

A National Examination of the Predictors of Volunteer Utilization in School-Based Agricultural Education

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Abstract

Despite the potential benefits of utilizing volunteers in SBAE programs, volunteer utilization among SBAE teachers has received little attention in the literature in recent years, especially on a national level. A national random sample of SBAE teachers were surveyed to determine current behaviors and perceptions as well as predictors of volunteer utilization. The average SBAE program receives 56 hours of volunteer support and 38 volunteers in a single year across the country. While former students make up the majority of volunteers, parents of current students contribute the most hours to SBAE programs. Volunteers are used most often on advisory committees and for CDE training. School district policies such as background checks and paperwork was the biggest challenge to utilizing volunteers. Gender, community type, number of SBAE teachers in the program, and number of years teaching in the community accounted for 20% of the variance in total volunteer utilization and 13% in total volunteer hours. Years teaching in the community and number of teachers in the SBAE program were significant predictors of both total volunteer hours and total number of volunteers. The findings have implications for developing and maintaining volunteer programs in SBAE. It is recommended that more research be conducted to determine how volunteer utilization can reduce stress and workload challenges among SBAE teachers. Further recommendations and implications are discussed in the paper.

Keywords: volunteers; community type; volunteer utilization; volunteer roles; SBAE

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Introduction and Need for the Study

For decades there has been a shortage of qualified school-based agricultural education (SBAE) teachers in the United States. The excessive workload of teachers has been one of the many factors leading to teacher shortage, contributing to stress, burnout, work-family conflict, and teacher turnover (Sorensen et al., 2016). Teachers carry out other programmatic roles within agricultural education that are time-consuming and demanding, beyond that of other classroom teachers (Murray et al., 2011; Sorensen et al., 2017; Torres et al., 2008). Despite a decrease in educational and programmatic resources, student enrollments in SBAE have steadily increased over the past several years, adding to the demand placed on teachers and the program (Smith et al., 2017). A common approach in education aimed at extending resources and providing assistance to teachers is to enlist the help of volunteers (Ames et al., 1995). Volunteers have the potential to reduce teacher workload, stress, and burnout (Clary et al., 1998).

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In 2001, Seevers and Rosencrans laid the foundation for research examining volunteer utilization within school-based agricultural education (SBAE) by conducting a study among agriculture teachers in New Mexico. Since that time, while much research has focused on volunteers in extension and 4-H (e.g., Boyd, 2003; Culp & Kohlhagen, 2004; Stedman & Rudd, 2006; Terry et al., 2011), little research has been conducted in school-based agricultural education. Most studies in SBAE have focused on advisory committee utilization (e.g., Masser et al., 2014, Taylor et al., 2017) without examining volunteerism within programs more broadly. This study seeks to build on the work of Seevers and Rosencrans (2001) by examining volunteer utilization on a national scale and to answer additional questions that their study did not address, such as what is the relationship between demographic variables (e.g., community type) and volunteer utilization? Who are the volunteers in SBAE programs? And what are the intentions of agriculture teachers in utilizing volunteers in the future? Since Seevers and Rosencrans' study in 2001, the education system in the United States, including SBAE programs, has undergone many changes, adding to increased pressure and responsibilities than in previous years. These changes, which may have implications for expanding volunteer utilization within SBAE programs make this national study both timely and essential.

Theoretical Framework and Literature Review

The theoretical basis for this study was the ecological systems framework (Bronfenbrenner, 1993). The theory suggests that human development and behavior are influenced by different levels of environmental systems (i.e., individual, microsystem, mesosystem, exosystem, and macrosystem), with the individual at the center of the model. This theoretical model includes a hierarchy of factors, including perceived factors, influencing the educational system in which the individual or school program may be involved. Outside of the individual and their biological characteristics resides the microsystem, where direct interactions between the individual and family, peers, or the school may occur. The next level outside of the microsystem is the mesosystem where systems and networks of family, peers, and school interact with the individual. The third level in the model is the exosystem, where environmental characteristics and factors outside of the individual and their direct relationships are found. For example, places of employment, work-related factors, or community factors or programs may fit in this system. Within the exosystem, the individual does not have direct control over consequences or activities that occur within its system and are only indirectly affected by those occurrences. The final level outside of the individual is the macrosystem, which represents societal and cultural norms, values, laws, practices, and customs where the individual resides. This system may influence activities of the exosystem which in turn can influence the mesosystem, microsystem, and ultimately the individual.

Operationalizing this theory, we are able to contextualize volunteer utilization within an SBAE program, situated within various community types. The SBAE teacher's behavior (i.e., utilization of volunteers) can be influenced by their perceived benefits or challenges within each hierarchical level of the education system. Community members, parents, and former students (i.e., exosystem) are petitioned to volunteer by the SBAE teacher (i.e., microsystem and mesosystem) for the purpose of student achievement (i.e., individual level) and program success (i.e., microsystem and mesosystem). The interaction between volunteer-student and volunteer-teacher within the SBAE program can be understood using this theoretical lens. Sanders (2001) found the success of students (i.e., individual) and the school system (i.e., micro- and mesosystems) depends on community partnerships (i.e., exosystems).

At the microsystem level, personal and professional characteristics of teachers, such as gender or personality type, can influence their interaction with others and across hierarchal levels. For example, previous research has shown that seeking help from others is negatively related to perceived competence for males but not females (Johnson et al., 2008; Lee, 2002; Rosette et al., 2015). Therefore,

it is assumed that female agriculture teachers would be more likely to seek volunteer help than male agriculture teachers. Similarly, research has indicated positive correlations between extroversion and social and support network characteristics. Introverted individuals tend to utilize social supports and ask for help less frequently than extroverts, especially when asking people of the opposite sex (DePaulo et al., 1989; Swickert et al., 2002).

Connecting the community resources with the local program (i.e., volunteer program) may take years to fully establish. In their study examining novice agriculture teachers' sense of community connectedness and self-efficacy, Langley et al. (2014) found that teachers in a new community experience culture shock, which influences their ability to accomplish their goals. Teachers placed in new communities must adapt and learn their new roles and the resources available to them to accomplish those goals, thus increasing psychological strain (Mumford, 1998). Therefore, as suggested by Mumford (1998), the more time teachers are embedded within a community, the more connections (e.g., across hierarchical levels) to resources (e.g., volunteers) are established. Yet the influence years of teaching in a community has on teachers' volunteer utilization in their SBAE programs is not known. No research in agricultural education has attempted to answer this question.

The number of agriculture teachers in an SBAE program can influence how that program operates and the challenges that may arise. For example, Boone and Boone (2009) found multi-teacher SBAE programs to be a problem for many high school agriculture teachers. Research has also indicated that more teachers in an SBAE program leads to more work for teachers and higher work-family conflict (Sorensen et al., 2017). While time-based work family conflict among SBAE teachers could potentially be reduced as a result of effective volunteer utilization, there have been no studies conducted examining the relationship between number of agriculture teachers in a program and volunteer utilization.

Research surrounding communities who utilize volunteer programs provide evidence of positive influences on adolescent developmental outcomes, including improvements in academic achievements, self-concept, and interpersonal relationships (DuBois & Neville, 1997; Grossman & Tierney, 1998; LoSciuto et al., 1996). Yet, only a handful of empirical studies have been conducted with adolescents and their interaction with volunteers in school-based settings. Among those studies conducted with high school students, improvements in school attendance, grades, test scores, behavior, social skills, graduation rates, and college enrollment have been shown when volunteers are utilized (Brent, 2000; Epstein, 2001; Henderson & Mapp, 2002; Rankin, 2016).

Studies within agricultural education show the attitudes of agriculture teachers towards volunteer utilization are positive. Agriculture teachers report that when volunteers are properly trained, integrating them into the SBAE program can be a valuable asset and can enable teachers to focus on more aspects of the SBAE program (Seevers & Rosencrans, 2001; Tillinghast et al., 2013). In agricultural education, parental involvement can be a key factor in developing and running a successful program. Warner and Washburn (2009) conducted a Delphi study of SBAE programs located in urban communities and found that four of the ten issues with the highest level of participant agreement were directly related to the parents of the students in the SBAE program. Specifically, respondents identified that when parents showed a lack of understanding of agricultural careers and production, the students lacked effective communication channels, which resulted in a lack of parental involvement in the SBAE program. While Werner and Washburn's 2009 study focused on urban communities, little is known about how parent involvement in SBAE may differ across community types. Looking outside of SBAE, research suggests parental involvement, such as attending school events and interacting with teachers, does vary across community types (Prater et al., 1997).

Organized adult support groups, such as advisory committees or the National FFA Alumni can be a viable way to integrate volunteers within the SBAE program (Newcomb et al., 2004; Phipps et al., 2008; Talbert et al., 2007; Taylor et al., 2017). Despite this, research suggests SBAE teachers lack training in establishing or managing such programs. Myers et al. (2005) identified managing the local FFA Alumni and other adult groups as topics for in-service needs of beginning teachers. Garton and Chung (1996) named utilizing a local advisory committee among the top ten topics of potential in-service education for beginning teachers, but the results of that study also showed utilizing an affiliated adult organization to be a low priority.

Elliot and Suvedi (1990) concluded that more volunteers should be utilized within SBAE programs. According to Tillinghast et al. (2013), SBAE teachers do not take advantage of the resources provided by volunteers, especially where community members would readily assist in the SBAE program with their expertise. Studies have recommended that a variety of community members (i.e., exosystem) should be utilized to enhance instruction and expose students to real-life experiences (Ames et al., 1995; Ferreira, 2001; Willems & Gonzalez-DeHass, 2012).

Katz (1983) identified the need for research on how to use volunteers in SBAE programs, noting that any increased involvement from volunteers would be severely inhibited unless more research was completed. Despite this recommendation over three decades ago, very little research exists in agricultural education regarding the utilization of volunteers, and of those studies, none have examined volunteer utilization on a national scale. This study seeks to do so.

Purpose and Objectives

The goal of this study was to identify how volunteers are utilized within SBAE programs in the United States. This research addresses National Research Agenda priority five, petitioning research to explore efficient and effective agricultural education programs, including a focus on how agricultural educators can collaborate to deliver educational programs more effectively (Thoron et al., 2016). The following research objectives guided the study:

1. Describe volunteer programs (i.e., structure, utilization, and roles of volunteers) in SBAE programs in the United States by community type.
2. Describe perceived benefits and barriers of utilizing volunteers among SBAE teachers.
3. Describe SBAE teachers' intentions to utilize volunteers in the future.
4. Explain the relationship between volunteer utilization (number of volunteers and volunteer hours) and teacher and program characteristics.

Methods/Procedures

This quantitative descriptive study employed survey research methodology. All secondary SBAE teachers in the United States during the 2017-2018 school year were the target population. A secondary SBAE teacher was defined in this study as an individual with a full-time or part-time assignment to teach agriculture courses and who provided instruction in middle or secondary schools. The National FFA Organization provided a random sample frame of 500 SBAE teachers, with only names and email addresses provided to the researchers. Cochran (1977) confirms that a random sample of at least 370 is sufficient for generalizability for a national SBAE teacher population of 12,690 teachers (Smith et al., 2017). The National FFA Organization was utilized to provide the sample frame because it maintains an active database of agriculture teachers across the country. Because the data the National FFA Organization is self-reported by teachers and SBAE programs themselves, there is a possibility for frame error, which could be limitation in this study.

The survey instrument was largely researcher developed and based on previous research (Seevers & Rosencrans, 2001; Tillinghast et al., 2013) and consisted of four sections, which included: 1) description of current volunteer utilization; 2) perceptions of SBAE teachers towards volunteers, 3) intentions for future utilization of volunteers, and 4) demographic information. The first section of the instrument consisted of items designed to describe how volunteers were used in SBAE programs. This section was divided into four sub-sections to elicit information about the (a) type of organizational structure (i.e., formal or informal) used in SBAE volunteer programs, (b) the quantity of volunteers and total volunteer hours, (c) source of volunteers, and (d) the specific roles of volunteers. For organizational structure, we asked participants if they utilized volunteers as a formal advisory committee or chartered FFA Alumni and if they used volunteers in general. Formal and informal structure could then be determined by comparing the difference between utilization of volunteers and if they utilized a formal structure. We also provided participants the opportunity in the survey to list other ways volunteers were utilized in their SBAE program. Participants were also asked to report the total number of volunteers and the total number of hours contributed by volunteers over the past 12 months according to the source in which the volunteers were categorized (e.g., former students, parents of current student, or community members). Finally, to determine the roles and frequency of those specific roles of volunteers in SBAE programs, participants were asked to respond to the following question: "How often do volunteers assume the following roles in your agricultural education program?" Using a four-point scale which ranged from never (1) to frequently (4), participants were asked to respond to 11 items (i.e. roles). Sample items included: administrative/office support, assisting with CDE events, fundraising, and assisting with student SAEs.

The second section of the instrument consisted of items regarding the general beliefs and perceptions of SBAE teachers toward SBAE program volunteers and was divided into two sub-sections: a) perceived barriers and challenges, and b) perceived benefits. To determine the perceived challenges and barriers of utilizing volunteers, participants were asked to provide their level of agreement on seven different items regarding challenges and barriers of using volunteers. Using a six-point scale which ranged from (1) *Strongly Disagree* to (6) *Strongly Agree*, participants indicated their level of agreement for the seven items. Sample items included: "Volunteers try to take over my program (dictate how the program should be ran)," "The system associated with volunteers is a burden (background check, district oversight, policies)," and "They lack the ability or knowledge to contribute to my program." To determine the perceived benefits of utilizing volunteers, participants were asked to provide their level of agreement on 18 different items (Seevers & Rosencrans, 2001; Tillinghast et al., 2013) regarding the benefits of using volunteers. Using a six-point scale, which ranged from (1) *Strongly Disagree* to (6) *Strongly Agree*, participants indicated their level of agreement for the 18 items. Sample items included: "They provide guidance for the program (advisory role, technical content knowledge)," "They assist with school and community activities (guest speaker, field trip)," and "They advocate for my local program."

The third section of the instrument consisted of items about SBAE teachers' intentions to use volunteers in the future. Items were researcher developed. Using a six-point scale which ranged from (1) *Strongly Disagree* to (6) *Strongly Agree*, participants indicated their level of agreement for the following items: "Within the next three years, I plan to..." followed by the following statements: "Increase volunteer utilization in my agricultural education program," "Increase the utilization of chartered FFA Alumni," and "Increase the utilization of an Advisory Committee."

The fourth section of the instrument was designed to collect demographic information from participants. One demographic variable was the community type (i.e., urban, suburban, and rural) in which the school was located. Participants were asked, "Which of the following best describes the location of the school where you teach?" Participants self-defined in which community type their school was located. The urban community type ($n = 13$) received the least number of participant responses,

and thus data were combined with the suburban community type ($n = 55$) to compare with the rural community type ($n = 79$) where more participant responses were collected. Other demographic information collected in the instrument included gender, years of teaching experience in the current community, and number of agriculture teachers in the program,

The current descriptive study did not utilize summated constructs, only individual items. The current study was part of a larger investigation where face and content validity and overall quality of the instrument were evaluated. Face and content validity were assessed by a panel of experts consisting of doctoral students and professors at two different universities. As part of the larger study, we conducted pilot research to test reliability of the full instrument. The instrument of the pilot study was administered to 30 SBAE teachers in two different states prior to administering it to the national sample of SBAE teachers. As part of the larger study, two constructs were tested along with overall internal consistency of the instrument which resulted in Cronbach's alpha coefficients of .97 and .81 for the constructs and .88 for overall internal consistency. Accordingly, we deemed the instrument reliable (Nunnally & Bernstein, 1994). We obtained Institutional Review Board (IRB) approval before conducting any research activities, including the pilot study.

The instrument was distributed via email, which contained a survey link for participants to complete the survey through Qualtrics™, an online survey system. In accordance with IRB protocols and recommendations from Dillman (2007), we made a concerted effort to increase response rate. We made five different points of contact with potential participants via emails (Dillman, 2007). Additionally, to increase the response rate, incentives were utilized by offering a drawing of four gift cards in the amount of \$50 each. Using Dillman's recommendations for survey distribution (Dillman, 2007), a total response rate of 26.8% ($n = 134$) was achieved. Because the response rate did not meet our goal of 370 participants to fully represent the population of interest (Cochran, 1977), we encourage readers to use caution when contextualizing the findings for their own research and practice. We considered the potential for non-response bias. Because the National FFA Organization did not provide us with phone records of the SBAE teachers, we were unable to make follow-up phone calls to non-responders. Therefore, we followed the recommendations outlined by Lindner et al. (2001) and compared the on-time responders (first survey distribution, $n = 83$) to the late responders ($n = 51$) using an independent samples t -test for variables of interest (i.e., gender, community type, number of SBAE teachers in the program, number of years teaching in the community, total volunteer hours, and total volunteers). The independent samples t -tests indicated none of the variables significantly differed between on-time and late responders indicating non-response bias was not an issue.

The data, collected through Qualtrics, was downloaded into the Statistical Package for Social Sciences (SPSS) version 25.0 for analysis. We used descriptive statistics for research objectives one through three and correlational statistics (i.e., multiple linear regression) for objective four. The data collection instrument utilized a six-point scale which ranged from (1) *Strongly Disagree* to (6) *Strongly Agree* for many of the variables of interest.

We explored the assumptions of parametric data as well as the specific assumptions of regression analyses. The variables total volunteer hours and total volunteer utilization showed issues of normality due to some extreme outliers. Therefore, we utilized the semi-Winsorized approach and trimmed and replaced outlier values with the value of the most extreme response (Guttman & Smith, 1969; Moyer & Geissler, 1991). After replacing the extreme outlier values, the transformed data were found to be normally distributed.

We also examined the assumptions of regression. No curvilinear relationship existed in the scatterplot data indicating a linear relationship between variables. We also plugged all the variables of the regression into a collinearity diagnostic and found VIFs ranging between 1.003 and 3.601. In

addition, we produced a correlation matrix of the independent variables in this analysis and found all correlation coefficients to be less than .80 (see Table 1). Therefore, we assumed the data were appropriate for multiple linear regression analysis (Field, 2009; Hair et al., 2006).

Table 1
Summary of Inter-correlations for Independent Variables

Variable	<i>n</i>	1	2	3	4
1. Gender ^a	110	-			
2. Years teaching in the community	111	.40*	-		
3. Number of teachers in the SBAE program	111	.12	-.01	-	
4. Community type ^b	111	.07	.09	-.41*	-

^a0 = female and 1 = male.

^b0 = urban/suburban and 1 = rural.

**p* < .01

Two regression analyses were conducted to determine the relationship between teacher and program characteristics and volunteer utilization. The dependent variables in the regression analysis were total volunteer hours and total number of volunteers. A total of four variables were entered into the two regression analyses. The independent variables in the regression analysis were gender, years of teaching in the current community, number of agriculture teachers, and community type. According to Green (1991), to ensure sufficient power when testing a model using regression analysis, a minimum sample size of should be 50 + 8k where k is the number of predictors. Green also suggested that when testing individual predictors, the minimum acceptable sample should be 104 + k. With four variables being entered into the regression analysis, the minimum acceptable sample size was 82 respondents to test to the model and 108 for the regression analyses. Betas, standardized betas, and overall *R*² were reported for the two regression analyses. Because of the difficulty in accurately reporting volunteer numbers and hours for an entire year, we acknowledge that SBAE teachers self-reporting information about volunteer utilization for an entire school year is a limitation.

Findings

Of the SBAE teachers surveyed, 37.3% were female, 44.8% were male, and 17.9% declined to respond. Personality type was self-identified by each participant, with 43% identifying as an introvert and 57% as an extrovert. Forty percent of the participating SBAE teachers were younger than 35 years old, and participants ranged from 22 to 66 years of age. Years of teaching experience ranged from one to 42 years with a median of 9 years and a mean of 12.8 years. Years of teaching within the current community ranged from one to 41 years with a median of 5 years and a mean of 9.4 years. For the community type where participants taught, 41.1% were in urban-suburban communities and 58.6% were in rural communities.

For research objective one, we sought to determine the current organizational structure, utilization, and roles of volunteers within SBAE programs in the United States. Sixty-seven percent reported having a functioning advisory committee, and only 37% reported having a chartered FFA Alumni chapter as an adult volunteer program structure. Forty percent of the respondents indicated utilizing volunteers in other ways besides as advisory committees or as FFA Alumni members. While only 12% (*n* = 16) of the respondents replied to the optional question, the most common responses from participants indicating the organizational structure of volunteers were categorized into two main areas: 1) basic non-formal structure (e.g., “group of parents that support the teacher,” “different groups take on leadership roles in the program,” “they manage different parts of the program,” “a parent just leads the show animal projects” “past FFA members show up to help with things,” “newspaper reporting,”

“they are a sounding board”); and 2) formal committees (e.g., “scholarship committee” “officer interview panel”).

Participants reported the estimated number of volunteer hours contributed to the SBAE program in the last 12 months, which ranged from 7 to 127 hours per program, with a mean of 56.05 hours ($SD = 34.39$). No significant difference was found between community type ($t = -0.28, p = .781$) for the number of hours volunteers contributed. Parents of current students contributed the most volunteer hours to the SBAE program followed by community members and former students (see Table 2). Parents contributed almost four times more hours than former students, while community members contributed three times more hours. Community type was not significant in determining the number of hours each volunteer type contributed.

Table 2
Hours Contributed by Volunteer Type

Volunteer Type	Rank	Min	Max	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Parents of Current Students	1	1	60	23.22	18.94	-0.99	.324
Community Members	2	1	48	19.63	14.62	0.83	0.411
Former Students	3	1	25	6.84	5.58	-0.15	.884

Note. Community type coded 0 = urban/suburban, 1 = rural.

Participants also reported the total number of volunteers that contributed to the SBAE program in the last 12 months, which ranged from 1 to 88 volunteers per program, with a mean of 37.87 ($SD = 22.48$). No significant difference was found between community type ($t = 0.21, p = .835$) for the total number of volunteers. Overall, former students were the most utilized volunteer group, followed by parents of current students and community members respectively (see Table 3). Former students made up almost three times the number of parents volunteers. Community type was not significant in determining the number of volunteers each type contributed.

Table 3
Total Volunteers by Volunteer Type by Community Type

Volunteer Type	Rank	Min	Max	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Former Students	1	1	53	21.33	18.23	0.20	.841
Parents of Current Students	2	1	25	7.79	5.39	-0.71	.483
Community Members	3	1	20	6.24	4.70	-0.02	.983

Note. Community type coded 0 = urban/suburban, 1 = rural.

To complete the analysis of objective one, we sought to determine how volunteers are utilized within SBAE programs across different community types (see Table 4). Across both community types, SBAE teachers utilized volunteers most frequently for advisory committees, Career Development Events (CDE), and assist with fundraising or chaperoning. Volunteers across both community types were least utilized for administrative/office support roles, coordinating FFA events, and recruitment. Other roles indicated by participants were leadership roles, providing scholarships, providing interviews, reporting to the newspaper, and providing teacher support. No significant differences were found by community type for any of the volunteer roles indicating that volunteers are utilized essentially the same way across all types of communities.

Table 4
Roles of Volunteers in School-Based Agricultural Education Programs

Roles of Volunteers in SBAE	Rank	Total		Urban-Suburban (n = 46)		Rural (n = 64)	
		M	SD	M	SD	M	SD
Serve on advisory committee	1	3.00	1.09	2.78	1.25	3.16	0.99
Assist with CDEs	2	2.81	1.00	2.77	1.06	2.91	0.94
Assist with fundraising	3	2.80	0.95	2.80	0.98	2.77	0.97
Chaperone field trips	4	2.72	1.00	2.72	1.07	2.77	0.96
Assist with SAE programs	5	2.62	0.93	2.70	0.96	2.56	0.92
Assist with banquet	6	2.57	0.96	2.61	1.11	2.56	0.85
Guest lecturer	7	2.48	0.92	2.50	1.01	2.50	0.85
Assist with program recruitment	8	2.23	0.92	2.09	0.96	2.33	0.86
Coordinate FFA events	9	2.00	0.98	2.00	1.01	2.05	0.97
Provide Admin./office support	10	1.91	1.03	1.87	1.15	1.91	0.92

Note. n = 110. Real limits scale for mean scores is 1-1.5 = "Never;" 1.5-2.5 = "Seldom;" 2.5-3.5 = "Often;" 3.5-4.0 = "Frequently."

Research objective two sought to describe SBAE teachers' perceived benefits and challenges of volunteer utilization within SBAE programs in the United States. Participants indicated they agreed that volunteers were most beneficial in the areas of building community support, program advocacy, assisting with school and community activities, and providing program guidance (see Table 5). Participants indicated least agreement with statements that volunteers were beneficial in tasks associated with administrative/office support, assisting with FFA award applications, assisting with recruitment, and assisting with facility/equipment maintenance.

Table 5
Benefits of Utilizing Volunteers in SBAE Programs (n = 113)

Volunteers are beneficial to my agricultural program because they...	StrD		D		SoD		SoA		A		StrA	
	f	%	f	%	f	%	f	%	f	%	f	%
Assist with building community support for my program	-	-	-	-	3	2.7	14	12.5	44	39.3	49	43.8
Advocate for my local program	2	1.8	1	0.7	1	0.7	15	11.2	43	32.1	51	38.1
Assist with school and community activities	3	2.7	5	4.4	4	3.5	19	16.8	48	42.5	34	30.1
Provide guidance for the program	2	1.8	7	6.3	2	1.8	30	26.8	46	41.1	25	22.3
Assist with CDE/livestock shows (coach, judging, etc.)	3	2.7	9	8.0	5	4.5	24	21.4	42	37.5	29	21.6
Assist with SAEs	4	3.6	6	5.4	9	8.0	23	20.5	46	41.1	24	21.4
Assist with fundraising	6	4.5	8	6.0	8	6.0	22	19.5	38	33.6	31	23.1

Table 5
Benefits of Utilizing Volunteers in SBAE Programs (n = 113), Continued...

Help supervise students	4	3.6	8	7.1	9	8.0	24	21.4	48	42.9	19	17.0
Allow me to offer more events	6	5.4	4	3.6	13	11.6	35	31.3	38	33.9	16	14.3
Make my job easier	5	4.5	9	8.2	10	9.1	36	32.7	33	30.0	17	15.5
Assist with coordinating FFA events	6	5.4	13	11.7	13	11.7	27	24.3	31	27.9	21	18.9
Allow me to focus on other aspects of my program	5	4.5	9	8.2	23	20.5	28	25.0	32	28.6	15	13.4
Reduce my workload	9	8.1	15	13.5	14	12.6	35	31.5	25	18.7	13	9.7
Assist with maintaining facilities and equipment	6	5.4	16	14.3	24	21.4	27	24.1	25	22.3	14	12.5
Assist with recruitment efforts	12	10.7	15	13.4	12	10.7	33	29.5	32	28.6	8	7.1
Assist with FFA award applications	16	14.4	17	15.3	26	23.4	25	22.5	24	21.6	3	2.7
Provide admin./ office support	19	17.3	27	24.5	16	14.5	26	23.6	14	12.7	8	7.3

Note. n = 110 - 113. StrD = Strongly Disagree, D = Disagree, SoD = Somewhat Disagree, SoA = Somewhat Agree, A = Agree, StrA = Strongly Agree

Participants also responded to items related to perceived challenges when utilizing volunteers (see Table 6). SBAE teachers disagreed with all challenge statements at a higher rate than they agreed with them. The largest agreement related to challenges was “The system of volunteer utilization (background check, direct oversight, policies)” where 43.9% of teachers agreed (somewhat agreed, agreed, or strongly agreed) that it was a challenge, followed by the statements, “Volunteers take too much of my time” and “Volunteers try to take over my program.”

Table 6
Challenges in Utilizing Volunteers in SBAE Programs

Utilizing volunteers in my agriculture program is challenging because...	StrD		D		SoD		SoA		A		StrA	
	f	%	f	%	f	%	f	%	f	%	f	%
The system associated with volunteers is a burden (background check, policies, etc.)	14	13.1	31	29.0	15	14.0	28	26.2	10	9.3	9	8.4
Volunteers try to take over my program	11	10.1	39	35.8	19	17.4	19	17.4	13	11.9	7	6.4
Volunteers require too much of my time	13	11.9	32	29.4	24	22.0	25	22.9	12	11.0	3	2.8

Table 6
Challenges in Utilizing Volunteers in SBAE Programs, Continued...

The opinion of volunteers do not align with my values and direction for the program	15	13.8	43	39.4	28	25.7	14	12.8	7	6.4	2	1.6
I do not know how to organize a group of volunteers	31	28.4	46	42.2	16	14.7	9	8.3	5	4.6	2	1.8
Volunteers lack the ability or knowledge to contribute to my program	38	34.9	37	33.9	17	15.6	14	12.8	2	1.8	1	0.7
Volunteers diminish the quality of my teaching	49	45.0	38	34.9	18	16.5	3	2.8	-	-	1	0.9
I cannot trust volunteers with my students	37	33.9	42	38.5	18	16.5	6	5.5	5	4.6	1	0.9

Note. *n* = 109. StrD = Strongly Disagree, D = Disagree, SoD = Somewhat Disagree, SoA = Somewhat Agree, A = Agree, StrA = Strongly Agree

Research objective three sought to describe SBAE teachers’ intentions to utilize volunteers in the future. Participants reported intentions to increase general volunteer utilization and advisory committees more so than the chartered FFA Alumni (see Table 7).

Table 7
SBAE Teacher Intentions to Utilize Volunteers in the Future

Within the next three years	StrD		D		SoD		SoA		A		StrA	
I plan to increase...	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Volunteer utilization in my program	-	-	1	0.9	7	6.4	30	27.5	48	44.0	23	21.1
Utilization of an Advisory Committee	2	1.5	2	1.5	7	5.2	26	23.4	51	45.9	23	20.7
Utilization of a chartered FFA Alumni	7	6.4	4	3.7	11	10.1	33	30.3	36	33.0	18	16.5

Note. *N* = 109 – 111.

StrD = Strongly Disagree, D = Disagree, SoD = Somewhat Disagree, SoA = Somewhat Agree, A = Agree, StrA = Strongly Agree

Research objective four sought to determine the relationship between volunteer utilization and teacher and program characteristics. We used forced entry multiple linear regression to conduct two separate analyses. In the first regression analysis, we sought to determine the relationship between current total volunteer hours and selected SBAE and personal characteristics (see Table 8). The independent variables were gender, years teaching in the community, number of agriculture teachers in the SBAE program, and community type. Gender was dummy-coded as 0 “female” and 1 “male.” Community type was dummy coded as 0 “urban/suburban” and 1 “rural.” The independent variables, in combination, comprised a significant model ($F = 2.93; p = .026$) and predicted 13% ($R^2 = .13$) of the variance in total volunteer hours. Years teaching in the community and number of teachers in the SBAE program were significant predictors of total volunteer hours. Both predictor variables had positive betas, indicating that the more years a teacher is in a community and the greater

number of teachers in the SBAE program, the more volunteer hours will be contributed to the SBAE program. Gender and community type were not significant predictors in the model.

Table 8
Predictive Model of Variables Influencing Total Volunteer Hours

Variable ¹	Dependent Variable: Total Volunteer Hours				
	<i>B</i>	β	<i>SEB</i>	<i>t</i>	<i>p</i>
Gender	-5.16	-0.10	4.43	-0.90	.121
Years teaching in community	0.53	0.29	0.23	2.54	.016*
Number of teachers in SBAE program	3.66	0.27	1.50	2.29	.031*
Community type	4.78	0.16	3.48	1.34	.186

Note. $R = .358$, $R_2 = .13$, $F = 2.93$, $p = .026$.

¹Gender coded 0 = female, 1 = male. Community type coded 0 = urban/suburban, 1 = rural.

* $p < .05$

In the second regression analysis, we sought to determine the relationship between total number of volunteers utilized and selected SBAE and personal characteristics (see Table 9). The same independent variables were utilized from the previous model. The independent variables, in combination, comprised a significant model ($F = 2.67$; $p = .044$). The model predicted 20% ($R_2 = .20$) of the variance in total number of volunteers. Using the standardized coefficients (β) to determine the strength of the relationship between independent and dependent variables, we found years teaching in the community and number of teachers in the SBAE program to be the strongest predictors of volunteer numbers utilized. The more years teaching in the community and the greater number of teachers in the SBAE program indicates the likelihood of more volunteers to be utilized in the SBAE program. Gender and community type were not significant predictors.

Table 9
Predictive Model of Variables Influencing Total Number of Volunteers Utilized

Variable ¹	Dependent Variable: Total Volunteer Utilization				
	<i>B</i>	β	<i>SEB</i>	<i>t</i>	<i>p</i>
Gender	-17.58	-0.19	13.05	0.34	.734
Years teaching in community	1.58	0.37	0.62	2.55	.014*
Number of teachers in SBAE program	10.09	0.40	4.48	2.25	.029*
Community type	9.61	0.13	12.96	0.74	.463

Note. $R = .442$, $R_2 = .20$, $F = 2.67$, $p = .044$.

¹Gender coded 0 = female, 1 = male. Community type coded 0 = urban/suburban, 1 = rural.

* $p < .05$

Conclusions/Recommendations/Implications

As we reflect on these findings, we first acknowledge the limitations that might exist with this study. The relatively low response rate obtained and potential for frame error may put generalizability in question, and we therefore caution readers in extending the findings beyond the participants of this study. Despite these limitations, we argue the findings of this study can be insightful and beneficial for stakeholders within SBAE and can be a starting point for future research and related activities. This research built on the work of Seevers and Rosencrans (2001) in an effort to examine and describe current volunteer utilization across the county with the aim of providing recommendations to SBAE

stakeholders to improve volunteer utilization in SBAE programs. We feel this research is a critical step towards understanding how SBAE teachers and programs can benefit from volunteer utilization.

The first research objective sought to describe the current organizational structure, utilization, and roles of volunteers in SBAE programs in the United States. This study revealed that the average SBAE program receives about 56 hours of volunteer help each year and about 38 total volunteers each year. When broken down further, the number of hours equates to about one hour of volunteer help per week or four hours per month, and the total number of volunteers equates to about three volunteers per month (12-month teaching contract). According to Sorensen et al. (2017), SBAE teachers work nearly 60 hours per week doing agricultural education duties. In light of SBAE teachers' responsibilities and total hours teachers invest in their programs each week (Torres et al., 2008), four hours per month is not a substantial investment by volunteers and does not broach the hours needed to sufficiently compensate for the extra hours SBAE teachers do work per week. We echo the recommendations from other studies (Elliot & Suvedi, 1990; Tillinghast et al., 2013) and endorse the idea that agriculture teachers should consider increasing the number of volunteers and the number of volunteer hours that are contributed to their SBAE programs, perhaps taking on some of the excess hours SBAE teachers devote each week.

Exposing students to a support system external to their own (meso- and exosystems) can greatly enhance their education and opportunities within the SBAE program (Bronfenbrenner, 1993). As volunteer utilization increases, the potential for expanding programs and activities that meet the needs of students can also grow, thus increasing the potential for greater student development. Despite the fact that the meso- and exosystems in each community type may look and function differently, the findings of this study suggests that the potential benefit of volunteer utilization extends to all community types.

Our findings suggest that although not statistically significant by community type, patterns in volunteer utilization seem to differ across volunteer types. While the number of former students volunteering in SBAE programs is about four times greater than parents and community members, former students also contribute three times less the total number of hours. Parents of current students seem to be an easily-accessible pool in which to draw volunteer hours from, and it begs the question, how do SBAE teachers invite, train, and retain parent volunteers? Once the student has moved out of the SBAE program, do these parents continue to provide volunteer hours or is there continuous turnover of volunteers? Future qualitative research studies could help answer these research questions, which have implications for training within volunteer programs. Because of their experience in the local SBAE program, recently graduated former students likely have a greater understanding of the activities and culture of the program than other volunteers, making them a potentially valuable volunteer resource. As they were utilized the most in terms of volunteer numbers, it seems SBAE teachers might also agree with this conclusion. The fact that SBAE teachers utilize former students in great numbers but for a relatively small amount of time suggests that perhaps they are utilized more for special, one-time events rather than continuously throughout the school year. This supposition is understandable when considering that recently graduated former students are often going to college, working multiple jobs, or pursuing careers that leave little time to volunteer. In light of this, perhaps special one-time events where many hands are needed (e.g., annual banquet, community event, etc.) might indeed be the best utilization of former students as volunteers.

This current study showed that SBAE programs utilize advisory committees more frequently than FFA Alumni chapters. Additionally, regardless of community type, volunteers are most likely to be used for advisory committees and assisting with CDEs, fundraising, and chaperoning activities, whereas they are least likely to be utilized for administrative tasks, recruitment, and FFA event coordinating. These findings suggest volunteers are utilized in a variety of ways functioning in a variety

of roles to meet the local needs of each program. This variety in local programming is perhaps what has made SBAE successful over the decades. No one program is alike, because each community is different, and one of the core tasks and hallmark of SBAE is to serve the needs of the local agricultural community (Phipps et al., 2008; Talbert et al., 2007). We recommend SBAE teachers continue to utilize volunteers in ways that meet the needs of the local community in which they work. This study has shown that advisory committees are the most common way volunteers are utilized. While we acknowledge that advisory committees are indeed very important, we urge teacher educators to also incorporate and produce additional teaching resources related to the utilization of volunteers, beyond just advisory committees. We also recommend teacher educators continue to train and emphasize a broad approach to utilizing volunteers in the local SBAE program, regardless of the community type (e.g., how to invite and train volunteers, how volunteers can be utilized in the local program, how to start a local FFA Alumni chapter, utilizing volunteers to assist with SAE programs, and the specific roles and benefits of different types of volunteer organizations such as advisory committees and alumni groups).

SBAE teachers in this study agreed that volunteers can be beneficial to the local program, specifically regarding advocacy, providing community support, and providing program guidance. This finding is not a surprise considering the role and function of advisory committees and the fact that the majority of the participants in this study had a functioning advisory committee. Site-based and program specific tasks were perceived as the least beneficial by SBAE teachers, suggesting that SBAE teachers are less interested in volunteers engaging in the day to day functioning of the program and more interested in volunteers serving on advisory committees with perhaps very little other volunteer roles. As Bronfenbrenner's Ecological Theory (1993) suggests, SBAE teachers view volunteers as most influential in the exo- and macrosystems, and less influential in the micro- and mesosystems (e.g., local program and school). It is possible that SBAE teachers lack training or do not realize the opportunities for volunteers to be involved in the micro- and mesosystem levels, and exert a greater influence on student learning, growth, and development. We recommend more research to explore exploring the professional development needs among preservice and inservice teachers regarding the utilization of volunteers in the day-to-day operations of the SBAE program.

Our findings suggest SBAE teachers perceive very few challenges regarding volunteer utilization in the SBAE program. The participants in this study agreed with the benefits of volunteer utilization much more than the challenges and barriers. School district policies such as background checks and paperwork were the most challenging item related to volunteer utilization. This barrier existing at the local program (microsystem) and school (mesosystem) level, may contribute to why the SBAE teachers perceive there to be greater benefit and less hassle in volunteer utilization at the community level (exosystem). One of the important needs for conducting this specific study was to update the current status of volunteer utilization since Seevers and Rosencrans (2001) study almost two decades ago. Since their study, we have witnessed an increase in school and district policies to help keep students safe. School district policies requiring background checks and other paperwork is a perfect example of how times have changed. As a result, this study provides important insight and additional questions into the new challenges SBAE might face in working with volunteers in the 21st century. Are SBAE teachers reluctant to use volunteers because of the paperwork or hassle of working within the confines of district policies (e.g., background checks) in order to utilize volunteers? Are typical SBAE program activities (e.g., FFA events) conducive to volunteer utilization under these confines? Additional research should be conducted to examine this barrier more closely.

The number of years a teachers is in a community as well as the number of teachers in the SBAE program were significant predictors of both total number of volunteers and total volunteer hours. The longer teachers embed themselves in the community, the more likely they are to utilize volunteers. This finding seems to coincide with the literature suggesting SBAE teachers with more years in the community have a stronger community network from which to draw from in accomplishing their goals

than those with less years in the community (Langley et al., 2014). This same idea of community network may perhaps apply to multi-teacher programs where more teachers means more potential community networking connections, thus producing a multiplication or synergistic effect. Is this the reason the number of teachers in the SBAE program is a significant predictor of volunteer utilization or is it something else? More research comparing volunteer utilization across single and multi-teacher programs could be useful in understanding how groups of SBAE teachers, rather than just the individual teacher, work together with volunteers.

While studies (Johnson et al., 2008; Lee, 2002; Rosette et al., 2015) suggest females are more likely to seek out help from others, this study found that the agriculture teachers' gender was not a significant predictor of their utilization of volunteers. This findings suggests it might be possible that both male and female teachers experience pressure from peers and stakeholders to "know it all," and by asking for help, they are perceived as weak, needy or incompetent (Kelsey, 2007). Teacher educators and administrators who mentor and train SBAE teachers should be cognizant of the idea that both male and female agriculture teachers may be equally reluctant or excited to use volunteers.

While 20% of the variance in total number of volunteers and 13% of the variance in volunteer hours could be explained by gender, community type, number of teachers in the SBAE program, and number of years teaching in the community, over 80% is explained by other factors not included in this study. We suggest more research be conducted exploring other factors that might explain behaviors of SBAE teachers regarding the utilization of volunteers. Perhaps overall years of teaching experience, self-efficacy, personality type, or type and availability of state and national resources may also predict SBAE teachers' utilization of volunteers.

Finally, this study was descriptive in nature, and although it was based on the notion that volunteer utilization could help reduce teacher burnout and teacher turnover, no such analysis was conducted with this study. Further research is needed to evaluate the relationship between volunteer utilization and factors related to teacher turnover/retention, such as stress, job satisfaction, and hours spent at work. This descriptive study has provided a snapshot of how SBAE teachers utilize and perceive volunteers in their programs. As a result of this research, we have provided various recommendations to researchers and stakeholders regarding volunteer utilization in SBAE programs. We believe this topic is important and can have far reaching impacts on SBAE teachers, but certainly more efforts in practice and research should be done.

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