A National Study Assessing the Influence of Perceived Challenges Faced by School-Based Agricultural Education Teachers on Their Ability to do Their Job

Abstract

Attrition is a documented cause for ongoing SBAE teacher shortages and is often linked with the number of challenges faced by teachers and their ability to overcome them. Teacher experiences with challenges and barriers has the potential to impact occupational self-efficacy, or their perceived ability to do their job. Lower occupational self-efficacy has been tied to higher levels of attrition. The purpose of this study was to assess how challenges faced by SBAE teachers across the United States influence their perceived ability to do their job. A descriptive national survey was employed to accomplish the purpose of this study. Challenges most negatively impacting SBAE teachers' perceived ability to do their job included miscellaneous activities beyond teaching, FFA, and SAE as well as personal activities outside of school. We also found female SBAE teachers perceived challenges more negatively influence their ability to do their job than their male colleagues. Recommendations for practice included providing additional training in managing miscellaneous activities in SBAE programs and determining root causes of SBAE teacher challenges so they may be eliminated when possible. Further research should be conducted in developing a SBAE teacher occupational self-efficacy instrument and in finding ways to remedy the differences in perceived influence of challenges faced by male and female SBAE teachers on their ability to do their job.

Keywords: challenges; relationships; program management; occupational self-efficacy

Introduction

Shortages of school-based agricultural education (SBAE) teachers have been a documented concern in secondary public schools dating back to the Smith-Hughes Act in 1917 and continuing forward to the present day (Eck & Edwards, 2019; Hillison, 1987; Smith et al., 2017). Studies in SBAE generally attribute the cause of this issue to either college graduates not entering the field upon degree completion or teacher attrition among those in the field (Hainline et al., 2015; Lawver & Torres, 2011; Murray et al., 2011; Parmley et al., 1979; Roberts et al., 2009; Sorensen et al., 2016). The focus of this study lies with the topic of teacher attrition. This issue has been studied from several different vantage points including the impact of job satisfaction on retention, factors impacting early career teachers, and why teachers choose to stay in the profession (Clark et al., 2014; Greiman et al., 2005; Walker et al., 2004).

According to Boone and Boone (2009), attrition can be linked to the number and types of problems teachers face and a teacher's success or failure can be dependent on their ability to solve those problems. Perceived problems or challenges can also be linked directly to job satisfaction. Walker et al. (2004) proposed unsatisfied individuals would likely not remain in the teaching profession. Numerous studies have examined SBAE teacher job satisfaction and found SBAE teachers were generally satisfied with their jobs (Castillo et al., 1999; Clemons & Lindner, 2019; Hasselquist et al., 2017; Kitchel et al., 2012). However, studies identifying challenges or problems faced by SBAE teachers generally focus on a particular area within agricultural education such as teaching, FFA, supervised agricultural experiences (SAE), or personal factors. These studies are often limited to one state or region and are not modern in their publication (Boone & Boone, 2009; Mundt & Connors, 1999; Myers et al., 2005).

Within the population of SBAE teachers, challenges can differ based on demographic characteristics. For example, female SBAE teachers have reported challenges such as having to prove they are qualified to teach agriculture to different individuals in the school system, having higher stress levels, difficulty balancing family and work, and higher burnout rates (Baxter et al., 2011). King et al. (2013) reported female teachers in the Southeast had stress caused by the challenges of preparing proficiency applications, planning FFA banquets, preparing CDE teams, managing paperwork and reports, creating new curriculum, and having a lack of teaching materials. Researchers have also reported challenges faced by SBAE teachers can vary and change depending on age group and years of teaching experience (Bunch et al., 2012; Figland et al., 2019; Thornton et al., 2020). Furthermore, alternatively certified SBAE teachers have been documented to have greater professional development needs to overcome challenges compared to traditionally certified teachers (Coleman et al., 2020).

Challenges faced by individuals have the potential to negatively impact self-efficacy (Wright et al., 2014). Moreover, the degree to which an SBAE teacher feels efficacious toward their ability to do their job has the potential to impact career intention decisions (McKim & Velez, 2017; Tippens et al., 2013), giving rise to the need for this study. For agricultural teacher education programs to address the shortage of SBAE teachers more effectively, we must identify challenges teachers face and assess how these challenges influence their perceived ability to do their job. This would provide university agricultural teacher education programs information to design and implement professional development for teachers in the field and adjust content taught to preservice teachers (Joerger, 2002; Mundt & Connors, 1999; Myers et al., 2005). With challenges and barriers either removed or improved, self-efficacy could improve with SBAE teachers' perceived ability to do their jobs, resulting in increased intent to remain in the profession.

Purpose and Objectives

The purpose of this study was to assess how challenges faced by SBAE teachers across the United States influence their perceived ability to do their job. The following research objectives were developed to accomplish this purpose:

1. Describe demographic characteristics of SBAE teachers across the United States.
2. Determine how challenges faced by SBAE teachers influence their ability to do their job.
3. Identify relationships between demographic variables and influence of challenges faced by SBAE teachers on perceived ability to do their job.
4. Compare influence of challenges faced by male and female SBAE teachers on perceived ability to do their job.

Literature Review and Theoretical Framework

Through a review of the literature, we were able to identify specific challenges historically experienced by SBAE teachers. We found most challenges identified in previous studies were able to be classified into one of the following areas: relationships between the SBAE teacher and others, classroom teaching activities, overall SBAE program activities and factors, miscellaneous job factors or responsibilities, professional development and advancement activities, and personal factors. Relationships between SBAE teachers and others included working with guidance counselors, other faculty members, teaching partners, administrators, the previous SBAE teacher, students in the program, university faculty, parents, and community members (Boone & Boone, 2009; Clark et al., 2014; Greiman et al., 2005; Ingersoll, 2001; Reeves, 2020; Rosser, 2020; Touchstone, 2015; Walker et al., 2004).

Challenges identified for classroom teaching activities were student motivation, discipline, working with special needs students, class size, low-ability students, lesson planning, number of teaching preps, testing mandates, supplies and funding, classroom management, teaching methods, lesson planning, adult education, years of teaching experience, and lab instruction (Boone & Boone, 2009; Greiman et al., 2005; Ingersoll, 2001; Walker et al., 2004). Challenges related to overall SBAE program activities involved keeping up with FFA changes, maintaining an FFA chapter image, budgeting, fundraising, booster clubs, being competitive with livestock SAEs, FFA chapter management, advisory committees, summer programs, managing SAEs, overall program management, finding alternative funding, training LDE and CDE teams, attending fairs and exhibitions, and managing school farms or facilities (Boone & Boone, 2009; Clark et al, 2014; Greiman et al., 2005; Rosser, 2020; Touchstone, 2015; Walker et al., 2004).

Miscellaneous job factors or responsibilities reported in previous studies included challenges with low salary, time management abilities of SBAE teacher, volume of paperwork or record keeping, burnout, stress, organizational skills, school regulations, confidence, workload, state reports, and unsafe work environment (Boone & Boone, 2009; Chenevey et al., 2008; Greiman et al., 2005; Ingersoll, 2001; Kitchel et al., 2012; Smith & Smalley, 2018; Touchstone, 2015; Walker et al., 2004). Professional development and advancement activities included undergraduate preparation, professional organization activities, union activities, and professional advancement opportunities (Boone & Boone, 2009; Greiman et al., 2005; Ingersoll, 2001). Challenges tied to personal factors reported in the literature involved work and home life balance, health, marital status, life crisis, childbirth, family death, financial loss, and legal problems (Boone & Boone, 2009; Clark et al., 2014; Greiman et al., 2005).

Studies within agricultural education have identified many different challenges faced by SBAE teachers. This was certainly not a complete list of challenges, but it provides insight into what teachers have faced in the past. Our review of the literature also did not reveal how these challenges influence teachers' perceived ability to do their jobs. Consequently, we found it practical to apply the identified challenges faced by SBAE teachers to Bandura's (1977) self-efficacy theory to gain a better understanding of the influence they may have on individuals and possible career intentions. Thus, Bandura's self-efficacy theory served as the theoretical framework for this study.

Self-efficacy is an individual's perception of their ability to accomplish or perform a task, activity, or level of achievement (Bandura, 1977). In Bandura's theory, expectations of self-efficacy arise from four sources: (1) performance accomplishments that are based on successful personal experiences, vicarious experience whereby successful outcomes are observed, verbal persuasion where the individual receives positive reinforcement from another person, and emotional arousal related to the overall emotional and physiological state of the individual (Bandura, 1977). The variable of interest for this study is related to performance accomplishments, specifically where failures can have the opposite effect by lowering self-efficacy (Bandura, 1977). Other studies have also suggested that experiencing barriers, challenges, or failures can have a direct and negative impact on the development of self-efficacy beliefs (Swanson et al., 1996; Swanson & Woitke, 1997; Wright et al., 2014) further supporting the need to study their influence on SBAE teacher self-efficacy.

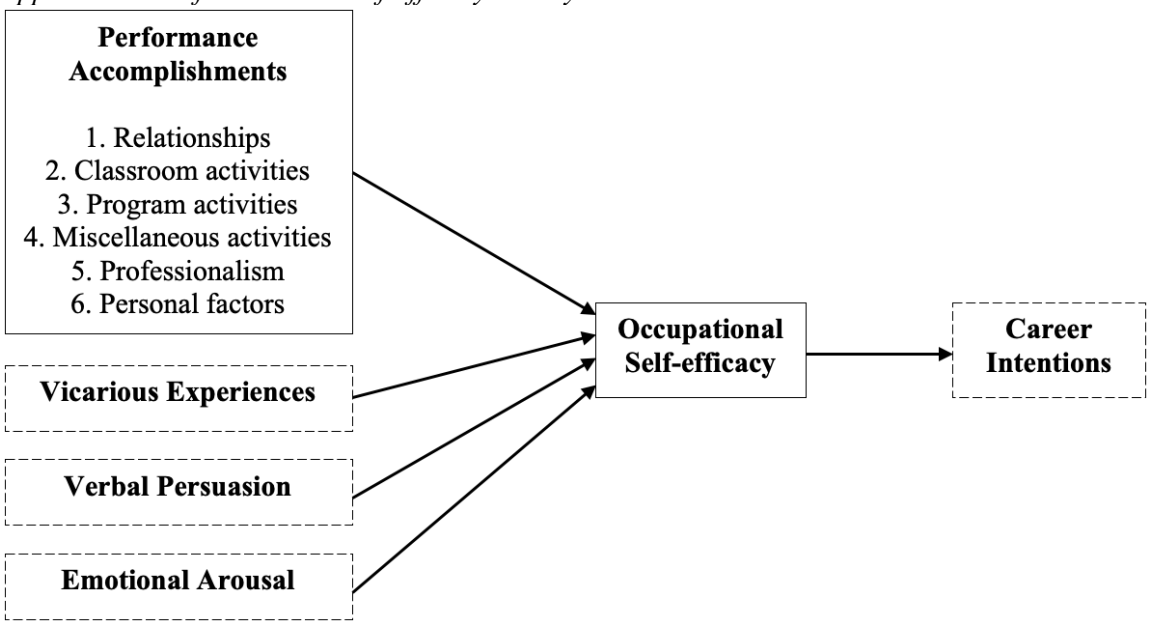
Self-efficacy assessments can be domain specific (Rigotti et al., 2008), as is the case with this study. We were concerned with how different challenges experienced by SBAE teachers influenced their perceived ability to do their job or in other words, influenced their perceived occupational self-efficacy. According to Rigotti et al. (2008), occupational self-efficacy "refers to the competence that a person feels concerning the ability to successfully fulfill the tasks involved in his or her job" (p. 239). An individual's self-efficacy has a direct influence on behavior and

performance according to Bandura's (1977) theory. Researchers in agricultural education have consistently tied the behavior or outcomes portion of Bandura's model to persistence in a given task, including continuing or leaving the profession of SBAE teaching (McKim & Velez, 2016). Additionally, positive occupational self-efficacy has been directly linked to positive job satisfaction (Judge & Bono, 2001) and a lower likelihood of leaving the profession of SBAE teaching (Tippens et al., 2013).

The specific challenges faced by SBAE teachers were identified in our literature review and grouped into six different categories. These categories served as the performance accomplishments described in Bandura's (1977) self-efficacy theory. This study did not assess the other three sources of expectations of self-efficacy as shown by the dashed boxes in Figure 1. SBAE teacher experiences with challenges could influence their occupational self-efficacy, and thereby intent to remain in the profession. While this study did not measure intent to stay in the profession, we did examine the influence of challenges faced by SBAE teachers on their perceived ability to do their job. We believe information on this topic could help preservice teacher programs and professional development providers identify areas of focus to have the largest impact on occupational self-efficacy and thereby help with intentions to stay in the profession.

Figure 1

Applied Model of Bandura's Self-efficacy Theory



Note. Variables in dashed boxes were not measured in this study.

Methods

To accomplish the purpose and objectives of this study, a cross-sectional, survey design was employed (Fraenkel et al., 2019). Data for this study were collected as part of a larger experimental study exploring the influence of survey mode and incentive use on response rates. The topic of the questionnaire provided in the experiment was assessing how challenges faced by SBAE teachers influence their perceived ability to do their job, thus providing the data for this study. The population considered for this study was all SBAE teachers in the United States. According to the National Association of Agricultural Educators (2020), there were approximately

12,000 SBAE teachers in the nation. The accessible population was all teachers working at an active FFA chapter as listed by the National FFA Organization. Stratified random sampling was used in this study. Participants were stratified proportionate to the number of FFA chapters in the state compared to the nation. Chapters were randomly selected, and contact information was obtained for a random advisor of each chapter. G*Power was used to estimate the desired sample size needed for the experimental portion of the study and resulting in a total sample size of N = 1,096. This sample size is more than adequate to describe the population according to Krejcie and Morgan (1970).

The instrument used was a 131-item, researcher-designed questionnaire measuring how challenges faced by SBAE teachers influence their perceived ability to do their job within six constructs: (1) SBAE teacher relationships with school and community personnel (25 items), (2) classroom factors, activities, and responsibilities (32 items), (3) agriculture program factors, activities, and responsibilities (26 items), (4) miscellaneous job factors, activities, and responsibilities (17 items), (5) professionalism and advancement factors, activities, and responsibilities (six items), and (6) personal factors, activities, and responsibilities (eight items). Participants rated how they perceived each item influenced their ability to do their job on a scale of 1 (*Very Negative Influence*) to 6 (*Very Positive Influence*), with an option of not applicable. Demographic information such as sex, ethnicity, highest degree held, certification type, age, and years of teaching experience was also collected for each participant.

Individual items resulting in the six constructs measured by this instrument were derived from a review of the literature. We first created a list of challenges faced by SBAE teachers from findings of studies published in the last 25 years related to this topic, many of which were discussed in the literature review of this paper. Once the review failed to produce new challenges, this step in the process was concluded. Next, the research team reviewed all items on the list and combined similar responses resulting in a collapsed list of challenges faced by SBAE teachers. As a team we discussed how to best classify the challenges and agreed upon the six aforementioned constructs. Given the six construct areas, we each independently sorted the list of individual challenges and placed them within a construct. Any discrepancies were then discussed with the team before creating an instrument to be sent to a panel of experts for review.

The instrument was reviewed for content and face validity by a panel of seven professors at five different institutions within three different states across the nation with expertise in SBAE teacher education and survey research methods. Members of the panel recommended changes in wording to ensure clarity of understanding in different regions of the country, ensured an appropriate number of items were present for each construct, recommended adding and removing specific items to constructs based on experience, and assessed overall visual appearance and functionality of the instrument. After finalizing the instrument based on panel recommendations, it was pilot tested with 60 SBAE teachers in Texas who were not selected for the main study. A total of 40 SBAE teachers responded for a 66.67% response rate. Since we exceeded the minimum of 30 responses recommended for a pilot test where reliability is assessed (Johanson & Brooks, 2010), a Cronbach's alpha was calculated for each construct and can be referenced in Table 1. Reliability for each construct was acceptable according to Field (2018).

Table 1

Calculated Reliability for Pilot Test Instrument Constructs (N = 40)

Construct	Cronbach's α
1. Relationships with school and community personnel	.86
2. Classroom factors, activities, and responsibilities	.94
3. Program factors, activities, and responsibilities	.94
4. Miscellaneous factors, activities, and responsibilities	.91
5. Professionalism factors, activities, and responsibilities	.89
6. Personal factors, activities, and responsibilities	.96

After receiving IRB approval from Texas Tech University, teachers were either mailed a paper copy of the questionnaire or received mailed instructions to access an identical online questionnaire through Qualtrics. Half of the participants selected for this study received a $2.00 incentive as required for the experimental study. After waiting two weeks, teachers were sent four reminders to respond, each one week apart. A final response rate of 40.85% ($N = 444$) was achieved and a comparison of construct summated scores of early and late respondents was selected and used to control for nonresponse error (Lindner et al., 2001). Early respondents were defined as those responding in rounds one through three. Responses received after the fourth and fifth reminders were considered late respondents. There were no significant differences found between the two groups of respondents in any of the constructs.

Survey data were exported from Qualtrics for the online questionnaires into a Microsoft Excel spreadsheet. Data from the paper questionnaires were manually entered into the spreadsheet and then analyzed in IBM SPSS version 26. Descriptive statistics such as frequencies, percentages, means, and standard deviations were calculated for demographic information. For each scale item within each construct, frequencies were reported for each option of the response scale as recommended by Warmbrod (2014). Additionally, a mean construct score was calculated for each responding individual to be used for construct scale interpretation and to provide a basis for additional correlational analyses and an independent samples *t*-test comparison. For the independent samples t-test, significance was established *a priori* at $p \leq .05$ and Cohen's (1988) *d* was used for interpretation of effect size where .20 was a small effect size, .50 was a medium effect size, and .80 was a large effect size.

Results

Responses were received from all states across the United States except Maine. Slightly over half the respondents ($n = 227$, 51.4%) were male and the most frequently reported ethnicity was White ($n = 415$, 94.1%). Respondents had an average age of 38.7 years ($SD = 11.3$) and average teaching experience of 13.0 years ($SD = 10.2$). The education level most frequently reported by respondents was a bachelor's degree ($n = 219$, 49.4%) followed by a master's degree ($n = 216$, 48.8%). The majority ($n = 366$, 83.6%) were traditionally certified to teach agriculture through an in-person university teacher preparation program. Finally, teachers reported working an average of 52.0 hours per week ($SD = 14.8$). Selected demographic information is presented in Table 2.

Table 2

Demographic Breakdown for Survey Participants (N = 444)

Variable	Characteristic	*n*	*%*
Sex	Male	227	51.4
	Female	215	48.6
Ethnicity	White	415	94.1
	Hispanic/Latino	14	3.2
	Native American/Alaskan Native	7	1.5
	Black/African American	2	0.5
	Multiracial/Biracial	2	0.5
	Asian/Pacific Islander	1	0.2
Highest Degree	Associate's	3	0.7
	Bachelor's	219	49.4
	Master's	216	48.8
	Doctoral	5	1.1
Certification Type	Traditional	366	83.6
	Alternative	72	16.4

Note. Responses for each variable may not total to 444 due to item nonresponse.

Objective two was to determine how challenges faced by SBAE teachers influenced their ability to do their job. For scale interpretation of perceived ability of SBAE teachers to do their job, real limits were set at 1.00 to 1.49 = *Very Negative Influence*, 1.50 to 2.49 = *Negative Influence*, 2.50 to 3.49 = *Slightly Negative Influence*, 3.50 to 4.49 = *Slightly Positive Influence*, 4.50 to 5.49 = *Positive Influence*, and 5.50 to 6.00 = *Very Positive Influence*. Constructs 1, 2, 3, and 5 all have positive influences on SBAE teachers' ability to do their job. Constructs 4 and 6 had slightly positive influences on SBAE teachers' ability to do their job. This information is summarized in Table 3.

Table 3

Mean Construct Scores for Influence on Teachers' Ability to do Their Job (N = 444)

Construct	*N*	*M*	*SD*
1. SBAE teacher relationships with school and community personnel	444	4.78	0.45
2. Classroom factors, activities, and responsibilities	444	4.51	0.56
3. Agriculture program factors, activities, and responsibilities	442	4.64	0.64
4. Miscellaneous job factors, activities, and responsibilities	441	3.98	0.70
5. Professionalism and advancement factors	442	4.57	0.72
6. Personal factors, activities, and responsibilities	440	4.03	0.95

Note. Some construct scores had smaller sample sizes due to item nonresponse.

Individual item frequencies were compiled for each option of the response scale to give the reader a more accurate description of the construct scale as recommended by Warmbrod (2014). However, conclusions should not be drawn based on individual items, as this would not be appropriate for this study. All items from construct one (relationships with school and community personnel) received the majority of responses on the positive side of the scale. Sizable responses of not applicable were received for relationship with other agriculture teachers in the program, competence of other agriculture teachers in the program, relationship with assistant principal, relationship with CTE director, competence of assistant principal, and competence of CTE director. Items receiving the most responses on the negative side of the influence scale included relationship

with principal, relationship with CTE director, competence of principal, competence of CTE director, competence of superintendent, and influences from the previous SBAE teacher. Frequencies are presented in Table 4 for each individual item in construct one.

Table 4

Construct 1 Single Item Frequencies for Individual Scale Anchors (N = 444)

Item	*1*	*2*	*3*	*4*	*5*	*6*	*n/a*
Relationships with Students in the Ag Program	0	0	2	15	162	265	0
Relationship with Custodians	0	0	7	22	142	267	5
Relationship w/Other Ag Teachers in Program	2	1	7	11	65	148	207
Relationship with School Secretary	2	0	2	35	152	248	5
Competence of Other Ag Teachers in Program	5	3	8	14	66	139	208
Relationship with Local Community Members	0	0	4	57	198	179	6
Relationship with Parents of SBAE Students	0	1	5	48	229	160	1
Relationship with Other Teachers in the School	0	1	5	78	208	148	3
Relationship with Assistant Principals	1	3	6	44	134	102	153
Relationship with Principal	3	10	15	49	178	185	4
The Long-Standing Image of the SBAE Program	2	7	22	63	173	164	12
Relationship with Transportation Director	3	4	7	81	151	118	78
Your Ability to Have Influence in the School	1	2	15	96	197	128	5
Relationship with CTE Director	3	9	23	37	94	117	158
Competence of Principal	8	15	26	59	182	151	3
Relationship with Superintendent	8	8	17	92	138	143	38
Relationship with Counselors	2	10	20	98	168	129	16
Relationship with University Faculty in AGED	1	3	10	114	150	103	60
Competence of Assistant Principals	1	7	15	57	136	73	152
Competence of CTE Director	10	12	16	49	83	116	154
Relationship with School Board	4	7	14	99	173	100	46
Competence of Superintendent	10	16	30	84	150	132	20
Competence of School Board	6	12	28	121	174	82	19
Competence of Counselors	9	32	43	93	147	103	12
Influences from the Previous Ag Teacher	32	42	67	85	85	60	68

Note. Frequencies for each item may not total to 444 due to item nonresponse. Scale: 1 = *Very Negative Influence*, 2 = *Negative Influence*, 3 = *Slightly Negative Influence*, 4 = *Slightly Positive Influence*, 5 = *Positive Influence*, and 6 = *Very Positive Influence*.

Individual item frequencies for construct two (classroom factors, activities, and responsibilities) indicated all items received mostly positive scores on the influence scale. The items of greenhouse laboratory instruction, animal laboratory instruction, land laboratory instruction, providing adult education, and state testing requirements had considerable frequencies of participants indicating not applicable. Items which received the greatest number of negative scores on the scale include instructional budget, course load/number of teaching preps, amount of time allotted for preparation, state testing requirements, common core integration, and intrusions/interruptions on teaching time. Additional item frequencies for construct two are displayed in Table 5.

Table 5

Construct 2 Single Item Frequencies for Individual Scale Anchors (N = 444)

Item	*1*	*2*	*3*	*4*	*5*	*6*	*n/a*
Years of Experience on Teaching Ability	2	1	15	57	194	164	10
Classroom Management	0	1	14	65	207	156	0
Ability to Use Different Teaching Methods	0	2	12	76	216	136	0
Greenhouse Laboratory Instruction	3	9	18	54	103	110	146
Agricultural Mechanics Laboratory Instruction	3	4	25	76	116	122	94
Teaching Gifted Students	0	0	9	105	204	82	42
Animal Laboratory Instruction	1	4	28	62	100	89	157
Student Behavior	0	6	38	90	209	100	1
Student Academic Ability	0	0	28	119	215	71	8
Class Size	4	17	41	83	170	125	2
Land Laboratory Instruction	0	5	23	57	80	60	218
Engaging Students in Critical Thinking	2	6	26	130	194	80	4
Student Motivation	3	14	45	93	186	102	1
Using New Technology	3	9	38	107	189	92	3
Curriculum Resources Adopted	2	16	28	119	182	67	27
Curriculum Development	2	14	26	138	193	55	15
Teaching Special Needs Students	4	5	49	147	172	54	13
Developing and Teaching New Courses	2	8	51	125	157	44	53
Managing Student Grades	1	14	59	138	172	54	4
Keeping Student Records	1	12	61	148	166	46	9
Lesson Planning	9	15	62	126	162	61	8
Instructional Budget	11	32	62	90	155	81	11
Individual Differences of Students	1	8	70	144	162	43	12
Record Book Instruction	2	10	66	149	118	56	42
Standards Alignment	0	16	55	160	157	36	18
Providing Adult Education	0	5	22	73	54	16	272
Course Load/Number of Preps	12	39	83	97	132	75	4
Amount of Time Allotted for Preparation	30	54	83	90	119	62	4
Common Core Integration	11	34	85	134	70	17	90
State Testing Requirements	17	49	92	112	45	18	111
Intrusions and Interruptions on Teaching Time	15	66	167	84	65	24	22
Changes in Agricultural Curriculum	4	15	55	139	147	50	34

Note. Frequencies for each item may not total to 444 due to item nonresponse. Scale: 1 = *Very Negative Influence*, 2 = *Negative Influence*, 3 = *Slightly Negative Influence*, 4 = *Slightly Positive Influence*, 5 = *Positive Influence*, and 6 = *Very Positive Influence*.

In construct three (agriculture program factors, activities, and responsibilities) all items had mostly positive scores. Livestock and project center management, being competitive with livestock projects, running a summer program, managing a booster club/alumni, and creating a budget for SAE activities had notable frequencies of not applicable. Higher frequencies on the negative side of the influence scale were observed for program facilities and equipment, fundraising for FFA activities, FFA award applications, managing the advisory committee, identifying alternative funding sources, creating a budget for SAE activities, and National FFA Organization policy changes. All item frequencies for construct three are presented in Table 6.

Table 6

Construct 3 Single Item Frequencies for Individual Scale Anchors (N = 444)

Item	*1*	*2*	*3*	*4*	*5*	*6*	*n/a*
Role as the FFA Advisor	0	1	9	51	193	180	6
Managing the FFA Chapter	0	2	19	83	217	115	6
Managing the Total Agricultural Education Program	0	3	20	93	193	129	3
Attending Fairs/Showing/Exhibitions	2	5	25	82	155	134	38
FFA Officer Elections	1	7	23	99	188	112	11
Training CDE Teams	1	6	28	101	188	108	8
Being Competitive in CDEs	3	11	23	104	160	128	12
Livestock and Project Center Management	1	5	22	59	92	76	185
Training LDE Teams	1	6	33	105	181	93	22
Recruiting Students	1	7	42	114	162	105	10
Being Competitive in LDEs	3	11	36	102	155	103	31
Being Competitive with Livestock Projects	6	4	24	106	108	83	109
Running a Summer Program	3	6	27	89	122	57	138
SAE Programs	2	9	50	123	164	84	9
SAE Visits	3	14	45	107	141	87	42
Program Planning and Prioritization	0	9	44	139	165	74	9
Program Facilities and Equipment	3	20	47	109	158	87	16
Fundraising for FFA Activities	9	17	49	96	177	85	8
Planning a Summer Schedule	2	8	37	115	159	47	73
FFA Award Applications	3	10	54	139	146	68	21
Creating a Budget for FFA Activities	4	5	49	146	169	42	27
Managing the Advisory Committee	3	14	53	103	118	60	90
Managing the Booster Club/Alumni	3	17	48	66	90	41	177
Identifying Alternative Funding Sources	4	25	70	120	120	64	37
Creating a Budget for SAE Activities	5	14	56	126	96	42	101
National FFA Organization Policy Changes	5	23	96	149	77	16	70

Note. Frequencies for each item may not total to 444 due to item nonresponse. Scale: 1 = *Very Negative Influence*, 2 = *Negative Influence*, 3 = *Slightly Negative Influence*, 4 = *Slightly Positive Influence*, 5 = *Positive Influence*, and 6 = *Very Positive Influence*.

Table 7 shows individual item frequencies for construct four (miscellaneous job factors, activities, and responsibilities). Several items in the miscellaneous construct received numerous frequencies of negative scores including recognition received for work, salary/compensation, school regulation, other school-wide duties, completing state reports, having to complete paperwork for the school, workload/work volume, stress, and teacher burnout. Other items had higher frequencies on the positive side of the scale. Unsafe work environment was the only item receiving a large frequency of not applicable.

Table 7

Construct 4 Single Item Frequencies for Individual Scale Anchors (N = 444)

Item	*1*	*2*	*3*	*4*	*5*	*6*	*n/a*
Ability to Manage Finances	1	5	14	91	205	118	4
Confidence in Ability as SBAE Teacher	2	8	23	86	189	128	4
Ability to Resolve Conflicts	1	3	29	110	195	99	3
Organizational Skills	5	13	58	107	160	98	0
Ability to Take Care of Yourself	5	15	51	114	154	96	5
Time Management Ability	5	22	56	106	166	84	1
Communicating w Students, Parents, & Others	2	9	68	135	163	62	1
Salary/Compensation	11	31	65	133	137	56	7
Recognition Received for Work	37	50	77	120	82	45	30
School Regulations	8	50	142	104	85	22	28
Other School-wide Duties	10	53	133	125	74	26	20
Completing State Reports	12	44	123	128	66	20	48
Unsafe Work Environment	22	32	71	51	57	26	182
Having to Complete Paperwork for the School	18	72	178	98	53	20	2
Workload/Volume of Work	54	112	131	71	47	19	7
Stress	54	130	133	58	41	13	8
Teacher Burnout	67	116	128	49	31	10	40

Note. Frequencies for each item may not total to 444 due to item nonresponse. Scale: 1 = *Very Negative Influence*, 2 = *Negative Influence*, 3 = *Slightly Negative Influence*, 4 = *Slightly Positive Influence*, 5 = *Positive Influence*, and 6 = *Very Positive Influence*.

Concerning construct five (professionalism and advancement factors), higher frequencies were observed on the positive side of the scale for all items. The teacher's union activities item had the highest frequency of not applicable. This information is summarized in Table 8.

Table 8

Construct 5 Single Item Frequencies for Individual Scale Anchors (N = 444)

Item	*1*	*2*	*3*	*4*	*5*	*6*	*n/a*
State Professional Organization Activities	1	4	19	126	152	114	26
Professional Development Activities Attended	1	5	27	117	179	104	8
Undergraduate Preparation/Training	6	8	34	132	174	75	11
National Professional Organization Activities	2	3	28	148	142	65	54
Opportunity for Professional Advancement	3	12	42	156	126	62	41
Teacher's Union Activities	10	26	53	116	52	19	165

Note. Frequencies for each item may not total to 444 due to item nonresponse. Scale: 1 = *Very Negative Influence*, 2 = *Negative Influence*, 3 = *Slightly Negative Influence*, 4 = *Slightly Positive Influence*, 5 = *Positive Influence*, and 6 = *Very Positive Influence*.

The sixth construct (personal factors, activities, and responsibilities) revealed mostly positive scores reported for all items with the exception of work/home life balance, death of a relative or close friend, financial loss, and legal problems. High frequencies of not applicable were received for all items except marital status, health, and work/home life balance. Individual item frequencies for construct six are presented in Table 9.

Table 9

Construct 6 Single Item Frequencies for Individual Scale Anchors (N = 444)

Item	*1*	*2*	*3*	*4*	*5*	*6*	*n/a*
Marital Status	9	15	39	65	145	116	52
Health	5	15	65	101	166	67	20
Birth of Children	6	18	66	41	62	68	178
Work and Home Life Balance	15	39	103	105	126	50	4
Life Crisis	12	35	80	58	63	27	166
Death of a Relative or Close Friend	16	44	122	36	29	18	170
Financial Loss	16	43	105	24	26	16	208
Legal Problems	17	33	44	19	14	13	298

Note. Frequencies for each item may not total to 444 due to item nonresponse. Scale: 1 = *Very Negative Influence*, 2 = *Negative Influence*, 3 = *Slightly Negative Influence*, 4 = *Slightly Positive Influence*, 5 = *Positive Influence*, and 6 = *Very Positive Influence*.

The third objective of this study sought to identify relationships between demographic variables and influence of challenges faced by SBAE teachers on perceived ability to do their job. Correlations were calculated with the demographic variables: sex, certification type, age, and amount of time spent working each week. Constructs one (r_{pb} = -.19), three (r_{pb} = -.11), four (r_{pb} = -.19), and six (r_{pb} = -.18) all had low associations with participant sex and had the greatest coefficient magnitudes of any demographic variable. (Davis, 1971). Three positive, low associations were found between the construct scores and age. Two negative, low associations were found between construct scores and time spent working each week. All calculated coefficients for demographic relationships are presented in Table 10.

Table 10

Demographic Correlations with Average Construct Scores (N = 444)

Construct	Sex (r_{pb})	Certification (r_{pb})	Age (r)	Work Time (r)
1. Relationships	-.19	-.06	.13	-.08
2. Classroom	-.08	-.02	.14	-.07
3. Program	-.11	-.07	.04	.01
4. Miscellaneous	-.19	-.02	.14	-.15
5. Professionalism	.05	-.07	.02	.00
6. Personal	-.18	-.02	.05	-.15

Note. Sex was coded 1 = Male, 2 = Female. Certification was coded 1 = Traditional and 2 = Alternative. *pb* = point-biserial.

The final objective of this study was to compare challenges faced by male and female SBAE teachers. Based on the magnitude of correlations reported for objective three, an independent samples *t*-test was calculated comparing average construct scores of male and female SBAE teachers. Male SBAE teachers had significantly higher average construct scores in all constructs with the exception of professionalism. Calculated effect sizes were generally small to medium (Cohen, 1988). Refer to Table 11 for a complete breakdown of the independent samples *t*-test.

Table 11

Comparison of Average Construct Scores on SBAE Teacher Challenges by Sex (N = 444)

	Male (n = 227)		Female (n = 215)				
Construct	*M*	*SD*	*M*	*SD*	t_{440}	*p*	*d*
1. Relationships	4.86	0.44	4.69	0.45	4.00	<.01	.38
2. Classroom	4.55	0.56	4.46	0.54	1.73	.04	.16
3. Program	4.71	0.65	4.56	0.60	2.37	.01	.24
4. Miscellaneous	4.11	0.75	3.85	0.59	4.08	<.01	.67
5. Professionalism	4.53	0.76	4.60	0.68	-0.95	.17	.10
6. Personal	4.19	0.97	3.85	0.88	3.84	<.01	.37

Conclusions, Implications, and Recommendations

Several conclusions can be realized from the results of this study; however, the limitation of low response rate must first be acknowledged. While attempts were made to control for nonresponse error with a comparison of early to late respondents, this does not guarantee there are no differences when considering those who did not respond. Therefore, the results, conclusions, and recommendations should be approached with caution, especially when attempting to generalize to the entire population of SBAE teachers in the United States. From the demographic data collected in this study, it can be concluded SBAE teachers are becoming more evenly split between male and female teachers, aligning with findings of previous studies and indicating a possible representative sample of the population from this standpoint (Lawver et al., 2018). The profession was also largely made up of White teachers. When examining education obtained by SBAE teachers, we found a near even split between teachers earning bachelor's degrees and teachers earning master's degrees. In addition, a majority of SBAE teachers were traditionally certified.

The purpose of this study was to assess how challenges faced by SBAE teachers across the United States influence their perceived ability to do their job so that agricultural education teacher preparation programs may be able to prioritize support or professional development in areas that are challenging teachers. Personal factors and miscellaneous activities are two areas that have only slightly positive influences on SBAE teachers' perceived ability to do their jobs. This confirms previous findings where items related to these areas negatively influenced SBAE teachers' ability to do their jobs (Clark et al., 2014; Touchstone, 2015; Walker et al., 2004). This conclusion is also bolstered by the frequencies of negative responses reported on individual items within personal factors and miscellaneous activities constructs. For example, within the miscellaneous activities and factors construct, teacher burnout was an item receiving high frequencies of negative influence on SBAE teachers' perceived ability to do their job, highlighting an ongoing problem identified by previous research (Boone & Boone, 2009; Chenevey et al., 2008; Kitchel et al., 2012; Smith & Smalley, 2018). While this study did not examine burnout in depth, it is an area with high concern in the literature and one of the likely sources of lower construct scores. The high frequencies of negative influences of personal factors and miscellaneous activities on SBAE teacher occupational self-efficacy have the potential to indicate possible future career decisions to leave the field of SBAE teaching according to Tippens et al. (2013) and Bandura's (1977) self-efficacy theory.

SBAE teacher relationships, program activities, classroom activities, and professionalism activities all positively influenced SBAE teachers' ability to do their job. This may indicate some improvement over findings from previous studies (Boone & Boone, 2009; Greiman et al., 2005; Ingersoll, 2001; Walker et al., 2004). The positive influence of these factors on SBAE teachers' perceived ability to do their job (occupational self-efficacy), is an encouraging piece of information on their potential effect on future career decisions such as intent to remain in the field (Bandura,

1977; McKim & Velez, 2016; Tippens et al., 2013). Within each construct we find specific items or factors that have higher frequencies of negative or slightly negative influences on SBAE teachers' ability to do their job, however the overall influence of these general areas is positive. Frequencies reported for the individual items shed light on a possible reason for the positive construct scores. For example, an item receiving a high frequency of positive responses for perceived influence on occupational self-efficacy was relationships with students in the agriculture program. This may indicate SBAE teachers enjoy getting to know their students, and it could be a driving factor for keeping teachers in the field when applied to Bandura's (1977) model. However, this is purely speculative as this study did not measure the impact of individual items on occupational self-efficacy and instead examined constructs as a whole.

Demographic correlations revealed low associations between the sex of participants and construct scores. Through a comparison of average construct scores, we found female SBAE teachers were more likely to perceive challenges impacted their perceived ability to do their job more negatively than their male colleagues in all constructs except for professionalism. This supports the findings of previous research, indicating this is a continuing problem (Baxter et al., 2011; King et al., 2013). Only negligible associations were found with certification type; however, each association was in the direction of more frequent negative perceived influences for alternatively certified teachers. Correlations were all positive with age, indicating as teachers gain experience, they perceive different aspects of their job become less of an obstacle to doing their job effectively, particularly in the areas of relationships, classroom activities, and miscellaneous tasks. The relationships found with age support findings of previous studies related to needs of teachers at different points in their careers (Bunch et al., 2012; Figland et al., 2019; Thornton et al., 2020). When we look at the relationship between the amount of time teachers spend at their job each week and the impact of perceived influence on occupational self-efficacy, we see low to negligible negative relationships. This may indicate as teachers become busier and spend greater percentages of their time working, the perceived impact of challenges faced becomes more negative. This conclusion was reflected the most in the miscellaneous activities and personal activities constructs.

Based on the findings and conclusions of this study, several recommendations for practice emerge so that we may be able to help increase occupational self-efficacy of SBAE teachers and in turn help more teachers remain in the field. We recommend agricultural education teacher preparation programs provide additional training for preservice teachers and teachers already in the field on managing the miscellaneous activities related to teaching. Some of those activities like time management, organization, and conflict resolution are skills that can be learned through professional development or other means. On the other hand, some of the miscellaneous activities included in this study such as salary are not learned skills but rather a factor with which management of expectations might help. In the case of something like burnout, we should explain how to determine the root cause and eliminate it and encourage school system administrators, university teacher education programs, and others to learn to detect burnout and help their colleagues. Communicating ways to deal with negative personal life factors may also be useful for SBAE teachers. While we cannot control what happens in teachers' personal lives, we may be able to help them better prepare for how to deal with challenges as they arise related to their performance at work. School systems should be encouraged to reduce pressure on the SBAE teacher when negative personal factors arise to reduce the negative perceived impact on the teacher's ability to do their job.

Training and changes tailored to specific demographic sectors of the SBAE teacher population may also be necessary. For example, female respondents generally perceived challenges influenced their ability to do their job more negatively than their male counterparts. Efforts should be made to investigate why this is and to encourage school personnel to be cognizant of differing

needs and expectations between male and female SBAE teachers. We should encourage preservice teachers and practicing teachers to meet with other members of their demographic groups to discuss strategies for overcoming challenges specific to that group and to form support networks to help each. These groups may be based on sex, years of teaching experience, or certification type. Professional development targeted toward these specific groups may also be helpful, particularly with specific strategies for managing or limiting miscellaneous activities and the impact of personal factors on occupational self-efficacy.

There are several opportunities for additional research related to the influence of challenges faced by SBAE teachers on their perceived ability to do their job. Further investigation of the degree of impact each of the construct items has on perceived occupational self-efficacy may be more useful, rather than using a construct approach. An assessment of how challenges and barriers have an impact on the final decision to remain in or leave the teaching profession is also needed. Additionally, the development of a SBAE teacher occupational self-efficacy instrument could be useful to the profession to better predict when a teacher may be on the verge of quitting. Further research should also be conducted to determine best practices for directly dealing with or eliminating negative miscellaneous activities and personal factors. Concerning the differences in perceived influence of challenges experienced by male and female SBAE teachers on occupational self-efficacy, additional research should focus on effective ways to remedy this issue and ensure equality among both groups.

Studies identifying new challenges faced by SBAE teachers should periodically be conducted in the future and the impact of those challenges on occupational self-efficacy and career decisions should be assessed. Information from broad national studies can serve as a reference for establishing a research agenda related to SBAE teacher occupational self-efficacy. Further study of specific items within each construct of this study may help identify areas needing further exploration so that we may be able to better help some of our most important stakeholders who are currently in the field and continue to improve our craft in training future SBAE teachers.

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