# A National Study of Work-Family Balance and Job Satisfaction among Agriculture Teachers

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#### Abstract

This national study sought to extend previous research on the work-family balance (WFB) ability of secondary school agriculture teachers. We utilized data from a simple random sample of agriculture teachers to explore the relationships between work and family characteristics, WFB ability, and job satisfaction. Work role characteristics of interest included weekly work hours, years of teaching experience, and average number of students per class. Family role characteristics included marital status and number of children. Additionally, we considered the influence of other life roles on WFB ability. The number of weekly work hours and being married were significant, negative predictors of WFB ability, while years of teaching experience, average number of students per class, other life roles, and number of children were not statistically significant. In total, work and non-work characteristics accounted for 19% of the variance in the WFB ability of secondary school agriculture teachers. Additionally, teachers in this study reported only moderate levels of WFB ability and job satisfaction. Finally, a significant, positive relationship between WFB ability and job satisfaction was identified. The findings from this research are discussed using the conservation of resources theory, with recommendations and implications highlighted for the agriculture teaching profession.

**Keywords:** work-family balance; job satisfaction; family role; work hours

## **Introduction and Theoretical Framework**

Research exploring the work-family balance (WFB) ability of secondary school agriculture teachers is an emerging theme in agricultural education literature (Crutchfield, Ritz, & Burris, 2013; Lawver, 2007; Murray, Flowers, Croom, & Wilson, 2011; Sorensen & McKim, 2014). This theme emerged, in part, due to the suggested relationship between teacher attrition, a continued concern within agricultural education (Foster, Lawver, & Smith, 2014), and teachers' inability to balance multiple life roles (Grandey & Cropanzano, 1999). WFB ability, the construct of interest in this study, refers to an individual's capacity to successfully manage the demands of both work and family roles. Therefore, research into WFB ability helps to illuminate a critically important aspect of teacher retention. The purpose of this study was to analyze the antecedents and outcomes of WFB ability among a national sample of secondary school agriculture teachers.

In an effort to understand WFB ability among agriculture teachers, we utilized the conservation of resources (COR) theory as our framework (Grandey & Cropanzano, 1999; Hobfoll, 1989). COR theory has been widely used in studies examining the interface between work and family roles among teachers outside of agricultural education (Grandey & Cropanzano, 1999). More specifically, recent research within education has explored job stress and burnout among

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teachers, as framed by the COR theory (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Betoret, 2006; Klusmann, Kunter, Trautwein, Lüdtke, & Baumert, 2008; Okonkwo, 2013; Schorn & Buchwald, 2006).

Conservation of resources theory suggests individuals seek to build and protect resources such as energies (e.g. time), conditions (e.g. married status, parental status, tenure), and personal characteristics (e.g. self-esteem, satisfaction) within their life roles. When these resources are lost or threatened, a psychological stress reaction develops, such as dissatisfaction or depression, which can lead to attrition within a life role (Grandey & Cropanzano, 1999). Time is one of the more challenging resources to balance between multiple life roles. Time in one life role has the potential to be lost or threatened, especially when increased obligations alter the time commitment in other life roles (Grandey & Cropanzano, 1999). For example, the time an agriculture teacher spends with his or her family may be threatened when the teacher coaches an additional FFA career development team. In this study, we focused on secondary school agriculture teachers' ability to balance time between work, family, and other life roles.

Research supports the notion that agriculture teachers often navigate roles outside of teaching (Goode & Stewart, 1981). As a result, resources such as time must be protected to increase satisfaction and reduce stress within all life roles. The demanding nature of the agriculture teaching profession (Lambert, Ball, & Tummons, 2011; Lawver, 2007; Murray et al., 2011) necessitates a robust WFB ability in order to protect time, increase satisfaction, and reduce stress. In this study, we considered how the obligations of work and family roles among agriculture teachers relates to their WFB; additionally, we analyzed how WFB ability was related to job satisfaction, an essential element to the retention of agriculture teachers in the profession (Blackburn & Robinson, 2008).

## **Literature Review**

The purpose of this research was to explore how work and family roles relate to agriculture teachers' WFB ability as well as the relationship between WFB ability and job satisfaction. Within this review of literature, we explored (a) the workplace variables that may influence WFB ability, (b) family and other life roles that may influence WFB ability, and (c) existing research into the relationship between WFB ability and job satisfaction among agriculture teachers.

# **Workplace Characteristics to Consider**

Existing research has identified an inverse relationship between the number of hours worked and WFB ability among agriculture teachers. More specifically, research suggests working long hours is one of the major challenges faced by agriculture teachers (Miller & Scheid, 1984; Moore & Camp, 1979; Mundt & Connors, 1999). High teacher stress has been linked to these overburdening workloads (Boland, King, Williams, Duncan, & Ricketts, 2010; Boone & Boone, 2007; Edwards & Briers, 1998; Lambert et al., 2011; Moore & Camp, 1979; Mundt & Connors, 1999; Myers, Dyer, & Washburn, 2005; Newcomb, Betts, & Cano, 1987; Talbert, Camp, & Heath-Camp, 1994; Torres, Lawver, & Lambert, 2009). Based on prior research, we included the number of hours agriculture teachers work during the week and weekend as a potential variable influencing WFB ability.

In addition to work hours, we identified the importance of years of teaching experience when analyzing WFB ability. Grzywacz and Marks (2000) found younger employees reported less WFB ability than older employees. This research highlights more experienced employees have likely gained additional expertise managing the demands of their work role without infringing upon family responsibilities (Cinamon & Rich, 2005). Therefore, in this study of WFB ability, we considered years of classroom experience as a potential predictor.

Because time is the central resource of focus within this study, characteristics of the workplace that could affect the workload of agriculture teachers, like the number of students per class, should also be considered. Additionally, research outside of agricultural education has linked class size as a negative predictor of WFB ability (Theobald, 1990), suggesting larger classes require additional resources within the workplace. Therefore, we considered the number of students per class in our analysis of WFB ability among secondary school agriculture teachers.

## Family and Other Life Role Characteristics to Consider

Many characteristics of the family role can take time and energy away from the work role, resulting in difficulty balancing work and life roles. One family domain characteristic requiring time and energy is marriage. However, the literature has produced mixed findings concerning the relationship between marital status and WFB ability, with many studies failing to confirm a statistically significant relationship (Grandey & Cropanzano, 1999). In agricultural education, Sorensen and McKim (2014) found marital status had no effect on the ability of Oregon agriculture teachers to balance their work and family responsibilities. However, Bruening and Hoover (1991) found agriculture teachers, in a national study, reported marriage as the least positive factor influencing their performance as a teacher. Additionally, Odell, Cochran, Lawrence, and Gartin (1990) found the marital satisfaction of an agriculture teacher's spouse had a significant influence on the job satisfaction of the teacher. Due to the discrepancy in findings and the limited research among agriculture teachers from across the country, we sought to examine the relationship between WFB ability and marital status.

In addition to the potential for marriage to influence WFB ability, the number of children an agriculture teacher is responsible for may also influence the time requirements in their family role. Within agricultural education literature, the number of children an agriculture teacher is responsible for at home has been identified as a negative predictor of job satisfaction (Odell et al., 1990) and job performance (Bruening & Hoover, 1991). Despite these findings, Sorensen and McKim (2014) found the presence of dependent children had no effect on the ability of Oregon agriculture teachers to balance work and family responsibilities. Additionally, research outside agricultural education has failed to identify a significant relationship between number of children and WFB ability (Cinamon & Rich, 2005). However, discrepancy in findings and lack of a current, national analysis provides merit for inclusion in this research.

Work and family roles have received most of the attention in research because work and family are the principal components of people's lives and a great deal of time and energy is often spent by individuals trying to manage the responsibilities of these roles. However, the COR theory reaches across multiple life roles outside work and family. In agricultural education, it is common for teachers to take on multiple roles within the job, community, church, and family (Goode & Stewart, 1981). Therefore, we examined life roles beyond just the work and family domains when considering the WFB ability of agriculture teachers.

## WFB Ability and Job Satisfaction

Existing research exploring the level of WFB ability among agriculture teachers yields conflicting results, with some studies suggesting agriculture teachers struggle to balance multiple life roles (Foster, 2001; Murray et al., 2011; Sorensen & McKim, 2014) and other research identifying high WFB ability among agriculture teachers (Crutchfield et al., 2013). While there is disagreement in the level of WFB ability, researchers agree that WFB ability is an important variable for continued analysis in agricultural education (Crutchfield et al., 2013; Lawver, 2007; Murray et al., 2011). The time commitment associated with being an agriculture teacher leaves little time to devote to other life roles (Lawver, 2007; Murray et al., 2011; Sorensen & McKim,

2014; Straquadine, 1990). According to the COR theory, excessive time constraints strain WFB ability and can result in job dissatisfaction.

Despite reported work-family balance issues among agriculture teachers and high workloads, studies indicate agriculture teachers are largely satisfied with their jobs (Cano & Miller, 1992; Castillo, Conklin, & Cano, 1999; Chenevey, Ewing, & Whittington, 2008; Grady & Burnett, 1985; Kitchel et al., 2012; Ritz, Burris, & Brashears, 2013; Walker, Garton, & Kitchel, 2004). However, the positive relationship between WFB ability, career commitment (Chaney, 2007; Crutchfield et al., 2013; Sorensen & McKim, 2014), and job satisfaction (Sorensen & McKim, 2014) suggests WFB ability is a variable worthy of analysis within agricultural education.

Additional justification for exploring WFB ability emerges from identified limitations of research on the WFB ability of agriculture teachers. Research exploring the relationship between WFB ability, job satisfaction, and career commitment has been limited to a specific gender (Foster, 2001), state (Chaney, 2007; Murray et al., 2011; Sorensen & McKim, 2014), or geographic region (Crutchfield et al., 2013). In this study, we sought to build from existing research by conducting the first national analysis of the relationship between WFB ability and job satisfaction. Additionally, we sought to extend the literature by exploring the relationship between work and family variables and their relationship with agriculture teachers' WFB ability within one, comprehensive model. As the literature on this topic has come from only a few states and regions, this national research extends the literature to encompass the entire profession.

In addition to the identified limitations within the literature exploring the WFB ability of agriculture teachers, teacher turnover may have contributed to the current shortage of qualified agriculture teachers (Foster et al., 2014; Kantrovich, 2010). Insights into the ability of agriculture teachers to manage, cope, and prioritize multiple life roles can provide valuable information into agriculture teachers' job satisfaction and intent to remain in the profession. Figure 1 provides a conceptual model for this study. The model represents WFB ability as a critical element to building and protecting resources within work, life, and other life roles. For this study, the outcome of WFB ability we sought to understand was job satisfaction.

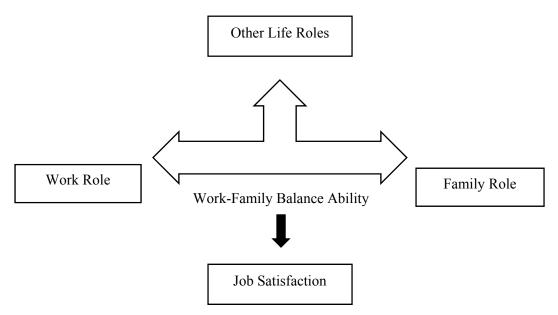


Figure 1. A conceptual model of work roles, family roles, other life roles, work-family balance ability, and job satisfaction (adapted from Sorensen & McKim, 2014).

# **Purpose and Objectives**

The purpose of this research was to extend existing literature on the WFB ability of secondary school agriculture teachers by conducting a national analysis of the relationship between work variables, family variables, WFB ability, and the relationship between WFB ability and job satisfaction. Given the identified relationships between WFB ability, career commitment, and job satisfaction (Chaney, 2007; Crutchfield et al., 2013; Sorensen & McKim, 2014), this analysis addresses National Research Priority three, which calls for research into a "sufficient scientific and professional workforce" (Roberts, Harder, & Brashears, 2016, p. 9). The following research objectives guided the development and execution of our research:

- 1. Describe the work and family characteristics of responding teachers including other life roles
- 2. Determine the relationship between work and family characteristics and agriculture teachers' work-family balance ability.
- 3. Determine the relationship between work-family balance ability and job satisfaction among secondary school agriculture teachers.

## Methods

We utilized survey methods to determine the work characteristics, family characteristics, work-family balance ability, and job satisfaction of a national sample of secondary school agriculture teachers. The instrument used in this research was designed and distributed to a simple random sample of agriculture teachers in the United States using the online survey system Qualtrics. We opted for online survey methodology because it provided low cost data collection from a large geographical area with relative ease to input data from a large sample (Dillman, 2007). Data collected for this study are part of a larger research project exploring the work and family interface among school-based agricultural educators.

The target population for this study included all secondary school agriculture teachers during the 2014-2015 school year who self-identified as being active participants in a family role. Secondary school agriculture teachers were identified as those teachers who taught at least one middle school or high school agriculture class during the 2014-2015 school year. In addition to participants being secondary school agriculture teaches, we sought teachers who self-identified as active participants in a family role. Family role participation, defined by the researchers as "any and all committed relationships that might influence how time is invested in the non-work domain," was an important qualifier given our interest in the ability of teachers to balance work and family roles.

The initial sample for this study was pulled from the list of secondary school agriculture teachers managed by the National FFA Organization. Using sample size determination formulas (Cochran, 1977; Krejcie & Morgan, 1970), we requested an appropriate sample size of 778 agriculture teachers. The survey instrument was sent utilizing protocols from Dillman's (2007) tailored design method to all 778 potential respondents. A total of 75 emails bounced and 34 respondents did not meet the population parameters (i.e. not secondary school agriculture teachers or did not self-identify as being active participants in a family role). Of the remaining 669 potential respondents, 234 (n = 234; 34.98% response rate) provided useable responses.

Our goal was to infer our findings to the population of secondary school agriculture teachers during the 2014-2015 school year; therefore, we considered the potential for non-response bias using the guidelines outlined by Lindner, Murphy, and Briers (2001). Due to the limited contact information provided in the frame (i.e. only email and teacher names were provided), no attempt was made to contact non-respondents via telephone. Thus, the data of on-time respondents (n = 199) were compared with late-respondents (n = 35) for the variables of interest using an

independent samples *t*-test to determine if any systematic differences existed (Lindner et al., 2001). No statistically significant differences existed between on-time and late respondents (i.e. *p*-values > .05) were identified for the variables of interest. Therefore, we considered non-response error to be insignificant to this study (Lindner et al., 2001; Miller & Smith, 1983).

The variables of interest for our analysis were workplace characteristics, family characteristics, work-family balance ability, and job satisfaction. The workplace characteristics included weekly work hours during the regular school year, years of teaching experience, and average number of students per class. Family characteristics included marital status and number of children. We also controlled for other life roles by including a variable, ranging from zero to six, in which respondents indicated the number of additional life roles they were involved in from a list of potential life roles (i.e. student, church member, coach, employee outside of agriculture teaching, community leader, or other). Controlling for external life roles provided a better glimpse into how agriculture teachers balance their agricultural educator and family responsibilities in light of other life roles.

The WFB ability and job satisfaction of responding agriculture teachers were measured using previously established instruments. WFB ability was measured using a three-item instrument, originally developed by Chaney (2007). An example item from this construct states, "I am able to balance quality time between my work and my family commitments." Job satisfaction was measured using the five-item construct, initially developed by Judge, Bono, and Locke (2000). An example item from this construct states, "I find real enjoyment in my work." Participants rated each item within the two constructs on a six-point scale ranging from one (strongly disagree) to six (strongly agree) with higher responses indicating higher WFB ability or higher job satisfaction, respectively.

Face and content validity for the instrument were evaluated by a panel of experts which included professors and graduate students within the College of Education and College of Agricultural Sciences at Oregon State University. Additionally, the instrument was pilot tested for reliability among 30 career and technical educators in Oregon. Using the established minimum reliability level of .70 (Nunnally & Bernstein, 1994), results from the pilot test indicated the constructs of interest were reliable (i.e. Cronbach's alphas for job satisfaction = .86 and WFB ability = .91). Additionally, post-hoc analyses revealed the constructs of interest met the established level of reliability among the population of interest (Streiner, 2003) (i.e. Cronbach's alphas for the post-hoc analysis for job satisfaction = .88 and WFB ability = .92).

Research objective one (i.e. describe the work and family characteristics of responding teachers) was accomplished by analyzing and presenting demographic data. Research objective two (i.e. determine the relationship between work and family characteristics and agriculture teachers' WFB ability) was achieved using a multiple linear regression with weekly work hours, years of teaching experience, average number of students per class, marital status, number of children, and other life roles as independent variables and WFB ability as the dependent variable. Research objective three (i.e. determine the relationship between work-family balance and job satisfaction among secondary school agriculture teachers) was analyzed using a simple linear regression with WFB ability as the independent variable and job satisfaction as the dependent variable. For research objectives two and three, which utilized inferential statistics, an *a priori* statistical significance level of *p*-value < .05 was established.

Before data analysis, we considered the assumptions of parametric data and the assumptions of regression. Specific to parametric data, we found the variances to be the same throughout the data and the data to be independent, meeting the established assumptions. However, one variable (i.e. weekly work hours) was not normally distributed due to extreme outliers. This issue was remedied by trimming and replacing outlier values with the value of the most extreme response not identified as a statistical outlier (Guttman & Smith, 1969; Moyer & Geissler, 1991).

Additionally, data were analyzed for the assumptions of multiple linear regression (i.e. multicollinearity, homoscedasticity, and linearity between predictor and outcome variables) with data meeting the established assumptions.

# **Findings**

The first objective of this study was to describe the work and family characteristics of agriculture teachers, including other life roles. For workplace variables, responding agriculture teachers reported working, on average, 55.77 hours (SD = 10.34) per regular work week plus an additional 4.04 hours (SD = 3.33) per weekend during the regular school year for a total of 59.81 hours per week. Responding agriculture teachers had an average of 17.75 years of teaching experience (SD = 10.22) and taught an average of 20.19 students per class (SD = 7.83). For the family variables, 93.24% of responding teachers indicated they were married at the time of data collection. Additionally, responding agriculture teachers indicated having responsibility for an average of 1.67 (SD = 1.42) children.

Participants were asked to select from a list of statements regarding the question, "besides 'teacher,' what other life roles do you actively participate in?" The roles of spouse and parent were the most commonly selected responses among all participants while student and coach were the least selected roles. Table 1 shows a breakdown of participation in other life roles outside of teaching. Respondents were also given on open ended prompt in which they could list additional life roles not included on the list; responses included caregiver for elderly or special needs adults, volunteer emergency personnel, horse trainer or riding instructor, referee or sports team member, researcher, actor, and adjunct college instructor.

Table 1 Respondents' Active Participation in Other Life Roles (n = 228)

Life Roles of Respondents	f	%
Spouse (e.g., husband, wife, widowed)	201	88.16
Parent (e.g., mother, father)	173	75.88
Church member (e.g., volunteer)	146	64.04
Community leader (e.g., civic leader)	118	51.75
Employee/ manager/ owner (e.g., farmer)	86	37.72
Coach- non Ag. Ed. (e.g., athletics)	55	24.12
Student	40	17.54

The second objective was to determine the relationship between work and family characteristics and agriculture teachers' WFB ability (see Table 2). Agriculture teachers in this study slightly agreed they could balance work and family roles (M = 4.02, SD = 1.06). We simultaneously entered the work and family variables into a regression as independent variables with WFB ability as the dependent variable and other life roles as a control variable. In combination, the work and family characteristics produced a statistically significant model (F = 6.63; p-value < .001) and accounted for 19% of the variance in agriculture teachers' WFB ability

 $(R^2 = .19)$ . The number of hours agriculture teachers reported working each week, including weekends, during the regular school year was a statistically significant, negative predictor of WFB ability ( $\beta = -.37$ ; *p*-value < .001). Additionally, the indicator variable for teachers being married was a statistically significant, negative predictor of WFB ability ( $\beta = -.16$ ; *p*-value = .018).

Table 2
Relationship between Work and Family Characteristics and Work-Family Balance

	Dependent Variable: Work-Family Balance Ability					
Variable	Zero-order correlation (r)	<i>p</i> -value	В	SEB	β	<i>p</i> -value
Weekly Work Hours	38	<.001	03	.01	37	<.001
Years of Teaching Experience	.18	.009	.01	.01	.11	.110
Average Students per Class	.01	.872	.01	.01	.04	.532
Married	16	.021	73	.31	16	.018
Number of Children	.11	.125	.03	.06	.03	.652
Other Life Roles	.02	.805	01	.07	01	.927

Note. R = .43,  $R^2 = .19$ , F = 6.63, p-value < .001. Weekly work hours included average hours worked during week and weekend within a regular school year. Married variable was coded as an indicator variable with zero "Unmarried" and one "Married." Other Life Roles was coded from zero to six based on the total number of external life roles (e.g. coach, community leader) respondents indicated they participated in. Work-family balance ability items scaled from one (strongly disagree) to six (strongly agree). An a priori statistical significance level of p-value < .05 was established.

The third research objective sought to determine the relationship between WFB ability and responding agriculture teachers' job satisfaction (see Table 3). Agriculture teachers slightly agreed to agreed they were satisfied with their job as an agriculture teacher (M = 4.67, SD = 0.89). The simple linear regression model with WFB ability as the independent variable and job satisfaction as the dependent variable was statistically significant (F = 20.52; p-value < .001) with 8% of the variance in agriculture teachers' job satisfaction ( $R^2 = .08$ ) being accounted for by WFB ability ( $\beta = .29$ ; p-value < .001).

Table 3

Relationship between Work-Family Balance Ability and Job Satisfaction

	Depe	Dependent Variable: Job Satisfaction					
Variable	Zero-order correlation $(r)$	<i>p</i> -value	В	SEB	β	<i>p</i> -value	
WFB Ability	.29	<.001	.24	.05	.29	<.001	

Note. R = .29,  $R^2 = .08$ , F = 20.52, p-value < .001. Work-family balance ability items scaled from one (*strongly disagree*) to six (*strongly agree*). An *a priori* statistical significance level of p-value < .05 was established.

# Conclusions, Recommendations, and Discussion

The purpose of this study was to strengthen and further existing literature within agricultural education on the work-family balance ability of secondary school agriculture teachers. Specifically, our goal was to add new understandings about work-family balance by conducting the first known national study of this construct within agricultural education. Prior to this research, only a few states were represented in WFB research, creating a substantial gap in the literature on WFB ability and job satisfaction. Our objectives were achieved by collecting data on work characteristics, family characteristics, WFB ability, and job satisfaction from a simple random sample of agriculture teachers in the National FFA database. In the first objective, we analyzed the work and family characteristics of responding teachers. This information provides valuable data, from a national sample of agriculture teachers, concerning work and family characteristics during the 2014-2015 school year.

On average, agriculture teachers in this study worked over 55 hours per work week and close to 60 hours per week when weekend hours were included. These findings are consistent with existing research indicating agriculture teachers often work well beyond a 40-hour work week (Chaney, 2007; Murray et al., 2011; Torres et al., 2009). Agriculture teachers working excessive work hours may be the result of inefficiency or inability to complete necessary job requirements in a timely manner, which would have implications for professional development opportunities. On the other hand, these findings could be an indication that the responsibilities of an agriculture teacher do indeed require an excessive time investment. In either case, additional research is needed to understand the job expectations and work efficiency of secondary school agriculture teachers in an effort to balance the work required with the amount of work that can be completed by agriculture teachers in a reasonable time frame.

In the second research objective, we identified a combination of work and family variables that comprised a significant model of perceived WFB ability among agriculture teachers. Specifically, the number of work hours and being married were shown to relate to significantly lower WFB ability. Our findings indicate the more hours agriculture teachers invest in their job, the lower their WFB ability. These findings are consistent with the literature indicating many of the common problems agriculture teachers face relate to excessive work hours (Chaney, 2007; Miller & Scheid, 1984; Moore & Camp, 1979; Mundt & Connors, 1999; Torres et al., 2009) and the challenge of balancing work and family responsibilities (Edwards & Briers; 1999; Mundt & Connors, 1999; Murray et al., 2011; Myers et al., 2005; Torres et al., 2009).

The conservation of resources theory describes how individuals attempt to collect and conserve resources (i.e., energy, status, and personal value) within their work and family roles (Grandey & Cropanzano, 1999; Hobfoll, 1989). Our study suggests working additional hours as an agriculture teacher and being married require additional resources in both the work and family roles

that may limit the ability of an agriculture teacher to balance work and family. As a profession, we should explore potential options for reducing the time obligations of the agriculture teacher's work role. This may require reducing the work expectations (e.g., paperwork, hours of FFA activities, and hours of professional development) of teachers, educating teachers on work efficiency strategies, and/or revising cultural norms regarding the measure of successful agriculture teaching. One practical recommendation for teacher educators is to showcase successful, young, practicing teachers who are working reasonable hours within teacher education programs. Additionally, we recommend training for agriculture teachers in the use of volunteers in an effort to reduce their individual workload.

Often, teachers may not actually leave the physical boundaries of the family domain to accomplish work-related activities such as planning lessons or grading student work. Similarly, family members are often able to participate in the agriculture teacher's work roles, such as attending FFA activities after school. As a result, time resources can be shared and preserved, potentially maintaining job satisfaction (Hobfoll, 1989). The fact that number of work hours per week was a significant predictor of WFB ability suggests increasing opportunities for family members to engage in work role activities may increase WFB ability. In order for this to be realized, a family-friendly work culture must exist throughout schools coupled with professional development opportunities which encourage teachers with families to participate. We recommend research examining the work-family culture within agricultural education and how this culture influences shared time between work and family roles, as well as the relationship between work-family culture, WFB ability, and job satisfaction.

The importance of supporting the WFB ability of secondary school agriculture teachers is magnified by the findings from our third research objective in which a significant, positive relationship was identified between WFB ability and job satisfaction. These findings indicate reduced WFB ability is related to reduced satisfaction. These findings support previous research in agricultural education which has found a significant relationship between WFB ability and job satisfaction (Sorensen & McKim, 2014). Furthermore, the results support the conservation of resources theory, which links ability to balance multiple life roles with satisfaction (Grandey & Cropanzano, 1999; Hobfoll, 1989). In total, these findings reaffirm continued investigation into factors that influence WFB ability; specifically, we recommend research exploring variables which may potentially enhance the WFB ability of agriculture teachers (e.g., use of volunteers, time management strategies, work efficiency characteristics).

Within this study, respondents reported only moderate levels of WFB ability and job satisfaction, which suggests teachers may always be susceptible to attrition when time obligations shift in any life role. Research should explore how changing obligations in multiple life roles (e.g., marriage, childbirth, additional work obligations) influence teacher attrition. Additionally, research should be conducted to identify if a threshold for job dissatisfaction and/or reduced WFB ability exists, in which teachers become more likely to leave the profession.

This study sought to extend previous research on the topics of work-family balance and job satisfaction among agriculture teachers by providing data from a national sample of teachers. With continued changes in the profession as well as home and work domains throughout society, current research on the work and family interface is essential. Agricultural education is a demanding profession (Lambert et al., 2011; Lawver, 2007; Murray et al., 2011), yet the impact on students can be extraordinary. However, the demands of being an agriculture teacher appear to limit teachers' ability to balance their work and family which, in turn, reduces their satisfaction in the profession. This is evidence of a dangerous spiral of increased work, inability to balance work and family, and job dissatisfaction. This spiral has the potential to fuel continued attrition from the agriculture teaching profession. The agriculture teaching profession must address this issue by

answering the question, how do we make the same positive impact on students while supporting the WFB ability of agriculture teachers?

## References

- Bakker, A., Hakanen, J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology*, 99(2), 274. doi: 10.1037/0022-0663.99.2.274
- Betoret, F. D. (2006). Stressors, self-efficacy, coping resources, and burnout among secondary school teachers in Spain. *Educational Psychology*, 26(4), 519-539. doi: 10.1080/01443410500342492
- Blackburn, J. J., & Robinson, J. S. (2008). Assessing teacher self-efficacy and job satisfaction of early career agriculture teachers in Kentucky. *Journal of Agricultural Education*, 49(3), 1-11. doi: 10.5032/jae.2008.03001
- Boland, K., King, D., Williams, J., Duncan, D., & Ricketts, J. C. (2010). Perceived job related stressors of new and beginning agriscience teachers in Georgia. *Journal of Southern Agricultural Education Research*, 60, 40-51.
- Boone, H. N., & Boone, D. A. (2007). Problems faced by high school agricultural education teachers. *Journal of Agricultural Education*, 48(2), 36-45. doi:10.5032/jae.2009.01021
- Bruening, T. S., & Hoover, T. S. (1991). Personal life factors related to effectiveness and satisfaction of secondary agriculture teachers. *Journal of Agricultural Education*, 50, 21-32. doi: 10.5032/jae.1991.00037
- Cano, J., & Miller, G. (1992). An analysis of job satisfaction and job satisfier factors among six taxonomies of agricultural education teachers. *Journal of Agricultural Education*, 33(4), 9-16. doi:10.5032/jae.1992.03040
- Castillo, J. X., Conklin, E. A., & Cano, J. (1999). Job satisfaction of Ohio agricultural education teachers. *Journal of Agricultural Education*, 40(2), 19-27. doi:10.5032/jae.1999.02019
- Chaney, C. A. (2007). Work-life variables influencing attrition among beginning agriscience teachers of Texas (Doctoral dissertation). Retrieved from http://repositories.tdl.org/
- Chenevey, J. L., Ewing, J. C., & Whittington, M. S. (2008). Teacher burnout and job satisfaction among agricultural education teachers. *Journal of Agricultural Education*, 49(3), 12-22. doi: 10.5032/jae.2008.03012
- Cinamon, R. G., & Rich, Y. (2005). Work-family conflict among female teachers. *Teaching and Teacher Education*, 21, 365-378.
- Cochran, W. G. (1977). Sampling techniques (3<sup>rd</sup> ed.). New York, NY: John Wiley & Sons.
- Crutchfield, N., Ritz, R., & Burris, S. (2013). Why agricultural educators remain in the classroom. *Journal of Agricultural Education*, 54(2), 1-14. doi:10.5032/jae.2013.02001
- Dillman, D. A. (2007). *Mail and internet surveys: The tailored design method* (2<sup>nd</sup> ed.). Hoboken, NJ: John Wiley & Sons, Inc.
- Edwards, M. C., & Briers, G. E. (1998). Assessing the inservice needs of entry-phase agriculture teachers in Texas: A discrepancy model versus direct assessment. *Journal of Agricultural Education*, 40(3), 40-49. doi: 10.5032/jae.1999.03040
- Foster, B. B. (2001). Choices: A dilemma of women agricultural education teachers. *Journal of Agricultural Education*, 42(3), 1-10. doi:10.5032/jae.2001.03001

- Foster, D. D., Lawver, R. G., & Smith, A. R. (2014). *National agricultural education supply & demand study: 2014 executive summary.* A report from the American Association for Agricultural Education. Retrieved from http://aaaeonline.org/Resources/Documents/NSDSummary\_3\_1\_2015\_Final.pdf
- Goode, J. K., & Stewart, B. R. (1981). Priorities of Missouri teachers of vocational agriculture regarding teaching, civic, church family, and self-related activities. *Journal of the American Association of Teacher Educators in Agriculture*, 22(2), 36-41. doi: 10.5032/jaatea.1981.02036
- Grady, T. L., & Burnett, M. F. (1985). The relationship between job satisfaction and performance of vocational agriculture teachers. *Journal of Vocational Education Research*, 10(3), 53-69.
- Grandey, A., & Cropanzano, R. (1999). The conservation of resources model applied to work–family conflict and strain. *Journal of Vocational Behavior*, *54*(2), 350-370. doi: 10.1006/jvbe.1998.1666
- Grzywacz, J. G., & Marks, N. F. (2000). Reconceptualizing the work–family interface: An ecological perspective on the correlates of positive and negative spillover between work and family. *Journal of Occupational Health Psychology*, *5*(1), 111-126. doi: 10.1037/1076-8998.5.1.111
- Guttman, I., & Smith, D. E. (1969). Investigation of rules for dealing with outliers in small samples from the normal distribution: I: Estimation of the mean. *Technometrics*, 11(3), 527-550.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513-524. doi: 10.1037/0003-066X.44.3.513
- Judge, T. A., Bono, J. E., Locke, E. A. (2000). Personality and job satisfaction: The mediating role of job characteristics. *Journal of Applied Psychology*, 85(2), 237-249. doi: 10.1037//0021-9010.85.2.237
- Kantrovich, A. J. (2010). A national study of the supply and demand for teachers of agricultural education from 2007-2009. *American Association for Agricultural Education*. Retrieved from http://www.naae.org/links/resources/docs/2010-supply-Demand-study-report.pdf
- Kitchel, T., Smith, A. R., Ball, A. L., Robinson, J. S., Lawver, R. G., Park, T. D., & Schell, A. (2012). Teacher job satisfaction and burnout viewed through social comparisons. *Journal of Agricultural Education*, *53*(1), 31-44. doi: 10.5032/jae.2012.01031
- Klusmann, U., Kunter, M., Trautwein, U., Lüdtke, O., & Baumert, J. (2008). Teachers' occupational well-being and quality of instruction: The important role of self-regulatory patterns. *Journal of Educational Psychology*, 100(3), 702. doi: 10.1037/0022-0663.100.3.702
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30,* 607-610.
- Lambert, M. D., Ball, A. L., & Tummons, J. D. (2011). How do early career agriculture teachers talk about their time? *Journal of Agricultural Education*, *52*(3), 50-63. doi: 10.5032/jae.2011.03050
- Lawver, R. G. (2007). Work and family life balance among secondary agricultural educators (Unpublished master's thesis). University of Missouri-Columbia, Columbia, MO.

- Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education*, 42(4), 43-53. doi: 10.5032/jae.2001.04043
- Miller, L. E., & Smith, K. L. (1983). Handling non-response issues. *Journal of Extension*, 21(5), 45-50.
- Miller, W. W., & Scheid, C. L. (1984). Problems of Beginning Teachers of Vocational Agriculture in Iowa. *Journal of the American Association of Teacher Educators in Agriculture*, 25(4), 2-7. doi: 10.5032/jaatea.1984.04002
- Moore, G. E., & Camp, W. G. (1979). Why vocational agriculture teachers leave the profession: A comparison of perceptions. *Journal of the American Association of Teacher Educators in Agriculture*, 20(3), 11-18. doi:10.5032/jaatea.1979.03011
- Moyer, L. M., & Geissler, P. H. (1991). Accommodating outliers in wildlife surveys. *Wildlife Society Bulletin*, 19(3), 267-270.
- Mundt, J. P., & Connors, J. J. (1999). Problems and challenges associated with the first years of teaching agriculture: A framework for preservice and inservice education. *Journal of Agricultural Education*, 40(1), 38-48. doi:10.5032/jae.1992.03040
- Murray, K., Flowers, J., Croom, B., & Wilson, B. (2011). The agricultural teacher's struggle for balance between career and family. *Journal of Agricultural Education*, *52*(2), 107-117. doi:10.5032/jae.1999.01038
- Myers, B. E., Dyer, J. E., & Washburn, S. G. (2005). Problems facing beginning agriculture teachers. *Journal of Agricultural Education*, 46(3), 47-55. doi:10.5032/jae.2005.03047
- Newcomb, L. H., Betts, S. I., & Cano, J. (1987). Extent of burnout among teachers of vocational agriculture in Ohio. *Journal of the American Association of Teacher Educators in Agriculture*, 28(1), 26-33. doi:10.5032/jaatea.1987.01026
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3<sup>rd</sup> ed.). New York, NY: McGraw-Hill.
- Odell, K. S., Cochran, J. E., Lawrence, L. D., & Gartin, S. A. (1990). The job and marital satisfaction of secondary agriculture teachers and their spouses. *Journal of Agricultural Education*, *3*(3), 14-18. doi: 10.5032/jae.1990.03014
- Okonkwo, E. (2013). Time-based work interference with family and emotional exhaustion among female teachers. *Gender & Behaviour*, 11(1), 5089-5095.
- Ritz, R., Burris, S., & Brashears, T. (2013). The effects of a time management professional development seminar on stress and job satisfaction of beginning agriscience teachers in west Texas. *Journal of Agricultural Education*, 54(3), 1-14. doi: 10.5032/jae.2013.03001
- Roberts, T. G., Harder, A., Brashears, M. T. (Eds.). (2016). *American Association for Agricultural Education national research agenda: 2016-2020*. Gainesville, FL: Department of Agricultural Education and Communication.
- Schorn, N. K., & Buchwald, P. (2006, July). Burnout in student teachers. *Electronic Proceedings* of the 27th Conference of the STAR Society, Crete, Rethymnon.
- Sorensen, T. J., & McKim, A. J. (2014). Perceived work-life balance ability, job satisfaction, and professional commitment among agriculture teachers. *Journal of Agricultural Education*, 55(4), 116-132. doi: 10.5032/jae.2014.04116
- Straquadine, G. S. (1990). Work, is it your drug of choice? *The Agricultural Education Magazine*, 62(6), 11-12.

- Streiner, D. L. (2003). Being inconsistent about consistency: When coefficient alpha does and doesn't matter. *Journal of personality assessment*, 80(3), 217-222.
- Talbert, B. A., Camp, W. G., & Heath-Camp, B. (1994). A year in the lives of three beginning agriculture teachers. *Journal of Agricultural Education*, *35*(2), 31-36. doi: 10.5032/jae.1994.02031
- Theobald, N. (1990). An examination of the influence of personal, professional, and school district characteristics on public school teacher retention. *Economics of Education Review*, *9*(3), 241-250. doi: 10.1016/0272-7757(90)90005-P
- Torres, R. M., Lawver, R. G., & Lambert, M. D. (2009). Job-related stress among secondary agricultural education teachers: A comparison study. *Journal of Agricultural Education*, 50(3), 100-111. doi: 10.5032/jae.2009.03100
- Walker, W. D., Garton, B. L., & Kitchel, T. J. (2004). Job satisfaction and retention of secondary agriculture teachers. *Journal of Agricultural Education*, 45(2), 28-38. doi:10.5032/jae.2004.02028