AN ASSESSMENT OF TEACHER SELF-EFFICACY AND JOB SATISFACTION OF EARLY CAREER KENTUCKY AGRICULTURE TEACHERS

John Joseph Blackburn
University of Kentucky, joey.blackburn@uky.edu

Click here to let us know how access to this document benefits you.

Recommended Citation
https://uknowledge.uky.edu/gradschool_theses/473
ABSTRACT OF THESIS

AN ASSESSMENT OF TEACHER SELF-EFFICACY AND JOB SATISFACTION OF EARLY CAREER KENTUCKY AGRICULTURE TEACHERS

The United States is currently facing a shortage of qualified teachers; specifically, agricultural education has recorded shortages for several years. Many agriculture teachers will leave the profession well before retirement. Those teachers who leave the profession are often dissatisfied with their chosen career and exhibit low levels of teacher self-efficacy and job satisfaction. The purpose of this census study was to describe the current level of teacher self-efficacy and job satisfaction among all early career Kentucky agriculture teachers ($N = 80$). The study also sought to determine if a relationship existed between teacher self-efficacy and job satisfaction among early career Kentucky agriculture teachers. Teacher self-efficacy was measured through three constructs: student engagement, instructional practices, and classroom management. It was concluded that early career agriculture teachers in Kentucky are efficacious and generally satisfied with teaching. A variety of relationships were found to exist between each construct and overall job satisfaction between each group of teachers.

KEYWORDS: Agricultural Education, Teacher Self-Efficacy, Agricultural Teacher Self-Efficacy, Job Satisfaction, Early Career Agriculture Teachers

John Joseph Blackburn

July 17, 2007
AN ASSESSMENT OF TEACHER SELF-EFFICACY AND JOB SATISFACTION OF EARLY CAREER KENTUCKY AGRICULTURE TEACHERS

By

John Joseph Blackburn

Dr. J. Shane Robinson
Director of Thesis

Dr. Randy Weckman
Director of Graduate Studies

July 17, 2007
Date
RULES FOR THE USE OF THESE

Unpublished theses submitted for the Master’s degree and deposited in the University of Kentucky Library are as a rule open for inspection, but are to be used only with due regard to the rights of the authors. Bibliographical references may be noted, but quotations or summaries of parts may be published only with the permission of the author, and with the usual scholarly acknowledgments.

Extensive copying or publication of the thesis in whole or in part also requires the consent of the Dean of the Graduate School of the University of Kentucky.

A library that borrows this thesis for use by its patrons is expected to secure the signature of each user.

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
THESIS

John Joseph Blackburn

The Graduate School

University of Kentucky

2007
AN ASSESSMENT OF TEACHER SELF-EFFICACY AND JOB SATISFACTION OF EARLY CAREER KENTUCKY AGRICULTURE TEACHERS

THESIS

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in the College of Agriculture at the University of Kentucky

By

John Joseph Blackburn

Lexington, KY

Director: Dr. J. Shane Robinson
Assistant Professor of Agricultural Education

Lexington, KY

2007
I authorize the University of Kentucky Libraries to reproduce this thesis in whole or in part for purposes of research.

Signed: John Joseph Blackburn  
Date: July 15, 2007
Dedicated to my loving wife, Michelle
I could not have done it without you!
I love you so much!
Acknowledgements

Many individuals have guided and supported me throughout my education at South Callaway, the University of Missouri, and the University of Kentucky. For all that these individuals have done for me, I would like to say thank you!

First, to Michelle, without you I could not have done this! I cannot imagine life without you. You are my rock and you have helped me grow into the person I am today. Thank You!

To Jan Sapp, Jonathon Hoer, and Kenny Fort: Thank you for introducing me to the world of Agricultural Education and FFA. I only hope I can be half the teacher and advisor you three are.

To Dr. Bobby Torres: Thank you for challenging me as an undergraduate. Without you as an advisor, I am not sure I would have been able to succeed. You are a great professor and mentor. If I would have known just how respected you are in this profession, I would have really been as “nervous as a long tailed cat in a room full of rocking chairs”!

To Drs. Bryan Garton, Rob Terry, and Norman Rohrbach: You three truly helped complete my undergraduate experience. Thank you for deepening my understanding and appreciation for agricultural education.

To Dr. Jon Ulmer: You were always there for me to talk with and harass! I do not know if I can thank you enough for helping me decide to attend graduate school.

To Dr. Shane Robinson: I am not sure I can say enough to express my gratitude for all your help and guidance over the past year. I am sure that there are no purple ink pens left in the Garrigus Building as you have strived to make my thesis the best it could possibly be. I appreciate your attention to the details and your helpful advice. You have been a wonderful advisor, teacher, and mentor. Thank you for all the help in this project! You will be great at Oklahoma State!

To Dr. Tracy Kitchel: Thank you for introducing me to the University of Kentucky and “language” of research! You are an outstanding professor and mentor. Your guidance and help have made this thesis possible.

To Dr. Robin Peiter Horstmeier: Thank you for your help and support throughout my time at UK! You have been a great mentor.
To Cord, Dana, and Cam, my laughing buddies! Without you three, I am certain my year at UK would not have been the same. We have made it through the rubber bands, countless gallons of coffee, deep philosophical debates, DING DING, and the “technology” surrounding our theses. Cord, we have been through a lot in the last five years. I truly respect your professionalism, your teaching ability, and even your Garton tendencies! Cam, we have only known each other for a year, but you have made a great impact on me. Without you in the office, Cord would have likely killed me! Dana, you have been a great friend throughout the years at Mizzou and here at UK. I respect you as a professional as well as your ability to put up with Cord! You three will be great teachers.
TABLE OF CONTENTS

Acknowledgements ........................................................................................................ iii
List of Tables ................................................................................................................ vii
List of Figures .............................................................................................................. viii
Chapter I - Introduction .................................................................................................. 1
  Background and Setting .......................................................................................... 1
  Theoretical Framework ......................................................................................... 4
  Conceptual Framework .......................................................................................... 5
  Statement of the Problem ...................................................................................... 7
  Purpose of the Study ............................................................................................... 7
  Research Objectives ............................................................................................... 8
  Definitions .............................................................................................................. 8
  Limitations of the Study ....................................................................................... 9
  Assumptions ........................................................................................................... 10
  Need for the Study ............................................................................................... 10
Chapter II - Review of Literature .................................................................................. 12
  Purpose of the Study ............................................................................................... 12
  Teacher Self-Efficacy .............................................................................................. 12
    Rotter’s Theory and RAND .................................................................................. 12
    Teacher Self-Efficacy: Bandura’s Self-Efficacy Theory ......................................... 13
    Measuring Teacher Self-Efficacy: Rotter’s Theory ............................................... 13
    Measuring Teacher Self-Efficacy: Bandura’s Theory ............................................ 14
    Novice Teacher Self-Efficacy ............................................................................... 16
    Motivation and Self-Efficacy ............................................................................... 17
    Alternatively Certified Teacher Self-Efficacy ....................................................... 19
    Collective Efficacy ............................................................................................... 20
  Job Satisfaction ....................................................................................................... 20
    Factors Influencing Job Satisfaction ................................................................... 20
    Demographics Relating to Job Satisfaction ......................................................... 21
    Personal Life Factors and Job Satisfaction ......................................................... 22
    Teacher Retention/Attrition and Job Satisfaction ................................................. 23
    Summary ............................................................................................................... 24
Chapter III - Methodology ............................................................................................. 25
  Purpose of the Study ............................................................................................... 25
  Research Objectives ............................................................................................... 25
  Research Design ..................................................................................................... 25
  Population ............................................................................................................... 26
  Instrumentation ..................................................................................................... 27
  Validity and Reliability .......................................................................................... 28
  Data Collection ..................................................................................................... 29
  Control of Non-Response Error ............................................................................ 30
  Data Analysis ........................................................................................................ 32
Chapter IV - Findings .................................................................................................... 34
  Purpose of the Study ............................................................................................... 34
  Research Objectives ............................................................................................... 34
Objective 1 .................................................................................................................34
Objective 2 .................................................................................................................37
Objective 3 .................................................................................................................38
Objective 4 .................................................................................................................39
Chapter V – Conclusions, Implications and Recommendations.........................41
Purpose of the Study .................................................................................................41
Research Objectives .................................................................................................41
Research Design .......................................................................................................41
Population ..................................................................................................................42
Instrumentation .........................................................................................................42
Data Collection ...........................................................................................................42
Data Analysis .............................................................................................................43
Conclusions and Implications ....................................................................................44
Objective 1 - Demographics ....................................................................................44
Objective 2 - Self-Efficacy by Years in the Profession ...............................................44
Objective 3 – Job Satisfaction by Years in the Profession.........................................45
Objective 4 - Relationship between Teacher Self-Efficacy and Job Satisfaction by
Years in the Profession ............................................................................................46
Recommendations for Further Research .................................................................48
Chapter VI - Appendixes ..........................................................................................50
APPENDIX A: ...........................................................................................................50
APPENDIX B: ...........................................................................................................55
APPENDIX C: ...........................................................................................................66
APPENDIX D: ...........................................................................................................69
APPENDIX E: ...........................................................................................................71
APPENDIX F: ...........................................................................................................73
APPENDIX G: ...........................................................................................................75
APPENDIX H: ...........................................................................................................77
APPENDIX I: ...........................................................................................................79
APPENDIX J: ...........................................................................................................78
References ...............................................................................................................80
List of Tables

Table Number

1) *Comparison of Early and Late Responses on Teacher Self-Efficacy Levels* .................. 31

2) *Comparison of Early and Late Responses on Overall Level of Job Satisfaction* ............ 31

3) *Demographic Characteristics of Early Career Kentucky Agriculture Teachers* .......... 35

4) *Teacher Self-Efficacy Constructs of Early Career Kentucky Agriculture Teachers* ....... 37

5) *Level of Job Satisfaction of Early Career Kentucky Agriculture Teachers* .................... 38

6) *Pearson Product-Moment Correlations between Teacher Self-Efficacy Constructs and Job Satisfaction of Early Career Kentucky Agriculture Teachers* .................. 39

7) *Item-by-item analysis of the Teacher Sense of Efficacy Scale* ....................................... 77

8) *Item-by-item analysis of the Brayfield-Rothe Job Satisfaction Index, as modified by Warner (1973)* .......................................................................................................................... 79
List of Figures

Figure 1.1. The cyclical nature of teacher self-efficacy........................................................... 6
Chapter I - Introduction

Background and Setting

According to the National Education Association (NEA), the United States is “facing the worst teacher shortage ever” (n.d.; as cited in Walker, Garton & Kitchel, 2004, p. 1). This shortage could worsen. The NEA (n.d.) stated in Attracting and Keeping Quality Teachers that “more than a million veteran teachers are nearing retirement . . . and we will need more than two million new teachers in the next decade” (¶ 1). Recruiting potential teachers to fill these vacancies will be a challenge for teacher education programs.

The National Commission on Teaching and America’s Future (NCTAF) asked the question, “how can we find and prepare more teachers?” (2002, p. 3). That question is only part of the equation. The commission stated that the teacher shortage problem is like a coin. The visible side is recruiting more teachers, while the underside is high turnover rates. In general, teaching has a higher turnover rate compared to other occupations (Ingersoll, 2002). The National Center for Educational Statistics stated there was a 16% rate of teacher turnover between the 1999-2000 and the 2000-2001 school years (http://nces.ed.gov/programs/quarterly/vol_7/1_2/9_1.asp). Almost half of the turnover was attributed to teachers moving to another district or retiring. But, more than half of the remaining teachers left the teaching profession all together (http://nces.ed.gov).

Teacher turnover causes problems at the local level as well. The process of hiring and rehiring costs school districts time and money. Ruhland (2001) said, “it is far more cost effective to retain teachers than to hire” (p. 3). Therefore, it is imperative to understand how to retain teachers in the profession.

Agricultural Education has not escaped the phenomenon of teacher shortage. Kantrovich (2007) noted a shortage of agriculture teachers as early as 1965. This shortage has continued through at least 2001. Kantrovich compared the supply of newly certified agriculture teachers from teacher education programs with the demand for agriculture teachers. It was found that an adequate supply of newly qualified agriculture teachers exists to fill needed replacements, but a shortage of agriculture teachers in public
schools continues to exist. Kantrovich concluded that the reason teacher shortages remain is because not all qualified teachers enter the teaching profession. Approximately 47% of newly qualified teachers have indicated they are not teaching in the fall of 2007. Understanding how to retain those who decide to teach in the profession is a crucial step in easing the shortage of agriculture teachers.

The United States Department of Education (2006) listed 11 states that currently have or have had shortages of agriculture teachers since 1990 (http://www.ed.gov/about/offices/list/ope/pol/tsa.pdf). In 2007, Kantrovich found that 78 agricultural education programs were in need of a teacher as of the beginning of the school year. An additional 185 agricultural education programs hired teachers with emergency certification. Forty programs were likely to close because of a lack of a qualified teacher (Kantrovich, 2007).

Solving the shortage of agriculture teachers has evolved into the same schools of thought that the majority of education has followed. The first is recruiting additional potential teachers and the second is retaining teachers. Strategies have been implemented to encourage additional students to enter the teaching profession. Student loan forgiveness, scholarships, and alternative certification have been used in the past (Walker, et al., 2004), but there is still a shortage of teachers. While recruitment of new teachers is extremely important, it appears additional focus needs to be placed on understanding the factors that influence teachers to leave the teaching profession. Retaining teachers in the teaching profession possesses “the greatest potential for decreasing the teacher shortage” (Walker, 2002, p. 2).

Another means of solving the teacher shortage is the certification of teachers through alternative methods. This manner of certification of teachers through means other than the traditional undergraduate certification began in the early 1980s as a means to combat projected shortages of qualified teachers (Feistritzer, 2007). Today, there are alternative certification programs in every state plus the District of Columbia and nearly one-third of all new teachers hired take alternative routes to certification.

Nearly half of all beginning teachers leave the profession within their first seven years (Marso & Pigge, 1997; Wilkinson, 1994). Walker (2002) found that 42% of Missouri agriculture teachers left teaching by their sixth year. Understanding factors that
lead to attrition by the sixth year is crucial to retaining teachers in the profession longer.

One possible factor to consider is teacher self-efficacy.

Prior research has suggested teachers who leave the teaching profession are less efficacious, than those teachers who remain in the profession (Glickman & Tamashiro, 1982). Teacher self-efficacy has also been linked to novice agriculture teachers’ commitment to the teaching profession (Knobloch & Whittington, 2003). Novice teachers who are more efficacious tend to have a greater commitment to teaching than those who are not as efficacious and thus are more motivated to remain in the teaching profession (Whittington, McConnell, & Knobloch, 2003).

Researchers have debated the exact definition of teacher self-efficacy for over two decades. There have been two distinct, but intertwined schools of thought on teacher self-efficacy: one following Rotter’s locus of control, and the other following Bandura’s Self-Efficacy Theory (Tschannen-Moran, Woolfolk-Hoy & Hoy, 1998).

Bandura (1994) defined self-efficacy as “people’s beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives” (p. 2). Following Bandura’s Self-Efficacy Theory, teacher self-efficacy has been defined as “a teacher’s belief in his or her own capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (Tschannen-Moran et al., 1998, p. 233).

In addition to teacher self-efficacy, prior research has also suggested there is a difference in level of job satisfaction between those agriculture teachers who leave teaching and those who remain in the profession (Bennet, Iverson, Rohs, Langone, & Edwards, 2002). Garton and Robinson (2006) stated, “Job satisfaction plays an important role in determining whether or not graduates remain in their chosen career” (p. 553). Those teachers who feel more satisfied with teaching appear to remain in the teaching profession longer than those who feel dissatisfied.

Currently, Kentucky does not have a shortage of qualified agriculture teachers, but 11 states have reported shortages of agriculture teachers since 1990, two of which border Kentucky (http://www.ed.gov/about/offices/list/ope/pol/tsa.pdf, 2006). Currently, 13% of Kentucky agriculture teachers can retire immediately (Morgan & Shoulders, 2007). Taking into consideration that more than 40% of teachers leave the profession by
their seventh year (Marso & Pigge, 1997; Wilkinson, 1994), the possibility of a shortage of qualified Kentucky agriculture teachers is a reality. Understanding teacher self-efficacy and job satisfaction would provide insight to the current condition of Kentucky’s early career agriculture teachers.

**Theoretical Framework**

The theoretical framework employed for this study was Bandura’s (1977) Self-Efficacy Theory. Bandura (1993) stated, “efficacy beliefs influence how people feel, think, motivate themselves, and behave” (p. 118). Self-efficacy aids individuals in succeeding at tasks (Bandura, 1993). Although knowledge and skills are required, Bandura reported those requirements are not necessary to guarantee success. Two people may have similar educational backgrounds and skills, but one may not succeed at a similar task because of a difference in level of self-efficacy.

Bandura (1994) stated there are four main sources that influence a person’s self-efficacy: mastery experiences, vicarious experiences, social (verbal) percussion, and somatic an emotional states in judging ones capabilities (physiological arousal). The first, and most effective, is through “mastery experiences,” or successes at tasks (p. 2). Mastery experiences increase one’s self-efficacy, while failures may inhibit its development. The best mastery experiences should take time and effort to accomplish. People who experience only quick and easy successes may actually be defeating themselves. If a more challenging task arises, it may cause the person to become frustrated and stressed, thereby decreasing his or her self-efficacy.

Bandura (1994) stated there are four main sources that influence a person’s self-efficacy: mastery experiences, vicarious experiences, social (verbal) percussion, and somatic an emotional states in judging ones capabilities (physiological arousal). The first, and most effective, is through “mastery experiences,” or successes at tasks (p. 2). Mastery experiences increase one’s self-efficacy, while failures may inhibit its development. The best mastery experiences should take time and effort to accomplish. People who experience only quick and easy successes may actually be defeating themselves. If a more challenging task arises, it may cause the person to become frustrated and stressed, thereby decreasing his or her self-efficacy.

The second source of strengthening self-efficacy is through “vicarious experiences provided by social models” (p. 3). Observing the successes of others similar to oneself contributes positively to self-efficacy. The opposite is also true. Observing the failures of others similar to oneself may decrease self-efficacy.

The third source of strengthening self-efficacy is through “social percussion” (p. 3). Self-efficacy can be influenced if told by others that they “have what it takes to succeed” (p. 3). Self-efficacy can also be diminished if told by others they do not possess
the skills for success. It is far easier for social percussion to decrease self-efficacy than increase it (Bandura, 1994).

The final source of self-efficacy is built through “somatic and emotional states in judging one’s capabilities” (p.3). This is how people react to situations, whether physical or mental. “Somatic indicators of personal efficacy are especially relevant in domains that involve physical accomplishments, health functioning, and coping with stressors” (Bandura, 1997, p. 106). Relieving stress and enhancing physical status can aid in increasing self-efficacy (Bandura, 1997).

Bandura (1993) described teachers with a low level of efficacy as being less committed to the teaching profession than those teachers with higher efficacy. Because of their lack of commitment, teachers with a lower sense of efficacy also spend more time on non-academic activities than do highly efficacious teachers. Highly efficacious teachers are more likely to provide assistance to students who have difficulty learning and praise students for success. Lower efficacious teachers, on the other hand, are more apt to give up on students that do not learn quickly and criticize their failures (Gibson & Dembo, 1984). Highly efficacious teachers have more motivation to remain in the teaching profession (Whittington et al., 2003). Less efficacious teachers are more likely to experience burnout and leave the profession (Bandura, 1993).

Conceptual Framework

Based on Bandura’s (1977) Self-Efficacy Theory, Tschannen-Moran et al. (1998) offered a revised definition for teacher self-efficacy in an attempt to provide clarity. They defined teacher self-efficacy as “the teacher’s belief in his or her own capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (p. 223). Also, “both self perception of teaching competence and beliefs about the task requirements in a particular teaching situation contribute to teacher self-efficacy” (p. 223). Tschannen-Moran et al. (1998) noted teacher self-efficacy is context specific. “Teachers feel efficacious for teaching particular subjects to certain students in specific settings...” (p. 227). Tschannen-Moran et al.
(1998) conceptualized teacher self-efficacy through Bandura’s (1977) Self-Efficacy Theory (Figure 1.1).

![Diagram of Teacher Self-Efficacy Model]

**Figure 1.1.** The cyclical nature of teacher self-efficacy

This model indicated teacher self-efficacy begins with the four sources of efficacy: mastery experiences, vicarious experiences, social/verbal persuasion, and physiological arousal. The teacher then processes and analyzes the teaching task. Teacher competence in each specific teaching task is also analyzed. To accomplish this, the teacher analyzes “personal capabilities such as skills, knowledge, strategies, or personality traits balanced against personal weaknesses or liabilities in this particular teaching context (Hoy & Miskel, 2005, p. 154). This leads to teacher self-efficacy and the consequences surrounded by efficacy. These consequences of self-efficacy can include goal setting, motivation to achieve goals, and persistent effort in the face of challenges. Performance is the next step of the model, which in turn, leads to new sources of efficacy, continuing the cycle. Teachers with greater efficacy will persist and exert greater effort in the face of challenges, which leads to superior performance (Hoy &
Miskel, 2005). Superior performance then leads to greater efficacy. The opposite is also true. Poor performances can lead to decreased effort and persistence and lead to a diminished sense of efficacy (Hoy & Miskel, 2005).

Statement of the Problem

Teacher self-efficacy has been linked with career commitment of agriculture teachers. Those teachers with higher levels of teacher self-efficacy are more committed to their career than those with lower efficacy (Knobloch & Whittington, 2003). Less efficacious teachers are less committed and leave the teaching profession prematurely (Glickman & Tamashiro, 1982.) Having a measure of teacher self-efficacy concerning agriculture teachers in Kentucky is needed to provide insight to their commitment levels.

Rozonwski and Hulin (1987) said the most important information to possess regarding an employee is a validated measure of their level of job satisfaction. A review of literature revealed that no studies have specifically investigated the relationship of teacher self-efficacy and job satisfaction among early career agriculture teachers. With the possibility of a shortage of Kentucky agriculture teachers in the future, understanding the current level of job satisfaction among Kentucky agriculture teachers is crucial. As a result, the principle question that arose from the review of literature was; is there a relationship between teacher self-efficacy and job satisfaction among early career agriculture teachers in Kentucky?

Purpose of the Study

The purpose of this census study was to describe the current level of teacher self-efficacy and job satisfaction among all early career Kentucky agriculture teachers ($N = 80$). The study also sought to determine if a relationship existed between teacher self-efficacy and job satisfaction among early career Kentucky agriculture teachers.
Research Objectives

The following research objectives guided this study:

1. Describe selected demographic characteristics of early career agriculture teachers in Kentucky (age, gender, education level, current teaching rank, years of teaching experience, and where initial certification was obtained) by years in the profession.
2. Describe the current level of teacher self-efficacy (student engagement, instructional practices, and classroom management) of all early career agriculture teachers in Kentucky by years in the profession.
3. Describe the current level of job satisfaction of early career agriculture teachers in Kentucky by years in the profession.
4. Explain the relationship between teacher self-efficacy and job satisfaction among early career agriculture teachers in Kentucky by years in the profession.

Definitions

Early Career Agriculture Teachers:
Operational Definition: full time secondary agriculture teachers in Kentucky with six or fewer years of teaching experience as of May 2007.

Teacher Self-Efficacy:
Constitutive Definition: “The teacher’s belief in his or her own capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (Tschannen-Moran, Woolfolk-Hoy & Hoy, 1998).

Operational Definition: The belief Kentucky agriculture teachers have in their own abilities to organize and perform tasks associated with Secondary Agricultural Education as defined by the Teachers’ Sense of Efficacy Scale.
**Personal Teaching Efficacy (PTE):** “Degree of confidence teacher’s have in their abilities as teachers to overcome factors that could make learning difficult for a student” (Tschannen-Moran et al., 1998).

**General Teaching Efficacy (GTE):** “Teachers’ beliefs about the power of external forces (conflict, violence, substance abuse in home/community, social and economic realities of class, race, and gender; and the physiological, emotional, and cognitive needs of a particular child) compared to the influence of teachers and schools” (Tschannen-Moran et al., 1998).

**Job Satisfaction:**

*Constitutive Definition:* “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (Locke, 1976, p. 1300).

*Operational Definition:* The overall contentment Kentucky agriculture teachers have with teaching as determined by the Brayfield-Rothe Job Satisfaction Index, as modified by Warner (1973).

**Intrinsic/Motivator Factors:** Achievement, recognition for achievement, the work itself, responsibility, and growth/advancement (Herzberg, 1982).

**Extrinsic/Hygiene factors:** Company policy and administration, supervision, interpersonal relationships, working conditions, salary, status, and security (Herzberg, 1982).

**Limitations of the Study**

1. This study was limited to full time early career agriculture teachers in the state of Kentucky.
2. Findings cannot be generalized beyond full time early career agriculture teachers in Kentucky.

Assumptions

For the purpose of the study, the following assumptions were made:

1. The respondents provided true and accurate responses to the questionnaire.
2. The respondents are fully certified to teach agriculture in Kentucky.
3. The respondents are full-time public school agriculture teachers in Kentucky.

Need for the Study

Qualified teachers are leaving the profession at an alarming rate. Teacher education programs are charged with preparing qualified teachers to fill classrooms. This can be a constant uphill battle as newly certified teachers enter the profession. This high rate of turnover within the profession is a major underlying cause of the shortage of qualified teachers across the United States. This phenomenon has not escaped agricultural education.

Research indicates a link between teacher efficacy and job satisfaction with how long teacher will remain in the teaching profession. Job satisfaction is a product of the working conditions in which a teacher is exposed. However, teacher efficacy can be directly influenced by teacher education programs. Bandura (1994) listed the four sources of efficacy. The first three, mastery experiences, vicarious experiences and social/verbal percussion, can be influenced at the university level. Within teacher education, pre-service teachers are given the opportunity to experience success as teachers through micro-teachings. Micro-teachings give the pre-service teachers the opportunity to practice, receive feedback, and perhaps most importantly build confidence or efficacy in teaching. Pre-service teacher efficacy is also influenced by observing peers experiencing successes with teaching. A successful microteaching would be a mastery experience, building teacher self efficacy. The feedback received would be social/verbal percussion (Wolf, Foster, & Birkenholz, 2007). Finally, observing peers complete
successful micro-teaching would be a positive vicarious experience and aid in the development of teacher self-efficacy. Therefore, understanding how satisfied and efficacious Kentucky’s early career agriculture teachers are with teaching will provide insight as to how well agriculture teachers are prepared in Kentucky.

Knowing and understanding factors such as teacher efficacy and job satisfaction are crucial in preventing this type of shortage from occurring in Kentucky. Together, measures of teacher efficacy and job satisfaction would enable Kentucky to determine if new programs need to be initiated to ensure that its agriculture teachers remain in the teaching profession.
Chapter II - Review of Literature

Purpose of the Study

The purpose of this census study was to describe the current level of teacher self-efficacy and job satisfaction among all early career Kentucky agriculture teachers ($N = 80$). The study also sought to determine if a relationship existed between teacher self-efficacy and job satisfaction among early career Kentucky agriculture teachers.

Teacher Self-Efficacy

Several studies have been conducted concerning teacher self-efficacy (Guskey & Passaro, 1994; Tschannen-Moran et al., 1998; Tschannen-Moran et al. 2001; Knobloch & Whittington, 2002; and Knobloch & Whittington, 2003). They have focused on defining the term and measuring the construct related to career commitment.

Rotter’s Theory and RAND

Several studies have attempted to provide solid measurement techniques for teacher self-efficacy. Tschannen-Moran et al. (1998) reviewed how the concept of teacher self-efficacy was created and how it has evolved over time. A construct similar to teacher self-efficacy was first introduced by the work of Rotter (1966) and labeled the locus of control. It was defined as “extent to which teachers believe that they could control the reinforcement of their actions, that is, whether the control reinforcement lay within themselves or in the environment” (Tschannen-Moran et al., p. 202). The locus of control is the perception of where one’s behavior stems (Rotter, 1966). There are two distinct paths of locus of control: external and internal control. External control is the belief that reward is due to luck, fate, chance or higher powers. Internal control is the belief that behaviors and actions are a result of personal characteristics.

The RAND corporation researchers were the first to use locus of control to measure teacher self-efficacy. It was found that teachers who identified themselves as
highly efficacious “believed they could control or strongly influence student achievement and motivation” (p. 202). Those teachers possessing a low sense of teacher self-efficacy believed environmental factors played a bigger role in outcomes than their actions. These teachers believed that environmental factors or external factors such as “conflict, violence, or substance abuse . . .” affected student’s learning more than their own influence (Tschannen-Moran et al., 1998, p. 204).

Teacher Self-Efficacy: Bandura’s Self-Efficacy Theory

A second path of describing teacher self-efficacy originated from the work of Bandura (1977) as a type of self-efficacy. Bandura (1997) stated self-efficacy is not the same phenomena as the locus of control. “Beliefs about whether one can produce certain outcomes (perceived self-efficacy) cannot . . . be considered the same as beliefs about whether actions affect outcomes (locus of control)” (p. 20). Also, there is little or no relationship between self-efficacy and the locus of control. Finally, self-efficacy is a “uniformly good predictor of . . . behavior” and locus of control is a “generally weak or inconsistent predictor of the same behaviors” (p. 20). Zimmerman (2000) reinforced self-efficacy and locus of control are associated, but are not the same by stating that “locus of control scales are neither task nor domain specific in their item content but rather refer to general beliefs about the internality or externality of causality” (p. 85). Tschannen-Moran et al. (1998) stated, “the existence of these two separate but intertwined conceptual strands has contributed to the lack of clarity about the nature of teacher self-efficacy” (p. 203).

Measuring Teacher Self-Efficacy: Rotter’s Theory

Using Rotter’s locus of control theory, the RAND researchers first measured teacher self-efficacy through summing the scores on two items in a questionnaire. The items were:
RAND Item 1: When it comes right down to it, a teacher really can’t do much because most of a student’s motivation and performance depends on his or her home environment.

RAND Item 2: If I try really hard, I can get through to even the most difficult or unmotivated students. (Tschannen-Moran, et al., 1998).

The RAND researchers discovered the scores on these two items, the teacher’s sense of efficacy, had impacts on student motivation, stress level, teacher’s willingness to implement innovation, and teacher’s willingness to stay in the field. An explanation is that these teachers had experienced past successes in motivating students to achieve. This was labeled this as personal teaching efficacy (PTE).

Using Rotter’s Theory and the RAND items as a base, other researchers developed instruments with the hope of effectively measuring teacher self-efficacy. Rose and Medway (1981) developed a measure called the Teacher Locus of Control (TLC). The TLC is a 28-item questionnaire “where teachers were asked to assign responsibility of student success/failure by choosing between two competing explanations for the situations described” (Tschannen-Moran et al., 1998, p. 206). Rose and Medway found the responses to the TLC were weakly but significantly related to the RAND items.

Also in 1981, Guskey developed a 30-item instrument measuring Responsibility for Student Achievement (RSA). Guskey (1984) found strong intercorrelations between overall responsibility and responsibility for student success/failure. Guskey also found greater efficacy was related to more positive attitudes about teaching, as well as a greater confidence in teaching abilities.

*Measuring Teacher Self-Efficacy: Bandura’s Theory*

During the same time that instruments were being created based on Rotter’s theory and the RAND items, other researchers were creating instruments based on Bandura’s (1977) self-efficacy theory. The first was the Gibson-Dembo instrument (Tschannen-Moran et al., 1998). They began with modifications to the RAND items and
incorporated Bandura’s theory. They measured PTE and general teaching efficacy (GTE). PTE relates to “levels of organization, planning, and fairness a teacher displayed, as well as clarity and enthusiasm in teaching” (Tschannen-Moran et al., 1998 p. 213). GTE is assumed to measure outcome expectancy and is related to clarity and enthusiasm in teaching (Tschannen-Moran et al., 1998). Also found was students in second and fifth grade whose teachers had a higher sense of GTE outperformed their peers in math on the Iowa Test of Basic Skills (Moore & Esselman, 1992). Teacher self-efficacy influences student’s attitudes toward school, subjects, teachers, and new ideas (Tschannen-Moran et al., 1998).

A new instrument was needed to be specific enough to have good reliability, yet general enough to avoid losing predictive power. A new instrument must “encompass both an assessment of personal competence and an analysis of the task in terms of the resources and constraints that exist in particular teaching contexts” (Tschannen-Moran, et al., 1998, p. 240). Most instruments fail to meet both criteria. Tschannen-Moran and Woolfolk Hoy (2001) sought to develop a new instrument based on the previous recommendations that stated a reliable and valid instrument for measuring teacher self-efficacy did not exist (Tschannen-Moran et al., 1998). The development of a new instrument began by deciding to follow and expand recommendations set by Bandura. The new instrument was named the Teachers’ Sense of Efficacy Scale (TSES). It was developed and refined in three studies. From those studies, three factors emerged that accounted for over half of the variance. Those factors were labeled Efficacy for Student Engagement, Efficacy for Instructional Practices, and Efficacy for Classroom Management. In keeping to the recommendations for a specific, yet general instrument, Tschannen-Moran et al. (1998) believed the student engagement, instructional practices, and classroom management were three common elements that any teacher would face. The TSES is “superior to previous measures of teacher efficacy in that it has a unified and stable factor structure and assesses a broad range of capabilities that teachers consider important to good teaching . . .” (Tschannen Moran et al., 2001).
Novice Teacher Self-Efficacy

Other studies have specifically investigated variables related to the sense of efficacy of novice teachers of agriculture. Knobloch and Whittington (2002) investigated teacher self-efficacy of student teachers, first-year, second-year, and third-year teachers (novice teachers). They sought to “determine the extent that the variability in teacher self-efficacy can be explained by variables related to perceived support, perceived teacher preparation quality, and perception of student teaching experience of student and novice teachers” (p. 4). They identified five variables related to these factors. The variables were:

1) Utilized a mentor
2) Perception of principal support
3) Perception of collective efficacy
4) Perceived quality of teacher preparation
5) Perceived quality of student teaching experience

Of these five variables, collective efficacy and principal support affected individual teacher self-efficacy the greatest.

Knobloch and Whittington (2003) investigated teacher self-efficacy in relation to the career commitment of novice agriculture teachers. The population was a census of all novice agriculture teachers in Ohio. Forty-four of the novice teachers scored in the lower commitment group and had a mean teacher self-efficacy score that decreased from the first to the tenth week of school. There were 38 teachers comprising the higher commitment group whose mean teacher self-efficacy score slightly increased from the first to the tenth week of school. Those teachers with lower career commitment had a lower sense of efficacy during the first week of school as compared to group with a higher commitment to teaching. These findings point out that those teachers with a higher sense of efficacy are more committed to teaching than their colleagues with a lower sense of efficacy.

Swan (2005) explored changes in teacher self-efficacy among student teachers in Ohio. The population of this study was all agricultural education student teachers in the
Autumn Quarter of 2004. It was determined that student teachers were less efficacious at the end of student teaching than they were in the beginning.

Knobloch (2006) explored relationships of teacher self-efficacy among student teachers at the University of Illinois and The Ohio State University. Specifically this study sought to describe differences in personal factors, environmental factors, and teacher self-efficacy of these two groups at the beginning and end of student teaching. It was concluded that these two groups of student teachers had similar, positive perceptions of personal and environmental factors. Student teachers from both universities had similar levels of teacher self-efficacy and there was no change in teacher self-efficacy from the beginning to the end of student teaching for either group.

Wolf et al. (2007) investigated student teachers’ self efficacy in classroom management. The population of this study was all Agricultural Education student teachers ($N = 28$) at The Ohio State University who completed their student teaching internship during the Autumn Quarter of 2006. It was found that the student teachers were in moderate agreement with their ability to manage the classroom effectively and student discipline.

Motivation and Self-Efficacy

Self-efficacy determines “level of motivation, which is reflected in how much effort they (people) will exert and how long they will persevere” (Wood & Bandura, 1989, p. 365). Self-efficacy plays a role in two types of motivation; cognitive motivation and motivation based on goals (Bandura, 1994). Without a high level of self-efficacy and a belief that a person can accomplish a desired task, a person’s motivation to act decreases (Bandura, 2000). Low efficacy decreases the effect of other factors that would normally motivate people.

One of the most important, reliable, and valid theories explaining what motivates people to work is Vroom’s Expectancy Theory (Hoy & Miskel, 2005). The theory is grounded on two principles. The first is that people make behavioral decisions using their ability to think, reason, and anticipate future events. Secondly, “individual values and attitudes interact with environmental components” (p. 147). The Expectancy theory
employs these two principles through three concepts, expectancy, instrumentality, and valence.

Hoy and Miskel defined expectancy as “the extent an individual believes that hard work will lead to improved performance” (p. 147). The belief that effort will lead to performance is a high expectancy belief. For example, a teacher who believes extra effort will positively affect students has high expectancy belief.

Instrumentality is “the perceived probability that good performance will be noticed and rewarded” (p. 147). High instrumentality is the perception of a strong relationship between performance and reward (Hoy & Miskel). Teachers with high instrumentality link high student achievement with public recognition of their teaching ability.

Valence is “the perceived value or attractiveness of a reward” (p. 148). This piece of motivation is linked with personal values and describes the extent people desire rewards and recognition. The factors of expectancy, instrumentality, and valence work collectively to influence motivation (Hoy & Miskel, 2005).

Bandura (1997) stated “most human motivation is cognitively generated…people motivate themselves and guide their actions anticipatorily through the exercise of forethought” (p. 122). Bandura (1997) cited three forms of cognitive motivators, causal attributions, outcome expectancies, and cognized goals. Self-efficacy influences each of the cognitive motivators (Bandura, 1994). Regarding causal attributions, Bandura (1994) stated, “people who regard themselves as highly efficacious attribute their failures to insufficient effort, those who regard themselves as inefficacious attribute their failures to low ability” (p. 5). Self-efficacy is the main process in which causal attributions affect motivation, performance and reactions (Bandura, 1994).

The other type of motivation Bandura (1994) described is motivation based on goals. This type of motivation is based on three types of self influences. They are “self-satisfying and self-dissatisfying reactions to one’s performance, perceived self-efficacy for goal attainment, and readjustment of personal goals based on ones progress” (p. 5). Specifically, self-efficacy influences the goals people set, their expended effort, and their perseverance in the face of challenges.
Teachers with low self-efficacy have reduced motivation to teach (Bandura, 1997). Motivation and teacher self-efficacy influence whether a teacher will remain in the teaching profession. Motivated, highly efficacious teachers will remain in the teaching profession and will have greater satisfaction with teaching than their inefficacious and unmotivated colleagues (Whittington, et al., 2003).

Alternatively Certified Teacher Self-Efficacy

“Alternative certification routes are non-traditional routes designed for individuals who have not completed a baccalaureate degree in education” (Ruhland & Bremer, 2002). With the growing numbers of alternatively certified teachers in the United States, some researchers have raised important questions regarding their level of teacher self-efficacy. Alternatively certified teachers do not receive the same degree of pedagogical instruction and experience as traditionally certified teachers. Researchers are interested in determining if alternatively certified teachers are as efficacious as traditionally certified teachers are. Malow-Iroff, O’Connor, and Bisland (2004) sought to determine if teachers certified through New York City’s Teacher Fellows program were as efficacious as traditionally certified teachers. It was found that this group of alternatively certified teachers was undecided about their impact on students because of home environment influences. But, the same group of teachers felt efficacious when working on instruction and student learning issues (Malow-Iroff, et al.).

Rocca and Washburn (2005) had similar concerns regarding agriculture teachers in Florida. Their study sought to determine demographic and teacher self-efficacy differences between traditionally and alternatively certified agriculture teachers in Florida. It was discovered that those teachers who took traditional routes to certification were predominately female. The alternatively certified teachers had nearly equal gender numbers, but on average, they were ten years older than traditionally certified teachers. Interestingly, there was no difference in perceived teacher self-efficacy. This finding may be misleading. An assumption is that traditionally certified teachers have more pedagogical knowledge and may reflect on their own teaching performance more critically (Rocca and Washburn).


Collective Efficacy

“Teachers operate collectively within an interactive school system rather than isolates” (Bandura 1997, p. 243). Collective efficacy is the overall efficacy of a group of teachers within a school. It is the groups’ perception that their efforts will have positive impact on students (Hoy & Miskel, 2005). Collective efficacy can dramatically affect the atmosphere of a school. In schools with high collective efficacy, the teachers convey a positive atmosphere for development (Bandura, 1993). In contrast, schools that view themselves as powerless in influencing strong academic success, low collective efficacy, teachers “convey a group sense of academic futility that can pervade the entire life of the school” (Bandura, 1993, p. 141).

Job Satisfaction

Previous studies on job satisfaction of agriculture teachers have focused on external factors, internal factors, demographic factors and personal life factors relating to job satisfaction of teachers (Odell, Cochran, Lawrence, & Gartin, 1990; Bruening & Hoover, 1991; Cano & Miller, 1992; Castillo, Conklin & Cano, 1999; Bennett et al., 2002; and Walker et al., 2004).

Factors Influencing Job Satisfaction

Herzberg (1959) developed the Motivator-Hygiene Theory, which states there are both intrinsic and extrinsic factors that influence satisfaction or dissatisfaction of employees. The intrinsic factors allow employees to reach psychological potential. The extrinsic factors are dissatisfiers and do not allow employees to reach psychological potential. The intrinsic, or motivator, factors include achievement, recognition for achievement, the work itself, responsibility, and growth or advancement. “The motivator factors are nutrients for psychological growth” (Herzberg, 1982, p. 60). The extrinsic, or hygiene, factors include company policy and administration, supervision, interpersonal relationships, working conditions, salary, benefits and job security. These factors describe
the job environment. Job dissatisfaction occurs when employees feel pain from the work environment.

Teachers’ job satisfaction is also affected by internal and external factors (Herzberg, 1982). External factors include salary, amount of administrative support, type of students, and amount of time spent on the job and available school resources. Internal factors include motivation, competence in teaching the subject matter, and dedication to teaching.

Herzberg (1982) stated there are two reasons people seek employment. The first is to satisfy basic biological needs for human survival. People seek employment to earn money to buy food, clothing, and shelter. The second is for psychological growth. The experience of achievement leads to psychological growth.

Herzberg (1982) noted that job dissatisfaction is not the opposite of job satisfaction. The true opposite of job satisfaction is “no job satisfaction.” Likewise, the true opposite of job dissatisfaction is “no job dissatisfaction” (Herzberg, 1982, p. 58). An employee may not be satisfied with his or her job, but this does not automatically indicate dissatisfaction. The reason for this situation is that job satisfaction and dissatisfaction are impacted by separate factors, and thus should be measured separately (Herzberg, 1982).

Castillo, Conklin and Cano (1999) studied the job satisfaction levels of Ohio agriculture teachers. These authors found male and female agriculture teachers in Ohio to be slightly satisfied with their jobs. The internal factors that males rated the highest were recognition and responsibility. The lowest was the work itself. The internal factors that female agriculture teachers rated the highest were achievement and responsibilities. The dissatisfier factors rated highest for female agriculture teachers was policy, while males rated supervision and working conditions the highest dissatisfier.

Demographics Relating to Job Satisfaction

Cano and Miller (1992) and Castillo et al. (1999) studied the relationship between demographic variables and job satisfaction. Demographics commonly studied in relation to job satisfaction are gender, age, number of years teaching, and tenure status. Cano and Miller (1992) studied job satisfaction of agriculture teachers in Ohio. Specifically, these
authors assessed gender and job satisfier and dissatisfier factors, based on the Motivator-Hygiene Theory. A combination of the Brayfield-Rothe Job Satisfaction Index and Wood’s (1973) instrument were used to measure job satisfaction. They found male teachers in Ohio to be significantly older with more years of teaching experience than their female counterparts. No differences were found in terms of job satisfaction.

Castillo et al. (1999) also studied Ohio agriculture teachers. The authors sought to describe the job satisfaction of Ohio agriculture teachers in relation to the job satisfier and dissatisfier factors identified in the Motivator-Hygiene Theory. This study also employed a combination of the Brayfield-Rothe Job Satisfaction Index and Wood’s (1973) instrument to measure job satisfaction. It was found that there was no significant difference between the job satisfaction levels of male or female agriculture teachers. This study found male agriculture teachers in Ohio were significantly older and had more years of teaching experience than females. No difference in job satisfaction between older, more experienced teachers and younger, novice teachers was detected.

The Cano and Miller (1992) and Castillo et al. (1999) studies were in disagreement on the relationship between tenure status and job satisfaction. Cano and Miller (1992) found relationship between job satisfaction and tenure status to be moderate and significant, while the Castillo et al. (1999) study found no relationship and no significance with job satisfaction and tenure.

**Personal Life Factors and Job Satisfaction**

Other studies have investigated personal life factors in relation to job satisfaction of agriculture teachers. Bruening and Hoover (1991) studied the personal life factors of parenting, marriage, teaching satisfaction, teaching fulfillment, spiritual belief, experiences outside teaching, influence of family and friends, financial situation, sound health and community visibility. Of all agriculture teachers in the United States, they found that teaching fulfillment was the highest rated positive factor and parenting (whether or not the agriculture teacher had children) was the highest rated negative factor. The results contradicted a study by Pajak and Blasé (1989) which found parenting
to be the highest rated positive factor and teaching fulfillment to be the highest rated negative factor.

Odell et al. (1990) specifically studied job and marital satisfaction of secondary agriculture teachers in the Northeast Region of the National Vocational Agriculture Teachers Association. There was no difference between the marital satisfaction of the teacher or the spouse. It was concluded that these teachers were satisfied with their jobs. The study also reported, “job satisfaction of secondary agriculture teachers is not entirely dependent upon job related factors” (p. 18). They determined that job satisfaction of teachers was influenced by “family attributes, particularly marriage satisfaction of the spouse” (p. 18).

Teacher Retention/Attrition and Job Satisfaction

Research has been conducted to determine a relationship between teachers’ job satisfaction and whether they remain in the profession. Chapman (1984) stated job satisfaction was “significantly related to persons’ decisions to leave (or never enter) teaching” (p. 654). The NEA (n.d.) stated new teachers leave because they are “overwhelmed by the expectations and scope of the job . . . they feel isolated and unsupported and expectations are unclear” (¶ 6).

Ingersoll (2001) found five reasons for teacher attrition. The reasons were retirement, school staffing action, personal, to pursue another job and dissatisfaction. It was found that the intertwined reasons of pursuing another career and dissatisfaction accounted for almost 42% of attrition. Dissatisfaction was reported to be due to “low salaries, lack of support from the school administration, lack of student motivation, and student discipline problems” (Ingersoll, 2001, p. 522).

Walker et al. (2004) sought to determine if job satisfaction changed over time from the first year of teaching to current employment. They studied Missouri agriculture teachers who entered the profession between 1995 and 1999, including those still teaching and those who had left the teaching profession. They classified the respondents as stayers, movers, or leavers. Stayers were in the same teaching position as when they began teaching, movers were still teaching but in a different position, and leavers were
those who had left the teaching profession. They found all three categories, stayers, movers, and leavers, were satisfied with their first year of teaching. The respondents were also found to be satisfied with their current employment whether it was teaching or otherwise. They concluded that those who left teaching were as satisfied with the duties of an agriculture teacher as those who stayed. It was also found that those who left teaching “did not enjoy ‘agricultural mechanics laboratory instruction’ or ‘dealing with administrators’” (p. 35). Lack of administrative support was the most frequent answer as to why the teachers left teaching, followed closely by family issues (p. 35).

Understanding the relationship between job satisfaction and teacher retention/attrition would help prevent an agriculture teacher shortage problem in Kentucky. Retaining quality, satisfied teachers in the profession is crucial. Knowing and understanding factors that lead to dissatisfaction and methods to counter it are also needed. Also, knowing and understanding factors that cause satisfaction would aid in ensuring teacher education programs and school districts to employ strategies to retain qualified teachers in the profession.

Summary

Too many qualified teachers leave the teaching profession prematurely. Understanding factors that encourage teachers to leave the profession are crucial to preventing a shortage of qualified agriculture teachers in Kentucky. Past research has shown teacher self-efficacy influences career commitment of novice agriculture teachers (Knobloch & Whittington, 2003). Also, job satisfaction plays an important role in whether qualified teachers remain in the profession (Chapman, 1984; Ingersoll, 2001).

Teacher self-efficacy and job satisfaction are both powerful constructs, each influencing how effective teachers are in the classroom and how long they will remain in the teaching profession. There has been no new research describing or correlating the sense of efficacy and job satisfaction among early career agriculture teachers in Kentucky. Information on these two constructs will provide insight as to how committed Kentucky’s early career agriculture teachers are to the teaching profession.
Chapter III - Methodology

Purpose of the Study

The purpose of this census study was to describe the current level of teacher self-efficacy and job satisfaction among all early career Kentucky agriculture teachers (N = 80). The study also sought to determine if a relationship existed between teacher self-efficacy and job satisfaction among early career Kentucky agriculture teachers.

Research Objectives

The following research objectives guided this study:

1. Describe selected demographic characteristics of early career agriculture teachers in Kentucky (age, gender, education level, current teaching rank, years of teaching experience, and where initial certification was obtained) by years in the profession.
2. Describe the current level of teacher self-efficacy of all early career agriculture teachers in Kentucky (student engagement, instructional practices, and classroom management) by years in the profession.
3. Describe the current level of job satisfaction of early career agriculture teachers in Kentucky by years in the profession.
4. Explain the relationship between teacher self-efficacy and job satisfaction among early career agriculture teachers in Kentucky by years in the profession.

Research Design

The design of this study was descriptive-correlational research. Descriptive research “enable(s) researchers to organize, summarize, and describe observations” (Ary, Jacobs & Razavieh, 2002, p. 118). “Correlational procedures show the extent to which change in one variable is associated with change in another variable” (p. 143). This study
focused on a census of all early career agriculture teachers in Kentucky; therefore, sampling procedures were not utilized and no generalizations were made.

The variables in question for this study were the demographics of the teachers (age, gender, education, teaching rank, years of teaching experience, and certifying institution), teacher self-efficacy and current level of job satisfaction of early career Kentucky high school agriculture teachers. Teacher self-efficacy is the belief teachers have in their own abilities to organize and perform tasks associated with teaching. Teacher self-efficacy was assessed through three constructs of teacher self-efficacy, Efficacy in Student Engagement, Efficacy in Instructional Practices, and Efficacy in Classroom Management. Job satisfaction is the overall contentment teachers have with teaching.

Population

The population of this study was all full time early career secondary agriculture teachers in the state of Kentucky \( (N = 91) \). In an effort to reduce frame error, an up-to-date frame was obtained from the Kentucky Department of Education. Frame error is “a result of a discrepancy between the intended and the actual population” (McCracken, 1998 p. 38). During the data analysis procedures, it was discovered that frame error was an issue. Eleven of the respondents indicated they had been in the teaching profession for more than six years. To eliminate this error, these respondents and their responses were removed from the study. Consequently, the population of this study was reduced \( (N = 80) \) to accurately represent the population of interest.

Another type of error associated with the frame is selection error. Selection error is “a result of some sampling units having a greater probability of being included in the sample than others” (McCracken, 1998, p. 38). Selection error was avoided by checking the frame multiple times to ensure that no names were duplicated.
Instrumentation

The instrument for this study was a combination of electronic (Appendix A) and mailed (Appendix B) questionnaires. Dillman (2000) reported the use of the mixed-mode strategy combining e-mail survey and paper survey could achieve the same response rates as only using hardcopy mailed surveys. Regarding electronic survey methods, Dillman reported that responses could be gained quicker and there is lower non-response.

Ary et al. (2002) reported that mailed questionnaires could collect much of the same information as personal interviews. Ary et al. also reported that “because the questionnaire is mailed, it is possible to include a large number of subjects as well as subjects in more diverse locations than is practical to interview” (p. 384). Mailed questionnaires have the “advantage of guaranteeing confidentiality or anonymity, thus perhaps eliciting more truthful responses than would be obtained with a personal interview” (p. 384).

The questionnaire employed for this study consisted of three parts. Part I measured teacher self-efficacy and consisted of the long form of the Teachers’ Sense of Efficacy Scale (TSES) (Tschannen-Moran and Woolfolk-Hoy, 2001). The TSES consists of 24 items that measured across three constructs: Efficacy in Student Engagement, Efficacy in Instructional Practices, and Efficacy in Classroom Management (http://www.coe.ohio-state.edu/ahoy/researchinstruments.htm#Sense). The nine-point Likert-type scale consisted of:

1 - Nothing
3 - Very Little
5 - Some Influence
7 - Quite A Bit
9 - A Great Deal

Each construct consisted of eight items. Specifically, the sub construct of teacher self-efficacy for student engagement consisted of items 1, 2, 4, 6, 9, 12, 14, and 22. The construct of instructional practices consisted of items 7, 10, 11, 17, 18, 20, 23, and 24. The construct of classroom management consisted of items 3, 5, 8, 13, 15, 16, 19, and 21. Scores were evaluated using guidelines set by Hoy (Appendix C).
Part II of the questionnaire measured job satisfaction. The job satisfaction instrument was developed using the Brayfield-Rothe (1951) Job Satisfaction Index, as modified by Warner (1973). It consisted of 14 questions on job satisfaction and dissatisfaction factors. The five point Likert-type scale consisted of:

1 - Strongly Disagree
2 - Disagree
3 - Undecided
4 - Agree
5 - Strongly Agree

Part III of the questionnaire was comprised of the demographics of early career Kentucky agriculture teachers. This section consisted of a combination of multiple choice and open-ended items. These items determined gender, age, teaching rank, education level, number of years of teaching experience, and the institution in which certification was received. In Kentucky, teaching rank refers to the amount of credit hours a teacher earns past a bachelors degree. There are three levels of teaching rank, with Rank I being the highest. A teacher with a bachelors degree and initial certification enters the profession at Rank III. To move to Rank II, teachers must obtain their masters degree. Rank I certification is obtained when teachers acquire 30 hours above their masters degree.

Validity and Reliability

A panel of experts comprised of department faculty at the University of Kentucky established face and content validity. The purpose of a panel of experts is to “examine the items to judge whether they are appropriate for measuring what they are supposed to measure . . .” (Ary, et al., 2002 p. 409). Validity is defined as “the extent to which an instrument measured what it claimed to measure” (p. 242). Face validity is whether or not the instrument appears to be valid for its intended purpose. Content validity is “the test’s content and its relationship to the construct it is intended to measure” (p. 243).

Reliability was established through previous research. Tschannen-Moran and Woolfolk-Hoy (2001) reported reliabilities for each construct. The teacher self-efficacy
construct of student engagement had a reliability coefficient of 0.87, the construct of instructional practices had a reliability coefficient of 0.94, and the construct of classroom management had a reliability coefficient of 0.91. Ary et al. defines reliability as the “degree of consistency with which the instrument measures whatever it is measuring” (p. 249).

Data Collection

The Dillman (2000) Tailored Design Method was employed to collect data for this study. On April 12, 2007, an initial postcard (Appendix D) was sent to the selected teachers to alert them of the study. Also, this postcard informed them why they had been selected to participate in the study, notified them of the forthcoming questionnaire, and communicated their identification number to them. Also included in this postcard was a request for the teachers to contact the researcher if they did not wish to receive an electronic copy of the questionnaire. It was highlighted in the initial postcard the teachers would receive an e-mail from the researcher containing a link to the instrument used in this study if they did not respond. This was to inform them the forthcoming questionnaire was not a spam e-mail. No individuals responded requesting a hard copy version.

On April 19, 2007, the population was sent the initial questionnaire via e-mail (Appendix E). This email contained each subject’s individual identification number, a link to the instrument, and communicated that this was strictly a voluntary survey. On May 1, 2007, the non-respondents were sent a follow-up email (Appendix F) to remind them about the study and encourage them to participate. This email also contained a link to the instrument and their individual identification number. On May 8, 2007, the non-respondents were sent a third email (Appendix G) containing a reminder of the study and a link to the instrument. On May 14, 2007 and May 21, 2007, the researcher telephoned the remaining non-respondents to ensure they had in fact received the emails containing the link to the instrument.

Also, the non-respondents were asked if they were indeed interested in completing the questionnaire and if they would prefer the hardcopy version. On May 24,
2007, the remaining non-respondents were mailed a hard copy version of the instrument. Also included in this packet was a pre-paid stamped return envelope and a cover letter (Appendix H) explaining the study and reminding them that it was strictly voluntary.

To encourage participation in this study, an incentive was offered to the teachers. Each subject that completed the questionnaire, either on-line or hardcopy was entered into a drawing for one of three $30.00 gift certificates redeemable through FFA Unlimited. Dillman (2000) stated incentives increase speed of response a majority of data may be collected before switching to more expensive survey modes. After the initial email, telephone, and hard copy contacts were made, 68 usable questionnaires were received resulting in an 85% response rate.

Control of Non-Response Error

Non-response error was handled by first receiving as many questionnaires as possible and then comparing early respondents with late respondents. Miller and Smith (1983) stated, “late respondents are often similar to non-respondents . . . thus; one way to estimate the nature of replies of non-respondents is through late respondents” (p. 48). Ary et al. (2002) stated that respondents should be categorized into early and late respondents and compared to check for significant differences. This was accomplished by comparing the first 25% \((n = 17)\) of respondents with the last 25% \((n = 17)\) of respondents. This means of comparison allowed for the greatest amount of possible discrepancy. A \(t\)-test was run to compare early and late respondents on the variables of interest. Table 1 shows the comparison of early and late respondents regarding levels of teacher self efficacy.
Table 1

*Comparison of Early and Late Responses on Teacher Self-Efficacy Levels*

<table>
<thead>
<tr>
<th>Level of Efficacy</th>
<th>Early Respondents</th>
<th>Late Respondents</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>μ</td>
<td>σ</td>
<td>μ</td>
</tr>
<tr>
<td>Student Engagement</td>
<td>6.21</td>
<td>.75</td>
<td>6.34</td>
</tr>
<tr>
<td>Instructional Practices</td>
<td>6.74</td>
<td>.68</td>
<td>6.93</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>6.89</td>
<td>1.19</td>
<td>7.05</td>
</tr>
</tbody>
</table>

*Note.* 1 = Nothing, 3 = Very Little, 5 = Some Influence, 7 = Quite A Bit, 9 = A Great Deal; 
\( p = < .05 \)

No significant differences were found between early and late respondents at the .05 significance level regarding the three sub constructs of teacher self-efficacy.

In addition, early and late respondents were compared regarding their level of overall job satisfaction. Table 2 reports the comparison between early and late respondents regarding overall job satisfaction.

Table 2

*Comparison of Early and Late Responses on Overall Level of Job Satisfaction*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Early Respondents</th>
<th>Late Respondents</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>μ</td>
<td>σ</td>
<td>μ</td>
</tr>
<tr>
<td>Overall Level of Job Satisfaction</td>
<td>3.94</td>
<td>.58</td>
<td>4.09</td>
</tr>
</tbody>
</table>

*Note.* 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree; 
\( p = < .05 \)

No differences were found between early and late respondents at the .05 significance level regarding overall job satisfaction. Because no differences were found between early and late respondents regarding either teacher self-efficacy or overall job satisfaction, the groups were deemed similar. Therefore, the respondents from this study are representative of the entire population.
Data Analysis

The data were analyzed using SPSS/PC+ 14.0. The goal of this research was to quantitatively describe data through parameters. Parameters are defined as “characteristics of populations” (Ary et al., 2002, p. 163). The findings of the study were reported through the measures of central tendency and the measures of variability. The measures of central tendency are means, medians, and modes. Mean is defined as the “sum of all values in a distribution divided by the number of cases” (Ary et al. p. 128), it is the mathematical average. The median is the exact mid-point in a distribution where 50 percent of the values are greater and 50 percent of the values are lower (Ary et al.). The mode is the most frequently observed value. The measures of variability consist of range, variance, and standard deviation. Variability is defined as “the degree of dispersion” (Ary et al. p. 131). Variance is the observed value minus the mean. Standard deviation is the square root of the variance. Standard deviation is an “index that summarizes data in the same unit of measurement as the original data” (p. 133). Because the study employed a population, Greek symbols were used to describe the data.

Objective one was addressed by assessing frequencies and percentages of age, gender, education level, and years of teaching experience. Frequencies and percentages were used because the data of objective one are either nominal scale or ordinal scale. Nominal scale data simply imply a difference in a characteristic. The ordinal scale ranks the data based on amount of a certain characteristic. To address objectives two and three, this study employed a 9-point Likert scale to measure teacher self efficacy and a 5-point Likert scale to measure overall job satisfaction, and means and standard deviations were reported. These types of measurements were used because variables were on the interval scale. Interval scale data rank orders data by amount of characteristic and has an arbitrary origin and equal intervals between the units (Ary et al.). Garson (n.d.) reported “Likert scales are very commonly used with interval procedures provided the scale has at least 5 and preferably 7 categories” (p. 3). Further, Jaccard and Wan (1996) stated “for many statistical tests, rather severe departures [from intervalness] do not seem to affect Type I or Type II errors dramatically” (p.4).
Objective four was addressed through the Pearson Product-Moment Correlation coefficient. The Pearson Product-Moment Correlation coefficient is used when the variables to be correlated are either interval or ratio in nature (Ary et al.). The magnitude of Pearson Product-Moment Correlation Coefficient was interpreted according to the Davis’ (1971) conventions:

<table>
<thead>
<tr>
<th>Value of $r$</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>Perfect</td>
</tr>
<tr>
<td>.70 - .99</td>
<td>Very High</td>
</tr>
<tr>
<td>.50 - .69</td>
<td>Substantial</td>
</tr>
<tr>
<td>.30 - .49</td>
<td>Moderate</td>
</tr>
<tr>
<td>.10 - .29</td>
<td>Low</td>
</tr>
<tr>
<td>.01 - .09</td>
<td>Negligible</td>
</tr>
</tbody>
</table>
Chapter IV - Findings

Purpose of the Study

The purpose of this census study was to describe the current level of teacher self-efficacy and job satisfaction among all early career Kentucky agriculture teachers \((N = 80)\). The study also sought to determine if a relationship existed between teacher self-efficacy and job satisfaction among early career Kentucky agriculture teachers.

Research Objectives

The following research objectives guided this study:

1. Describe selected demographic characteristics of early career agriculture teachers in Kentucky (age, gender, education level, current teaching rank, years of teaching experience, and certifying institution) by years in the profession.
2. Describe the current level of teacher self-efficacy of all early career agriculture teachers in Kentucky (student engagement, instructional practices, and classroom management) by years in the profession.
3. Describe the current level of job satisfaction of early career agriculture teachers in Kentucky by years in the profession.
4. Explain the relationship between teacher self-efficacy and job satisfaction among early career agriculture teachers in Kentucky by years in the profession.

Objective 1

Objective 1 sought to determine the selected demographic characteristics (age, gender, education level, current teaching rank, years of teaching experience, and certifying institution) of early career Kentucky agriculture teachers \((N = 80)\). Table 3 summarizes the nominal level data findings of early career agriculture teachers in Kentucky using frequencies and percentages.
<table>
<thead>
<tr>
<th>Variable</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 – 25 years</td>
<td>27</td>
<td>39.7</td>
</tr>
<tr>
<td>26 – 29 years</td>
<td>29</td>
<td>42.6</td>
</tr>
<tr>
<td>30 – 39 years</td>
<td>8</td>
<td>11.8</td>
</tr>
<tr>
<td>40 – 49 years</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>50 – 59 years</td>
<td>3</td>
<td>4.4</td>
</tr>
<tr>
<td>Over 60 years</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>39</td>
<td>57.4</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>42.6</td>
</tr>
<tr>
<td><strong>Educational Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>33</td>
<td>47.8</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>34</td>
<td>49.3</td>
</tr>
<tr>
<td>Specialists Degree</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Teaching Rank</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rank I</td>
<td>12</td>
<td>17.9</td>
</tr>
<tr>
<td>Rank II</td>
<td>30</td>
<td>44.8</td>
</tr>
<tr>
<td>Rank III</td>
<td>25</td>
<td>37.3</td>
</tr>
<tr>
<td><strong>Years of Teaching Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1 (1 – 2 years)</td>
<td>26</td>
<td>38.3</td>
</tr>
<tr>
<td>Group 2 (3 – 4 years)</td>
<td>19</td>
<td>27.9</td>
</tr>
<tr>
<td>Group 3 (5 – 6 years)</td>
<td>23</td>
<td>33.8</td>
</tr>
</tbody>
</table>
Table 3 (Continued)

Demographic Characteristics of Early Career Kentucky Agriculture Teachers (N = 68)

<table>
<thead>
<tr>
<th>Variable</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Certifying Institution</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern Kentucky University</td>
<td>3</td>
<td>4.8</td>
</tr>
<tr>
<td>University of Kentucky</td>
<td>27</td>
<td>43.5</td>
</tr>
<tr>
<td>Morehead State University</td>
<td>7</td>
<td>11.3</td>
</tr>
<tr>
<td>Western Kentucky University</td>
<td>19</td>
<td>30.6</td>
</tr>
<tr>
<td>Murray State University</td>
<td>5</td>
<td>8.2</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Regarding age, 27 (39.7%) of the respondents were between 20 and 25 years of age, 29 (42.6%) respondents were between 26 and 29 years of age, 8 (11.8%) respondents were between 30 and 39 years of age, 1 (1.5%) respondent was between 40 and 49 years of age, and 3 respondents were between 50 and 59 years of age. There were no respondents over 60 years of age. Of those who responded, 39 (57.4%) were male and 29 (42.6%) were female. In terms of educational level, 33 (47.8%) respondents had earned a bachelors degree while 34 (49.3%) had earned a masters degree. Of the remaining respondents, 1 (1.5%) had a specialists degree, and 1 (1.5%) indicated having an “other” degree. None of the respondents had earned their doctorate degree.

Twelve (17.9%) of the teachers were at the Rank I level, 30 (44.8%) were at Rank II, and 25 (37.3%) were at the Rank III level. Regarding years of teaching experience, 26 (38.3%) respondents indicated they had taught 1 – 2 years (Group 1), 19 (27.9%) had taught 3 – 4 years (Group 2), and 23 (33.8%) had taught 5 – 6 years (Group 3). The respondents listed the institution in which they received their certification. Three (4.8%) of the respondents indicated that they received their certification from Eastern Kentucky University. Twenty-seven (43.5%) respondents received certification from the University of Kentucky, 7 (11.3%) from Morehead State University, 19 (30.6%) from Western Kentucky University, and 5 (8.2%) from Murray State University. One (1.6%) respondent indicated “other” as institution granting certification.
Objective 2

Objective 2 sought to determine the level of teacher self-efficacy of early career Kentucky agriculture teachers by years in the profession. The long form of the Teachers’ Sense of Efficacy Scale (TSES) was employed to determine teacher self-efficacy. This instrument utilized teacher self-efficacy constructs consisting of: student engagement, instructional practices, and classroom management to determine the level of teacher self-efficacy. This objective applied interval data. Thus, data were reported through summated means according to group (years in the profession). Table 4 summarizes the findings.

Table 4
*Teacher Self-Efficacy Constructs of Early Career Kentucky Agriculture Teachers (N = 68)*

<table>
<thead>
<tr>
<th>Efficacy Constructs</th>
<th>Years of Teaching Experience</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>μ</td>
<td>σ</td>
<td>μ</td>
<td>σ</td>
</tr>
<tr>
<td>Student Engagement</td>
<td>6.34</td>
<td>1.06</td>
<td>6.20</td>
<td>.81</td>
</tr>
<tr>
<td>Instructional Practices</td>
<td>6.95</td>
<td>.94</td>
<td>6.55</td>
<td>.86</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>6.98</td>
<td>1.05</td>
<td>6.81</td>
<td>1.10</td>
</tr>
</tbody>
</table>

*Note. 1 = Nothing, 3 = Very Little, 5 = Some Influence, 7 = Quite A Bit, 9 = A Great Deal*

The respondents in Group 1 had a mean teacher self-efficacy score for student engagement of 6.34 (σ = 1.06). This indicates that as a cohort, Group 1 teachers ranged from some influence to quite a bit of teacher self-efficacy for student engagement. This group’s mean teacher self-efficacy score for instructional practices was 6.95 (σ = .94), and the mean score for teacher self-efficacy for classroom management was 6.98 (σ = 1.05), indicating the group felt quite a bit of teacher self-efficacy for both instructional practices and classroom management. An item-by-item analysis of all 24 items representing the three constructs can be found in Appendix I.
The respondents in Group 2 had a mean teacher self-efficacy score for student engagement of 6.20 (σ = .81). Teacher self-efficacy of instructional practices mean score was 6.55 (σ = .86), while the classroom management mean score was 6.81 (σ = 1.10). Group 2 teachers ranged between some and quite a bit of teacher self-efficacy for student engagement, instructional practices and classroom management.

Group 3 respondents’ mean teacher self-efficacy score for student engagement was 6.60 (σ = .89). The mean score for instructional practices was 7.37 (σ = 1.04), and the mean score for classroom management was 7.49 (σ = 1.14). Group 3 teachers ranged between some and quite a bit of teacher self-efficacy for student engagement. This group ranged between quite a bit and a great deal of teacher self-efficacy for instructional practices and classroom management.

Objective 3

Objective 3 sought to determine the current level of job satisfaction of early career Kentucky agriculture teachers by years in the profession. Job satisfaction was determined using the Brayfield-Rothe Job Satisfaction index, as modified by Warner (1973). Data were reported through summated means and standard deviations. Table 5 summarizes the data.

Table 5
Level of Job Satisfaction of Early Career Kentucky Agriculture Teachers (N = 68)

<table>
<thead>
<tr>
<th>Years of Teaching Experience</th>
<th>Group 1</th>
<th></th>
<th>Group 2</th>
<th></th>
<th>Group 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>μ</td>
<td>σ</td>
<td>μ</td>
<td>σ</td>
<td>μ</td>
<td>σ</td>
</tr>
<tr>
<td>Overall Job Satisfaction</td>
<td>4.04</td>
<td>.64</td>
<td>3.92</td>
<td>.51</td>
<td>4.10</td>
<td>.37</td>
</tr>
</tbody>
</table>

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree

Group 1 respondents’ summated mean score for job satisfaction was 4.04 (σ = .64). Group 2 respondents’ summated mean score for job satisfaction was 3.92 (σ = .51). The summated job satisfaction score for Group 3 was 4.10 (σ = .37). In all, the
respondents agreed to be satisfied with their career as agricultural education teachers. An item by item analysis of the 14 items can be found in Appendix J.

Objective 4

Objective 4 sought to determine the relationship between the constructs of teacher self-efficacy (student engagement, instructional practices, and classroom management) and overall job satisfaction. The Pearson Product-Moment Correlation Coefficient was employed, as these were interval data. Table 6 reports the relationships of the constructs of teacher self-efficacy and overall job satisfaction among respondents in Group 1.

Table 6

<table>
<thead>
<tr>
<th>Teacher Self-Efficacy Constructs</th>
<th>Overall Job Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Student Engagement</td>
</tr>
<tr>
<td></td>
<td>Instructional Practices</td>
</tr>
<tr>
<td></td>
<td>Classroom Management</td>
</tr>
<tr>
<td>Group 1</td>
<td>.54</td>
</tr>
<tr>
<td>Group 2</td>
<td>.56</td>
</tr>
<tr>
<td>Group 3</td>
<td>.12</td>
</tr>
</tbody>
</table>

The relationship between the student engagement teacher-self efficacy construct and overall job satisfaction for Group 1 was positive and substantial ($\rho = .54$). The relationship between the instructional practices teacher self-efficacy construct and overall job satisfaction was negative and low ($\rho = -.12$). The relationship between the classroom management teacher self-efficacy construct and overall job satisfaction was positive and substantial ($\rho = .57$).

The relationship between the student engagement teacher self-efficacy construct and overall job satisfaction for Group 2 was positive and substantial ($\rho = .56$). The relationship between the instructional practices teacher self-efficacy construct and overall job satisfaction was positive and very high ($\rho = .84$). A positive and very high ($\rho = .68$)
relationship was found between the classroom management teacher self-efficacy construct and overall job satisfaction.

The relationship between the student engagement teacher self-efficacy construct and overall job satisfaction for Group 3 was positive and low ($\rho = .12$). The relationship between the instructional practices teacher self-efficacy construct and overall job satisfaction was positive and low ($\rho = .10$). A negative and substantial ($\rho = -.52$) relationship was found between the classroom management teacher self-efficacy construct and overall job satisfaction.
Chapter V – Conclusions, Implications and Recommendations

Purpose of the Study

The purpose of this census study was to describe the current level of teacher self-efficacy and job satisfaction among all early career Kentucky agriculture teachers \((N = 80)\). The study also sought to determine if a relationship existed between teacher self-efficacy and job satisfaction among early career Kentucky agriculture teachers.

Research Objectives

The following research objectives guided this study:

1. Describe selected demographic characteristics of early career agriculture teachers in Kentucky (age, gender, education level, current teaching rank, years of teaching experience, and certifying institution) by years in the profession.
2. Describe the current level of teacher self-efficacy of all early career agriculture teachers in Kentucky (student engagement, instructional practices, and classroom management) by years in the profession.
3. Describe the current level of job satisfaction of early career agriculture teachers in Kentucky by years in the profession.
4. Explain the relationship between teacher self-efficacy and job satisfaction among early career agriculture teachers in Kentucky by years in the profession.

Research Design

The design for this study was descriptive-correlational research. This study focused on a census of all early career agriculture teachers in Kentucky; therefore, sampling procedures were not utilized and no generalizations were made. The variables in question for this study were demographics, teacher self-efficacy, and current level of job satisfaction of early career Kentucky high school agriculture teachers.
Population

The population of this study was all full time early career secondary agriculture teachers in the state of Kentucky ($N = 91$). During the data analysis procedures it was discovered that frame error was an issue. Eleven of the respondents indicated they had been in the teaching profession for more than 6 years. To eliminate this error, these respondents and their responses were removed from the study. Consequently, the population of this study was reduced ($N = 80$).

Instrumentation

The instrument for this study was a combination of electronic and mailed questionnaires. In both cases, the questionnaire consisted of three parts. Part I measured teacher self-efficacy and consisted of the long form of the Teachers’ Sense of Efficacy Scale (TSES). Part II of the questionnaire measured job satisfaction. The job satisfaction instrument was developed using the Brayfield-Rothe (1951) Job Satisfaction Index, as modified by Warner (1973). Part III of the questionnaire was created to determine the demographics of early career Kentucky agriculture teachers. A panel of experts comprised of department faculty established face and content validity. Reliability was established through previous research.

Data Collection

The Dillman (2000) Tailored Design Method was employed to collect data for this study. The participants in this study were contacted a total of seven times by the researcher. The first contact was an initial postcard alerting them of the study. The second contact was an email containing a link to the instruments. The third and fourth contacts were reminder emails that also contained a link to the instrument. The fifth and sixth contacts were telephone calls made by the researcher to determine if the remaining non-respondents had in fact received the emails. The final contact was a mailed hardcopy version of the instrument. Non-response error was handled by first receiving as
many questionnaires as possible and then comparing early respondents with late respondents. This ensured non-response error was minimized.

Data Analysis

The data were analyzed using SPSS/PC+ 14.0. The goal of this research was to quantitatively describe data through parameters. The findings of the study were reported through the measures of central tendency and the measures of variability. The measures of central tendency are means, medians, and modes. The measures of variability consist of range, variance, and standard deviation. Because the study employed a population, Greek symbols were used to describe the data.

This study employed a 9-point Likert scale to measure teacher self-efficacy and a 5-point Likert scale to measure overall job satisfaction. Garson (n.d.) reported that Likert scales can be used with interval data if the scale has at least 5 categories. Therefore, although the instrument employed Likert scales, the data were considered to be interval in nature. Thus, summated means and standard deviations were used to describe the data.

Objective one was addressed by assessing frequencies and percentages of age, gender, education level, and years of teaching experience. Frequencies and percentages were used because the data of objective one were either nominal scale or ordinal scale. To address objectives two, three, and four means and standard deviations were reported. Objective six was addressed through the Pearson Product-Moment Correlation coefficient. The magnitude of Pearson Product-Moment Correlation Coefficient was interpreted according to the Davis’ (1971) conventions:

<table>
<thead>
<tr>
<th>Value of r</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>Perfect</td>
</tr>
<tr>
<td>.70 - .99</td>
<td>Very High</td>
</tr>
<tr>
<td>.50 - .69</td>
<td>Substantial</td>
</tr>
<tr>
<td>.30 - .49</td>
<td>Moderate</td>
</tr>
<tr>
<td>.10 - .29</td>
<td>Low</td>
</tr>
<tr>
<td>.01 - .09</td>
<td>Negligible</td>
</tr>
</tbody>
</table>
Conclusions and Implications

Objective 1 - Demographics

The majority (82.3%) of early career agriculture teachers in Kentucky are less than 30 years old. The highest percentage of teachers has a masters degree and are at the Rank II level. While none of the participants have a doctorate, 18% are at the Rank I level, indicating 30 credit hours beyond the masters degree. Years of teaching experience was fairly consistent across the three groups with Group 1 comprising the most respondents (38.3%). In terms of certification, 67 of the 68 respondents received their initial certification from the state of Kentucky. The majority (74.1%) of teachers received certification from either the University of Kentucky (43.5%) or Western Kentucky University (30.6%).

It can be concluded that early career agriculture teachers in Kentucky are furthering their education beyond their bachelors degree. Perhaps these teachers want to earn post-bachelors credit to gain teaching rank and increase salary. In turn, this could increase overall job satisfaction (Herzberg, 1959).

Objective 2 - Self-Efficacy by Years in the Profession

All three groups of teachers were found to be efficacious regarding the three constructs measured. The Group 3 teachers had the highest teacher self-efficacy scores, while the Group 2 teachers had the lowest, yet both groups ranged from some to quite a bit of efficacy for the three constructs. These findings support studies by Knobloch (2003) and Swan (2005) who found novice teachers ranged from some to quite a bit of efficacy for the three constructs of teacher self-efficacy.

These findings may have multiple implications as to the fluctuation in the level of teacher self-efficacy between the groups. The first implication surrounds the Group 1 teachers. Some of these teachers may have a high level of teacher self-efficacy because they are fresh from college and excited to apply their knowledge in the classroom. They likely had very successful student teaching internships and are still confident in their
abilities as teachers. This is in alignment with Bandura’s (1977) Self-Efficacy Theory. A successful student teaching experience would be considered a mastery experience, thereby increasing the teacher’s level of self-efficacy. Another implication surrounding the Group 1 teachers is possibly they just don’t know what they don’t know. They have not been in the profession long enough to experience problems of practice. This would lead them to believe they are more effective that they truly are. The Group 2 teachers may have experienced a slight decline in their teacher self-efficacy because they may have faced more negative experiences that have challenged their efficacy belief. These teachers have been in the profession long enough to face a variety of problems of practice. There may be two explanations for the sharp increase in teacher self-efficacy among Group 3 teachers. The first is that these teachers have had enough experience to firmly establish their own personal teaching style. Again, this aligns with Bandura’s Self-Efficacy Theory. These teachers have faced and addressed problems of practice, increasing their level of teacher self-efficacy. The second explanation is that maybe the less efficacious teachers are no longer teaching. Is it possible that teachers from this cohort with lower teacher self-efficacy have already left the teaching profession? If so, this could have increased this group’s summated mean score.

Teacher educators, state instructional staff, and school administrators should be alerted to the decline in teacher self-efficacy during the 3rd and 4th years in the profession. This decline could be a contributing factor as to why teachers leave the profession. Understanding why this decrease in teacher self-efficacy is occurring could allow for proper interventions to counter the fluctuation.

Objective 3 – Job Satisfaction by Years in the Profession

All three groups of early career agriculture teachers in Kentucky agreed they are satisfied with teaching agriculture but, like teacher self-efficacy, there is a dip in job satisfaction during the 3rd and 4th year in the profession. The Group 3 teachers had the highest mean score for overall job satisfaction and the Group 2 teachers had the lowest mean score. These findings are consistent with previous research (Castillo et al., 1999; Garton & Robinson, 2006; and Walker et al. 2004) that found agricultural education
graduates and teachers to be satisfied with teaching agriculture. These findings do not concur with the findings of Cano and Miller (1992) who found agriculture teachers to be undecided about their overall level of job satisfaction.

These findings imply that early career agriculture teachers in Kentucky are generally satisfied with teaching agriculture. It could be implied that these teachers were adequately prepared for their jobs prior to entering the workforce. In addition, the same implications explaining the levels of teacher self-efficacy may also explain the slight fluctuation in overall job satisfaction. The Group 1 teachers may be excited to be removed from the college setting and happy to be gainfully employed. These teachers may not have been exposed to many of the hygiene factors that lead to dissatisfaction (Herzberg, 1959). The dip in overall job satisfaction that is seen with the Group 2 teachers may be a result of teachers experiencing hygiene factors such as administration or low salary. Perhaps the novelty of being employed has worn off. The rise in job satisfaction among Group 3 teachers may be the result of a variety of circumstances. Could it be that because these teachers have a higher sense of teacher self-efficacy, when compared to the other groups, they are more satisfied with their chosen career? These teachers may have continued their education, thereby increasing their salary or they may have built a solid working relationship with their administration and are reaping the rewards. Another explanation is that those teachers with lower overall job satisfaction may have left the teaching profession by their 5th or 6th year.

Teacher educators, state instructional staff, and school administrators should be alerted to the decline in overall job satisfaction during a teacher’s 3rd and 4th years in the profession. This decline in job satisfaction could be a contributing factor as to why teachers leave the profession prematurely. Understanding why this occurs could allow for proper interventions to counter the decrease in job satisfaction.

**Objective 4 - Relationship between Teacher Self-Efficacy and Job Satisfaction by Years in the Profession**

A positive relationship exists between overall job satisfaction and the teacher self-efficacy constructs of student engagement and classroom management among Group 1
teachers. This group of teachers has quite a bit of efficacy for instructional practices and agrees to be satisfied with teaching. These findings suggest that those teachers with higher levels of teacher self-efficacy will have higher overall job satisfaction for the constructs of student engagement and classroom management. The more satisfied these teachers are with teaching, the better they perceive their abilities to engage students and manage the classroom environment. There is little relationship between job satisfaction and instructional practices among Group 1 teachers. Are classroom management and the ability to engage students receiving more attention from teachers than instructional practices? Does gaining control of the classroom and effectively engaging students outweigh instruction? Perhaps effectively managing the classroom and engaging students lay the foundation for effective instruction. It appears the abilities to engage students and manage the classroom indicate a more satisfied teacher. Another possibility is this group of teachers may have had an inflated perception of their teacher self-efficacy because they were overly confident in their abilities as educators (Knobloch, 2006).

The findings from the Group 2 teachers paint a slightly different picture. These teachers ranged from some influence to quite a bit of teacher self-efficacy for all three constructs and agreed to be satisfied with teaching. A positive and substantial relationship exists between overall job satisfaction and the teacher self-efficacy construct of student engagement. A positive and very high relationship exists between overall job satisfaction and the teacher self-efficacy constructs of instructional practices and classroom management. These teachers had the lowest levels of teacher self-efficacy and overall job satisfaction, yet the strongest relationship between the variables exists with this group. The relationships between teacher self-efficacy for instructional practices and classroom management and overall job satisfaction show the most dramatic differences between this and the previous group.

The findings from the Group 3 teachers show very different relationships between overall job satisfaction and teacher self-efficacy. This group had the highest scores for both job satisfaction and the three constructs of teacher self-efficacy. Little to no relationship was found to exist between the teacher self-efficacy constructs of student engagement and instructional practices. There was a substantial but negative relationship between the construct classroom management and overall job satisfaction. Unlike the
other two groups, the more teacher self-efficacy for classroom management the Group 3 teachers have, the less satisfied with teaching they are likely to be. Is this because they have enough experience to believe in their classroom management, but are experiencing other factors that are causing them to become less satisfied with teaching? Might this be why so many teachers leave the profession by their sixth year?

**Recommendations for Further Research**

Further research is warranted to determine why teachers in their 3rd and 4th years in the profession are less satisfied and have lower levels of teacher self-efficacy than their colleagues in their 1st and 2nd, and their 5th and 6th year teaching. Understanding why this decrease in job satisfaction and teacher self-efficacy occurs could allow proper interventions to be created to counter the fluctuation.

It is recommended that this study be replicated and include those teachers who left the profession prior to completing their first six years in the profession. Comparisons could then be made between those who remained teaching and those who left the profession. This would reveal differences in teacher self-efficacy and job satisfaction between the two groups and determine if teacher self-efficacy and overall job satisfaction play a role in whether teachers remain in or leave the profession.

If this study were to be replicated, it is recommended that teachers not be grouped by years in the profession, but studied in their naturally occurring cohorts. Significant differences could exist between teachers with different years of experience within groups. Not grouping by years in the profession would pinpoint the exact year that teacher self-efficacy and job satisfaction begin to decline and then rise. To accomplish this, the item measuring years in the profession should be modified to an open-ended type question, where the respondents indicate the years they have been teaching. Also, this item should be modified to measure years of teaching agriculture.

This study should be replicated and include more than one measurement in time. Teacher self-efficacy and overall job satisfaction can be influenced by circumstances surrounding the time of the school year the instrument is given. Evaluating teacher self-
efficacy and job satisfaction multiple times during a school year could give a more accurate measure of the mean scores.

It is also recommended that a longitudinal trend study be conducted to determine the relationship between teacher self-efficacy and job satisfaction. Further research should follow one group of first year teachers throughout the course of their first six years in the profession. This “tracking device” would allow for a more accurate measure of the evolution of teacher self-efficacy and job satisfaction by pinpointing those who leave the profession and those who remain.
APPENDIX A:
ELECTRONIC TEACHER EFFICACY
AND JOB SATISFACTION QUESTIONNAIRE
Teacher Efficacy and Job Satisfaction of Early Career Kentucky Agriculture Teachers

The purpose of this questionnaire is to obtain information from early career agriculture teachers in Kentucky. This questionnaire is designed to assess your perceived teacher efficacy as well as your level of satisfaction with teaching agriculture.

Your participation in this study is strictly voluntary and greatly appreciated. The information you provide will assist in evaluating how efficacious and satisfied you and your colleagues are with teaching and will allow proper interventions to occur in an effort to raise the level of teacher efficacy and job satisfaction of early career Kentucky Agriculture teachers. Therefore, your responses are vital. However, you are not required to participate in this study. It is strictly voluntary. Should you decide to participate in this study, please complete the questionnaire no later than Wednesday, April 25, 2007.

The number on the front of this questionnaire is for tracking purposes only. Confidentiality is guaranteed and no names will be associated with this study or its findings.

Thank you for participating in this important study. Through your participation, we can continue to provide adequate professional development, assistance, and mentoring to early career Kentucky agriculture teachers.

Please enter the ID number that was assigned to you:

Part I – Perceived Teacher Efficacy

<table>
<thead>
<tr>
<th>Choose the response you agree with the most</th>
<th>Nothing</th>
<th>Very Little</th>
<th>Some Influence</th>
<th>Quite A Bit</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How much can you get through to the most difficult students?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. How much can you do to help your students think critically?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. How much can you do to control disruptive behavior in the classroom?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. How much can you do to motivate students who show low interest in school work?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. To what extent can you make your expectations clear about student behavior?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. How much can you do to get students to</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choose the response you agree with the most</td>
<td>Nothing</td>
<td>Very Little</td>
<td>Some Influence</td>
<td>Quite A Bit</td>
<td>A Great Deal</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>---------</td>
<td>------------</td>
<td>----------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| 10. How much can you gauge student... | ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │
| 11. To what extent can you craft good... | ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │
| 12. How much can you do to foster student... | ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │
| 13. How much can you do to get children to... | ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │
| 14. How much can you do to improve the understanding of a... | ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │
| 15. How much can you do to calm a student who is disruptive or... | ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │
| 16. How well can you establish a classroom... | ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │
| 17. How much can you do to adjust your lessons to the proper development... | ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │
| 18. How much can you use a variety of assessment... | ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │
| 19. How well can you keep a few problem students from ruining an entire lesson? | ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │ ✔️ │

<table>
<thead>
<tr>
<th>Choose the response you agree with the most</th>
<th>Nothing</th>
<th>Very Little</th>
<th>Some Influence</th>
<th>Quite A Bit</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. To what extent can you provide an alternative explanation or example when students are confused?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. How well can you respond to difficult students?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. How much can you assist families in helping their children do well in school?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. How well can you implement alternative strategies in your classroom?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. How well can you provide appropriate challenges for very capable students?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Part II – Current Job Satisfaction**

<table>
<thead>
<tr>
<th>Indicate the response you agree with the most</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My job is interesting enough to keep me from getting bored.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. My friends seem more interested in their jobs than I am.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I consider my job pleasant.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I am often bored with my job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I feel satisfied with my job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Most of the time, I have to force myself to go to work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I definitely dislike my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I feel happier in my work than most other people.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Most days I am enthusiastic about my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Each day of work seems like it will never end.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I like my job better than the average worker does.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. My job is uninteresting.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I find real enjoyment in my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I am disappointed that I ever took this job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Part III – Demographic Information**

1) What is your age?

- [ ] 20–25
- [ ] 26–29
- [ ] 30–39
- [ ] 40–49
- [ ] 50–59
- [ ] Over 60

2) What is your gender?
3) The highest degree you have is:
   ☐ Bachelor's ☐ Master's ☐ Specialist ☐ Doctoral ☐ Other:

4) What is your current teaching rank?
   ☐ Rank I ☐ Rank II ☐ Rank III

5) What is your annual salary?
   ☐ Less than $20,000 ☐ $20-$29,999 ☐ $30-$39,999 ☐ $40-$49,999 ☐ Over $50,000

6) How long have you been teaching (as of the end of the current school year)?
   ☐ 1 - 2 years ☐ 3 - 4 years ☐ 5 - 6 years ☐ More than 6 years

7) At what institution did you receive your initial teaching certification? (Check the Appropriate Institution).
   ☐ Eastern Kentucky University ☐ University of Kentucky ☐ Morehead State University
   ☐ Western Kentucky University ☐ Murray State University ☐ Other (Specify):

Thank you for your participation!

Please click the submit button when you are finished.

Submit Survey  Reset survey values

Joey Blackburn
Department of Community and Leadership Development
307 Garrigus Building
Lexington, Kentucky 40546-0213
Phone: 859-257-3133
Fax: 859-257-1164

UNIVERSITY OF KENTUCKY
College of Agriculture

http://ces.ca.uky.edu/cld/teacherefficacy.htm

6/6/2007

54
APPENDIX B:
HARD COPY TEACHER EFFICACY
AND JOB SATISFACTION QUESTIONNAIRE
Teacher Efficacy and Job Satisfaction of Early Career Kentucky Agriculture Teachers

UNIVERSITY OF KENTUCKY
College of Agriculture
Purpose

The purpose of this questionnaire is to obtain information from early career agriculture teachers in Kentucky. This questionnaire is designed to assess your perceived teacher efficacy as well as your level of satisfaction with teaching agriculture.

Your participation in this study is strictly voluntary and greatly appreciated. The information you provide will assist in evaluating how efficacious and satisfied you and your colleagues are with teaching and will allow proper interventions to occur in an effort to raise the level of teacher efficacy and job satisfaction of early career Kentucky Agriculture teachers. Therefore, your responses are vital. However, you are not required to participate in this study. It is strictly voluntary. Should you decide to participate in this study, please return the completed questionnaire in the pre-paid, stamped envelope no later than Thursday, June 7, 2007.

The number on the front of this questionnaire is for tracking purposes only. Confidentiality is guaranteed and no names will be associated with this study or its findings.

Thank you for participating in this important study. Through your participation, we can continue to provide adequate professional development, assistant, and mentoring to early career Kentucky agriculture teachers.
**Instructions**

Please respond by **circling** the response that best describes your opinion of each item.

<table>
<thead>
<tr>
<th>Sample Question</th>
<th>Item</th>
<th>Circle your responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>#. My job is fulfilling.</td>
<td>1 2 3 4 5 6</td>
<td>4</td>
</tr>
</tbody>
</table>

This respondent indicated that he or she slightly disagrees with the statement “My job is fulfilling.”
## Part I – Perceived Teacher Efficacy

Circle the response you agree with the most

<table>
<thead>
<tr>
<th>Item</th>
<th>Nothing</th>
<th>Very Little</th>
<th>Some Influence</th>
<th>Quite A Bit</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How much can you get through to the most difficult students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. How much can you do to help your students think critically?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. How much can you do to control disruptive behavior in the classroom?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. How much can you do to motivate students who show low interest in school work?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. To what extent can you make your expectations clear about student behavior?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. How much can you do to get students to believe they can do well in school work?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. How well can you respond to difficult questions from your students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. How well can you establish routines to keep activities running smoothly?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. How much can you do to help your students value learning?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Item</td>
<td>Nothing</td>
<td>Very Little</td>
<td>Some Influence</td>
<td>Quite A Bit</td>
<td>A Great Deal</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>---------</td>
<td>-------------</td>
<td>----------------</td>
<td>-------------</td>
<td>--------------</td>
</tr>
<tr>
<td>10. How much can you gauge student comprehension of what you have taught?</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. To what extent can you craft good questions for your students?</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. How much can you do to foster student creativity?</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. How much can you do to get children to follow classroom rules?</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. How much can you do to improve the understanding of a student who is failing?</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. How much can you do to calm a student who is disruptive or noisy?</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. How well can you establish a classroom management system with each group of students?</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. How much can you do to adjust your lessons to the proper level for individual students?</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. How much can you use a variety of assessment strategies?</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. How well can you keep a few problem students from ruining an entire lesson?</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Nothing</td>
<td>Very Little</td>
<td>Some Influence</td>
<td>Quite A Bit</td>
<td>A Great Deal</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>---------</td>
<td>-------------</td>
<td>----------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Circle</strong> the response you agree with the most</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. To what extent can you provide an alternative explanation or example when students are confused?</td>
<td>1 2 3 4</td>
<td>5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. How well can you respond to defiant students?</td>
<td>1 2 3 4</td>
<td>5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. How much can you assist families in helping their children do well in school?</td>
<td>1 2 3 4</td>
<td>5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. How well can you implement alternatives strategies in your classroom?</td>
<td>1 2 3 4</td>
<td>5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. How well can you provide appropriate challenges for very capable students?</td>
<td>1 2 3 4</td>
<td>5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Instructions**

Please respond by circling the response that best describes your opinion of each item.

**Part II – Current Job Satisfaction**

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My job is interesting enough to keep me from getting bored.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. My friends seem more interested in their jobs than I am.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I consider my job pleasant.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I am often bored with my job.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I feel satisfied with my job.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Most of the time, I have to force myself to go to work</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I definitely dislike my work.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I feel happier in my work than most other people.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Most days I am enthusiastic about my work.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Each day of work seems like it will never end.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I like my job better than the average worker does.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. My job is uninteresting.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I find real enjoyment in my work.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I am disappointed that I ever took this job.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part III-
Demographic Information

Directions: Circle the response that best describes you.

1) What is your age?
   A) 20-25
   B) 26-29
   C) 30-39
   D) 40-49
   E) 50-59
   F) Over 60

2) What is your gender?
   A) Male
   B) Female

3) The highest degree you have is:
   A) Bachelor’s
   B) Master’s
   C) Specialist
   D) Doctoral
   E) Other: __________

4) What is your current teaching rank?
   A) Rank I
   B) Rank II
   C) Rank III
5) What is your annual salary?
   A) Less than $20,000
   B) $20,000-$29,999
   C) $30,000-$39,999
   D) $40,000-$49,999
   E) Over $50,000

6) How long have you been teaching (as of the end of the current school year)?
   A) 1 – 2 years
   B) 3 - 4 years
   C) 5 – 6 years
   D) More than 6 years

7) At what institution did you receive your initial teaching certification? (Check the
   Appropriate Institution).
   _____ Eastern Kentucky University
   _____ University of Kentucky
   _____ Morehead State University
   _____ Western Kentucky University
   _____ Murray State University
   _____ Other (Specify) - _______________
Thank you!

We appreciate your participation!

Joey Blackburn
Department of Community and Leadership Development
307 Garrigus Building
Lexington, Kentucky 40546-0215
Phone: 859-257-3153
Fax: 859-257-1164
APPENDIX C:
INSTRUCTIONS FOR SCORING
THE TEACHER SENSE OF
EFFICACY SCALE
Directions for Scoring the Teachers' Sense of Efficacy Scale

Developers: Megan Tschannen-Moran, College of William and Mary Anita Woolfolk Hoy, the Ohio State University.

Construct Validity

For information the construct validity of the Teachers' Sense of Teacher efficacy Scale, see:


Factor Analysis

It is important to conduct a factor analysis to determine how your participants respond to the questions. We have consistently found three moderately correlated factors: Efficacy in Student Engagement, Efficacy in Instructional Practices, and Efficacy in Classroom Management, but at times the make up of the scales varies slightly. With preservice teachers we recommend that the full 24-item scale (or 12-item short form) be used, because the factor structure often is less distinct for these respondents.

Subscale Scores

To determine the Efficacy in Student Engagement, Efficacy in Instructional Practices, and Efficacy in Classroom Management subscale scores, we compute unweighted means of the items that load on each factor. Generally these groupings are.

**Long Form**

| Efficacy in Student Engagement: | Items 1, 2, 4, 6, 9, 12, 14, 22 |
| Efficacy in Instructional Strategies: | Items 7, 10, 11, 17, 18, 20, 23, 24 |
| Efficacy in Classroom Management: | Items 3, 5, 8, 13, 15, 16, 19, 21 |

**Short Form**

| Efficacy in Student Engagement: | Items 2, 3, 4, 11 |
| Efficacy in Instructional Strategies: | Items 5, 9, 10, 12 |
| Efficacy in Classroom Management: | Items 1, 6, 7, 8 |
Reliabilities

In Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education, 17*, 783-805, the following were found:

<table>
<thead>
<tr>
<th></th>
<th>Long Form</th>
<th></th>
<th></th>
<th>Short Form</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>alpha</td>
<td>Mean</td>
<td>SD</td>
<td>alpha</td>
</tr>
<tr>
<td><strong>OSTES</strong></td>
<td>7.1</td>
<td>.94</td>
<td>.94</td>
<td>7.1</td>
<td>.98</td>
<td>90</td>
</tr>
<tr>
<td><strong>Engagement</strong></td>
<td>7.3</td>
<td>1.1</td>
<td>.87</td>
<td>7.2</td>
<td>1.2</td>
<td>81</td>
</tr>
<tr>
<td><strong>Instruction</strong></td>
<td>7.3</td>
<td>1.1</td>
<td>.91</td>
<td>7.3</td>
<td>1.2</td>
<td>86</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>6.7</td>
<td>1.1</td>
<td>.90</td>
<td>6.7</td>
<td>1.2</td>
<td>86</td>
</tr>
</tbody>
</table>

1 Because this instrument was developed at the Ohio State University, it is sometimes referred to as the Ohio State *Teacher Efficacy Scale*. We prefer the name, *Teachers' Sense of Efficacy Scale*. 
APPENDIX D:
INITIAL POSTCARD
SENT TO SUBJECTS
The Agricultural Education Program at the University of Kentucky (UK) is in the process of conducting a study regarding perceived teacher efficacy and job satisfaction of all early career agriculture teachers in Kentucky. The goal of the study is to determine how confident, or efficacious, and satisfied Kentucky’s early career agriculture teachers are with teaching. You have been selected to participate in this study based on the number years you have been teaching agriculture. Because this is a study of all early career agriculture teachers in Kentucky, your responses are vital. Your participation is completely voluntary; however, we would appreciate your responses. The findings of this study will be useful in determining the career condition of Kentucky’s early career agriculture teachers.

The purpose of this postcard is to provide you the opportunity to request whether you receive an electronic or hard copy questionnaire. If you wish to receive the hard copy, please contact me via email at joey.blackburn@uky.edu or call (859) 257-3153; otherwise, you will receive the electronic copy. Please note that the questionnaire will be sent to you via email from me, it is not a SPAM email. Should you decide to complete the survey you must enter the following code at the top of the survey: Study No. This number will be used to enter you into the drawing as well as to follow-up with individuals who do not respond to the study. However, the identifying information needed for contacting you will never be used in the publication of this research. If you have a more current email address than the one listed in the 2006-2007 Kentucky Agriculture Teachers Directory, please contact me through one of the means listed above.

On behalf of the UK Agricultural Education Program, thank you in advance for your assistance and participation in this much needed study.

Sincerely,

J. Joey Blackburn
Graduate Teaching Assistant
University of Kentucky
APPENDIX E:
FIRST EMAIL
TO SUBJECTS
Dear Name,

The Agricultural Education Program at the University of Kentucky (UK) is in the process of conducting a study regarding self-perceived teacher efficacy and job satisfaction of all early career agriculture teachers in Kentucky. Your insight on these topics is highly valued. The purpose of this email is to invite you to participate in this important study. The questionnaire consists of three sections. The first section is designed to measure your perceived teacher efficacy in the areas of student engagement, instructional practices, and classroom management. The second section assesses your current level of job satisfaction. The final section consists of seven demographic questions. The results of this study will be published in a refereed journal so that all interested people can better understand the career condition of Kentucky’s early career agriculture teachers.

Your participation in this study is completely voluntary; however, I ask you to take a few moments to complete and submit this questionnaire no later than April 26, 2007. All completed, submitted questionnaires will be entered into a drawing for one of three FFA Unlimited gift certificates valued at $30 each.

You may access the questionnaire by clicking on the following link:

http://ces.ca.uky.edu/cld/teacherefficacy.htm

Should you decide to complete the survey you must enter the following code at the top of the survey: Study No. This number will be used to enter you into the drawing as well as to follow-up with individuals who do not respond to the study. However, the identifying information needed for contacting you will never be used in the publication of this research. Only summated, group data will be reported. Please respond to each question openly and honestly without reservation. While you are not obligated to participate in this study, your responses are very important to the UK Agricultural Education Program as we continue the success of current and future teachers. You may refuse to participate with no negative effects to your position or relationship with UK.

If you have questions concerning this letter and/or study, please do not hesitate to contact me via e-mail at joey.blackburn@uky.edu or by phone (859) 257-3153. You may also contact the UK Campus IRB Office at (859) 257-9428 for further information concerning human participation in research studies.

Thank you for your interest in this important study. I look forward to receiving your responses!
APPENDIX F:
REMINDER EMAIL
SENT TO SUBJECTS
Dear Name:

Approximately two weeks ago, you were sent an email containing a link to a questionnaire concerning a study on perceived teacher efficacy and job satisfaction of early career agriculture teachers in Kentucky. As of today, I have not received your response. Please take a few moments to complete the questionnaire and submit it by May 8, 2006. Your responses are important to the University of Kentucky (UK) Agriculture Education Program as we determine the career condition of Kentucky’s early career agriculture teachers.

You may access the questionnaire by clicking on the following link:

http://ces.ca.uky.edu/cltd/teacherefficacy.htm

Should you decide to complete the survey you must enter the following code at the top of the survey: Study No. This number will be used to enter you into the drawing as well as to follow-up with individuals who do not respond to the study. However, the identifying information needed for contacting you will never be used in the publication of this research. Only summated, group data will be reported. Please respond to each question openly and honestly without reservation. While you are not obligated to participate in this study, your responses are very important to the UK Agricultural Education Program as we continue the success of current and future teachers. You may refuse to participate with no negative effects to your position or relationship with UK.

If you have already completed and submitted the questionnaire, thank you very much for your response and please disregard this message. If you questions regarding the questionnaire, please call (859) 257-3153 or e-mail me at joey.blackburn@uky.edu and I will be happy to assist you.

On behalf of the entire UK Agricultural Education Program, thank you for your assistance and participation in this much needed study.
APPENDIX G:
SECOND REMINDER EMAIL
SENT TO SUBJECTS
Dear Name,

Approximately three weeks ago, you were sent an email containing a link to a questionnaire concerning a study on perceived teacher efficacy and job satisfaction of early career agriculture teachers in Kentucky. As of today, I have not received your response. Please take a few moments to complete the questionnaire and submit it by May 11, 2006. Your responses are important to the University of Kentucky (UK) Agriculture Education Program as we determine the career condition of Kentucky’s early career agriculture teachers.

You may access the questionnaire by clicking on the following link:

http://ces.ca.uky.edu/clu/teacherefficacy.htm

Should you decide to complete the survey you must enter the following code at the top of the survey: Study No. This number will be used to enter you into the drawing as well as to follow-up with individuals who do not respond to the study. However, the identifying information needed for contacting you will never be used in the publication of this research. Only summated, group data will be reported. Please respond to each question openly and honestly without reservation. While you are not obligated to participate in this study, your responses are very important to the UK Agricultural Education Program as we continue the success of current and future teachers. You may refuse to participate with no negative effects to your position or relationship with UK.

If you have already completed and submitted the questionnaire, thank you very much for your response and please disregard this message. If you questions regarding the questionnaire, please call (859) 257-3153 or e-mail me at joey.blackburn@uky.edu and I will be happy to assist you.

On behalf of the entire UK Agricultural Education Program, thank you for your assistance and participation in this much needed study.
APPENDIX H:
COVER LETTER INCLUDED
IN HARD COPY PACKET
SENT TO SUBJECTS
May 23, 2007

Dear ,

Approximately three weeks ago, an email was sent to you on behalf of the University of Kentucky (UK) Agricultural Education Program. This email contained a link to a questionnaire concerning perceived teacher efficacy and job satisfaction of Kentucky’s early career agriculture teachers. Our records indicate that of this date your response to this questionnaire has not been received.

To date, many of your colleagues have responded. Our goal with this study is to obtain all of the questionnaires distributed in an effort to accurately measure teacher efficacy and job satisfaction of all early career agriculture teachers in Kentucky. The results of this study will be useful in determining the career condition of Kentucky’s early career agriculture teachers and if any programs need to be developed to ensure Kentucky’s agriculture teachers are fully prepared to teach.

Your will notice a number on the front of the questionnaire. This number is used to track the participants who respond to the study and those who do not. Once your completed questionnaire is returned, your name will be checked off the mailing list. Protecting your privacy is very important to the Agricultural Education Program and the University.

Please take a few moments to complete the questionnaire and return it in the pre-paid, stamped envelope no later than **Thursday June 7, 2007**. Should you have questions concerning this letter and/or study, please do not hesitate to contact me via email at joey.blackburn@uky.edu or by phone (859) 257-3153. You may also contact the UK Campus IRB Office at (859) 257-9428 for further information concerning human participation in research studies.

Thank you for your interest in this important study. I look forward to receiving your responses!

Respectfully,

J. Joey Blackburn
Graduate Teaching Assistant
University of Kentucky
APPENDIX I:
ITEM-BY-ITEM ANALYSIS
OF THE TEACHER SENSE
OF EFFICACY SCALE
### Table 7

*Item-by-item analysis of the Teacher Sense of Efficacy Scale (TSES)*

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>4</td>
<td>5.9</td>
<td>4</td>
<td>5.9</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>2.9</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>2.9</td>
<td>1</td>
<td>1.5</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>6</td>
<td>8.8</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>13</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>2.9</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>13</td>
</tr>
<tr>
<td>13</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>2.9</td>
<td>9</td>
</tr>
<tr>
<td>16</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>1</td>
<td>1.5</td>
<td>0</td>
<td>0.0</td>
<td>3</td>
<td>4.4</td>
<td>3</td>
<td>4.4</td>
<td>9</td>
</tr>
<tr>
<td>18</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>2.9</td>
<td>0</td>
<td>0.0</td>
<td>9</td>
</tr>
<tr>
<td>19</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>2.9</td>
<td>6</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>3</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>1.5</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>2.9</td>
<td>1</td>
<td>1.5</td>
<td>6</td>
</tr>
<tr>
<td>22</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>2.9</td>
<td>4</td>
<td>5.9</td>
<td>12</td>
</tr>
<tr>
<td>23</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.5</td>
<td>1</td>
<td>1.5</td>
<td>12</td>
</tr>
<tr>
<td>24</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>2.9</td>
<td>1</td>
<td>1.5</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX J:
ITEM-BY-ITEM ANALYSIS OF
THE BRAYFIELD-ROTHE JOB
SATISFACTION INDEX AS
MODIFIED BY WARNER (1973)
Table 8

*Item-by-item analysis of the Brayfield-Rothe Job Satisfaction Index, as modified by Warner (1973)*

| Item | Brayfield-Rothe Job Satisfaction Index, as modified by Warner (1973) | f | % | f | % | f | % | f | % | f | % |
|------|---------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|---|
| 1    |                                                               | 0 | 0.0 | 1 | 1.5 | 3 | 4.4 | 31 | 45.6 | 33 | 48.5 |
| 2    |                                                               | 1 | 1.5 | 4 | 5.9 | 9 | 13.2 | 37 | 54.4 | 17 | 25.0 |
| 3    |                                                               | 1 | 1.5 | 4 | 5.9 | 2 | 2.9 | 42 | 61.2 | 19 | 27.9 |
| 4    |                                                               | 2 | 2.9 | 1 | 1.5 | 3 | 4.4 | 32 | 47.1 | 30 | 44.1 |
| 5    |                                                               | 1 | 1.5 | 3 | 4.4 | 7 | 10.3 | 36 | 52.2 | 19 | 27.9 |
| 6    |                                                               | 1 | 1.5 | 3 | 4.4 | 4 | 5.9 | 30 | 44.1 | 30 | 44.1 |
| 7    |                                                               | 1 | 1.5 | 1 | 1.5 | 3 | 4.4 | 23 | 33.8 | 40 | 58.8 |
| 8    |                                                               | 1 | 1.5 | 4 | 5.9 | 14 | 20.6 | 36 | 52.2 | 13 | 19.1 |
| 9    |                                                               | 1 | 1.5 | 1 | 1.5 | 7 | 10.3 | 43 | 63.6 | 15 | 22.1 |
| 10   |                                                               | 14 | 20.6 | 39 | 57.4 | 8 | 11.8 | 6 | 8.8 | 1 | 1.5 |
| 11   |                                                               | 1 | 1.5 | 4 | 5.9 | 10 | 14.7 | 38 | 55.2 | 15 | 22.1 |
| 12   |                                                               | 2 | 2.9 | 4 | 5.9 | 2 | 2.9 | 26 | 38.2 | 33 | 48.5 |
| 13   |                                                               | 1 | 1.5 | 2 | 2.9 | 2 | 2.9 | 40 | 58.8 | 23 | 33.8 |
| 14   |                                                               | 1 | 1.5 | 1 | 1.5 | 2 | 2.9 | 18 | 26.5 | 46 | 67.6 |
References


**Vita**

John Joseph “Joey” Blackburn was born December 16, 1983 in Columbia, Missouri. Upon graduation from South Callaway R-II High School in Mokane, Missouri in 2002, he received the following degrees: B.S. in Agricultural Education, Teaching Option with a minor in Agricultural Economics from the University of Missouri-Columbia (2006) and Master of Science in Career, Technical, and Leadership Education, Agricultural Education from the University of Kentucky (2007). He is currently a secondary high school agricultural education teacher in the Marceline R-V School District, Marceline, MO.

**Poster Presentations**


* Awarded Second Runner-Up Outstanding Poster Presentation – Research Division (automatically qualified for 2007 AAAE Conference)