

School Culture's Influence on Beginning Agriculture Teachers' Job Satisfaction and Teacher Self-Efficacy

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Abstract

This study explored first and second year agriculture teachers' job satisfaction and teacher self-efficacy through their perceived levels of school culture support. Prior research indicated one possible contributor to poor teacher retention is a lack of belonging teachers feel to their schools. Data were collected from beginning teachers in three states and stepwise multiple regression techniques were used to analyze the data. The researchers found that colleague support was statistically significant contributors to beginning teachers' efficacy. District and school administration, colleague, and financial supports were all statistically significant contributors to teachers' job satisfaction. These findings provide support for further research to explore gaps in the profession's understanding of the role school culture plays for agriculture teachers. Recommendations include incorporating positive relationship-building techniques into pre-service and teacher induction programs and making beginning teachers aware of materials used in promoting agricultural education programs and building administrative relationships.

Keywords: beginning teachers, job satisfaction, teacher self-efficacy, administration, and school culture

Introduction and Literature Review

A nation-wide agriculture teacher shortage exists; this is not a new problem, but a persistent one (Kantrovich, 2007). Two contributing components to this problem have been identified: a little more than half of new teacher candidates do not enter the teaching profession after graduation and attrition rates for agriculture teachers have been steadily rising since 1990 (Boone & Boone, 2009; Kantrovich, 2007; Myers, Dyer, & Washburn, 2005). One possible contributor to this growing problem is the lack of belonging some agriculture teachers feel regarding the schools they teach in, or a poor school culture (Clark, Kelsey, & Brown, 2014; De Lay & Washburn, 2013). This notion is not unique to agriculture teachers as beginning math and science teachers noted the importance of being included in school culture for a positive experience (White, 2009). According to Phipps, Osborne, Dyer, and Ball (2008), "To sustain its current growth trend, school-based agricultural education must remain engaged in the larger schooling agenda..." (p. 21). Therefore, it is important agriculture teachers have a sense of community with their co-workers.

Boyd (1992) views school culture as the interplay between three factors: the attitudes and beliefs of persons inside the school and the external environment; the cultural norms of the school; and the relationships between persons within the school. She asserts that any of these factors could serve as a barrier to change or prevent long-term improvement. Patterson, Purkey, and Parker

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(1986) summarized the general knowledge of school culture in America. One, a school's culture affects the behavior and achievement of students and can be manipulated by teachers and administrators. It provides focus, or lack of, that allows the school to accomplish its purpose of educating students. Finally, culture is unique to each school and changing it is a slow process.

Job satisfaction has been studied in many contexts in agricultural education. In terms of overall job satisfaction, Castillo, Conklin, and Cano (1999) found agriculture teachers in Ohio were satisfied with their jobs. Examining agriculture teachers by gender, they discovered that job satisfiers and dissatisfiers impacted job satisfaction differently for males and females. However, both genders perceived work-life balance and professional commitment as important factors of teachers' job satisfaction (Sorensen & McKim, 2014).

McKim and Velez (2015) discovered components of teachers' self-efficacy can help predict career commitment in early career teachers. This is consistent with research by Blackburn and Robinson (2008) who found a significant relationship exists between agriculture teachers' sense of efficacy and job satisfaction. Langley, Martin, and Kitchel (2014) found a portion of the variance in novice agriculture teachers' general self-efficacy can be explained by culture shock new agriculture teachers experience upon moving to a new community to begin their careers. Teachers' and pre-service teachers' efficacy has also been studied in very specific contexts and subjects, including SAE, mathematics, and science (Haynes & Stripling, 2014; Rubenstein, Thoron, & Estep, 2014; Ulmer et al., 2013).

It is important agriculture teachers feel included in the culture of their school. If the unique needs of agriculture teachers are not met by the administration and colleagues they work with, it could contribute to our profession's high attrition rate, and create a teacher shortage of "epidemic proportions" (Kantrovich, 2007). However, little to no research has been conducted examining the relationship between school culture and its influence on agriculture teachers' job satisfaction and efficacy. Understanding these relationships may help researchers and professionals find solutions for the teacher shortage.

Conceptual Framework

After a thorough review of literature, a substantive theory was developed connecting various aspects of school culture to teachers' job satisfaction and teacher self-efficacy. Five important aspects of school culture emerged from the review of literature in agricultural education: district administrative support; school administrative support; colleague support; parental support; and facility and financial support. The factors focus specifically on relational aspects of school culture. The study was also informed by Bandura's work on efficacy and studies in agricultural education regarding teacher job satisfaction (Blackburn & Robinson, 2008; DeLay & Washburn, 2013; Walker, Garton & Kitchel, 2004).

School Culture Factors

First, *support from district and school administrators* (treated as two variables – school building and district) has been shown to impact teachers' sense of worth in their school (Brunetti, 2006; Gu & Day, 2007; Morris, 2006). Lack of administrative support has been shown to be a common problem facing teachers and the most frequently cited reason for attrition (Boone & Boone, 2007; Walker, et al., 2004). These studies are consistent with literature related to collegiate work culture, as well. In addition, administration has shown to be a significant predictor of faculty job satisfaction (Foor & Cano, 2011).

Positive *relationships between colleagues* play a role in motivating teachers (Brunetti, 2006; Gu & Day, 2007). In a study of mid-career teachers, DeLay and Washburn (2013) found that collaboration between peers increased job satisfaction, as it “forms a welcoming culture and helps teachers advance relationships beyond acquaintanceship to develop a deeper understanding and tolerance for one another and their work” (p. 114). However, teachers who work with unmotivated peers or those who do not perform tasks associated with their jobs are shown to increase stress on agriculture teachers (Torres, Lawver, & Lambert, 2008). Boone and Boone (2007) found faculty relationships to be a moderate problem faced by beginning teachers.

Parental support, or lack thereof, can also affect a teacher's perception of school culture. Irate parents were frequently cited as an issue with both urban and rural teachers (Castro, Kelly, & Shih, 2010). Agricultural education's intracurricular programmatic structure involves creating an external support system for the students and program. Building parental and community support was shown to be one of the biggest challenges agriculture teachers faced in a study of NVATA Outstanding Young Members (Mundt & Connors, 1999).

In addition to support within the school district and community, other important aspects of school culture have been identified. Teachers espouse being provided proper facilities and an adequate budget to maintain those facilities by their school as important (Boone & Boone, 2009; Brunetti, 2001; Morris, 2006). This is especially true in agricultural education where teachers use specialized facilities and equipment in their daily practice. If these spaces and finances are not provided satisfactory level, it is cited as a negative aspect (Mundt & Connors, 1999; Torres, Lawver, & Lambert, 2008). Additionally, when studying Career and Technical Education teachers in Georgia, Morris (2006) found personal benefits provided by the school (salary, retirement benefits, health insurance) impacted teachers and their desire to remain in their profession. Additionally, – and outside of agricultural education – early math and science teachers noted low pay for a high workload as an area of concern (White, 2009). Boone and Boone (2009) found agriculture teachers rated financial rewards as the most severe problem faced throughout their career.

Teacher Self-efficacy and Job Satisfaction

Self-efficacy is the extent to which one believes she or he can complete a certain task or reach goals (Bandura, 1997). For teachers, it means the extent they feel competent to complete their duties as a classroom instructor. and teacher self-efficacy has been linked to higher performance in the classroom and a greater degree of persistence in the profession (Tschannen-Moran, Woolfolk, & Hoy, 1998). Verbal persuasion is one source of efficacy information considered when teachers develop a sense of self-efficacy. This verbal persuasion could come from colleagues or administrators in the form of encouragement or strategies related to overcoming obstacles in the classroom, instructional practices, or performance feedback. Having a high level of self-efficacy has been linked to having a high degree of job satisfaction (Blackburn & Robinson, 2008).

Job satisfaction in agricultural education has been studied thoroughly. In general, agriculture teachers are satisfied with their jobs (Bowen, 1981; Kitchel, et al., 2012; Tippens, et al., 2013). Compensation, working conditions, employment factors, and family and personal factors have all been shown to impact job satisfaction which, in turn, affects teacher retention and persistence (Tippens et al., 2013). According to Tippens et al. (2013), three-quarters of agriculture teachers in Georgia felt appreciated by their colleagues and school administration, which could explain why participants stated it was unlikely they would leave the profession prior to retirement.

Components of school culture affect both teacher self-efficacy and overall job satisfaction. Support from administrators, colleagues, and parents, as well as financial allocations have all shown to be important to teacher job satisfaction and the efficacy they hold in their teaching ability (see Figure 1). As the model illustrates, perceived support agriculture teachers receive from components of school culture may be significant influencers of their job satisfaction and teacher self-efficacy.

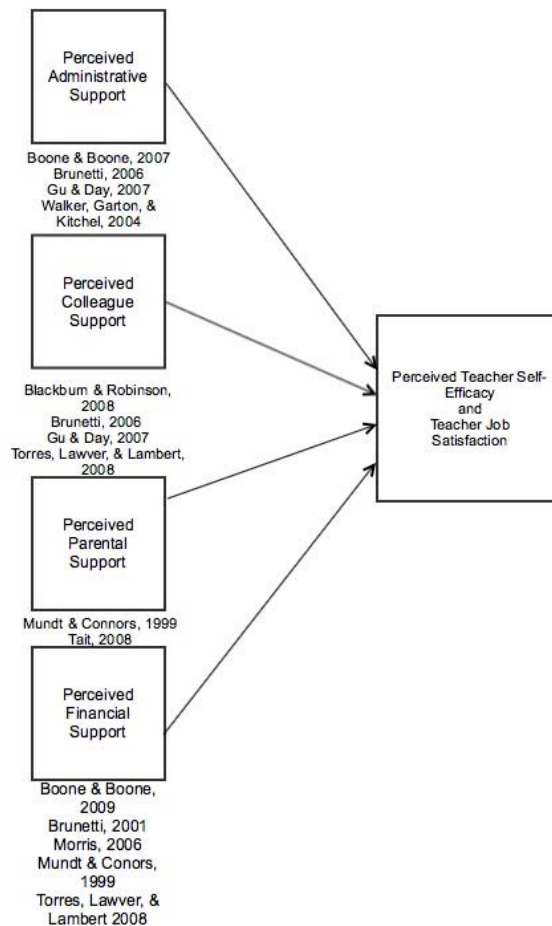


Figure 1. Conceptual model illustrating the relationship between components of school culture, job satisfaction, and teacher self-efficacy.

Purpose and Objectives

The purpose of this study is to examine how the combination of district and school administrative, colleague, parental, and financial support explained levels of teacher self-efficacy and job satisfaction in early career agriculture teachers. The specific objectives used to guide the study were:

1. Describe perceived levels of district and school administrative, colleague, parental, and financial support, teacher self-efficacy, and job satisfaction;

2. Determine if a linear combination of perceived administrative, colleague, parental, and financial support explains a significant proportion of the variance in teacher self-efficacy;
3. Determine if a linear combination of perceived administrative, colleague, parental, and financial support explains a significant proportion of the variance in teacher job satisfaction.

These objectives align with Priority #5 of the National Research Agenda: Efficient and Effective Agricultural Education Programs (Doerfert, 2011). Effective programs are in need of teachers intending to persist professionally in our field and this research asserts that school culture impacts a teacher's job satisfaction and efficacy, which affect their desire to continue teaching agriculture.

Methods

A relational survey design was developed for first and second year agriculture teachers in Kentucky, Missouri, and Wisconsin. To minimize frame error, state agricultural education supervisors were contacted and asked to provide a list of teachers who fit the description. A list of individuals ($N = 171$) was obtained, and a time and place sample was utilized. Oliver & Hinkle (1982) argued individuals in a specific group during a given time period can be representative of similar groups during similar time periods. Therefore, the justification can be made that sample extraction of inferential statistics can be made to future beginning teachers in Kentucky, Missouri, and Wisconsin. The participants were first and second year agriculture teachers in Kentucky, Missouri, and Wisconsin. The average participant was 25.8 years old ($SD = 5.14$). A majority of them hold only a bachelor's degree (91.4%), are traditionally certified (84.8%), and are female (67%).

A questionnaire was assembled to measure the perceived school culture and support, teacher self-efficacy, and overall job satisfaction of beginning agriculture teachers. The perceived support constructs were researcher developed from literature to examine district administrator (e.g. superintendent), school administrator (e.g. principal), school colleagues, parental, and financial support. The items were measured on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). An example item from the questionnaire was: I feel included as a staff member by my fellow teachers. Teacher self-efficacy was measured using the Ohio State Teacher Efficacy Scale (Woolfolk & Hoy, 1990). Woolfolk and Hoy (1990) recommended factor analysis upon completion of data collection to identify potential sub-areas. Their initial sub-constructs included Teacher Efficacy (pedagogical aspects of teaching) and Personal Efficacy (items important to learning, but not part of teaching (e.g. classroom management)). A researcher conducted factor analysis yielded three sub-constructs: Teacher Efficacy, Personal Efficacy, and Personal Efficacy-Ability to Influence Students. The third section of the questionnaire used a single item developed by Castillo and Cano (2004), to determine teacher job satisfaction which has shown to be as reliable as constructs (Castillo & Cano, 2004; Kitchel et al., 2012).

Face and content validity was established using a panel of experts ($N = 5$) on beginning agriculture teachers. Reliability was established by conducting a pilot test of the school culture and supports instrument on third through fifth year agriculture teachers in Kentucky, Missouri, and Wisconsin. The questionnaire was distributed online via Qualtrics to 15 teachers. Cronbach's alpha was calculated for the five major constructs. All constructs were found to have scores ranging from 0.85-0.90, with the exception of budget and facilities, which had a score of 0.64. However, a posthoc Cronbach's alpha for the budget and facilities construct had a score of 0.73. Posthoc reliability estimates for the other school culture variables ranged from 0.91-0.95.

Data were collected in February and March of 2015 via Qualtrics. An initial contact was made and five follow-up emails were sent. A response rate of 53.8% ($n = 92$) was achieved. To control for non-respond error, thirteen non-responders were contacted via telephone to participate in the study (Miller & Smith, 1983). A Mann-Whitney U test was conducted to determine if there were any statistical differences between non-responders and responders. Out of the eight constructs tested, only one (teacher efficacy, a sub-scale of teacher self-efficacy) indicated a difference. The researchers combined responders and non-responders ($n = 105$), but note there could be non-respondent error regarding the teacher efficacy sub-scale.

Data for objective 1 were calculated using means scores, standard deviations, and factor analysis. According to Woolfolk and Hoy (1990), factor analysis is appropriate to determine sub-scales for each administration of their teacher self-efficacy instrument. We have three sub-scales noted in the Findings. Objectives 2 and 3 were calculated using simultaneous enter method regression. The alpha level of .05 was established *a priori*. Collinearity diagnostics were conducted and it was determined there were no instances of multi-collinearity.

Results

Objective 1 sought to describe the perceived levels of support beginning teachers received from their district and school administration, colleagues, parents, and finances, as well as their overall job satisfaction and teacher efficacy (see Table 1). The mean scores for four of the perceived levels of support in areas related to school culture (district administration, building administration, colleague support, parental support, and financial support) were higher than 3.5 on a 5-point scale. Similarly, the three constructs created from the factor analysis conducted using the Teachers' Efficacy Scale (TES) indicated mean scores between 3.69 and 4.21 on a 6-point scale. Moreover, these teachers are also generally satisfied with their job ($M = 4.74$; $SD = 1.47$).

Objective 2 sought to determine if a linear combination of perceived administrative, colleague, parental, and financial support explains a significant proportion of the variance in teacher self-efficacy. Using the enter method, three simultaneous multiple regressions were calculated, one for each of the teacher self-efficacy sub-constructs. All variables were entered simultaneously. The analysis for Personal Efficacy - Influence on Students resulted in a statistically significant model ($p < .05$), which indicated only colleague support explained 9.1% of the variance (see Table 2). The analyses for Teaching Efficacy and Personal Efficacy indicated no statistically significant influencers.

Table 1

Means and Standard Deviations for School Culture Supports, Teacher Self-Efficacy, and Job Satisfaction (n=105)

	<i>Mean</i>	<i>Standard Deviation</i>
School Culture Supports (SCS) Instrument		
Facilities and Budget	3.19	1.02
District Administration	3.63	1.02
Parents and Guardians	3.85	0.89
Colleagues	3.96	0.97
School Administration	4.03	1.07
Teacher Efficacy Scale (TES) Instrument		
Teacher Efficacy	3.69	0.76
Personal Efficacy	3.97	0.69
Personal Efficacy Influence on Students	4.21	0.62
Overall Job Satisfaction	4.74	1.47

Note. SCS Scale: 1 = Strongly Disagree, 5 = Strongly Agree; TES Scale: 1 = Strongly Disagree, 6 = Strongly Agree; Job Satisfaction Scale: 1 = Strongly Dissatisfied, 7 = Strongly Satisfied

Table 2

Simultaneous Multiple Regression Analysis of Influence on Students as the Dependent Variable and Constructs Related to School Culture Support as Independent Variables (n = 105)

Variable	β	Std. Error	<i>t</i>	<i>p</i>	95% CI	Cohen's <i>d</i>
Constant		0.38	8.35	0.00	[2.41 – 3.91]	1.71
Colleagues	-0.23	0.08	-2.04*	0.04	[-.315 - -.004]	-0.42
School Administration	0.10	0.09	0.73	0.47	[-0.11 - 0.24]	0.15
Facilities and Budgets	0.10	0.07	0.99	0.32	[-0.07 – 0.21]	0.20
Parents and Guardians	0.17	0.10	1.36	0.18	[-0.06 - 0.32]	0.28
District Administration	0.19	0.08	1.64	0.10	[-0.03 – 0.29]	0.34

Note. $R^2_{Adj} = .09$ * $p < .05$

Objective 3 sought to determine if a linear combination of perceived administrative, colleague, parental, and financial support explains a significant proportion of the variance in teacher job satisfaction. A simultaneous multiple regression was calculated with all variables being entered at the same time to determine the relationship (see Table 3). The analysis resulted in statistically significant model ($p < .001$). District Administration, School Administration, Colleague, and Financial Support were all determined to be statistically significant accounting for 64% of the variance. Parental support was determined not to be a significant contributor.

Table 3

Simultaneous Multiple Regression Analysis of Job Satisfaction as the Dependent Variable and Constructs Related to School Culture Support as Independent Variables (n = 105)

Variable	β	Std. Error	<i>t</i>	<i>p</i>	95% CI	Cohen's <i>d</i>
Constant		0.61	-2.87	0.005	[-2.47 - -0.45]	-0.59
Parental	0.04	0.13	0.50	0.62	[-0.19 - 0.32]	0.10
Financial	0.15	0.09	2.42*	0.02	[0.04 - 0.41]	0.50
District Administration	0.23	0.11	3.14*	0.002	[0.12 - 0.55]	0.65
School Administration	0.38	0.12	4.48*	0.001	[0.29 - 0.75]	0.92
Colleagues	0.32	0.11	4.60*	0.001	[0.28 - 0.70]	0.94

Note. $R^2_{Adj} = .64$ * $p < .05$

Discussion

The study has several limitations. First, only beginning agriculture teachers in Kentucky, Missouri, and Wisconsin were surveyed. While insight into specific states is important, it does not provide information about novice teachers on a national scale. Secondly, caution should be used were considering non-responders in regards to the teacher efficacy sub-construct. Non-responders had statistically different teacher efficacy than the respondents. However, it should be noted the teacher efficacy sub-construct did not have any statistically significant influencers.

For the first objective, we sought to describe perceived levels of school culture and support, teacher self-efficacy, and job satisfaction among novice teachers. Beginning agriculture teachers felt supported at school, were efficacious in regard to teaching, and were satisfied in their jobs. It is important to note the large variance for job satisfaction, which is consistent with previous studies (Kitchel et al., 2012). School districts in Kentucky, Missouri, and Wisconsin generally provided satisfactory support for agriculture programs and have novice teachers who feel efficacious in the classroom.

Objective 2 sought to determine if a linear combination of perceived administrative, colleague, parental, and financial support explains a significant proportion of the variance in teacher

self-efficacy. The teacher self-efficacy construct was sub-divided into three areas: Personal Efficacy, Personal Efficacy - Influence on Students, and Teaching Efficacy. It was concluded perceived colleague support is influential in regards to Personal Efficacy – Influence of Students sub-construct. However, no factors emerged as influential in regarding Teaching Efficacy and Personal Efficacy. The relationships between staff members a building impact how beginning teachers perceive their influence on students.

The third objective sought to determine if a linear combination of perceived administrative, colleague, parental, and financial support explains a significant proportion of the variance in teacher job satisfaction. It was concluded perceived school administration, colleague, district administration, and financial support all influenced novice teacher job satisfaction, which is consistent with literature (Boone & Boone, 2009; Brunetti, 2006; Foor & Cano, 2011; Gu & Day, 2007; Morris, 2006; Mundt & Connors, 1999; Torres, Lawver, & Lambert, 2008; White, 2009). Previous studies in agricultural education have been descriptive in nature, asking participants to list concerns or describe challenges. This study examined the influence school culture supports has on beginning agriculture teacher job satisfaction. It is important to note how much of the variance can be explained by school culture support factors. Littrell, Billingsley and Cross (1994) noted school support was a predictor of job satisfaction but did not quantify its influence. Outside of education, another study found only 12% of the variance in job satisfaction among traffic enforcement agents was related to support (Baruch-Feldman, Brondolo, & Ben-Duagny, 2002). While Acker (2004) noted social workers who experienced social support at work were more likely to be satisfied with their job.

Relationships, particularly the perceived support component, within a school district are significant influencers of beginning agriculture teachers' job satisfaction and teacher self-efficacy. It is not just relationships with students early career agriculture teachers need to build, but relationships with their peers and administrators too. Pre-service and beginning teachers should be made aware of the importance of administrative relationships. Even though previous research has found the principal's leadership style has on teacher job satisfaction (Bogler, 2001), beginning teachers should still be encouraged to develop positive relationships with administration. Teacher induction and mentoring programs should focus on helping beginning teachers advocate and build positive relationships school and district administrators and colleagues. Teachers should also be made aware of and encouraged to use materials promoting the value of agricultural education programs to help develop relationships with their administrators.

A review of twenty years' worth of Agricultural Education Magazine failed to yield any articles specific to building relationships within a school setting. Are relationships within a school not important to agriculture teachers? Should we not help novice teachers develop those vital relationships? The National Association of Agricultural Educators (NAAE) focuses primarily on political advocacy; however, many of their suggestions could be apply to building relationships with administration and colleagues. Beginning agriculture teachers should be encouraged to take a proactive role in engaging administrators in a variety of activities to showcase the local program. Such activities may include: invited classroom and laboratory visits, school board presentations, FFA events, and more. Sharing students' success with administration and colleagues is another activity they suggest.

This area of inquiry would benefit from further research. Additional research should be conducted to explore the relationship between beginning agriculture teachers and their school administrator. Further questions to be explored include how do new teachers define and quantify support from their principal and why perceived support and job satisfaction are so closely related. Additional research should be conducted to determine how early career teachers struggle with

administrator relationships. Finally, research should be conducted with mid to late career agriculture teachers to determine how they have been successful at building relationships with various administrators

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