

Oklahoma School Superintendents Perceptions Toward School-Based Agricultural Education

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Abstract

Superintendents play a key role related to influence and decision making at the school building level. This study aimed to determine the perceptions of superintendents across Oklahoma related to school-based agricultural education (SBAE). The Theory of Reasoned Action and Planned Behavior undergirded this study. This non-experimental descriptive research study aimed to reach school superintendents across Oklahoma who had one or more SBAE teachers in their district (N = 367). The 35-item instrument spanned three constructs including, SBAE program perceptions, SBAE course perceptions, and SBAE teacher perceptions, along with personal and professional characteristic questions. Nine items represented the construct of SBAE program perceptions, which resulted in a grand mean of 3.36. The second research objective measured superintendents' perceptions of SBAE courses, resulting in a grand mean of 3.29, with mean scores ranging from a low of 1.42 to a high of 3.65 on a five-point scale. The final construct aimed to establish superintendents' perceptions of SBAE teachers across Oklahoma, of which participants held a positive perception overall (grand mean = 3.26). Although this study has been replicated in three states with similar outcomes, additional research is necessary to determine administrator perceptions in states with perhaps less agricultural support.

Introduction

“Superintendents are highly visible actors in the American education system” (Chingos et al., 2014, p. 1). Although school structures vary, superintendents play a key role related to influence and decision making at the school building level (Whitt et al., 2015). Administrators at this level are often thought to have visionary leadership ability, community leadership and advocacy skills, and a belief that all children can learn (Usdan et al., 2000). Regardless, school leaders worldwide are facing new and increasing challenges to effectively support teachers and prepare students (Organisation for Economic Co-operation and Development, 2009). Even though superintendents are not responsible for every process, decision, or initiative, they are the highest ranked official within a district and receive much of the credit on good days and plenty of blame on the bad ones (Chingos et al., 2014).

The perceptions of superintendents related to core content (Peterson et al., 1987), teacher effectiveness (York-Barr & Duke, 2004), specific district initiatives (Hornbeck & Malin, 2019), and leadership (Wells, 2012) have been investigated, but their recent perceptions specific to school-based agricultural education (SBAE) are lacking. Furthermore, superintendents in Oklahoma are often tasked with the hiring of SBAE teachers and head football coaches (Personal Communication, 2022) because of their visibility in the school and community, therefore superintendents' perceptions become even more important considering the role they play. This study aimed to determine the perceptions of superintendents across Oklahoma related to SBAE programs.

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Specifically, this study replicated research conducted in Iowa (Kalme & Dyer, 2000) and Florida (Smith & Myers, 2012) which evaluated the perceptions of secondary school principals toward the overall SBAE program, courses offered, and the SBAE teacher(s). Statewide studies conducted in Florida and Iowa found secondary school principals to hold positive perceptions of SBAE programs, courses, and teachers (Kalme & Dyer, 2000; Smith & Myers, 2012), but there is currently no data outlining the perceptions of superintendents related to SBAE programs in Oklahoma. With nearly 70% of comprehensive K-12 school districts across Oklahoma having SBAE programs (Oklahoma State Department of Education, 2022), the perceptions of superintendents related to those programs are essential to consider, given the funding and resources allocated annually. The comprehensive SBAE program includes classroom and laboratory instruction, student engagement within the National FFA Organization, and supervised agricultural experiences (SAE) for students enrolled in the programs (National FFA Organization, 2018). Moreover, the connection between SBAE teachers and school administrators has been identified as an essential component of program success (Talbert et al., 2007). This success extends beyond travel and program funding (Talbert et al., 2007), as student achievement is often increased by the implementation of a complete SBAE program (Cheek et al., 1994). Much of this success is related to the connection of science across the complete SBAE program (McKim et al., 2017). It is essential for SBAE teachers to be engaged across the three components to offer a comprehensive program for students to be considered an effective SBAE teacher (Eck et al., 2021).

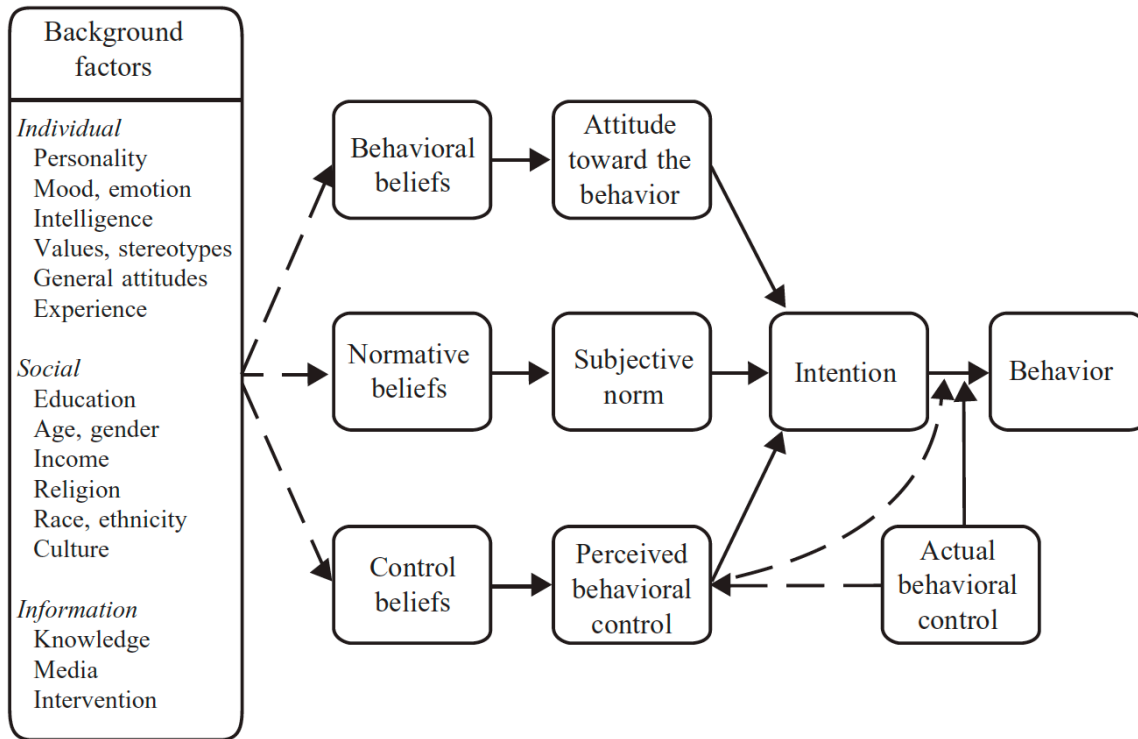
This becomes even more important as you consider the connection between administrators and teachers through the annual evaluation process, to allow opportunities for growth and development (Hopkins, 2016). The National Council for Agricultural Education (2012) defined SBAE as “a systematic program of instruction available to students desiring to learn about the science, business, and technology of plant and animal production and/or about the environmental and natural resources systems” (para. 1). Administrators across states have been identified as having positive perceptions of SBAE programs, courses, and teachers (Kalme & Dyer, 2000; Smith & Myers, 2012), yet previous research has drawn to question the perceptions of administrators with varying personal and professional characteristics in Oklahoma (Robinson & Baker, 2013). In addition, recent declines in student enrollment, troubling teacher retention rates, and an alarming number of teachers leaving the profession (Nguyen & Springer, 2019) could have impacted administrators’ perceptions of SBAE.

Theoretical/Conceptual Framework

The Theory of Reasoned Action (Fishbein & Ajzen, 1975) and Theory of Planned Behavior (Ajzen, 1991) undergirded this study, as SBAE programs in Oklahoma served as the object of interest. Specifically, superintendents’ behavior related to SBAE programs, SBAE courses, and SBAE teachers could be predicted by evaluating their attitudes and subjective norms (i.e., perceptions) of each component (Fishbein & Ajzen, 1975). Figure 1 connects the two theories together based on Ajzen and Fishbein’s (2005) work.

Figure 1

The Theories of Reasoned Action and Planned Behavior



Note. From “The influence of attitudes on behavior,” by Ajzen, I., and Fishbein, M., (2005), in D. Albarracin, B. T. Johnson, & M. P. Zanna (Eds.) *The Handbook of Attitudes*. Lawrence Erlbaum Associates.

Purposely, within this study the researchers were able to consider the background factors of the superintendents (i.e., personal and professional characteristics) to determine their beliefs (i.e., behavioral, normative, and control) related to SBAE programs, courses, and teachers using a previously developed instrument (Kalme & Dyer, 2000). Specifically, age, years as superintendent, and SBAE teachers hired serve as indicators of experience, which have been connected to district stability (Marzano & Waters, 2009) and district priorities (Kamrath, 2015) in addition to aligning with the conceptual model (see Figure 1). This becomes increasingly important considering the average position length for a superintendent nationwide is three years (Chingos et al., 2014). In addition, school district size served as an indicator of available resources (Driscoll et al., 2003), which potentially impact beliefs, norms, intentions, and behaviors. Therefore, identifying the beliefs of superintendents in Oklahoma allows the researchers to explain the determinants of their intentions, i.e., attitude toward the behavior, subjective norm, and perceived behavioral control (see Figure 1; Ajzen & Fishbein, 2005). These determinants have the potential to influence the superintendent’s intention and behavior (Ajzen, 1991) as it relates to SBAE programs in Oklahoma. Together, these factors potentially impact a superintendent’s decisions related to programmatic needs, including funding, travel, resources, and support (Talbert et al., 2007).

Purpose of the Study

The purpose of this study was to determine Oklahoma superintendents' perceptions toward SBAE in their district. Four research objectives guided this study:

1. Determine the perceptions of school superintendents toward Oklahoma SBAE programs,
2. Determine the perceptions of school superintendents toward SBAE courses,
3. Determine the perceptions of school superintendents toward SBAE teachers, and
4. Compare the perceptions of school superintendents based on personal and professional characteristics.

Methods and Procedures

This non-experimental descriptive research study aimed to explore school superintendents' perceptions across Oklahoma who had one or more SBAE teachers in their district ($N = 367$). To reach the target population, an existing email frame of Oklahoma superintendents was utilized, of which 14 emails bounced back undeliverable, adjusting the accessible population to 353. An initial email requesting participation was sent followed by four reminder emails following the recommendations of the tailored design method for online survey questionnaires (Dillman et al., 2014) to maximize response rate. In all, 185 complete survey instruments were returned, resulting in a 52.4% response rate.

The instrument distributed in this study was based on previous research from Kalme and Dyer (2000) who identified the perceptions of secondary school principals with SBAE programs in Iowa. Although their previous study was state specific, the items were relevant to administrators at large and considered to be reliable and valid based on item development, pilot testing, and instrument distribution (Kalme & Dyer, 2000). Specifically, the 35-item instrument, spanning three constructs, i.e., SBAE program perceptions (9-items), SBAE course perceptions (11-items), and SBAE teacher perceptions (15-items), resulted in acceptable Cronbach's alpha of .63, .83, and .89 respectively (Nunnally, 1978) after data collection in Iowa (Kalme & Dyer, 2000). Reliability was established for data collected in Oklahoma, resulting in an acceptable post-hoc Cronbach's alpha of .75 for the complete 35-item instrument. Since the initial instrument was designed for Iowa principals and this study focuses on Oklahoma superintendents, face and content validity were evaluated by a faculty member in agricultural education, a faculty member in educational leadership focusing on superintendent licensure, and an educational director who was previously an SBAE teacher, a principal, and superintendent. In addition to the 35-item instrument, superintendents were asked five questions related to their personal and professional characteristics (i.e., age, years as superintendent, school district size, number of SBAE teachers in district, and SBAE teachers they have hired as superintendent). Table 1 outlines the personal and professional characteristics of the participants. It should be noted that 55 of the participants did not provide an age, while 30 of those participants did not respond to the remaining personal and professional characteristic questions either. This limitation is indicated by those preferring not to respond in Table 1.

Table 1

Oklahoma Superintendents Personal and Professional Characteristics (n = 185)

| Characteristic | <i>f</i> | % | |
|----------------|----------|----|------|
| Age | 36 to 40 | 6 | 3.2 |
| | 41 to 45 | 9 | 4.9 |
| | 46 to 50 | 25 | 13.5 |
| | 51 to 55 | 39 | 21.1 |
| | 56 to 60 | 31 | 16.8 |
| | 61 to 65 | 14 | 7.6 |

| | | | |
|---|-----------------------|-----|------|
| | 66 to 70 | 3 | 1.6 |
| | 71 or older | 3 | 1.6 |
| | Prefer to not respond | 55 | 29.7 |
| Years Serving as Superintendent | First Year | 4 | 2.2 |
| | 2 to 5 | 47 | 25.4 |
| | 6 to 10 | 50 | 27.0 |
| | 11 to 15 | 32 | 17.3 |
| | 16 to 20 | 9 | 4.9 |
| | 21 to 25 | 5 | 2.7 |
| | 26 to 30 | 8 | 4.3 |
| | Prefer to not respond | 30 | 16.2 |
| School District Size (average range of students) | C (less than 78) | 8 | 4.3 |
| | B (78 – 134) | 28 | 15.1 |
| | 1A (135 – 199) | 27 | 14.6 |
| | 2A (200 – 289) | 44 | 23.9 |
| | 3A (290 – 449) | 13 | 7.0 |
| | 4A (450 – 679) | 20 | 10.8 |
| | 5A (680 – 1199) | 8 | 4.3 |
| | 6A (1200 or more) | 7 | 3.8 |
| | Prefer to not respond | 30 | 16.2 |
| Number of SBAE Teachers in District | 1 | 103 | 55.7 |
| | 2 | 40 | 21.6 |
| | 3 | 12 | 6.5 |
| | Prefer to not respond | 30 | 16.2 |
| SBAE Teachers Hired as Superintendent | 0 | 34 | 18.4 |
| | 1 | 47 | 25.4 |
| | 2 | 28 | 15.1 |
| | 3 | 17 | 9.2 |
| | 4 | 17 | 9.2 |
| | 5 or more | 12 | 6.5 |
| | Prefer to not respond | 30 | 16.2 |

Participants were asked to rate each of the 35 items on a five-point, Likert-type scale of agreement ranging from 1 (strongly disagree) to 5 (Strongly agree). To further understand participant perceptions based on mean scores, the following limits were established based on previous research using the instrument (Smith & Myers, 2012): 1.00 to 1.49 = negative perception, 1.50 to 3.49 = neutral perception, and 3.50 to 5.00 = positive perception. To gauge overall participant perception (i.e., positive or negative), the grand mean for each construct area was calculated, per the recommendation of DeVellis (2017). If the grand mean for the construct area was above 3.0, the perception was considered positive. Adversely, if the grand mean fell below 3.0, the perception was negative.

Descriptive statistics were analyzed using SPSS Version 28. Although this study resulted in a 52.4% response rate, non-response error was still of concern, as the research team aimed to generalize to population of superintendents in Oklahoma with SBAE programs (Fraenkel et al., 2019). Therefore, the research team compared early to late responses based off the recommendation of Johnson and Shoulders (2017). Respondents were classified by responsive waves, specifically 140 participants were deemed early

respondents, while the remaining 45 were late respondents (i.e., responded after the final reminder). The personal and professional characteristics and composite SBAE perception scores of early and late respondents were compared, resulting in no differences. Specifically, the percentage of respondents were compared to Oklahoma data related to school district size (i.e., C to 6A) and number of SBAE programs per district. The composite perception scores were found to have no significant difference between early ($M = 141.89$, $SD = 17.40$) and late ($M = 39.14$, $SD = 17.86$) respondents, $t(185) = 0.99$; $p = .32$. The resulting comparisons were found to be comparative, further demonstrating the participants in this study as a representative sample of superintendents with SBAE programs in Oklahoma.

To determine superintendents' overall perception of SBAE in Oklahoma, a composite SBAE perception score was calculated using Microsoft Excel. Specifically, the self-reported ranking (i.e., 1 [strongly disagree] to 5 [strongly agree]) from each of 35-items (i.e., program, course, and teacher perceptions) was summed to determine an overall perception score. Each item was equally weighted, per the recommendations of McDonald (1997) who determined that equally weighted items provide the optimal estimate when combining scores across components. Perception scores had a potential range from 35 (very negative perception) to 175 (very positive perception).

In addition to Microsoft Excel, IBM SPSS Statistics Version 28 was utilized to analyze the data per the stated research objectives. Composite perception scores were analyzed to determine the impact of personal and professional characteristics (i.e., age, years as superintendent, school district size, and number of SBAE teachers they have hired as superintendent). The composite perception score served as the dependent variable, which was compared to the four independent variables (i.e., personal and professional characteristics) using a factorial analysis of variance (ANOVA). Resulting interactions, main effects, and *post hoc* analysis was analyzed from the SPSS output (Field, 2018).

Findings

Research Question 1: Determine the Perceptions of School Superintendents Toward Oklahoma SBAE Programs

Nine items represented the construct of SBAE program perceptions, which resulted in a grand mean of 3.36 after reverse coding of negatively worded statements. Considering the individual items and the grand mean, superintendents' perceptions of SBAE programs in Oklahoma were positive (i.e., mean of 3.5 or higher; grand mean above 3.0). The majority of respondents (69.7%) agreed or strongly agreed that *college bound students should take agricultural education courses*, resulting in the highest mean (3.70). Similarly, 67.4% of participants strongly disagreed or disagreed with *students who take agricultural education courses tend to be less academically able*, resulting in the lowest mean (1.73). Table 2 provides the mean and standard deviation for each of the nine items for transparency of descriptive statistics (DeVellis, 2017). Each item was ranked on a five-point scale of agreement (i.e., 1 = strongly disagree and 5 = strongly agree).

Table 2

Oklahoma Superintendents Perceptions of School-Based Agricultural Education Programs (n = 185)

| Item Description | <i>M</i> | <i>SD</i> |
|--|----------|-----------|
| College bound students should take agricultural education courses. | 3.70 | .89 |
| The image of agriculture is improving. | 3.68 | .55 |

| | | |
|--|------|------|
| Students are becoming more interested in enrolling in agricultural education courses. | 3.68 | 1.01 |
| The agricultural education program in my school is a positive force in my community. | 3.64 | .54 |
| There are numerous opportunities for employment in the field of agriculture. | 3.55 | .69 |
| The facilities and equipment used in agricultural education courses are adequate and up-to-date. | 3.25 | .94 |
| Because of increased graduation requirements, there is little time for students to enroll in agricultural education courses. | 2.79 | 1.20 |
| Agricultural education focuses too heavily on the development of specific job skills. ^a | 2.44 | 1.28 |
| Students who take agricultural education courses tend to be less academically able. ^a | 1.73 | .92 |

Note. Five-point scale of agreement, 1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = strongly agree. ^aItems are negatively worded.

The first five items presented in Table 2 resulted in positive perceptions from the superintendents (i.e., mean of 3.5 or higher), with the remaining items achieving a neutral perception (i.e., mean of 1.5 to 3.49). It should be noted that the bottom three items (see Table 2) were negatively worded, therefore the mean score presented in Table 2 lends itself toward a positive perception. Additionally, these items were reverse coded for the establishment of the grand mean for the program perception construct.

Research Objective 2: Determine the Perceptions of School Superintendents Toward SBAE Courses

The second research objective was measured using an 11-item construct for superintendents' perceptions of SBAE courses. This construct resulted in a grand mean of 3.29, with mean scores ranging from a low of 1.42 (*Agricultural education courses provide little for students' intellectual development*) to a high of 3.65 (*Agricultural education courses encourage students to apply knowledge and skills to real-life problems*) on a five-point scale. The item *Other elective courses are more valuable to college bound students than are agricultural education* resulted in a mean of 2.47 but received the greatest standard deviation (1.28) of the construct, 51.4% strongly disagreed or disagreed and 36.4% agreed or strongly agreed, while the remaining 12.2% remained uncertain. Table 3 outlines the mean and standard deviation of all 11 items related to program perceptions.

Table 3

Oklahoma Superintendents Perceptions of School-Based Agricultural Education Courses (n = 185)

| Item Description | <i>M</i> | <i>SD</i> |
|--|----------|-----------|
| Agricultural education courses encourage students to apply knowledge and skills to real-life problems. | 3.65 | .54 |
| Agricultural education courses develop skills needed for employment in business and industry. | 3.54 | .55 |
| High school agriculture courses are beneficial for high achievers. | 3.52 | .59 |
| High school agriculture courses are beneficial for low achievers. | 3.48 | .67 |
| Students enrolled in agricultural education courses seem to enjoy these courses. | 3.42 | .51 |

| | | |
|--|------|------|
| Agricultural education courses reinforce learning in academic courses. | 3.42 | .64 |
| Agricultural education courses are easier than other courses offered in our school. | 2.54 | 1.13 |
| Other elective courses are more valuable to college bound students than are agricultural education. | 2.47 | 1.28 |
| High school agricultural education courses should be offered primarily in rural areas. ^a | 1.93 | 1.06 |
| Agricultural education courses should be offered in technical schools/centers rather than in high school. ^a | 1.45 | .76 |
| Agricultural education courses provide little for students' intellectual development. ^a | 1.42 | .68 |

Note. Five-point scale of agreement, 1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = strongly agree. ^aItems are negatively worded.

The top three items (see Table 3) resulted in positive perceptions (i.e., mean of 3.5 or higher), while the next six items achieved a neutral perception overall (i.e., mean of 1.5 to 3.49), and the final two items received a mean of 1.49 or lower, which was considered a negative perception per the recommendations of Smith and Myers (2012).

Research Objective 3: Determine the Perceptions of School Superintendents Toward SBAE Teachers

The final construct aimed to establish superintendents' perceptions of SBAE teachers across 15-items (see Table 4). While participants held a positive perception overall (grand mean = 3.26), items such as *agricultural education teachers are more effective in their teaching than most other teachers*, brought about some uncertainty, as 38.6% of participants strongly disagreed or disagreed, while 33.2% agreed or strongly agreed, and the remaining 28.2% were uncertain. Similarly, 24.3% of participants were uncertain, while 32% disagreed or strongly disagreed with *other teachers collaborate with agriculture teachers to integrate agricultural subjects into their courses*.

Table 4

Oklahoma Superintendents Perception of School-Based Agricultural Education Teachers (n = 185)

| Item Description | M | SD |
|--|------|------|
| Students are becoming more interested in enrolling in agricultural education courses. | 3.66 | 1.02 |
| Other teachers collaborate with agriculture teachers to integrate agricultural subjects into their courses. | 3.66 | 1.19 |
| Agricultural education teachers collaborate with other teachers to integrate other subjects into agricultural education courses. | 3.55 | 1.08 |
| The agricultural education teacher takes in-service courses, seminars, and other non-credit experiences beyond those required by our school. | 3.52 | .92 |
| Agricultural education teachers have positive professional relationships with other teachers. | 3.51 | .71 |
| Agricultural education teachers have positive professional relationships with administrators. | 3.51 | .70 |

| | | |
|--|------|------|
| The agricultural education teacher in my school is a high-quality teacher. | 3.50 | .70 |
| Agricultural education teachers have positive professional relationships with guidance counselors. | 3.49 | .79 |
| The agricultural education teacher involves an advisory committee in determining objectives of agricultural education programs. | 3.43 | 1.18 |
| The agricultural education teacher keeps the agricultural education program current to meet employment needs. | 3.42 | .97 |
| The agricultural education teacher keeps the agricultural education program current to meet higher educational needs. | 3.42 | .90 |
| Agricultural education teachers are more effective in their teaching than most other teachers. | 3.41 | 1.52 |
| Agricultural education teachers effectively support core content teachers by integrating science, technology, engineering, and math (STEM) in their courses. | 3.40 | .72 |
| Agricultural education teachers utilize many community members/resources in their class topics. | 3.39 | .76 |
| Agricultural education teachers do not encourage college bound students to enroll in agricultural education courses. ^a | 1.84 | 1.00 |

Note. Five-point scale of agreement, 1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = strongly agree. ^aItems are negatively worded.

Nearly half (7 of the 15) of the items resulted in a positive perception (i.e., mean of 3.5 or higher), while the remaining seven were considered neutral (i.e., mean of 1.5 to 3.49). It should be noted that some participating superintendents had more than one SBAE teacher in their school district (see Table 1) which could convolute the decision-making process related to perceptions of SBAE teachers.

Research Objective 4: Compare the Perceptions of School Superintendents Based on Personal and Professional Characteristics.

The overall perceptions of SBAE from Oklahoma superintendents were determined by calculating a composite SBAE perception score across the 35 items. Perception scores had a potential range from 35 (very negative perception) to 175 (very positive perception). This study resulted in composite SBAE perception scores ranging from a low of 113 to a high of 174, with a composite mean of 160.64.

The personal and professional characteristics of superintendents (see Table 1) were compared against composite sum SBAE perception scores. The maximum possible perception score was 175, as each of the 35-items had a maximum Likert-type rating of 5 (strongly agree). The responses were normally distributed and assumption of homogeneity of variance was met ($p > .05$). Therefore, a factorial ANOVA was run using SPSS, with the composite SBAE perception score as the dependent variable and the personal and professional characteristics of superintendents (i.e., age, years serving as superintendent, school district size, and number of SBAE teachers they have hired as superintendent) serving as the independent variable. The specific personal and professional characteristics were selected for the factorial ANOVA, as age, years as superintendent, and number of SBAE teachers hired serve as indicators of experience, and school district size serves as an indicator of resources, therefore the research team deemed them important for comparative analysis. The analysis resulted in no statistically significant interactions within the factorial ANOVA, leading the research team to evaluate main effects. The four personal and professional characteristics (independent variables) yielded no statically significant main effects: (1) Age $F(7, 149) = 0.44, p = .84$; (2) Years Serving as Superintendent $F(4, 149) = 0.61, p = .68$; (3) School District Size $F(2, 149) = 0.05, p =$

.95; (4) SBAE Teachers Hired as Superintendent $F(2, 149) = 0.45, p = .67$. Since the analysis resulted in no statistically significant differences, *post-hoc* analysis was not interpreted.

Conclusions, Implications, and Recommendations

Overall, superintendents in Oklahoma held a positive perception of SBAE programs ($M = 3.36$), courses ($M = 3.29$), and teachers ($M = 3.26$), aligning with previous research conducted in Iowa (Kalme & Dyer, 2000) and Florida (Smith & Myers, 2012) where school principals were found to have positive perceptions of SBAE programs, courses, and teachers. Although nearly 70% of comprehensive K-12 school districts currently have SBAE programs in Oklahoma, while others are on a waiting list to add a program (Oklahoma State Department of Education, 2022), much of this is dictated by the expansive Oklahoma Career and Technical Education. The perception of the superintendents is extremely valuable as they are highly visible administrator within a given school district (Chingos et al., 2014) and play a key role in the decision-making process (Whitt et al., 2015).

Specifically considering SBAE programs, superintendents perceived them to be a positive addition to the school district. SBAE programs were perceived to make a difference by improving the image of agriculture, preparing students for college and careers, and serving as a positive force within the community. Similarly, studies conducted in Florida and Iowa found secondary school administrators to hold positive perceptions of SBAE programs, courses, and teachers (Kalme & Dyer, 2000; Smith & Myers, 2012). Documenting SBAE teachers' ability to make an impact within a complete program becomes increasingly important with this target population considering the common role of hiring SBAE teachers in Oklahoma (Personal Communication, 2022).

SBAE courses were perceived as encouraging students to apply knowledge and skills related to real-life problems, while also developing skills essential for future employment. Additionally, SBAE programs were seen as beneficial to all students (i.e., high achieving students, low achieving students, and college bound students). These components are part of a complete SBAE program which increases overall student achievement (Cheek et al., 1994; Talbert et al., 2007), in both academics and career skills (McKim et al., 2017).

Additionally, SBAE teachers were identified as being life-long learners who regularly collaborate with other teachers, seek out professional development opportunities, and build positive relationships with other teachers and administrators per the participating superintendents in this study. The development of relationships with other teachers and administrators become a valuable connection between the teacher and administrators, ultimately leading to program success (Talbert et al., 2007). Perhaps this trait of lifelong learning improves the overall perception from administrators as this dedication furthers the SBAE teachers career specific human capital improving their ability to be effective teachers across a complete program (Cheek et al., 1994; Eck et al., 2021).

The overall perceptions of SBAE in Oklahoma (i.e., programs, courses, and teachers) remained consistent regardless of the personal and professional characteristics of the participating superintendent (i.e., age, years serving as superintendent, school district size, and SBAE teachers they have hired as superintendent). This provides valuable insight as previous research has drawn to question the perceptions of administrators with varying personal and professional characteristics (Robinson & Baker, 2013). These personal and professional characteristics were also conceptualized as individual and personal background factors (Ajzen & Fishbein, 2005). Identifying the beliefs of the participating superintendents in Oklahoma allows the researchers to better understand the determinants of their intentions (i.e., attitude toward the behavior, subjective norm, and perceived behavioral control), ultimately impacting the needs of pre-service SBAE teacher training and in-service SBAE teacher support (Ajzen & Fishbein, 2005). While some of these

beliefs and intentions were anecdotally assumed by teacher preparation faculty, data had not existed in the Oklahoma to identify such.

Could it be that effective preparation of SBAE teachers at the university level plays a significant role in the overall perceptions held by administrators? If so, now more than ever, the need exists for faculty, teachers, and local and state level supporters to work together to support the ever-growing number of alternatively or emergency certified teachers entering the ranks within SBAE programs (Smith et al., 2022). This need is exacerbated by the roles and responsibilities connected to a comprehensive SBAE program (i.e., classroom and laboratory instruction, student engagement through the National FFA Organization, and SAE projects) considering the pathway of most alternatively certified teachers coming from industry or another educational area (Claflin et al., 2020; Rocca & Washburn, 2006).

Much of the positive perception portrayed in this study is linked to the ability of SBAE programs to prepare students for college and careers. Specific items with the highest perception from superintendents focused on college and career readiness (i.e., Agricultural education courses encourage students to apply knowledge and skills to real-life problems; and Agricultural education courses develop skills needed for employment in business and industry). An additional component within these 21st century skills that was not directly measured within this study is the need for STEM integration within a complete SBAE program to continue to meet the demand for future college and career success (McKim et al., 2017). Therefore, SBAE teacher preparation programs should evaluate their current preparation of SBAE teacher aspirants to address these needs. This becomes even more important considering the neutral mean score (i.e., mean of 1.5 to 3.49) for the item *Agricultural education teachers effectively support core content teachers by integrating science, technology, engineering, and math in their courses*.

As background factors (i.e., personal and professional characteristics) were considered to impact the beliefs (i.e., behavioral, normative, and control), activities, norms, perceived control, and intentions of an individual toward a behavior (Ajzen & Fishbein, 2005), it is of interest that no statistically significant differences were found based on the personal and professional characteristics of participating superintendents, given the literature that points to such in educational administration (Chingos et al., 2014; Driscoll et al., 2003; Kamrath, 2015; Marzano & Waters, 2009). Therefore, we can conclude that superintendents in Oklahoma will continue to behave in a manner that supports SBAE programs, courses, and teachers, considering the assumption that one's behavior toward something is primarily determined by their attitude toward that item (Fishbein & Ajzen, 1975). These determinants are influential on the given individual (Ajzen, 1991), therefore SBAE teachers must continue to conduct business in a positive manner and serve as advocates for their program on a local, statewide, and national level. Perhaps the positive light shed across the state and nation by SBAE programs through the National FFA Organization helps enhance the perceptions and attitudes held by superintendents in Oklahoma.

Although this study is limited to the perceptions of superintendents with SBAE programs in Oklahoma, teacher preparation faculty and SBAE stakeholders should consider these findings as potential considerations in the preparation of SBAE teacher aspirants and the support of current SBAE teachers. Additionally, these findings provide valuable insight into the positive perceptions of SBAE programs from the highest rank school official in a given school district (Chingos et al., 2014), which should be considered when working to establish new SBAE programs across the country or develop additional support as budget cuts loom (Leachman et al., 2015).

Specifically, teacher preparation faculty should convey the positive perceptions held by administrators in this study to SBAE teacher aspirants, as a need exists to reframe the conversation surrounding the support administrators provide to teachers (Paufler & Clark, 2019). Furthermore, in-service SBAE teachers, district and state level support staff, and teacher preparation faculty should continue to share the benefits of a complete SBAE program to sustain the positive image currently held by

administrators from this study and others (Kalme & Dyer, 2000; Smith & Myers, 2012), especially when new administrators are hired that do not have an SBAE or career and technical education background. Research investigating the administrators educational background and experience (i.e., certification pathway, certification area, years of teaching experience, and years as an administrator) could help to further understand their perceptions toward SBAE and career and technical education at large.

Although this study has been replicated in three states with similar outcomes, additional research is necessary on a national scale to determine administrator perceptions in states with perhaps less support or emphasis on agriculture. This study also focused on administrators with eighth through twelfth grade programs, additional research should consider perceptions of administrators with middle-grade programs, as those were not included in this inquiry. Future research should also compare teacher, administrator, and community (i.e., parents and stakeholders) perceptions of SBAE programs to see if expectations and perceptions align or differ. Qualitative interviews with administrators would further the understanding of the positive perceptions held and what SBAE teachers do to develop and sustain those positive perceptions. Future research also needs to investigate the impact of current SBAE teachers personal and professional characteristics (i.e., certification pathway, age, gender, program size, years of teaching experience, and program emphasis) on administrators' perceptions, as these factors could play a role in the perception of current teachers or the hiring of future SBAE teachers.

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