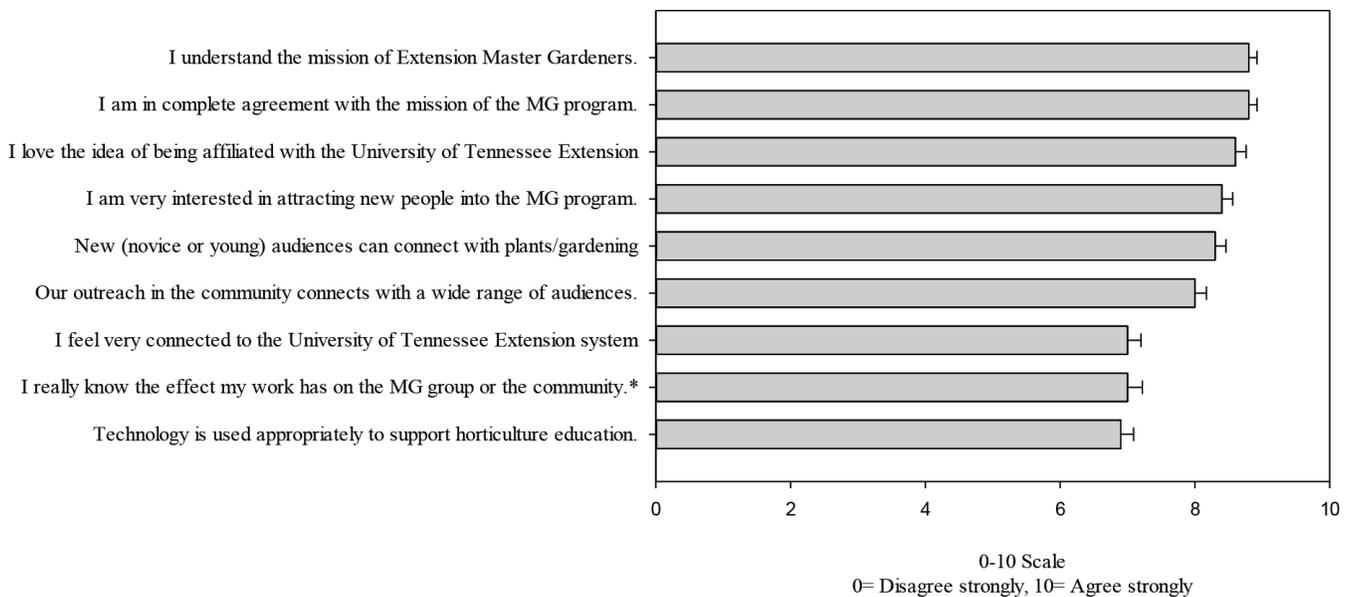


Figure 2. EMG volunteer perspectives on the statewide EMG program as represented by nine questions selected from question set 4a (n=759) with 95% confidence intervals. Note. Items marked with * were originally written in the negative and reversed for comparison.

Likewise, the statements related to a desire to reach new audiences and perceptions of successfully connecting new audiences (“I am very interested in attracting new people into the MG program,” “Our outreach in the community connects with a wide range of audiences,” and “New (novice or young) audiences can connect with plants/gardening through our educational events.”) were rated highly at 8.4, 8.3, and 8.0 respectively. The fact that these three statements trended lower than the statements about agreeing with or understanding the mission suggest it may be easier for MGs to agree to the abstract concepts of providing education as part of the mission than the practical application of educational methods designed to reach a wide range of community members and integrate new volunteers into the program.

Some statements in the middle of the ranking may illuminate areas of weakness. The statement “I feel very connected to the University of Tennessee Extension system through the MG program” had a mean rating of 7.0, which was significantly lower than the statement about the idea of being affiliated. This indicates that the degree to which our programs deliver content that clearly and practically connects the land-grant university to the volunteer may allow room for improvement. Respondents’ answers also suggest that the use of technology in our programs (6.9 average) could be improved. This survey was carried out prior to COVID-19 restrictions that necessitated an increased use of technology, so this perspective may have changed over the last few months or years.

Using answers to key questions presented in Table 1, the authors grouped respondents into three distinct segments (Table 1): highly positive (66.9%), moderately positive (19.4%), and neutral/negative (13.8%). The data were clustered by applying a clustering algorithm K-means to the data set. The segmentation procedure allowed key differences in group perceptions to be clarified in terms of the local and statewide program. The two positive groups reported that they found the MG program rewarding, welcoming, and excellent overall, while the neutral to negative group had significantly lower ratings for those statements. Respondents classified in the neutral/negative group were more likely to be women and/or under 65 years of age, and those in the moderately positive group were more likely to be certified before 2015 and/or retired.

Key differences among the groups were seen in responses to statements about the need for new ideas, the use of technology, and the connection with the University of Tennessee Extension system. Additionally, an understanding of the mission and an interest in attracting new people to the program were rated differently among the groups. The differences in ratings of statements provides insight into key perspective differences for volunteers that led to some of the lower overall values for statements discussed above. Additionally, these results present opportunities to address concerns of volun-

teers through a better understanding of their attitudes about the program at the local and state level.

FUTURE APPLICATION

These survey results will be used as a guide for local EMG program efforts and statewide focus areas. The consistency of ratings for local and statewide EMG perceptions suggests that volunteers do not generally make a distinction between local and statewide programs. Therefore, cohesion in local group trainings and organizational protocols can be enhanced by incorporating statewide trainings and aligning the local and state program focus in key areas of mission, connection with the university, and technology.

The contrasting ratings for questions by the different segmented groups illustrate areas of weakness but also opportunity. The low percentage of non-white participants and working respondents, as well as the tendency for those under 65 to be less positive towards their EMG experience, indicates a need to understand and focus on how our programs can better include audiences currently in the minority. These efforts should focus on both removing barriers to access in training and including minority demographics in service and outreach at the local level. Focusing on key needs in building group culture will have benefits internally and externally. For instance, an emphasis on incorporating new members via local outreach in a way that utilizes their interests and skills and respects their views will have multiple benefits. It will integrate new volunteers while providing the opportunity to better reach diverse communities, because different backgrounds and experiences will be represented in the EMG volunteers conducting the teaching and service. These direct and indirect effects can aid the the Extension goal of developing and supporting outreach to new or underserved audiences and communities.

Local EMG program activities can be augmented by broader statewide efforts to connect local service opportunities to the Extension and EMG mission, support technology use to increase program access, and enhance connections between the university and local EMG groups. A properly balanced perspective of using neutral/negative responses as learning opportunities while recognizing the many positive attitudes of the majority of volunteers will be vital during implementation to retain the goodwill and engagement of EMG volunteers committed to the program. Investing in local leadership training and volunteer engagement while communicating a cohesive understanding of the mission and how it can be achieved through dynamic outreach will be key areas of focus moving forward.

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Table 1. Member Segmentation of Selected Perspective Statements about Local and Statewide Extension Master Gardener Program

Statement	Highly Positive Group (n = 476)	Positive Group (n = 128)	Neutral to Negative Group (n = 98)
I am proud to be a part of my local MG program.*	9.6**	8.9	4.7**
It is very rewarding to be a part of my local MG group.*	9.2**	8.4	4.2**
Overall, my local/county MG program is excellent.*	9.0**	8.2	4.8**
I can see where my skills can be put to use in the local MG group.*	9.0**	7.7	4.8**
Our MG group is very welcoming to newcomers.*	8.9**	8.3	3.3**
Our MG group does a great job recognizing work well done.*	8.7**	8.0	3.7**
Our MG group does not need new/fresh ideas.+ *	5.6**	1.9	2.0
I understand the mission of Extension Master Gardeners.	9.1**	8.4	8.1
I am very interested in attracting new people into the MG program.	8.8**	8.3	6.4**
Our outreach in the community interacts/connects with a wide range of people	8.6**	7.3	6.0**
I feel very connected to the University of Tennessee Extension system through the Master Gardener program.	7.7**	6.2	4.9**
Technology is used appropriately to support horticulture education.	7.4**	6.5	5.0**

Note. Of the 759 responses to statements in question 1a, 712 could be grouped using the K-means clustering technique.

^aThe data for this statement were reversed for comparison purposes. The higher the rating the better the score. Originally written as “Our MG group needs new/fresh ideas”.

^bStatements marked with * were used in the statistical segmentation process to group respondents.

^cStatements marked with ** indicates a statistical difference at the 95% confidence level (the two ratings with ** denotes all 3 means are statistically different from each other).

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