

THE INFLUENCE OF SOCIAL SUPPORT ON TEACHER SELF-EFFICACY
IN NOVICE AGRICULTURAL EDUCATION TEACHERS

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by

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IN NOVICE AGRICULTURAL EDUCATION TEACHERS

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a candidate for the degree of

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and hereby certify that, in their opinion, it is worthy of acceptance.

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DEDICATION

To my parents, Steve and Norma Korte – I am thankful to have parents who understand my uniqueness and love me unconditionally. Your academic accomplishments and constant encouragement have paved the way for my endeavors. Throughout my professional and personal life journeys, you have always demonstrated your support. I will never be able to thank you enough for all you have done for me.

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ABSTRACT

Teacher self-efficacy affects student achievement, job satisfaction, and teacher retention. Although the benefits of social support have been extensively studied in medicine and psychology, limited research has been completed in education to evaluate the ways in which social support influences teacher self-efficacy. The purpose of this descriptive-relational study was to determine the influence of sources and types of support on teacher self-efficacy in novice agricultural education teachers. The target population was novice teachers of agriculture from Illinois ($n = 192$) and Indiana ($n = 104$). Teachers' perceptions of support from three non-school sources (e.g., spouse or partner, family, friends) and six school sources (e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community) of support within three support constructs were used to predict the contribution of social support on teacher self-efficacy. Novice agricultural education teachers' perceptions of support from school sources – predominantly students and community – explained 25.3% of the variance in teacher self-efficacy. Whereas mastery experiences are widely recognized as the primary source of self-efficacy, the results from this study imply the support (i.e., verbal or social persuasion) novice agricultural education teachers perceive from students and community are the most significant predictors of teacher self-efficacy. These findings advocate the need for novice teachers of agriculture to develop quality relationships with students and community members to increase teacher self-efficacy and potentially improve teacher retention.

CHAPTER 1

INTRODUCTION

Scientific evidence has proven that plants require a healthy, nurturing and supportive environment to meet basic physiological needs. In order to achieve optimum growth and produce fruit, plants must establish a substantial root system and be supported by the essential growth elements of fertile soil, sunlight, and water. When these elements are present, plants are more likely to withstand and overcome challenges such as wind, pests, and drought.

Like plants, novice teachers must also develop a strong foundation, rooted in a belief they can become effective educators. This belief must be supported by essential growth elements which stimulate their development while strengthening their commitment to teaching. The absence of these elements may cause novice teachers to leave a profession which, many of whom, believe they were “called” to do (Bullough & Hall-Kenyon, 2012).

Plants which wither and die in harsh conditions exhibit some similarities to novice teachers who experience unfavorable personal and professional circumstances. Novice teachers can become overwhelmed with the many facets of their chosen career, may experience hostility from others, and can become burdened with the worries of life and the lure of wealth in another profession. Moreover, high expectations from parents, students, and members of the community, combined with social comparisons with other teachers and FFA advisors, may influence job satisfaction and career longevity for novice teachers of agriculture (Kitchel, Smith, Henry, Robinson, Lawver, Park, & Schell, 2012).

Consequently, novice teachers must feel supported by environmental elements (e.g., sources and types of support) to fulfill their psychological and physiological needs. Moreover, perceived support will help novice teachers cope with the challenges of the profession and encourage a long-standing, fruitful career as an agricultural education teacher.

Teacher Attrition

Teacher attrition – teachers leaving the profession of teaching – has increased at an alarming rate in the United States. Ingersoll (2012) estimated that between 40% and 50% of teachers leave within the first five years of entry into teaching. For novice teachers, this is an increase of approximately one-third over the past two decades. Teacher attrition directly affects school districts by inflicting financial costs and negative impacts on student achievement (as cited in DeAngelis, Wall, & Che, 2013). Furthermore, the decline in teachers' commitment to the profession has contributed toward shortages of qualified teachers in many disciplines, including agricultural education (Kantrovich, 2010).

As reported in the 2014 Executive Summary from the National Agricultural Education Supply and Demand Study, more than half of the states reporting lost secondary agriculture programs or agricultural educator teaching positions since 2011; nearly 8% of the high school agriculture teachers surveyed in the nationwide report communicated plans to leave the profession. Although retirement was the most frequently reported reason for leaving, a combined 48.2% of respondents who left the profession of teaching (a) pursued employment in another business or industry; (b) transitioned to a school administrator position; or (c) chose to stay at home in a parent or caregiver role (Foster, Lawver, & Smith, 2015). Due to the scarce supply of agricultural education teachers, many of the open

positions were filled by provisional or alternatively licensed teachers. In the Midwest alone, nearly one out of every eight new agriculture education teachers hired in 2015 were non-licensed educators (Foster, Lawver, Smith, & Thompson, 2016).

Career Commitment and Support Defined

Researchers in education, business, and psychology have studied teacher retention, employee turnover, and career commitment for decades. *Career commitment* is defined as an individual's attitude, motivation, and psychological attachment towards a profession or vocation (Blau, 1985; Blau, 1988; Coladarci, 1992; Goulet & Singh, 2002; Knobloch & Whittington, 2003; The Project on the Next Generation of Teachers, 2006). In addition to salary, benefits, and opportunities for advancement – all of which are factors which may influence career commitment – researchers also determined employees' feelings of support, particularly from supervisors and colleagues, positively influenced career commitment and job satisfaction (Blau, 1988; Jensen, Patel, & Messersmith, 2013; Stockard & Lehman, 2004).

As defined by Cobb (1976), *support* is the belief that one is cared for and loved, wherein the feelings of support contribute to personal appraisals of esteem and value. Furthermore, individuals who possess the psychological awareness of support have an enhanced sense of worth and belonging. The self-assessment of support is often expressed within a larger social network of people who have a mutual obligation toward the success of an organization. In the context of education, teachers who had supportive administrators and colleagues, who also felt students and parents respected them, were more likely to stay in their current school and continue in the profession of teaching (University of Chicago Urban Education Institute, 2009).

Whereas perceived support is a predominant reason people stay committed to a career, stressors such as workload, job demands, and lack of autonomy contribute toward employees' decision to leave a career. These variables, in addition to collective efficacy (Caspersen & Raaen, 2013; Klassen & Chiu, 2010; Knobloch & Whittington, 2002), supervisor leadership (Massenberg, Spurk, & Kauffeld, 2015; Tickle, Chang, & Kim, 2010), and working conditions (Chou, 2015; Gersten, Gillman, Mornant, & Billingsley, 1995; Hancock & Scherff, 2010) impact self-efficacy and its subsequent relationship to career commitment.

Self-Efficacy

Self-efficacy is a belief in one's ability to be successful in completing a given task or job (Bandura, 1977, 1986, 1997). The perception of self-efficacy is a psychological state of mind which encompasses characteristics from the locus of control and outcome-expectancy theories. Individuals' perception of control is dependent on their interpretation of themselves as either a contributor to their life circumstances, or merely an outcome of external controls (Bandura, 2009). Moreover, perceptions of control influence self-efficacy (Rotter, 1966), self-efficacy is manipulated by verbal persuasion (i.e., support), and perceptions of self-efficacy contribute to career commitment. Consequently, employees who feel supported in the workplace possess greater levels of self-efficacy and increased commitment to their job. Conversely, employees in high stress, low support environments are likely to have low levels of self-efficacy and are more apt to leave their place of employment (Chan, 2002).

Teacher Self-Efficacy

Specific to education, low teacher self-efficacy is a primary reason teachers choose to leave education (Brown, Lee, & Collins, 2014; Knobloch & Whittington, 2002; McKim &

Velez, 2015; Swan, Wolf, & Cano, 2011; Tschannen-Moran & Woolfolk Hoy, 2007).

Teacher self-efficacy is defined by Tschannen-Moran & Woolfolk Hoy (2001) as the belief that one is capable of bringing about desired outcomes of student engagement and learning, regardless of how difficult or unmotivated the students may be. Moreover, teacher self-efficacy has been linked to career commitment and retention, teacher quality, student achievement, and job satisfaction (Hancock & Scherff, 2010; Kelly & Northrop, 2015; Sorenson & McKim, 2014; Struyven & Vanthournout, 2014). Thus, teachers who possess high levels of self-efficacy are more likely to remain in the profession.

Novice Teachers

Novice teachers, those with less than five years of experience, are most likely to experience the negative consequences of low self-efficacy. Novice teachers self-report their highest levels of teacher self-efficacy at the end of the student teaching experience, but their lowest teacher self-efficacy at the conclusion of their first year in the profession (as cited in Brown et al., 2014; Woolfolk Hoy, 2000). Researchers postulate this may be either a result of the gap between novice teachers' standards which they set for themselves and their actual perceived performance (i.e., reality shock) (Corbell, Reiman, & Nietfeld, 2008; Kelly & Northrup, 2015), or the removal of accessible support they received from their cooperating teacher and university supervisor during the student teaching experience (Knobloch & Whittington, 2002; Roberts, Harlin, & Ricketts, 2006; Stripling, Ricketts, Roberts, & Harlin, 2008). Moreover, novice teachers might also experience symptoms associated with culture shock (Caspersen & Raaen, 2013; Langley, Martin, & Kitchel, 2014), a major life event or transition (Caspersen & Raaen, 2013; Heaney & Israel, 2008; Zimet, Dahlem, Zimet, & Farley, 1988), and lack of social connectedness as they familiarize themselves in a new

community (Caspersen & Raaen, 2013; Langley et al., 2014). These stressors, in addition to perceived lack of control over external work and personal circumstances, along with feelings of isolation in the school environment (Buchanan, Prescott, Schuck, Aubusson, & Burke, 2013; Burke, Aubusson, Schuck, Buchanan, & Prescott, 2015; Thoits, 1995; Wethington & Kessler, 1986), increase the likelihood of psychological disorders (e.g., emotional strain, anxiety, and depression) and use of negative behavioral coping responses (e.g., smoking, drug or alcohol use); subsequently, these health-debilitating behaviors increase the risk of physiological illnesses (e.g., chronic stress and sleep disorders) (Cobb, 1976; Cohen, 2004). As stated by Carroll (2005) in his report for the National Commission on Teaching and America's Future, "[Teachers] leave for many reasons, but lack of support is at the top of the list" (Carroll, 2005, p. 199).

Teachers, like many other professionals, need to feel supported in their efforts. Regardless of the profession, high levels of perceived support result in more efficacious feelings and an increased likelihood the individual will remain committed to his or her career. Unfortunately, education has not adopted the philosophies of the corporate world in respect to onboarding practices with new or early career employees and allocation of resources toward human capital development. "No other profession takes newly certified graduates, places them in the same situation as seasoned veterans, and gives them no organized support" (Maistre & Pare, 2010, p. 560). Even though novice teachers begin their careers with anticipation and enthusiasm, how can they be expected to thrive with little to no support? With the multitude of stressors faced in the critical early years of teaching, novice teachers must feel supported to succeed and remain in the profession.

Sources of Support

Researchers who study organizational behavior determined employees' perceptions of support from supervisors and colleagues are predictors of self-efficacy and career commitment (Chou, 2015; Massenberg et al., 2015). Similarly in the world of education, support from administrative leadership (Buchanan et al., 2013; Tickle et al., 2010) and other teachers in the school (Darling-Hammond, 2003; Devos, Dupriez, & Paguay, 2011; Ingersoll, 2012; Kelly & Northrup, 2015) are predictors of teacher self-efficacy and career commitment. In addition to these shared sources of support, schools are unique to other workplace environments in that perceptions of support are also derived from students, parents of students (Beard, Hoy, & Hoy, 2010; Fantilli & McDougall, 2009; Struyven & Vanthournout, 2014), and the local community (Tschannen-Moran & Woolfolk Hoy, 2002). Moreover, personal sources of support also contribute toward self-efficacy beliefs and one's motivation to stay committed to a career (Bataineh, 2009; Cornu, 2013; Dignam & West, 1988; Wethington & Kessler, 1986). The network of personal sources of support for teachers includes family (e.g., siblings, parents, children), friends outside of work, and a spouse or partner.

In an effort to build a support network which will enhance career commitment while improving teacher self-efficacy, it is also essential to identify the *types* of support which are most beneficial for novice teachers. Social support is categorized by House (1981) into four primary areas – emotional, appraisal, informational, and instrumental. *Emotional support* includes feelings of concern, love, trust, and empathy. This form of support is demonstrated through the actions of listening and caring for others. *Appraisal support* involves the process of receiving affirmation and constructive feedback; subsequent psychological outcomes from

appraisal support include social comparison and reflective evaluation. *Informational support* is acquired when a person receives advice or suggestions; often, this directive behavior is experienced when problems arise which need to be solved. *Instrumental support* is obtained in the form of tangible items. Examples of tangible items include money, gifts, and donations of time or resources (Heaney & Israel, 2008; House, 1981; House & Wells, 1978).

Conceptual Framework

The theoretical framework for this study was derived from research conducted on social support, outcome-expectancy theories, and teacher self-efficacy. Social support acts as a buffering and coping mechanism to combat stressors and stressful events (Cohen & Wills, 1985). When an individual is faced with a potentially stressful event, he or she will simultaneously appraise the *availability* of social support resources along with the *degree of stress* associated with the event. The assimilation of an appraised stressful event and social support resources result in an emotionally linked physiological response or behavior adaptation. Depending on the influence of social support, the long term impact of the stressful event may result in a physiological or psychological reaction. As shown in Figure 1.1, this reaction is defined as an illness or illness behavior.

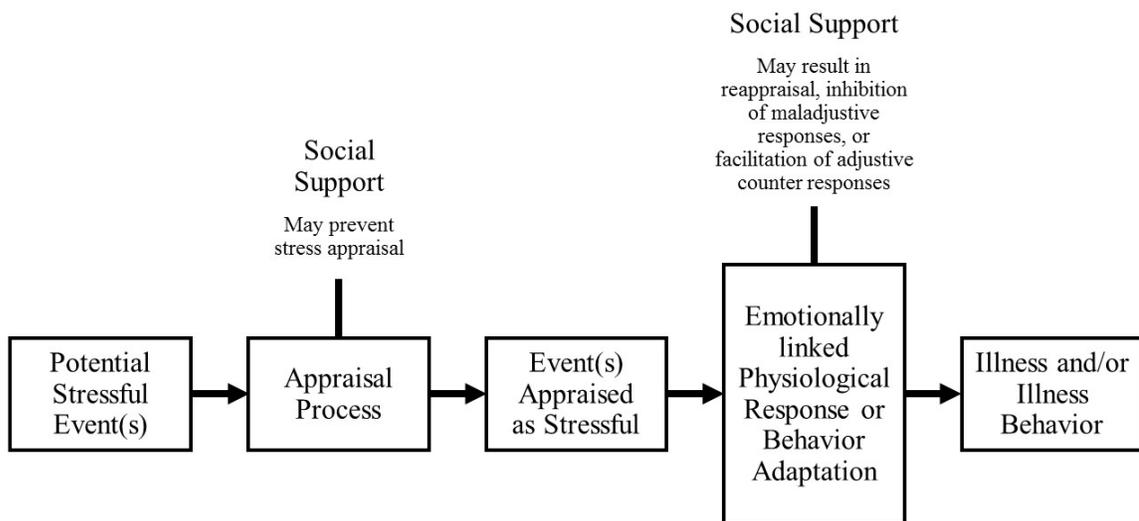


Figure 1.1 Two points at which social support may interfere with the hypothesized causal link between stressful events and illness (Cohen & Wills, 1985).

To add to the research on social support and its influence on physiological and psychological outcomes, Bandura's (1997) research on outcome-expectancy theories and the interactions between social support and efficacious beliefs also served as underpinnings for

this research study. When personal and professional stressors are perceived as challenges, a person will rely on his or her efficacious beliefs to strive toward a desired outcome.

As shown in Figure 1.2, the anticipated outcome is influenced by the (a) person; (b) level, strength, and generality of efficacious beliefs; (c) behavior; and (d) physical, social, and self-evaluative expectations associated with the outcome. As a result, individuals will act with specific behaviors if they believe the behavior will bring about an expected outcome; moreover, the effort they contribute toward the behavior is influenced by the level, strength, and generality of their efficacious beliefs to accomplish the desired outcome.

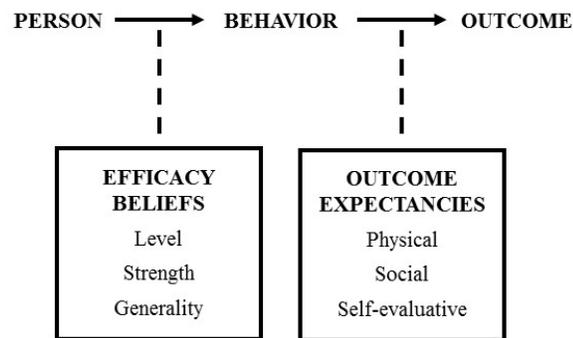


Figure 1.2 The conditional relationships between efficacy beliefs and outcome expectancies (Bandura, 1997).

To further explain the dimensions of psychological stressors and the influence of stressors on response behaviors and efficacious beliefs, Bandura (1997) identified distinct interpersonal threats which may influence an expected outcome behavior. As shown in Figure 1.3, some of the interpersonal threats which influence demonstrated behavior include coping efficacy, personal vulnerability, risk discernment, perceived risk, cognitive control efficacy, negative thoughts, and anxiety. Whereas the combination of coping efficacy, personal vulnerability, risk discernment, and perceived risk are closely associated with the

characteristics of interpersonal trust (Dirks & Ferrin, 2002; Evans & Revelle, 2008; Rotter, 1971), cognitive control efficacy, negative thoughts, and anxiety are closely aligned with dimensions of internal and external loci of control (Rotter, 1966).

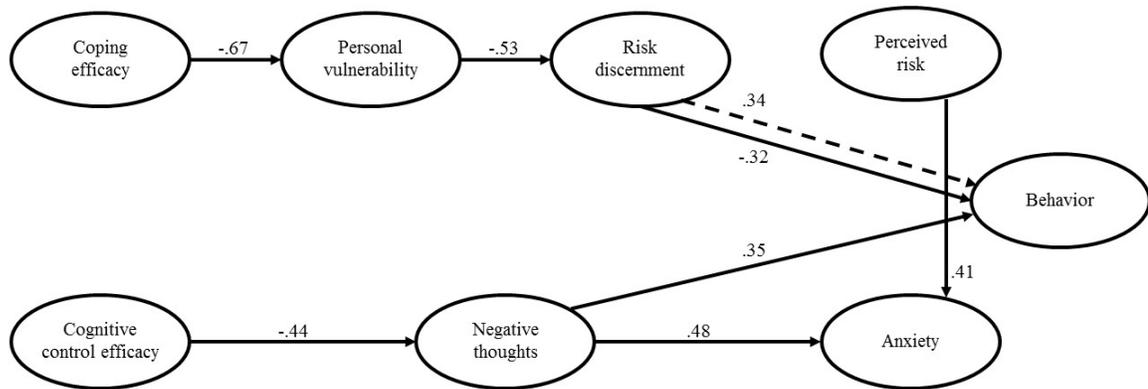


Figure 1.3 Path analysis of the causal structure of coping behavior involving interpersonal threats. The numbers on the paths of influence are the significant standardized path coefficients. The solid lines to Behavior represent avoidant behavior; the dotted line represents participant behavior (Bandura, 1997).

Research from Cohen and Wills (1985) and Bandura (1997), combined with knowledge of social support constructs (House, 1981) and teacher self-efficacy (Tschannen-Moran & Woolfolk Hoy, 2001) served as the foundation for the conceptual framework used in this study. As shown in Figure 1.4, social support can either be perceived as available or received in the forms of emotional support, appraisal support, informational support, or instrumental support (Heaney & Israel, 2008; House & Wells, 1978). Previous research findings suggest consolidation of the *emotional* and *appraisal* support constructs into one construct (Cohen & Hoberman, 1983; House, 1981; House & Wells, 1978); for the purposes of this study, this construct was identified as

emotional/appraisal support. Support may come from *school* (i.e., work) sources – administrators, teachers, students, parents, or community (House & Wells, 1978; Knobloch & Whittington, 2002; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007) – or *non-school* (i.e., personal) sources – spouse or partner, family, or friends outside of work (Bataineh, 2009; Cohen & Wills, 1985; Cornu, 2013; Dignam & West, 1988; Fantilli & McDougall, 2009; Zimet et al., 1988). Along with other variables, the support a novice teacher may receive or perceive as available influences his or her perceived level of teacher self-efficacy (Tschannen-Moran & Woolfolk Hoy, 2001); teacher self-efficacy is a predictor of one’s psychological commitment to a career (Burke et al., 2015; DeAngelis et al., 2013; Devos et al., 2012; Maistre & Pare, 2010).

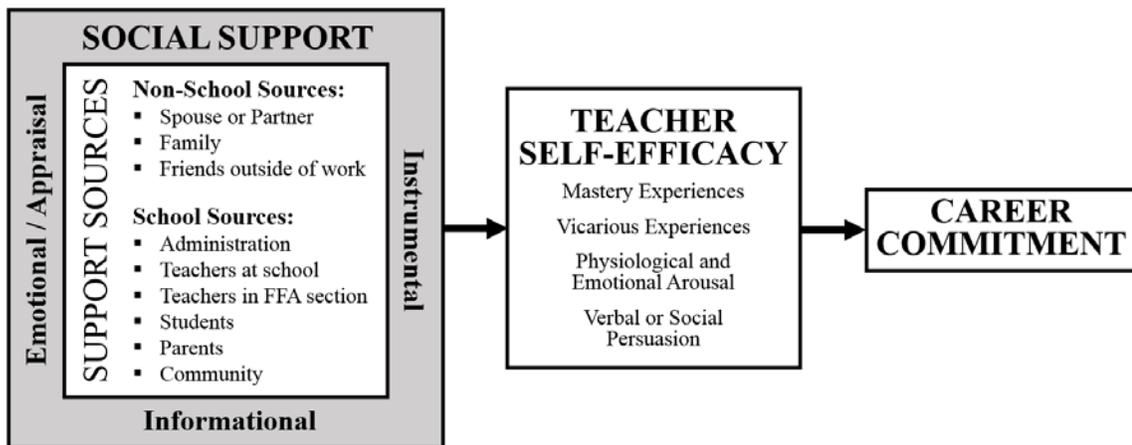


Figure 1.4 Constructs and Variables in the Current Study

Statement of the Problem

Similar to a plant which requires a healthy and supportive environment to thrive in challenging conditions, a novice teacher of agriculture must also be supported to combat various stressors of personal and professional life. Researchers have determined clear connections between the perceptions of available social support and self-efficacy, and between self-efficacy and career commitment (Bandura, 2009; Chou, 2015; Coladarci, 1992; Collie, Schapka, & Perry, 2012; Darling-Hammond, 2003; DeAngelis et al., 2013; Hancock & Scherff, 2010; Ingersoll, 2012; Jones, Youngs, & Frank, 2013; Knobloch & Whittington, 2003; Struyven & Vanthournout, 2014). In consideration of the high attrition risks for novice teachers and the critical shortage of teachers of agriculture, the need exists to unpack the specific sources and types of support which characterize novice teachers' support network. An enhanced understanding of novice teachers' perceptions of support, in addition to its collective contribution toward teacher self-efficacy, may help sustain and motivate teachers through the challenging early years of their careers and reduce the likelihood of attrition in novice agricultural education teachers (Burke et al., 2015; DeAngelis et al., 2013; Devos et al., 2012; Swan et al., 2011).

Purpose of the Study

The purpose of this descriptive-relational study is to determine the degree of social support novice agricultural education teachers perceive from various sources and types of social support, along with the influence of perceived support on novice teacher self-efficacy. To examine this topic more closely, the following research objectives guided the design, data collection, and analysis of this study.

Research Objectives

1. Determine the degree of support novice agricultural education teachers perceive as available from *non-school sources* (e.g., spouse or partner, family, friends) and *school sources* (e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community) of support.
2. Determine the *types* of social support (e.g., emotional/appraisal, informational, instrumental) which novice agricultural education teachers perceive as available.
3. Describe the perceived level of *teacher self-efficacy* in novice agricultural education teachers.
4. Describe the contribution of perceived support from *non-school sources* and *school sources* towards *teacher self-efficacy* in novice agricultural education teachers.
5. Describe the contribution of the *types* of social support (e.g., emotional, appraisal, informational, and instrumental) toward *teacher self-efficacy* in novice agricultural education teachers.

Definition of Terms

The following definitions are used to clarify the terms used in the study:

Career commitment: an individual's attitude, motivation, and psychological attachment towards a profession or vocation (Blau, 1985; Blau, 1988; Coladarci, 1992; Goulet & Singh, 2002; Knobloch & Whittington, 2003; The Project on the Next Generation of Teachers, 2006).

Culture shock: an emotional disturbance one experiences when transitioning to an unfamiliar setting or cultural environment (Langley et al., 2014; Maistre & Pare, 2010).

Isolation: a psychological state characterized by feelings of loneliness, often due to a lack of social interaction with others. Four types of isolation teachers may experience include physical, geographic, professional and emotional isolation (Buchanan et al., 2013; House, 2001).

Life event or transition: voluntary or involuntary circumstances which dramatically change one's life and/or social interactions. Examples include moving to a new community, divorce or marriage, natural disaster, terminal illness, death, loss of a job, and birth of a child (Caspersen & Raaen, 2013; Cohen & Wills, 1985; Heaney & Israel, 2008; Maistre & Pare, 2008).

Locus of Control: based on social learning and outcome-expectancy theories, this term describes an individual's perception of a causal relationship between an action and anticipated reward (Bandura, 1997; Rotter, 1966). Outcomes are interpreted as either externally controlled (i.e., result of luck, chance, fate, or power of others) or internally controlled (i.e., contingent on personal power, behaviors or abilities).

Novice teacher: a teacher with less than five years of experience (Caspersen & Raaen, 2013; Knobloch & Whittington, 2002; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007).

Reality shock: the discrepancy between one's expectations and reality (Dicke, Elling, Schmeck, & Leutner, 2015; Maistre & Pare, 2010; Veenman, 1984).

Self-efficacy: a belief in one's ability to be successful in completing a given task or job (Bandura, 1977; Bandura, 1986; Bandura, 1997).

School culture: the characteristics of the school environment, some of which include collective efficacy of teachers, staff, and administrators; expectations of student behaviors and norms; school traditions; interactions among colleagues, teachers, students, parents, and community; and physical working conditions (Devos et al., 2009; Ingersoll, 2012).

Social support: the belief that one is cared for and loved, which includes the personal perceptions of esteem and value, in addition to an enhanced sense of worth and belonging to a larger social network of people who have a mutual obligation toward the success of the organization (Cobb, 1976). The quality and frequency of interactions in a social support network with one or more persons help an individual cope with life stressors, buffer the negative impacts of stress, and establish a mutually beneficial relationship to meet basic psychological needs (Freese, 1999; Heaney & Israel, 2008; Thoits, 1995; House, Umberson, & Landis, 1988; Viswesvaran, Sanchez, & Fisher, 1999; Wethington & Kessler, 1986).

Sources of support – non-school (i.e., personal): individuals or groups of people outside of the workplace environment (Bataineh, 2009; Cohen & Wills, 1985; Cornu, 2013; Dignam & West, 1988; Fantilli & McDougall, 2009; Zimet et al., 1988). Examples include family (e.g., siblings, parents, children), friends outside of work, and a spouse or partner.

Sources of support – school (i.e., work): individuals or groups of people associated with the workplace environment or workplace responsibilities, and with whom the teacher experiences frequent interactions (House & Wells, 1978; Knobloch & Whittington, 2002; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007). Examples include district administrators, building administrators, school board, colleagues, students, parents of students, and community.

Teacher self-efficacy: the belief that one is capable of bringing about desired outcomes of student engagement and learning, regardless of how difficult or unmotivated the students may be (Tschannen-Moran & Woolfolk Hoy, 2001).

Assumptions

For this study, the following were assumed to be true:

1. The respondents provided honest and accurate information, to the best of their abilities, when responding to questions.
2. The respondents had sincere interest and sufficient background knowledge to appropriately complete the questionnaire.
3. The respondents (i.e., novice teachers) had same or similar experiences to other novice teachers; therefore, the respondents were a true representative sample of the novice teacher population.

Limitations

The following were identified as limitations of the study:

1. The respondents included a purposeful sample of novice agricultural education teachers employed in either the State of Illinois or the State of Indiana. Therefore, readers should use caution when interpreting and applying the results of this purposive sample to populations of novice teachers in other disciplines or agricultural education teachers in other states.
2. Although most respondents should have had access to reliable internet service, it is possible some respondents were not able to complete the online questionnaire.

3. The names and email addresses of teachers with five or fewer years of experience, provided by the Illinois Facilitating Coordination for Agricultural Education (FCAE) and the Indiana Association of Agricultural Educators (IAAE) public online directory, are presumed to be accurate. The researcher did not verify the information through a secondary source; consequently, some inaccuracies may have existed in the information acquired from public sources.
4. Although provided adequate time to complete the questionnaire, some respondents may not have had sufficient time available to complete the questionnaire due to work-related or personal responsibilities.

CHAPTER II

REVIEW OF LITERATURE

Support is an elusive and powerful construct which impacts psychological perceptions of self and others, emotions and emotional responses, level of confidence, feelings of empowerment, ability to succeed, self-worth, and sense of belonging. Whereas self-efficacy is a belief in one's *own* ability to be successful in a task, perceived support is the degree to which one believes *others* believe in his or her abilities to be successful.

Benefits of Support

The benefits of support extend well beyond a simple word of encouragement. The psychological and physiological benefits of support have been studied by professionals in the medical community for more than half a century. Many psychologists and medical professionals found support, when used as a coping and buffering mechanism for stress, aids in recovery time following medical procedures, is an instrument to promote healing from physical and mental health issues, and serves as a preventive measure to avoid mental and physical conditions. Moreover, from a mental health standpoint, support is an effective way to counteract the negative impacts of stress or stressful events, low self-esteem, or other psychological disorders which may negatively modify self-efficacy or lead to negative health consequences (Chou, 2015; Cohen & Wills, 1985; Guglielmi & Tatrow, 1998; Heaney & Israel, 2008). The perception of available support has been shown to (a) decrease susceptibility to depression, anxiety, and many other physical and psychiatric disorders; (b) promote positive behavioral coping responses when faced with stressors; (c) improve one's ability to cope with demands; and (d) change the appraisal of stressful situations. (Cohen, 2004). Perceived support may also help provide a sense of identity, predictability

and stability, purpose, and emotional regulation, while also instilling meaning, security, and self-worth (as cited in Cohen, 2004). Moreover, perceptions of available support help meet basic psychological needs for companionship, love, and belonging. People who perceive available support feel valued and cared for (Chou, 2015). Support also enhances one's ability to achieve self-actualization and meet personal, career, and life goals (Heaney & Israel, 2008; Maslow, 1943; Maslow, 1954).

Relationships and Support

The roles of relationship and social interaction are vitally important to the power and influence of support. Social connections and interactions with others include a network of relationships with which an individual is surrounded by; this interconnected network of influence may include friends, relatives, co-workers, supervisors, or a professional or personal community (Cohen & Wills, 1985; House, 1987; House & Wells, 1978). Both formal and informal interactions are needed from a variety of sources, including people who (a) are perceived as empathic and understanding; (b) can provide relevant informational or instrumental support; (c) are socially similar; or (d) have experienced similar stressors or situations (Heaney & Israel, 2008; Thoits, 1995).

Social Support

Social support is broadly defined as the quality and frequency of interactions in a social network with one or more persons to help cope with life stressors, buffer the negative impacts of stress, and establish a mutually beneficial relationship to meet basic psychological needs (Freese, 1999; Heaney & Israel, 2008; Thoits, 1995; House et al., 1988; Viswesvaran et al., 1999; Wethington & Kessler, 1986). The presence of social support helps instill a belief that one is cared for, valued, and loved; promotes the enhancement of self-esteem

and sense of belonging through a network of communication and mutual obligation; and reaffirms a sense of personal worth (Cobb, 1976). Social support also helps promote self-esteem (Cobb, 1976). A social support network should provide “psychological and material resources intended to benefit an individual’s ability to cope with stress” (Cohen, 2004, p. 676), which in turn will reduce the likelihood of cognitive, affective, and biological responses to a stressful or negative situation. Social support can also (a) promote a feeling of protection, especially in a crisis situation; (b) facilitate coping and adaptation cognitive processing; (c) moderate the effects of chronic stress; and (d) provide a self-identity and sense of belonging (Cohen, 2004).

Influence of Relationships on Support

Support is most impactful when provided by or received from someone with whom the individual has a well-developed relationship with, built upon a mutual reciprocity of respect. Cohen (2004) based the influential power of social support, social integration, and negative interaction on the perceived value or quality of the social relationships.

Characteristics of highly valued social networks and social relationships are those which (a) provide support when needed, including both quality and quantity of social interactions; and (b) reduce the feelings of isolation and loneliness. Social networks which possess these valued characteristics are predictors of positive health and well-being. To add to these findings, Heaney and Israel (2008) recommended social support relationships be built on (a) *reciprocity*, the ways in which resources and support are given and received; (b) *strength and intensity*, in which mutual trust and respect is conveyed through emotional familiarity; (c) *frequency and formality*, or the degree to which the social network interacts on a regular basis; and (d) *complexity*, or the social exchange when two or more people interact with

mutually beneficial outcomes. Other factors which may influence the quality of social relationships include the ability to relate to the individual (homogeneity), geographic proximity, obligation, and the need for affirmation or nurturance.

Perceived and Received Support

Although both received and perceived support improve physical and mental well-being, the perception of available support is more valuable than support which is actually received (Chan, 2002; Chou, 2015; Lakey & Cohen, 2000; Nurullah, 2012; Uchino, 2009; Wethington & Kessler, 1986). Particularly when faced with stressful life events, major life transitions, or in workplace environments, individuals who perceive availability of support are less likely to experience anxiety, depression, anger, fatigue, or damaging physiological effects. Perceived support, particularly in high-stress situations, can act as a coping or buffering mechanism to reduce the perceived importance or risk of the situation, provide a possible solution or distraction to the problem, or influence one's overall sense of self and emotional tone (Cohen, 2004). Aside from the influential power of the relationship between provider and receiver, other factors which influence the perception of available support are the (a) cultural context in which the support is received; (b) the appropriateness of the match between the type of support, quality of support, and need; and (c) the frequency of interactions between the provider and receiver (Brouwers, Evers, & Tomic, 2001; Cohen, 2004; DeAngelis et al., 2013; Fantilli & McDougall, 2009; Lakey & Cohen, 2000; Nurullah, 2012; Uchino, 2009).

Whereas the *perception* of available support is of greater value than *received* support, *received* support also enhances one's physiological and psychological well-being. Received support can be attained with or without the presence of a stressor. This form of support

affects both physical and mental well-being in three possible ways: “(a) directly; (b) through assistance in the coping process; and (c) by changing the impact of life strains/stressors” (Nuruallah, 2012, p. 184).

Four Types of Social Support

James House (1981) categorized four primary sources of support in his research on workplace stress, support, and health outcomes. The four constructs of social support he assessed in his research were emotional support, appraisal support, informational support, and instrumental support.

1. *Emotional support* includes expressions of concern, love, trust, and empathy. It is characterized by opportunities to share frustrations with others, the presence or availability of someone to listen or express concerns with, and provide reassurance of one’s thoughts and actions (Cohen, 2004). Emotional support is often provided from intimate relationships (Heaney & Israel, 2008).
2. *Appraisal support* is the process of receiving affirmation and constructive feedback. Social comparison and reflective evaluation influence one’s perception of appraisal support.
3. *Informational support* is provided when a person receives relevant advice and suggestions. Often, this directive behavior is experienced when problems arise which need to be solved. Informational support is provided with the intention of helping the individual cope with a problem (Cohen, 2004). Professional relationships are best suited for providing informational support; therefore, this type of support is the least likely of the four constructs to be reciprocally expressed (Heaney & Israel, 2008).

4. *Instrumental support* is received in the form of tangible items. Tangible items may include financial assistance, resource materials, gifts, and contributions of time or attention (Cohen, 2004; Heaney & Israel, 2008; House, 1981; House & Wells, 1978).

Matching the Need with the Type of Support

As a multidimensional construct which engages behavioral and cognitive components, Cohen (2004) and Nurullah (2012) emphasize the importance of matching the demand or need with the appropriate form of assistance. Social support is most effective when the type of support provided or perceived as available matches the need. Subsequently, emotional support is the most prevalent in serving a wide range of needs, while instrumental and informational support are most beneficial when used only in response to specific needs or events.

Support in Education

Specific to education, researchers describe support as a shared belief in *collective efficacy* among colleagues and administration, the perception of *feeling needed by others*, a *sense of belonging* within the context of the school and community, and *affirmation* from those whom teachers respect to help instill perceptions of trust, autonomy, and control (Guskey & Passaro, 1993; Knobloch & Whittington, 2002; Onafowora, 2004; Rotter, 1966; Tschannen-Moran & Woolfolk Hoy, 2007). Friedrichsen and others (2007) define support as programs a teacher identifies as a source of assistance. From a tangible sense, support includes *programs* (e.g., mentoring, professional development, university-based induction course) or *people* (e.g., other teachers, mentors, students, parents of students, administrators)

available from *internal* (i.e., within the school district) or *external* (i.e., outside the school district) support structures.

Perceived Support and Career Commitment

Support systems and perceived support for teachers are important to potentially minimize negative experiences, improve the working environment, enhance self-efficacy, and strengthen career commitment (Burke et al., 2015). Career commitment is an individual's attitude, motivation, and psychological attachment towards a profession or vocation (Blau, 1985; Blau, 1988; Coladarci, 1992; Goulet & Singh, 2002; Knobloch & Whittington, 2003). Psychological commitment to a career is influenced by both individual and situational characteristics. *Individual* characteristics include autonomy; attitude towards work; internal perceptions of control; perceived importance or value of the work; work ethic; a need for achievement and opportunity for advancement; fear of losing the job; the degree to which the individual personally identifies with the job; and alignment with personal life goals. *Situational* characteristics include organizational ambiguity; supervisor consideration; work environment; perceived support from supervisor and colleagues; job fit; and personal life and family responsibilities (Blau, 1985; Chang, 1999; Goulet & Singh, 2002). Combined, individual and situational characteristics influence the degree of career commitment one has toward a profession.

Career Commitment, Teacher Attrition, and Support

Teachers who have left the profession or who are contemplating their commitment to the career identify a variety of individual and situational reasons for their decision. Researchers have found the strongest predicting variables which lead teachers to their intentions to stay or leave the career include: poor salary, heavy workload, excessive

teaching and non-teaching responsibilities, school climate or environment, lack of control and autonomy, burnout, stress, student behavior, family or personal reasons, feelings of isolation from colleagues and administrators, principal leadership, feeling of powerlessness with important decision-making, and lack of support (Burke et al., 2015; Burke, Greenglass, & Schwarzer, 1996; Coladarci, 1992). Furthermore, Friedrichsen and others (2007) found teachers who indicated a lack of support planned to leave their current school or the career of education, while teachers who felt supported or had a supportive network of people intended to continue teaching. As described in a report from The Project on the Next Generation of Teachers (2006), teachers who thought the lack of support in their school interfered with their potential to succeed as a teacher were the most likely to move to another school or a different career. Moreover, teachers adamantly voiced their need for more support in an effort to make their jobs “more doable” and provide an opportunity for success.

Similar to findings from previously noted psychologists, teachers’ perception of received support depends on (a) previous exchanges of support between a provider and receiver; (b) the social context of the relationship; (c) mutual feelings of trust and reciprocity; (d) the appropriateness of a match between individual preferences and personalities, and (e) the type, quality, and frequency of social support received (Beard et al., 2010; Cohen & Wills, 1985; Cohen, 2004; Collie et al., 2012; Cornu, 2013; Darling-Hammond, 2003; Heaney & Israel, 2008; Wong, 2015). In addition to type, quality, frequency, and perceptions of available support, Bandura (1997) recognizes the need to consider many other variables which influence perceptions of a supportive environment. In his research on social cognitive theory, Bandura (1997) explains that reciprocal causation as a relationship between behavior, personality, and environment. The environment, the people which comprise an individual’s

environment, perceptions of control, and the desire for people to do things which bring about satisfaction and a sense of worth, all contribute towards efficacious beliefs. As a result, the development and fluctuation of self-efficacy is influenced by personal expectations, opportunities, and self-concept.

Value of Support for Novice Teachers

In contribution toward the need for support, the type, quality, and frequency of support a teacher perceives available is particularly important for teachers who are identified as high attrition risks (i.e., less than five years of experience coupled with low levels of perceived support) (Brouwers et al., 2001; DeAngelis et al., 2013; Fantilli & McDougall, 2009; Lakey & Cohen, 2000; Wethington & Kessler, 1986). In qualitative research conducted by Burke and others (2015), novice teachers most frequently mentioned concerns related to (a) collegiality and support (inconsistent attitudes and behavior from colleagues); (b) challenges with student engagement and behavior management; (c) lack of professional learning opportunities outside of the school environment; (d) excessive workload requirements; (e) feelings of isolation (personally and professionally); (f) poor working conditions; and (g) scarcity of teaching resources. Novice teachers who planned to leave felt unsupported, found it difficult to experience a sense of personal achievement in their teaching, were stressed, felt obligated to work late at night, and expressed a sense of helplessness. On the other hand, teachers who wanted to continue in their profession expressed a sincere need for feedback and advice from colleagues and administrators to enable them to become better teachers. Good teachers want to be great, and those who planned to stay in the profession felt supported and expressed a sense of worth. Likewise,

novice teachers' perceptions of success as an educator are powerfully influenced by their perceptions of feeling needed, valued, and supported as a teacher (Burke et al., 2015).

Sources of Support – Work and Personal

Psychologists have determined social support may be acquired from a variety of work sources (e.g., supervisor, coworkers) and non-work sources (e.g., spouse or partner, friends). In his research on social support, House (1981) measured support from four sources – (a) immediate supervisor or boss; (b) other people at work; (c) wife or husband; and (d) friends and relatives. More recent studies conducted on employees' perceptions and needs of social support in the workplace reported supervisor and colleague support to be the most valuable (Chou, 2015; Massenberg et al., 2015). Similarly, educational researchers have determined perceived support from administrators and other teachers significantly influenced the school climate and teachers' perception of support. In addition to administrators and other teachers, two studies conducted by Tschannen-Moran and Woolfolk Hoy (2002, 2007) also measured the degree of perceived support from parents and community.

Although most researchers focus their research primarily on support in the work environment, many professionals in psychology note the importance of perceived support from personal sources such as family, friends, and a spouse or significant other. Bataineh (2009) included friends, spouse, and family in the evaluation of teachers' assessment of received support. In this study, a positive relationship was found between family support and perceptions of personal accomplishment in respondents' teaching career. Moreover, longitudinal studies conducted by Dignam and West (1988) determined a direct effect of social support from family and friends on diminishing the negative consequences of stress, particularly the mental health issue of depression. Qualitative researchers described the value

of support, especially from family and friends, as crucial for novice teachers in providing personal and emotional support. More specifically, Cornu (2013) suggested the value of relationships with family and friends were considerably important for individuals who were struggling with difficult work circumstances. Family and friends also helped affirm personal decisions while boosting self-confidence.

Social Support and Self-Efficacy

Researchers have found that novice teachers who felt confident or efficacious in their teaching abilities indicated feelings of support from multiple sources. Moreover, high self-efficacy empowers greater resilience in the face of challenging career pursuits and stressors (as cited in Bandura, 2009, p. 181) which are frequently experienced by novice teachers. In an effort to positively influence novice teachers' perceptions of their life circumstances and enhance efficacious beliefs, Knobloch and Whittington (2002) concluded that novice teachers who received positive feedback, support, guidance, and encouragement from students, teachers, administrators, parents, and community were more efficacious in their ability to teach. Particularly for novice teachers, who tend to be more insecure about their abilities, their perceptions of performance and teacher self-efficacy are strongly influenced by the support they receive or perceive as available.

Self-Efficacy

Self-efficacy is defined by Bandura (1977, 1986, 1997) as a belief in one's ability to be successful in completing a given task or job. Bandura states that self-efficacy is not a measure of skills, but a belief in what an individual can do under different sets of conditions with whatever skills he or she possesses. When a person feels confident in his or her ability to successfully complete a task, role, or job, he or she is more likely to succeed.

Well-established efficacious beliefs also incentivize people to pursue goals and act on ambitions. These individuals are more likely to persevere in the face of difficulties. Bandura (2009) suggests leaders and organizations help build self-efficacy by encouraging mutually supportive communication for performance feedback to “enhance employee’s self-efficacy, emotional well-being, job satisfaction, and level of productivity” (Bandura, 2009, p. 181).

Three types of efficacy. Derived from his social cognitive theory, Bandura (2009) described three forms of efficacy, dependent on the source of control. The first type is *individual efficacy*. This form of efficacy is established when an individual perceives to have full or at least a portion of control over an event. The second form of efficacy is proxy. Still within the perception of control, *proxy efficacy* is demonstrated when an individual influences others by using knowledge or resources to bring about a desired result. Finally, *collective efficacy* is revealed when a group of individuals works together in a unified effort with combined knowledge, skills, and resources to resolve a collective concern (Bandura, 2009).

Mastery experiences. Bandura identified four predominant sources of self-efficacy – enactive mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states. According to Bandura, enactive mastery experiences are the most influential source of self-efficacy because of the authentic evidence provided from the experience. These performance-based experiences cognitively impact an individual’s assessment of their ability to successfully replicate the performance and bring about a desired outcome. In alignment with outcome expectancy theory, enactive mastery experiences are most likely to influence an individual’s belief that a given behavior will lead to a specific outcome (Bandura, 1977).

Vicarious experiences. Vicarious experiences are closely connected to social modeling. The act of watching others successfully complete a task while assessing the processes which resulted in the expected outcome, can increase self-efficacy. The comparisons between self and the modeler are of utmost importance. Clear evidence of shared attributes, characteristics, and goal aspirations can directly influence the power of vicarious experiences.

Verbal persuasion. The third source of self-efficacy is verbal persuasion. The impact of verbal persuasion is determined by the relationship between the persuader and the person receiving support. The receiver of verbal persuasion must perceive the giver as a credible and trustworthy source to enhance the power of the persuasion (Bandura, 1986). The credibility of the persuader largely depends on the perceived knowledge and demonstrated competence of the persuader. The ability of the persuader to model expected or desirable behaviors inherently influences the self-assessment, appraisal and persuasive power of subsequent reactions (Bandura, 2009). When verbal persuasion is provided in the form of specific yet supportive performance feedback, individuals can be empowered to complete tasks where they have previously experienced failure. Chances of success are increased because an individual, at least in the immediate future, perceives a greater ability to achieve success. Verbal persuasion can influence the effectiveness of a mastery experience and determination of a successful performance (Bandura, 1982).

Physiological and affective states. Physiological and affective states are the fourth source of self-efficacy. Bandura (1997) explains the ways in which mood, emotions, and reactions to stress are just a few of the many factors which may influence physiological and emotional states of an individual. Bandura (1977, 1986, 1997) also describes the ways in

which complex emotions such as fear and anxiety can increase the likelihood of experiencing psychological conditions (e.g., depression) or physiological symptoms (e.g., fatigue, aches, or self-destructive behaviors). Cognitive appraisal of a task or situation, along with feedback or other environmental factors, can positively or negatively influence self-efficacy beliefs. Physiological and affective states are a continuum of reactionary symptoms which greatly influence an individual's perception of a challenge as either an insurmountable obstacle, a debilitating task, or an opportunity for success. Moreover, this source of self-efficacy is also influenced by an individual's belief that he or she can exercise control over personal or professional situations. As noted by Cohen and Wills (1985), overall stability in mental health carries over to physical well-being; overall well-being promotes "a sense of predictability and stability in one's life situation, and a recognition of self-worth" (Cohen & Wills, 1985, p. 311).

When considering all the facets of self-efficacy, a broader examination of the theory may warrant consideration of the ways in which physiological and affective states are in constant flux based on the other three sources of efficacy – mastery experience, vicarious experiences, and verbal persuasion. Perceptions of success or failure derived from mastery experiences and vicarious experiences, in addition to positive or negative verbal persuasion, can manipulate the physiological and affective states of an individual.

Teacher Self-Efficacy

Bandura's research on self-efficacy, in part, led to the development of teacher self-efficacy. Teacher self-efficacy is defined as an individual's judgement or belief in his or her own capabilities to influence student learning, in addition to other student outcomes such as student achievement, behavior, and motivation (Bandura, 1993; Bandura, 1997; Tschannen-

Moran & Woolfolk Hoy, 2001). When a teacher believes he or she is capable of influencing student outcomes, he or she is more efficacious in his or her teaching abilities. Teacher self-efficacy is the most important influence on teacher quality; teacher quality and effectiveness is an important factor in student achievement (Bandura, 1993; Brown et al., 2014; Darling-Hammond, 2005; Fives & Buehl, 2010; Henson, Kogan, & Vacha-Haase, 2001; Knobloch & Whittington, 2002; Swan et al., 2011). Furthermore, teachers with high self-efficacy are more open to ideas, possess an improved attitude toward teaching, and are more likely to experience professional growth (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).

In their research on teacher self-efficacy, Tschannen-Moran and Woolfolk Hoy (2001) identified the four sources of teacher self-efficacy – mastery experiences, vicarious experiences, physiological and emotional arousal, and verbal or social persuasion.

Mastery experiences. *Mastery experience* is the perception that one has been successful in a teaching performance and accomplished success with his or her students. When students are able to attain an expected outcome from a teaching performance, the mastery experience improves one's perception of future performances. This source of teaching efficacy is especially influential for the development of teacher self-efficacy in novice teachers (Brown et al., 2014; Hoy & Spero, 2005; Knobloch, 2006). Whereas individuals who are trained in a traditional teacher licensure program at a university derive their most influential mastery experiences from the successes and failures during their student teaching practicum, teachers may also acquire mastery experiences during a variety of other traditional or non-traditional instructional opportunities (e.g., tutoring or workshop presentations). Novice teachers who do not complete a traditional licensure program tend to acquire mastery experiences through non-traditional educational opportunities with children

or adults. Some of these previous experiences may include interactions with youth or adult organizations, businesses and industry, home education, or instructional opportunities at a place of worship.

Vicarious experiences. *Vicarious experiences* involve the observation of a skill or performance, and the observer's perception of his or her ability to replicate the performance. Novice teachers may acquire vicarious experiences during student teaching or by observing a mentor teacher. Novice teachers' interpretations of the value of vicarious experiences with a teacher depend on the degree to which the observer respects and identifies with the modeler (Knobloch & Whittington, 2002; Pendergast, Garvis, & Keogh, 2011; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007; Wolf, 2011).

Physiological and emotional arousal. *Physiological and emotional arousal* encompasses an individual's feelings, moods, and perceptions of or about a given situation or their own ability. Feelings of capability or incompetence may also be influenced by environmental factors or physiological changes. If a teacher's success in the classroom is perceived as an accomplishment as opposed to luck, he or she will have an increased sense of efficacy. Perceived control, expectations, stress, and anxiety all play a significant role in physiological and emotional arousal.

Verbal or social persuasion. *Verbal or social persuasion* can include verbal and non-verbal feedback the novice teacher receives about his or her teaching performance. Sources of verbal persuasion or interpersonal support may come from administrators, colleagues, parents, students, or members of a community (Tschannen-Moran & Johnson, 2011; Tschannen-Moran & Woolfolk Hoy, 2007). Tschannen-Moran, Woolfolk Hoy, and Hoy (2001) conversationally described social persuasion as "a pep talk or specific

performance feedback from a supervisor or a colleague about the ability of teachers to influence students” (p. 212).

Locus of Control and Teacher Self-Efficacy

In their research on teacher efficacy, Tschannen-Moran and Woolfolk Hoy (2001) found teachers with high teacher self-efficacy possessed a greater sense of internal locus of control for their ability to manage the classroom environment, engage students in learning, and use effective instructional strategies. These teachers also expressed a greater responsibility to fulfill the obligations of their teaching role. Conversely, teachers who were less efficacious attributed their success in the classroom to external controls such as luck or chance. Teachers with low self-efficacy were more likely to feel overwhelmed and blamed others (e.g., students, parents of students, administrators, or colleagues) for the challenges they experienced with teaching (Tschannen-Moran & Woolfolk Hoy, 2001; Woolfolk, Rosoff & Hoy, 1990).

Novice Teachers

Novice teachers – those with less than five years of teaching experience – consistently report lower self-efficacy than experienced teachers (Tschannen-Moran & Woolfolk Hoy, 2007). Low reports of self-efficacy may be due, in part, to the lack of mastery experiences novice teachers can draw upon during the challenging early stages of their development, or the removal of familiar support connections with university supervisor(s) and cooperating teacher(s) (Tschannen-Moran et al., 1998; Tschannen-Moran & Hoy, 2007). To contribute to their low efficacious beliefs, novice teachers are most likely to attribute good days and bad days for teaching to external control variables such as luck or chance, as opposed to internal control variables which are contingent on one's behavior and decisions.

This chronic lack of control can also lead to a feeling of powerlessness, which diminishes one's ability to accurately assess and react to a situation (Rotter, 1966). Their lack of reactionary ability is most frequently expressed when novice teachers are faced with stressors such as excessive time constraints and workload, conflicts with parents and students, and frustrating day-to-day tasks. These feelings can lead to a “sink or swim” sentiment which feels insurmountable (Emmer & Hickman, 1991; Fantilli & McDougall, 2005; Smith, Corkery, Buckley, & Calvert, 2013).

Personal Psychological Challenges

Novice teachers are also especially vulnerable to a variety of personal and professional life stressors which may negatively impact their mental well-being and lead to symptoms of psychological distress (Buchanan et al., 2013; Caspersen & Raaen, 2013; Lakey & Cohen, 2000; Thoits, 1995). For many new teachers, the transition of moving from the familiar role as a student to a less comfortable role as a teacher can be challenging and cause some degree of anxiety (Maistre & Pare, 2010). For some teachers, the early enthusiasm and expectations for teaching are diminished when they experience reality shock, which is the discrepancy between their expectations of a teaching career and reality (Dicke et al., 2015; Veenman, 1984). Coping with their new roles as a teacher during the transition from student teacher to full-time teacher, in combination with unexpected frustrations and challenges, can be detrimental to their mental well-being and self-efficacy as a teacher (Buchanan et al., 2013; Caspersen & Raaen, 2013; Conway & Clark, 2003; Devos et al., 2012; Fantilli & McDougall, 2009; Pendergast et al., 2011). “During the first few years of their careers, beginning teachers need support as they make the transition from being a

student of teaching to being a teacher of students” (National Commission on Teaching and America’s Future, Carroll, 2005, p. 24).

To contribute to the mental and physical life stressors they may experience, many new teachers in their first teaching positions move to an unfamiliar geographic location away from family and friends. Teachers must quickly become familiar with a new community and adapt to the existing school culture (Gersten et al., 2005; Henson, 2001; Hoy & Woolfolk, 1993; Stockard & Lehman, 2004). The physiological and psychological symptoms they express are similar to those of an individual who experiences a *major life event* (e.g., moving to a new community, getting married, having a child, starting a new career, or dealing with a major medical issue or natural disaster) (Caspersen & Raaen, 2013; Cohen & Wills, 1985; Maistre & Pare, 2008). Especially during the critical early years of the development as a teacher, their need for support as a coping or buffering mechanism is especially vital to overcome these challenges (Heaney & Israel, 2008).

Isolation

In contribution to the negative symptoms they experience due to major life events and reality shock, novice teachers frequently experience feelings of isolation which, in turn, discourage health-promoting behaviors (House, 2001). Buchanan and others (2013) acknowledged four types of isolation which early career teachers may experience. The first type of isolation is *physical isolation*, which refers to feelings of being alone in a classroom. Novice teachers who completed a traditional licensure program will have recently completed their student teaching practicum. Now as a new teacher, they find themselves alone in a classroom for an entire day, “figuring out” the experience the best they can. The second type is *geographic isolation*. In research with early career teachers, many individuals expressed

concerns about their displacement from “home”. Furthermore, most teachers in the study were employed in rural communities which led to limited opportunities for interactions with others outside of work. For agriculture education teachers, placement in a rural community is common. Moreover, agriculture teachers are also likely to be the only teacher in their department, which Buchanan and others identify as *professional isolation*. This type of isolation is characterized by limited opportunities to collaborate with colleagues and gain performance feedback. Finally, the fourth type of isolation is *emotional isolation*.

Teachers expressed feelings of loneliness, fear of failure, and the uncertainty of professional expectations in their teacher role. They also acknowledged their struggles to ask for help, but encouraged future teachers to ask for support instead of waiting for it to happen. Feelings of isolation put novice teachers at greater risk for physiological and psychological disorders; unfortunately, these same socially isolated individuals are often the least likely to take advantage of new social network opportunities (Cohen, 2004).

Personal Value and Self-Worth

Perhaps one of the greatest challenges felt by novice teachers is the lack of recognition and appreciation for their efforts. In many careers outside of education, recognition for a job well done is expressed through a salary or pay increase, new job title or position in the company, or other incentives. In education, there are limited opportunities for a change in job title or movement on a salary schedule tied to a collective bargaining agreement between the school board and local teachers’ union. Instead, professional recognition in education comes in the form of appraisal or feedback from colleagues and administrators, the perception of belonging to a school and community culture, and a sense of being accepted and liked by students. These emotionally stimulating variables can

negatively or positively impact teachers' perception of their job and their worth as a teacher, influence their self-efficacy, and ultimately weigh on their decision to stay or leave the profession (Chou, 2015; Conway & Clark, 2003; Corbell et al., 2008; Cornu, 2013; Friedrichsen, Chval, & Teuscher, 2007; Fuller, 1969; Kelly & Northrup, 2015; Maslow, 1943; Maslow, 1954; Struyven & Vanthournout, 2014; Wong, 2015).

Environment and Culture

One of the most predictive variables which contributes toward job satisfaction, self-efficacy, and career commitment for teachers is the school culture. The school culture encompasses both collective efficacy and physical working conditions. Teachers' perceptions of working conditions indirectly influenced their desire to stay at the current school, move to a different school, or leave the profession altogether (Buchanan et al., 2013; Burke et al., 2007; Collie et al., 2012; Consortium on Chicago School Research, 2009; Cornu, 2013; Devos et al., 2011; Fantilli & McDougall, 2009; Guarino, Santibanez, & Daley, 2006; Hancock & Scherff, 2010; Ingersoll, 2012). Moreover, teachers' belief that the entire faculty and school were working together to help create positive experiences for students and meet behavioral expectations was positively correlated to their perceptions of feeling supported by administrators and colleagues (Hancock & Scherff, 2010). All things considered, a positive school culture founded in a supportive environment provides a rewarding career path for teachers and a quality learning environment for students. This same culture is capable of helping "new teachers become good teachers – and good teachers become great teachers. Teachers cite many reasons for leaving, but school culture and professional working conditions are always high on the list" (National Commission on Teaching and America's Future, Carroll, 2005, p. 1).

Self-Efficacy and Support

Teacher stress and their motivation to overcome personal and professional challenges are closely connected to their personal self-efficacy and perceived support (Casperson & Raaen, 2013; Collie et al., 2012; Dick & Wagner, 2001; Klassen & Chiu, 2010; Tschannen-Moran & Woolfolk Hoy, 2007). Moreover, novice teachers who expressed evidence of stronger self-efficacy beliefs indicated higher ratings to the adequacy of support they received (cited in Tschannen-Moran & Woolfolk Hoy, 2007). Teacher self-efficacy can be enhanced through verbal persuasion in the form of performance feedback from students, administrators, colleagues, and parents (Beard et al., 2010; Buchanan et al., 2013; Conway & Clark, 2003; Fantilli & McDougall, 2009; Struyven & Vanthournout, 2014).

Stages of Development in Novice Teachers

According to Fuller (1969), novice teachers progressively transition into their professional roles as teachers. At the beginning of their careers, novice teachers are primarily concerned with their own self and their performance. Beginning teachers question their abilities to (a) react in an approved manner when faced with challenges, especially those related to student behavior; (b) complete necessary teaching tasks; and (c) control their classroom environment. At this stage of development, they question their adequacy as a teacher. As they matriculate through the early stages of their career and acquire more mastery experiences, their focus transitions from *self* to the *students*. Eventually, novice teachers begin to recognize characteristics of student learning and feel more efficacious in handling issues related to student behavior. Students' accomplishments and effective instructional strategies to promote student learning are of utmost importance, as opposed to their personal performance or the way students may perceive their abilities as a teacher.

Ingersoll, Merrill, and May (2014) reported that beginning teachers are less likely to leave the profession after their first year when they feel prepared to teach, are trained using practice teaching experiences (i.e., mastery experiences), observe other classroom teachers (i.e., vicarious experiences), and are provided constructive feedback (i.e., social persuasion) on their own teaching. As more knowledge is acquired regarding the impact of mastery experiences, vicarious experiences, and constructive feedback, it is easy to see the connection of these influences on physiological and emotional states. Even though mastery experiences are the strongest predictor for teacher self-efficacy (Bandura, 1986; Bandura, 1997), researchers who study teacher self-efficacy have identified a need to learn more about sources of support (i.e., verbal persuasion), particularly for novice teachers (Brown et al., 2014; Friedrichsen et al., 2007; Knobloch & Whittington, 2002; McKim & Velez, 2015; Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007; Woolfolk Hoy, 2000).

During the early “survival” stages of teaching when novice teachers are primarily focused on self and their personal adequacy as a teacher (Fuller, 1969; Fuller & Brown, 1975; Pigge & Marso, 1997), perceived support (i.e., verbal persuasion) and the ability to cope with stressors greatly impacts their emotional state and teacher self-efficacy (Caspersen & Raaen, 2013; Corbell et al., 2008; Devos et al., 2012). The development of teacher self-efficacy is essential for personal development, improvement in teacher quality, and longevity in the profession (Shaughnessy, 2004). Furthermore, feelings of efficacy are strong predictors for career commitment in teachers (Coladarci, 1992). “The need for a strong start with good support is clear: The United States loses too many teachers after just one, two, or three years of teaching” (National Commission on Teaching and America’s Future, Carroll, 2005, p. 2).

CHAPTER III

METHODOLOGY

Purpose of the Study

The purpose of this descriptive-relational study is to determine the degree of social support novice agricultural education teachers experience from various sources and types of social support, along with the influence of perceived support on novice teacher self-efficacy. To examine this topic more closely, the following objectives guided the design, data collection, and analysis of this study.

Research Objectives

1. Determine the degree of support novice agricultural education teachers perceive as available from *non-school sources* (e.g., spouse or partner, family, friends) and *school sources* (e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community) of support.
2. Determine the *types* of social support (e.g., emotional/appraisal, informational, instrumental) which novice agricultural education teachers perceive as available.
3. Describe the perceived level of *teacher self-efficacy* in novice agricultural education teachers.
4. Describe the contribution of perceived support from *non-school sources* and *school sources* towards *teacher self-efficacy* in novice agricultural education teachers.
5. Describe the contribution of the *types* of social support (e.g., emotional, appraisal, informational, and instrumental) towards *teacher self-efficacy* in novice agricultural education teachers.

Population and Sample

The target population for this study included a purposeful sample of novice high school agricultural education teachers ($N = 296$) from Illinois ($n = 192$) and Indiana ($n = 104$) with five or fewer years of teaching experience during the 2016-2017 academic year. The population included teachers who (a) completed a university teacher preparation educator licensure program, or (b) who were teaching with an Illinois Educator License with Stipulations (ELS) endorsement or Indiana Proficiency Practitioner license (i.e., provisional or alternative certification). The names and email addresses for novice agricultural education teachers in Illinois were obtained from the Facilitating Coordination for Agricultural Education (FCAE) Program Advisors and the Illinois Association of Vocational Agriculture Teachers (IAVAT) public online directory (IAVAT Directory, 2016). The names for novice agricultural education teachers in Indiana were obtained from faculty at Purdue University. The email addresses for teachers were obtained through the Indiana Association of Agricultural Educators (IAAE) public online directory (IAAE Directory, 2016).

Following the Institutional Review Board (IRB) guidelines from the University of Illinois and the University of Missouri, participant approval was sought prior to data collection. The consent approval was the first question provided in the online survey instrument. The consent included information regarding participants' right to terminate participation of the questionnaire at any point during the process without penalty to current or future activities with the universities (See Appendix A).

Novice agriculture education teachers in this population were determined by the researcher as a time and place sample of the population (Oliver & Hinkle, 1982). Moreover, inferential statistical analysis was justified for this study as the population was considered to

be a representative sample of future populations of novice agriculture teachers in Illinois and Indiana.

Novice agricultural education teachers from Illinois and Indiana were selected as the population for this study for multiple reasons. The close geographic proximity has traditionally allowed teachers to live in one state, yet be employed in the neighboring state. Additionally, both states are located in Region IV of the National Association of Agricultural Educators (NAAE) and have been identified as critical need states due to the shortage of agricultural education teacher candidates available to fill open teaching positions. Furthermore, the total population of novice agricultural education teachers from each state were similar. Although the sample sizes from each state were relatively small, the combination of teachers from both states ($N = 296$) is considered a representative sample of the novice agricultural education teacher population in Illinois and Indiana.

Instrumentation

A survey instrument was developed using Qualtrics, an online survey platform. The questionnaire included three survey instruments, one of which was developed by the researcher. Additionally, the survey instrument contained questions related to relevant demographic and work-related characteristics such as: years of teaching experience, gender, relationship status, type of teaching licensure, and grade level of students which respondents were responsible for teaching. The four components were assembled into one survey instrument.

Social Support Scale. Ten survey items were developed by the researcher to determine perceived support from *non-school* sources and *school* sources. The combination of three non-school and nine school sources of support reflected the work and personal life

responsibilities experienced by a teacher (Cohen & Wills, 1985; Smith et al., 2013; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007). Moreover, an agriculture teacher's responsibilities associated with his or her role as an FFA advisor (Terry & Briers, 2010) warrants the assessment of perceived support from a greater variety of non-school (i.e., personal) and school sources of support. For the purpose of this study, the three non-school sources of support were: spouse or partner, family, and friends outside of work. The nine school sources assessed were: building administrator, district administrator, school board, teachers at the school, teachers in the FFA section or district, students in agriculture classes, students in FFA, parents of students, and community (See Appendix B).

Survey items were primarily developed from research findings of Tschannen-Moran and Woolfolk Hoy (2002, 2007) and House (1981), but also influenced by the Medical Outcomes Study: Social Support Survey (MOS-SSS) (Sherbourne & Stewart, 1991), the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1988), the Interpersonal Support Evaluation List (ISEL) (Cohen & Hoberman, 1983), and The Social Provisions Scale (SPS) (Russell & Cutrona, 1984). Modifications were made to the survey items to assess perceptions of support within a school climate and within the context of agricultural education. A 9-point response scale was used to determine the degree of perceived support received from various sources and in differing forms (i.e., types) of social support. Anchors for the degree of perceived support were 1 = *never*, 3 = *rarely*, 5 = *sometimes*, 7 = *often*, and 9 = *always*. The use of a 9-point response scale with anchors on alternating points is consistent with Tschannen-Moran and Woolfolk Hoy's (2002, 2007)

research on teachers' perceived quality of support (i.e., verbal persuasion) received from administration, colleagues, parents, and community.

The survey instrument items which assessed perceived support corresponded to the four social support constructs, identified by House (1981) as emotional support, appraisal support, informational support, and instrumental support. In the pilot test, 3-4 survey items were asked per support category to assess each construct. To reduce the potential for respondent fatigue and consistent with previous research findings, the *emotional* and *appraisal* support constructs were collapsed into one construct identified as *emotional/appraisal* support (Cohen & Hoberman, 1983; House, 1981; House & Wells, 1978). An example question in the emotional/appraisal support construct was, "How often do the following people *show empathy* (i.e., shared understanding) *for your needs*?" An example question in the informational support construct was, "How often do the following people *provide helpful suggestions* related to your profession as an agricultural education teacher?" An example question in the instrumental support construct was, "How often can these people be relied upon to *provide resources* (e.g., money, time, equipment) which help you succeed as an agricultural education teacher?" Participants were not informed of the specific social support construct which corresponded to each survey item. Moreover, survey items for the social support constructs were randomized to reduce respondents' tendency to perceive questions measuring the same construct as redundant.

A panel of experts, consisting of four faculty from two universities who specialize in agricultural education and agricultural leadership education disciplines, reviewed the instrument for face and content validity (See Appendix B). Additionally, the instrument was pilot-tested with novice agriculture education teachers from two states not utilized in this

study. The representative sample consisted of teachers with 5 or fewer years of teaching experience. Three emails were sent to selected novice teachers of agriculture during a two-week time span; 27 teachers completed the questionnaire. Additionally, 14 partially completed questionnaires indicated a potential for respondent fatigue.

From the pilot test results, Cronbach’s alpha estimates of internal consistency were calculated for reliability of the (a) ten individual items used to assess the social support constructs; (b) three social support constructs of emotional/appraisal, informational, and instrumental support; and (c) the twelve potential sources of non-school and school support. As shown in Table 3.1, reliability estimates from the pilot test reflected “excellent” internal consistency (Cronbach, 1951; Nunnally, 1978) for the *emotional/appraisal* construct ($\alpha = .96$), *informational* construct ($\alpha = .92$), and the *instrumental* construct ($\alpha = .95$).

Table 3.1
Constructs, Number of Items, and Internal Consistency of Types of Social Support

Construct	<i>N</i>	Alpha (α)
Emotional/Appraisal Support	36	.96
Informational Support	27	.92
Instrumental Support	27	.95

Note. α = Cronbach’s alpha. Scale: $> .9$ = Excellent, $> .8$ = Good, $> .7$ = Acceptable, $> .6$ = Questionable, $> .5$ = Poor, and $< .5$ = Unacceptable (Cronbach, 1951; Nunnally, 1978).

In addition to the social support constructs, Cronbach’s alpha reliability estimates were calculated for the three non-school and nine school sources of support. Results from the calculations, in addition to literature findings and a concern of respondent fatigue, prompted the decision to modify the survey instrument. As shown in Table 3.2, Cronbach’s Alpha reliability estimates for *Building Administrator* ($\alpha = .96$), *District Administrator* ($\alpha = .95$), and *School Board* ($\alpha = .92$) resulted in values exceeding .90. Values higher than .90 imply

redundancy or measurement of the same construct (Cronbach, 1951; Nunnally, 1978). Thus, the decision was made to combine the three measures for *Building Administrator*, *District Administrator*, and *School Board* into one item for *Administrator(s)*. Furthermore, the two items measuring perceived support from students resulted in values of $\alpha = .90$ for *Students in your agriculture classes* and $\alpha = .89$ for *Students in FFA*. However, when reliability estimates were calculated for combined *Student* support, the results produced a more desirable coefficient of $\alpha = .94$. This convinced the investigator to combine the two student measures into one item for *Student* support.

Table 3.2

Number of Items and Internal Consistency of Non-School and School Sources of Support

Source of Support	<i>N</i>	Alpha (α)
Non-School Sources of Support		
Spouse or partner	10	.92
Family	10	.89
Friends outside of work	10	.91
School Sources of Support		
Building administrator	10	.96
District administrator	10	.95
School board	10	.92
Teachers at your school	10	.91
Teachers in your FFA section/district	10	.96
Students in your agriculture classes	10	.90
Students in FFA	10	.89
Parents of your students	10	.93
Community where you teach	10	.92

Note. α = Cronbach's alpha. Scale: $> .9$ = Excellent, $> .8$ = Good, $> .7$ = Acceptable, $> .6$ = Questionable, $> .5$ = Poor, and $< .5$ = Unacceptable (Cronbach, 1951; Nunnally, 1978).

Teachers' Sense of Efficacy Scale. The *Teachers' Sense of Efficacy Scale (short form)*, developed by Tschannen-Moran and Woolfolk Hoy (2001), was used to measure teacher self-efficacy (See Appendix C). This survey instrument has been widely described as the superior measurement to assess teacher self-efficacy, regardless of personal or school characteristics (Duffin, French, & Patrick, 2012; Hoy & Spero, 2005; Klassen & Chiu, 2010). The *Teachers' Sense of Efficacy Scale (short form)* includes twelve items which asks participants to evaluate their ability to influence or control factors related to instructional practices, classroom management, and student engagement. Anchors for the 9-point Likert-type scale assessing teacher self-efficacy were 1 = *nothing*, 3 = *very little*, 5 = *some influence*, 7 = *quite a bit*, and 9 = *a great deal*. This commercially available survey instrument has been assessed for validity and reliability. The published reliabilities for the three constructs (e.g., instructional practices, student engagement, and classroom management) of the *Teachers' Sense of Efficacy Scale (short form)* range from .81 to .90.

Career Commitment. A one-item measure was used to evaluate career commitment. The survey item was modified from Hancock and Scherff (2010) who used a dependent variable for attrition risk. The prompt used in the survey instrument asked participants to express their level of agreement with the following statement, "Thinking about your *future career plans*, to what extent do you agree or disagree with the following statement: *I plan to continue teaching agriculture in a high school classroom for the next 5 years.*" The single-item question asked participants to choose from one of seven responses. The seven possible options were 1 = *strongly disagree*, 2 = *disagree*, 3 = *somewhat disagree*, 4 = *neither agree nor disagree*, 5 = *somewhat agree*, 6 = *agree*, and 7 = *strongly agree*. A *prefer not to respond* option and a text box for qualitative comments was also provided.

Data Collection

The participants for this study were novice high school agriculture educators from Illinois ($n = 192$) and Indiana ($n = 104$) with five or fewer years of teaching experience. The data collection process utilized features of Qualtrics online data collection service (www.qualtrics.com) and was guided by Dillman, Smyth, and Christian's (2009) recommendations for survey design. In an effort to increase response rates and to inform participants of the purpose of the study, an email was sent to participants one week prior to distribution of the questionnaire (See Appendix D). One week after receiving the advanced notice email, the participants (i.e., novice high school agriculture teachers) received an email with a link to the questionnaire which requested their participation in the data collection process (See Appendix E). The email with the link to the questionnaire also reminded participants of the purpose of the study. Two additional follow-up emails were sent to teachers who had not completed the instrument. One email reminder was sent three days prior to the requested completion date (See Appendix F), and the second email reminder was sent the day prior to the requested completion date (Appendix G). Thank you emails were sent to all participants who completed the questionnaire (See Appendix H). As a result, a response rate of 40.20% was attained with 119 out of the invited 296 invited teachers participating in the study (See Appendices I and J).

In alignment with regulations set forth by the Institutional Review Board (IRB) at the University of Illinois and University of Missouri, participant consent was required prior to data collection. Required participant consent, a description of the research project, its purpose, and the known risks to participants who engaged in the research project, were included in the opening page of the online survey instrument (See Appendix A).

Furthermore, participants were informed of their right to terminate participation at any time without penalty to current or future activities with the university. The opening page of the questionnaire also listed IRB required release and consent language, in addition to contact information for both the IRB and the researcher. The participants should be considered a time and place representative sample (Oliver & Hinkle, 1982) of novice agricultural education teachers in Illinois and Indiana.

Controlling for non-response. To ensure validity of the data and subsequent findings, the researcher utilized recommended protocols to control for non-response error. As suggested by Miller and Smith (1983), the investigator first sought to collect as many responses as possible. These efforts were completed, in part, by distributing an advanced notice email in addition to two reminder emails. This protocol follows widely accepted guidelines for survey design (Dillman et al., 2009). To eliminate concerns of non-response error and ensure data findings were representative of the sample population for this study, the researcher first used the *Comparison of Early to Late Respondents* method (Lindner, Murphy, & Briers, 2001). This method of controlling for non-response error separates respondents into early and late groups based on their completion date of the questionnaire; early and late designations were based on response rates following a stimulus (i.e., reminder email). Two reminder emails were sent to respondents (November 8 and November 10). Lindner and colleagues (2001) recommended a minimum of 30 respondents for the early to late comparison. This minimum was not met following the November 10 email reminder ($n = 23$). As a suggested alternative, the investigator “backed up” to use responses following the first reminder email. Within this selection criteria, 34 teachers were identified as participants who provided responses after the first reminder email on November 8.

The author created a variable which designated these teachers as “Late” responders ($n = 34$), while the remaining were identified as “Early” responders ($n = 85$).

To examine the differences between *Early* ($n = 85$) and *Late* responders ($n = 34$), the researcher calculated and reported results of an independent samples t-test for 12 variables; variables in the analysis were demographic characteristics, the sources and types of social support, career commitment, and the perceived levels of teacher self-efficacy (See Appendix K). Assessing results from Levene’s test for homogeneity of variances, no significant differences were found between the two groups of respondents for 10 out of the 12 variables; however, the results from Levene’s test indicated statistically significant ($p < .05$) unequal variances between early and late groups of responders for two variables. The two variables of concern were *future career plans*, $F(1,117) = 5.09$, $p = .03$, and *non-school sources of support*, $F(1,117) = 6.37$, $p = .01$.

The results from Levene’s test for homogeneity of variance prompted the researcher to use a second method, “*Days to Respond*” as a *Regression Variable* (Lindner et al., 2001) to address concerns of non-response error for the *future career plans* and *non-school sources of support* variables. To utilize this method, the investigator calculated the difference between each respondent’s completion date and the requested completion date (November 11, 2016). This data was used to create the *Days to Respond* continuous variable. The *Days to Respond* variable was included in a linear regression equation as the independent variable while the dependent variables for two separate forced entry regression analyses were *future career plans* and *non-school sources of support*.

The results of the first regression indicated 4.10% of the variance in respondents’ *future career plans* was explained by the number of days available to respond to the

questionnaire, $R^2 = .04$, $F = 6.06(1,117)$, $p < .05$) (See Appendix K). Although a significant difference was found for this variable between early and late responders and the regression indicated the days to respond influenced respondents' ratings for future career plans, data from this question was not directly related to the research objectives of this study. As a result, the researcher decided to proceed with data analysis, but exercise some degree of caution when evaluating implications of the *future career plans* variable. The results of the second regression indicated 1.50% of the variance in respondents' perceived support from *non-school sources* was explained by the number of days available to respond to the questionnaire, $R^2 = .02$, $F = 0.03(1,117)$, $p < .05$) (See Appendix K). The results of this regression prompted the researcher to accept the null hypothesis which stated no significant differences would be found between early and late responders for mean results of *non-school sources* of support; therefore, this variable was considered a valid measurement, generalizable to the target population.

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 24.0 program for Windows.

Research objective one:

1. Determine the degree of support novice agricultural education teachers perceive as available from *non-school sources* (e.g., spouse or partner, family, friends) and *school sources* (e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community) of support.

Research objective one was analyzed from the perspective of the novice agricultural education teacher. Descriptive statistics were calculated for objective one to determine the degree of support novice agricultural education teachers perceived as available, both collectively and individually, from *non-school* and *school sources* of support. The author calculated a mean for each of the nine sources of support, in addition to an overall mean for the non-school and school sources of support. Mean, standard deviation, and range were reported for research objective one.

Research objective two:

2. Determine the *types* of social support (e.g., emotional/appraisal, informational, instrumental) which novice agricultural education teachers perceive as available.

Research objective two was analyzed from the perspective of the novice agricultural education teacher. Descriptive statistics were calculated for objective two to determine the *types* of social support which novice agricultural education teachers perceived as available. The author calculated a mean for each of the ten social support items, then calculated a mean for each of the three social support constructs. Within the three constructs of social support, mean, standard deviation, and range were reported for research objective two.

Research objective three:

3. Describe the perceived level of *teacher self-efficacy* in novice agricultural education teachers.

Research objective three was analyzed from the perspective of the novice agricultural education teacher. The author used two methods of data analysis to describe the perceived level of teacher self-efficacy in novice agricultural education teachers.

Principal Axis Factoring Analysis. The researcher utilized the Principal Axis Factoring method with Varimax rotation to calculate factor loadings of each item within three constructs – *Efficacy in Student Engagement*, *Efficacy in Instructional Practices*, and *Efficacy in Classroom Management*. The items loaded for each factor used unweighted means for the analysis and the established criterion for eigenvalues was greater than 1. Researchers Tschannen-Moran and Woolfolk Hoy (2001) recommended the use of this statistical procedure to determine the degree to which respondents perceive their level of efficacy in the three constructs. The factor loading scores for each construct are shown in Table 3.3.

Table 3.3

Factor Loadings for the Items in Each Construct of the Teachers' Sense of Efficacy Scale (short form) (n = 119)

Construct and Items	Factor Loadings (λ)
Items loading on Factor 1 (Instructional Practices)	
9. How much can you use a variety of assessment strategies?	.83
12. How well can you implement alternative [teaching] strategies in your classroom?	.75
5. To what extent can you craft good questions for your students?	.66
10. To what extent can you provide an alternative explanation or example when students are confused?	.63
Items loading on Factor 2 (Classroom Management)	
1. How much can you do to control disruptive behavior in the classroom?	.83
7. How much can you do to calm a student who is disruptive or noisy?	.74
6. How much can you do to get children to follow classroom rules?	.70
8. How well can you establish a classroom management system with each group of students?	.54
Items loading on Factor 3 (Student Engagement)	
3. How much can you do to get students to believe they can do well in school work?	.80
4. How much can you do to help your students value learning?	.78
2. How much can you do to motivate students who show low interest in school work?	.58
11. How much can you assist families in helping their children do well in school?	.36

Note. Items were extracted using the Principal Axis Factoring method with Varimax rotation (Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007).

Green and Salkind (2014) identified two assumptions underlying factor analysis.

The first assumption for factor analysis assumes the variables used in the analysis are linearly related, while the second assumes the measured variables have multivariate normal distribution. The researcher verified the linearity and normal distribution of the teacher

self-efficacy variables used in the factor analysis by visually assessing the factor plot in rotated factor space (See Appendix K). This assessment verifies both assumptions of factor analysis were met.

The second method used to describe the perceived level of teacher self-efficacy in novice teachers of agriculture was descriptive statistics. Consistent with reporting methods of Tschaennan-Moran and Woolfolk Hoy (2001), the author reported mean, standard deviation, and reliability (α) for the three constructs of teacher self-efficacy, in addition to the overall mean of teacher self-efficacy.

Research objective four:

4. Describe the contribution of perceived support from *non-school sources* and *school sources* towards *teacher self-efficacy* in novice agricultural education teachers.

H₀: Differences in perceived support from *non-school sources* and *school sources* did not explain a significant ($p < .05$) proportion of variance in teacher self-efficacy in novice agricultural education teachers.

H₁: Differences in perceived support from *non-school sources* explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers.

H₂: Differences in perceived support from *school sources* explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers.

Research objective five:

5. Describe the contribution of the *types* of social support (e.g., emotional, appraisal, informational, and instrumental) towards *teacher self-efficacy* in novice agricultural education teachers.

H₀: Differences in perceived support from three *types* of social support did not explain a significant ($p < .05$) proportion of variance in teacher self-efficacy in novice agricultural education teachers.

H₁: Differences in perceived support from three *types* of social support explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers.

The hierarchical forced entry method of multiple linear regression was used to predict the contribution of perceived support from *non-school* and *school* sources of support on novice teacher self-efficacy (objective four) and the contribution of three *types* of perceived support on novice teacher self-efficacy (objective five). The author chose to use the hierarchical forced entry method for multiple linear regression due to (a) the unknown predictive power of the covariates for the *sources* and *types* of social support used in this study, and (b) to uncover the predictive power of demographic characteristics and career commitment. The author chose to enter covariates in the regression models from least to most administratively controllable, beginning with variables for demographic characteristics and future career plans. As a result, covariates for demographic characteristics and future career

plans were entered in the first step of each regression. The researcher identified the mean of teacher self-efficacy as the outcome variable for research objectives four and five.

Research Objective Four. Step 1 of the regression included the covariates for demographic characteristics and future career plans. In Step 2 of the multiple regression, the investigator added the three non-school sources of school support (e.g., spouse or partner, family, and friends). For Step 3, the author included the six school sources of support (e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community) in the regression.

Research Objective Five. Step 1 of the regression included the covariates for demographic characteristics and future career plans. In Step 2 of the multiple regression, the researcher added covariates for the three constructs of social support (e.g., emotional/appraisal, informational, and instrumental).

Field (2013) identified nine assumptions which must be met to draw inferences about a population from a multiple linear regression. The first assumption for multiple linear regression is that all covariates are categorical or continuous in scale and there are no constraints on the variability of the outcome scores. The researcher verified all predictor variables and the outcome variable were either categorical or continuous, therefore meeting the first assumption.

Assumption two requires the outcome variable to be linearly related to the predictor variables. The author used P-P plots and scatter plots for visual confirmation of linearity (Field, 2013) of research objective four and research objective five (See Appendix K). Consequently, this assumption was met.

The third assumption for independence of observations was confirmed with the Durbin-Watson test. According to Field (2013), a value greater than one and less than three is an acceptable measure for the independence of observations assumption. The investigator reviewed the Durbin-Watson test results for research objectives four (*Durbin-Watson value = 1.70*) and five (*Durbin-Watson value = 1.61*) and determined all values to be within the recommended acceptance level to meet this assumption.

Assumption four addresses the need for homoscedasticity, or homogeneity of variance, between the spread of the outcome scores and the varying points of the predictor variables (Field, 2013). This assumption was visually assessed with scatter plots of each regression model which displayed standardized predicted values and the standardized residuals. Upon visual assessment, the researcher concluded that no curve, funnel, or other systematic shape existed (See Appendix K); therefore, the assumption of homoscedasticity was met.

Assumption five requires normal distribution of error, which assumes any residuals found in the data are random and the differences between the observed and predicted values are normally distributed. The researcher used histograms and P-P plots (See Appendix K) to visually assess and confirm assumption five was met.

The sixth assumption for multiple linear regression assumes all covariates are uncorrelated with external variables. To address this assumption, the investigator reviewed previous research on the predictive power of the covariates used in the regression models and entered each subgroup into separate steps of the regression. The researcher concluded assumption six was met.

Assumption seven required confirmation that no perfect multicollinearity existed among the predictor variables. The researcher reviewed correlation statistics in addition to the variance inflation factor (VIF) to address this assumption. The correlation coefficients among independent variables for each regression model were interpreted as exhibiting moderate to low levels of correlation (See Appendix K). Furthermore, as shown in Table 3.4, all covariate VIF values were less than 10 and exceeded the tolerance threshold of 0.20 (Field, 2013); therefore, the researcher met this assumption.

Table 3.4

Tolerance and VIF Collinearity Statistics for Independent Variables in Multiple Linear Regression (n = 119)

Covariate	Tolerance	VIF
Demographic Characteristics and Future Plans to Teach		
Total years teaching ^a	.70	1.44
Future plans to teach ^b	.81	1.23
Gender ^c	.82	1.22
Relationship status ^d	.60	1.67
Teaching licensure ^e	.91	1.10
Non-school Sources of Support		
Spouse or partner	.55	1.81
Family	.34	2.91
Friends outside of work	.35	2.85
School Sources of Support		
Administrator(s)	.48	2.08
Teachers at school	.37	2.71
Teachers in FFA	.68	1.47
Students	.39	2.58
Parents of students	.26	3.84
Community	.34	2.93
Types of Social Support		
Emotional/Appraisal Support	.28	3.64
Informational Support	.33	3.07
Instrumental Support	.25	4.03

Note. A 9-point response scale was used to assess non-school sources of support, school sources of support, and types of support. Scale for psychosocial constructs was 1 = *never*, 3 = *rarely*, 5 = *sometimes*, 7 = *often*, and 9 = *always* (Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007). ^a*Total years of teaching* was coded as 0 = *less than one year*, 1 = *one year*, 2 = *two years*, 3 = *three years*, 4 = *four years*, 5 = *five years*, and 6 = *more than five years*. ^b*Future plans to teach* was coded 0 = *prefer not to respond*, 1 = *strongly disagree*, 2 = *disagree*, 3 = *somewhat disagree*, 4 = *neither agree nor disagree*, 5 = *somewhat agree*, 6 = *agree*, and 7 = *strongly agree*. ^c*Gender* was coded 0 = *male* and 1 = *female*. ^d*Relationship status* was coded 1 = *married*, 2 = *widowed*, 3 = *divorced*, 4 = *separated*, and 5 = *never married*, and 6 = *prefer not to respond*. ^e*Teaching licensure* was coded 1 = *fully state licensed according to State Board of Education minimum requirements*, 2 = *provisionally licensed, working toward full licensure*, 3 = *provisionally licensed*, and 4 = *other*.

The eighth assumption of multiple linear regression assumes non-zero variance for the predictor variables. Although predictor variables will vary, no zero variance was reported (See Appendix K); therefore, this assumption was met.

Assumption nine for multiple linear regression is the independence of values on the outcome variable. The sources of support (non-school and school) and the types of social support (emotional/appraisal, informational, and instrumental) were separate constructs (Heaney & Israel, 2008; House, 1981; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007). Consequently, the researcher met this assumption.

For each regression model, the author calculated and reported the unstandardized beta coefficient (B) and standard error ($SE B$), the standardized beta coefficient (β), and significance (p) for all covariates in the regression models. The author also calculated t -value (t) and the variance inflation factor (VIF) for each covariate (See Appendix K). To evaluate the differences between models, the investigator calculated and reported the coefficient of determination (R), the adjusted coefficient of determination (R^2), the F statistic and the F change statistic.

Summary

The study was conducted using descriptive-relational methods to address research objectives regarding the influence of various types and sources of social support on novice teacher self-efficacy. The population included novice high school agricultural education teachers from Illinois and Indiana ($n = 119$) with five or fewer years of teaching experience during the 2016-2017 academic year. The researcher sought to describe the degree to which differing sources of support and various types of social support contributed toward teacher self-efficacy in novice teachers of agriculture. Data were collected using an online survey platform (www.qualtrics.com). The link to the questionnaire was distributed to teachers in November 2016. Data were analyzed using SPSS software. For research objective one, descriptive statistics were calculated and reported to determine the degree of support novice agricultural education teachers perceived as available from non-school and school sources of support. Descriptive statistics were also calculated and reported for research objective two. Research objective two assessed the varying types of social support novice agricultural education teachers perceived as available. Factor analysis and descriptive statistics were calculated and reported for objective three to describe the perceived level of teacher self-efficacy in novice agricultural education teachers. For research objectives four and five, the researcher used the hierarchical forced entry method of multiple linear regression to describe the contribution of the perceived sources and types of support in predicting novice teacher self-efficacy.

CHAPTER IV

FINDINGS

Purpose of the Study

The purpose of this descriptive-relational study was to determine the degree of social support novice agricultural education teachers experience from various sources and types of social support, in addition to the contribution of perceived support toward novice teacher self-efficacy.

Population and Sample

The target population for this study included a purposeful sample of novice high school agricultural education teachers ($N = 296$) from Illinois ($n = 192$) and Indiana ($n = 104$) with five or fewer years of teaching experience during the 2016-2017 academic year. The teachers in the sample population of this study were licensed to teach by one of three options – (1) full licensure attained through a university teacher preparation educator program; (2) Illinois Educator License with Stipulations (ELS) endorsement; or (3) Indiana Proficiency Practitioner license (i.e., provisional or alternative certification). The names and email addresses for novice agricultural education teachers in Illinois were obtained from the Facilitating Coordination for Agricultural Education (FCAE) Program Advisors and the Illinois Association of Vocational Agriculture Teachers (IAVAT) public online directory (IAVAT Directory, 2016). The names for novice agricultural education teachers in Indiana were obtained from faculty at Purdue University. The email addresses for teachers were obtained through the Indiana Association of Agricultural Educators (IAAE) public online directory (IAAE Directory, 2016).

Abiding regulations set forth by the University of Illinois and the University of Missouri Institutional Review Boards (IRB), participant consent was required prior to data collection. Additionally, a description of the research project, its purpose, and the known risks to participants who engaged in the research project were included in the opening page of the online survey instrument (See Appendix A). The opening page of the survey instrument also included IRB approved release and consent language, along with contact information for the IRB and the researcher. The participants should be considered a representative time and place sample (Oliver & Hinkle, 1982) of novice agricultural education teachers in Illinois and Indiana.

The data collection process utilized features of Qualtrics online data collection service (www.qualtrics.com) and was guided by Dillman, Smyth, and Christian's (2009) recommendations for survey design and distribution. An advanced notice email and two subsequent reminder emails were sent to the sample population; as a result, a 40.20% response rate was attained with 119 out of the invited 296 teachers participating in the study.

In addition to the social support and teacher self-efficacy data collection instruments, the author also collected demographic data from the sample population to describe the participants in the research study. As shown in Table 4.1, 82 (68.9%) of the 119 respondents were female and 37 were male (31.1%). Among the respondents, 79.0% ($n = 94$) indicated they had three or fewer years of teaching experience while 21.0% ($n = 25$) self-reported more than three years of teaching experience. Although only teachers with five or fewer years of experience were invited to participate in the study, four (3.3%) respondents indicated they had been teaching for more than 5 years.

This may be attributed to partial years of teaching or teaching experience in another discipline outside of agricultural education. Whereas 69.7% ($n = 83$) of respondents completed a traditional teacher licensure program, 29.4% ($n = 35$) indicated they were currently teaching with a provisional endorsement or alternative license. One teacher (0.8%) selected the *Other* option for the inquiry about teaching licensure. This respondent explained he or she attained teaching licensure in Wisconsin. The majority (74.8%) of respondents were teachers of high school agriculture in Illinois ($n = 89$), while the remaining 25.2% ($n = 30$) of teachers were employed in Indiana school districts.

Table 4.1
Demographic Characteristics of Novice Agricultural Education Teachers (n = 119)

Characteristic	<i>N</i>	%
Sex		
Male	37	31.1%
Female	82	68.9%
Years of Teaching Experience		
3 or fewer years	94	79.0%
3-5 years	21	17.7%
More than 5 years	4	3.3%
Teaching Licensure		
Fully state licensed	83	69.7%
Provisionally licensed	35	29.4%
Other	1	0.8%
State of Employment		
Illinois	89	74.8%
Indiana	30	25.2%

Along with demographic characteristics, participants of this study were asked to indicate their level of agreement with a statement regarding their future career plans as a teacher. To measure career commitment, the following prompt and statement were included in the survey instrument: “Thinking about your future career plans, to what extent do you agree or disagree with the following statement: *I plan to continue teaching agriculture in a high school classroom for the next 5 years.*” As shown in Table 4.2, the majority of respondents (63.9%, $n = 76$) selected *strongly agree* or *agree* for this statement. On average, novice teachers who participated in this study planned to continue teaching agriculture in a high school classroom for the next five years ($M = 5.57$, $SD = 1.75$).

Table 4.2
Summary of Respondents’ Future Plans to Continue Teaching in the Next Five Years
(n = 119)

Level of Agreement	<i>N</i>	%
Strongly agree	44	37.0%
Agree	32	26.9%
Somewhat agree	16	13.4%
Neither agree nor disagree	0	0.0%
Somewhat disagree	8	6.7%
Disagree	8	6.7%
Strongly disagree	4	3.4%
Prefer not to respond	7	5.9%

Note. Scale for psychosocial constructs was 1 = *strongly disagree*, 2 = *disagree*, 3 = *somewhat disagree*, 4 = *neither agree nor disagree*, 5 = *somewhat agree*, 6 = *agree*, and 7 = *strongly agree*.

Research Objective One

Determine the degree of support novice agricultural education teachers perceive as available from *non-school sources* (e.g., spouse or partner, family, friends) and *school sources* (e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community) of support.

Descriptive statistics were calculated and reported for objective one to determine the degree of support novice teachers of agriculture perceived as available from non-school sources and school sources of support. For this objective, the author calculated the mean for (a) each of the three non-school sources of support, (b) each of the nine school sources of support, and (c) the overall mean for the three non-school and six school sources of support. A 9-point Likert-type response scale was used for respondents to rate their perceived levels of support. Responses were anchored with 1 = *never*, 3 = *rarely*, 5 = *sometimes*, 7 = *often*, and 9 = *always*. As shown in Table 4.3, novice agricultural education teachers perceived support as *sometimes* available from non-school ($M = 5.83$, $SD = 1.55$) and school ($M = 5.39$, $SD = 1.24$) sources. Within the two constructs of support, novice teachers perceived the greatest degree of non-school support from *family* ($M = 6.69$, $SD = 1.40$), while the greatest degree of school support was from *teachers in their FFA section or district* ($M = 5.94$, $SD = 1.66$). Conversely, the least degree of support within the two constructs of non-school and school support was perceived from *spouse or partner* ($M = 4.97$, $SD = 1.58$) and *parents of students* ($M = 4.86$, $SD = 1.54$), respectively. When evaluating the results for the overall mean of the three non-school sources of support and the six school sources of support, teachers

perceived more support from non-school sources ($M = 5.83$, $SD = 1.55$) as compared to school sources ($M = 5.39$, $SD = 1.24$) of support. However, both fell within the parameters of being supported *sometimes*.

Table 4.3
Respondents' Perceived Levels of Support from Non-School and School Sources
(n = 119)

Sources of Support	<i>M</i>	<i>SD</i>	Range
Non-School Sources of Support			
Spouse or partner*	4.97	1.58	9.00
Family	6.69	1.40	7.60
Friends outside of work	5.84	1.54	7.70
School Sources of Support			
Administrator(s)	5.65	1.90	7.90
Teachers at your school	5.45	1.68	7.90
Teachers in your FFA section/district	5.94	1.66	7.60
Students	5.22	1.39	6.40
Parents of your students	4.86	1.54	6.90
Community where you teach	5.24	1.55	7.40
Non-School Sources of Support	5.83	1.55	8.10
School Sources of Support	5.39	1.24	5.88

Note. Scale for psychosocial constructs was 1 = *never*, 3 = *rarely*, 5 = *sometimes*, 7 = *often*, and 9 = *always* (Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007).

*Respondents who selected *N/A* for the *spouse or partner* variable were coded 0 = *N/A*.

Research Objective Two

Determine the *types* of social support (e.g., emotional/appraisal, informational, instrumental) which novice agricultural education teachers perceive as available.

To discern the types of social support novice teachers of agriculture perceived as available, descriptive statistics were calculated and reported for research objective two. Ten items were used in the survey instrument to develop three separate constructs of support. Four survey items were used for the *emotional/appraisal* support construct, three survey items were used for the *informational* support construct, and three items were used for the *instrumental* support construct.

Respondents rated their perceptions of support using a 9-point Likert-type response scale. Responses were anchored with 1 = *never*, 3 = *rarely*, 5 = *sometimes*, 7 = *often*, and 9 = *always*. As shown in Table 4.4, novice agricultural education teachers perceived each construct of support as *sometimes* available. While the *emotional/appraisal* support ($M = 5.84$, $SD = 1.22$) was perceived as the most available type of social support, respondents' ratings for *informational* support ($M = 5.60$, $SD = 1.16$) and *instrumental* support ($M = 5.61$, $SD = 1.19$) had similar mean results. Respondents' perceptions of each construct fell within the parameter of *sometimes* available.

Table 4.4

Respondents' Perceived Levels of Varying Types of Support (n = 119)

Types of Support	<i>M</i>	<i>SD</i>	Range
Emotional / Appraisal Support	5.84	1.22	6.16
Informational Support	5.60	1.16	5.70
Instrumental Support	5.61	1.19	6.33

Note. Scale for psychosocial constructs was 1 = *never*, 3 = *rarely*, 5 = *sometimes*, 7 = *often*, and 9 = *always* (Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007).

Research Objective Three

Describe the perceived level of *teacher self-efficacy* in novice agricultural education teachers.

Descriptive statistics were calculated and reported for research objective three to describe the perceived level of teacher self-efficacy for novice teachers of agriculture. Respondents rated their perceptions of teacher self-efficacy using a 9-point Likert-type response scale anchored with 1 = *nothing*, 3 = *very little*, 5 = *some influence*, 7 = *quite a bit*, and 9 = *a great deal*. As shown in Table 4.5, the author reported mean, standard deviation, and reliability (α) for the three constructs of teacher self-efficacy, in addition to a score for the overall teacher self-efficacy. This method of reporting is consistent with reporting methods used by Tschaennan-Moran and Woolfolk Hoy (2001). Novice agricultural education teachers indicated the greatest degree of teacher self-efficacy in the area of *instructional practices* ($M = 6.84$, $SD = 1.12$), while the least degree of teacher self-efficacy was in the area of *student engagement* ($M = 6.13$, $SD = 1.10$). Overall, the mean result for teacher self-efficacy ($M = 6.57$, $SD = 0.96$) indicated teachers perceived *quite a bit* of control in their efficacious beliefs for managing a classroom, engaging students, and using instructional practices.

Table 4.5

Respondents' Perceived Levels of Teacher Self-Efficacy (n = 119)

Construct	<i>M</i>	<i>SD</i>	Alpha (α)
Classroom management	6.75	1.17	.88
Student engagement	6.13	1.10	.82
Instructional practices	6.84	1.12	.86
Overall teacher self-efficacy	6.57	0.96	.91

Note. Scale for psychosocial constructs was 1 = *nothing*, 3 = *very little*, 5 = *some influence*, 7 = *quite a bit*, 9 = *a great deal* (Tschannen-Moran & Woolfolk Hoy, 2001).

Assumptions for Regression Analyses

Field (2013) identified nine assumptions which must be met to draw inferences about a population from a multiple linear regression analysis. The first assumption for multiple linear regression is that all covariates are categorical or continuous in scale and there are no constraints on the variability of the outcome scores. The researcher verified all predictor variables for research objective four (e.g., mean for perceived support from spouse or partner, family, friends, administrators, teachers, students, parents, and community) and research objective five (e.g., mean for perceived emotional/appraisal support, informational support, and instrumental support) were either categorical or continuous. Moreover, demographic characteristic variables (e.g., total years of teaching, gender, relationship status, and teaching licensure), the career commitment variable, and the outcome variable of teacher self-efficacy were either categorical or continuous. Therefore, the first assumption of multiple regression was met.

Assumption two requires the outcome variable to be linearly related to the predictor variables. The author used P-P plots and scatter plots for visual confirmation of linearity (Field, 2013) of research objective four and research objective five (See Appendix K). Consequently, this assumption was met.

The third assumption for independence of observations was confirmed with the Durbin-Watson test. According to Field (2013), a value greater than one and less than three is an acceptable measure for the independence of observations assumption. The investigator reviewed the Durbin-Watson test results for research objectives four (*Durbin-Watson value = 1.70*) and five (*Durbin-Watson value = 1.61*) and determined all values were within the recommended acceptance level to meet this assumption.

Assumption four addresses the need for homoscedasticity, or homogeneity of variance, between the spread of the outcome scores and the varying points of the predictor variables (Field, 2013). This assumption was visually assessed with scatter plots of each regression model which displayed standardized predicted values and the standardized residuals. Upon visual assessment, the researcher concluded that no curve, funnel, or other systematic shape existed (See Appendix K); therefore, the assumption of homoscedasticity was met.

Assumption five requires normal distribution of error, which assumes any residuals found in the data are random and the differences between the observed and predicted values are normally distributed. The researcher used histograms and P-P plots (See Appendix K) to visually assess and confirm assumption five was met.

The sixth assumption for multiple linear regression assumes all covariates are uncorrelated with external variables. To address this assumption, the investigator reviewed previous research on the predictive power of the covariates used in the regression models and entered each group into separate steps for the regression analysis based on the degree of administrative control for the variables. The researcher concluded assumption six was met.

Assumption seven required confirmation that no perfect multicollinearity existed among the predictor variables. The researcher reviewed correlation statistics in addition to the variance inflation factor (VIF) to address this assumption. The correlation coefficients among independent variables for each regression model were interpreted as exhibiting moderate to low levels of correlation (See Appendix K). Furthermore, all covariate VIF values were less than 10 and exceeded the tolerance threshold of 0.20 (Field, 2013); therefore, the researcher met this assumption.

The eighth assumption of multiple linear regression assumes non-zero variance for the predictor variables. Although predictor variables will vary, no zero variance was reported (See Appendix K); therefore, this assumption was met.

Assumption nine for multiple linear regression analysis was independence of values on the outcome variable. The sources of support (e.g., non-school and school) and the types of social support (e.g., emotional/appraisal, informational, and instrumental) were separate constructs (Heaney & Israel, 2008; House, 1981; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007). Consequently, the researcher met this assumption.

Research Objective Four

Describe the contribution of perceived support from *non-school sources* and *school sources* towards *teacher self-efficacy* in novice agricultural education teachers.

H₀: Differences in perceived support from *non-school sources* and *school sources* did not explain a significant ($p < .05$) proportion of variance in teacher self-efficacy in novice agricultural education teachers.

H₁: Differences in perceived support from *non-school sources* explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers.

H₂: Differences in perceived support from *school sources* explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers.

The researcher identified the dependent (i.e., outcome) variable for the regression as the overall mean of teacher self-efficacy. In an effort to enhance the predictive power of the regression models while also recognizing the potential influence of other variables outside the administrative controls of the study, the researcher chose to include four demographic characteristic variables and one variable related to future career plans in Step 1 of the regression. The subsequent regression steps included three independent (i.e., predictor) variables for non-school sources of support (e.g., spouse or partner, family, friends) (Step 2), and the six independent variables for school sources of support

(e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community) (Step 3).

The researcher chose to use the hierarchical forced entry method for multiple linear regression due to (a) the unknown predictive power of the covariates for *sources* of support used in this study, and (b) to uncover the predictive power of the covariates for demographic characteristics and career commitment. The author chose to enter covariates in the regression models from least to most administratively controllable, beginning with predictor variables for demographic characteristics and future career plans (Step 1), followed by the non-school (i.e., personal) sources of support (Step 2). Finally, the six covariates for school sources of support were regressed in Step 3. The outcome variable for each regression model was teacher self-efficacy.

As shown in Table 4.6, the researcher calculated and reported the unstandardized beta coefficient (B) and standard error ($SE B$), the standardized beta coefficient (β), and significance (p) for all covariates in the regression models. The investigator also calculated t -value (t) and the variance inflation factor (VIF) for each covariate (See Appendix K). To evaluate the differences between models, the author calculated and reported the coefficient of determination (R), the adjusted coefficient of determination (R^2), the F statistic and the F change statistic.

Non-School and School Sources of Support. For research objective four, the author sought to describe the contribution of perceived support from non-school sources and school sources toward teacher self-efficacy in novice agricultural education teachers. To test the Null Hypothesis for this objective, the author performed hierarchical forced entry multiple regression. Five covariates were included in the first step of the regression

to describe the change in teacher self-efficacy described by demographic characteristics and future career plans. Three covariates were added in the second step of the regression to describe the proportion of variance in teacher self-efficacy explained by perceived support from non-school sources. Finally, six covariates were added in the third step of the regression to evaluate the contribution of school sources of support on novice teacher self-efficacy. The outcome variable for each regression step was teacher self-efficacy.

The Null Hypothesis for research objective four stated the differences in perceived support from *non-school* and *school* sources did not explain a significant ($p < .05$) proportion of variance in teacher self-efficacy for novice agricultural education teachers. The researcher determined Model 3 was significant, $F = 3.85(6,104, p < .05)$. Furthermore, three covariates included in the model were statistically significant ($p < .05$) predictors for teacher self-efficacy. Of the three statistically significant variables, one variable was demographic (*total years of teaching*), while the other two variables were school sources of support (*students* and *community*). Consequently, the investigator rejected the Null Hypothesis.

Table 4.6
Hierarchical Forced Entry Multiple Linear Regression of Respondents' Teacher Self-Efficacy using Selected Demographic Characteristics and Perceptions of Support from Non-School and School Sources (n = 119)

	Model 1			Model 2			Model 3					
	B	SE B	β	p*	B	SE B	β	p*	B	SE B	β	p*
(Constant)	6.19	.52		.00	5.53	.64		.00	4.87	.65		.00
Total years teaching	.12	.05	.23	.02	.15	.05	.29	.00	.14	.05	.27	.01
Future plans to teach	.10	.04	.22	.02	.09	.04	.21	.02	.03	.04	.07	.41
Gender	-.27	.19	-.13	.16	-.23	.19	-.11	.23	-.13	.18	-.06	.48
Relationship status	-.01	.04	-.03	.76	-.02	.05	-.04	.75	-.01	.05	-.03	.78
Teaching licensure	.02	.11	.01	.89	.07	.11	.06	.51	.04	.10	.04	.67
Spouse or partner					-.01	.04	-.03	.81	-.02	.03	-.08	.49
Family					-.12	.10	-.18	.21	-.16	.09	-.24	.08
Friends outside of work					.23	.09	.36	.01	.13	.08	.21	.11
Administrator(s)									.09	.06	.19	.11
Teachers at school									-.07	.08	-.12	.35
Teachers in FFA									-.06	.06	-.10	.32
Students									.30	.09	.43	.00
Parents of students									-.14	.10	-.23	.15
Community									.21	.09	.34	.02
Adjusted R ²											0.25	
F											3.85 (6,104)	
ΔR^2											0.17	
ΔF											4.55	

Note. The dependent variable for the models is the mean for overall teacher self-efficacy. Independent variables for *non-school* sources of support were spouse or partner, family, and friends outside of work. Independent variables for *school* sources of support included administrator(s), teachers at school, teachers in FFA, students, parents of students, and community.
 * $p < .05$

Model 1 – Demographic Characteristics and Future Plans. In Model 1, the author entered four demographic characteristic variables and one variable for future career plans in the regression. The results of this statistical test indicated two significant ($p < .05$) variables which predicted teacher self-efficacy. Those two variables were *total years of teaching* ($p = .02$) and *future plans to teach* ($p = .02$). Overall, the model was significant, $F = 2.78(5,113, p < .05)$. The contribution of the variables for future plans to teach in addition to demographic characteristics (e.g., total years of teaching, gender, relationship status, and teaching licensure) explained 7.0% (adjusted $R^2 = .07$) of the variance in teacher self-efficacy.

Model 2 – Non-school Sources of Support. Model 2 of the regression included (a) four demographic characteristic variables and one variable for future career plans, and (b) the three non-school sources of support. One non-school source of support variable, *friends outside of work*, was statistically significant ($p = .01$); however, the overall model for Step 2 of the regression was not significant ($p < .05$). As a result, the investigator determined differences in non-school sources of support did not explain a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers; therefore, the researcher rejected Hypothesis 1 of research objective four.

Model 3 – School Sources of Support. The investigator added the six school sources of support in the third step of the regression. Therefore, Model 3 included (a) four demographic characteristic variables and one variable for future career plans; (b) three variables for non-school sources of support; and (c) six variables for school sources of support. From this analysis, the researcher determined the overall model was

statistically significant, $F = 3.85(6,104, p < .05)$. When controlling for all other variables, demographic characteristics and future career plans contributed 7.0% ($adjusted R^2 = .07$) of the variance for teacher self-efficacy, while school sources of support contributed 25.3% ($adjusted R^2 = .25$) of the variance for teacher self-efficacy. From this investigation, the researcher determined differences in perceived support from school sources explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers; therefore, the researcher accepted Hypothesis 2 for research objective four.

Furthermore, individual assessment of Model 3 revealed three statistically significant ($p < .05$) covariates for teacher self-efficacy. The demographic characteristic for *total years of teaching* maintained significance ($p = .01$), while the support teachers perceived as available from *students* ($p = .00$) and *community* ($p = .02$) were also statistically significant predictors. The findings from this study revealed novice teachers' perceptions of support from *students* ($\beta = 0.43$) was four times more predictive of teacher self-efficacy than *future plans to teach* ($\beta = 0.07$), and twice as predictive as *total years of teaching* ($\beta = 0.27$). Similarly, perceived support from *community* ($\beta = 0.34$) was three times more predictive than *future plans to teach*, and nearly twice as predictive as *total years of teaching*.

Research Objective Five

Describe the contribution of the *types* of social support (e.g., emotional, appraisal, informational, and instrumental) toward *teacher self-efficacy* in novice agricultural education teachers.

H₀: Differences in perceived support from three *types* of social support did not explain a significant ($p < .05$) proportion of variance in teacher self-efficacy in novice agricultural education teachers.

H₁: Differences in perceived support from three *types* of social support explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers.

For research objective five, the author identified the dependent (i.e., outcome) variable for the regression as the overall mean of teacher self-efficacy reported by the sample population. In an effort to enhance the predictive power of the regression models while also recognizing the potential influence of other variables outside the administrative controls of the study, the researcher chose to include four demographic characteristic variables and one variable related to future career plans in Step 1 of the regression. In Step 2 of the regression, the researcher added the mean of the three social support constructs (e.g., emotional/appraisal support, informational support, and instrumental support) as the independent (i.e., predictor) variables.

The author chose to use the hierarchical forced entry method for multiple linear regression due to (a) the unknown predictive power of the covariates for the *types* of social support used in this study, and (b) to uncover the predictive power of the covariates for demographic characteristics and career commitment. The author chose to enter covariates in the regression models from least to most administratively controllable, beginning with variables for demographic characteristics and future career plans. For this reason, Step 1 included only the demographic variables and the variable for future career plans. The three social support variables were added in Step 2 of the regression.

As shown in Table 4.7, the author calculated and reported the unstandardized beta coefficient (B) and standard error ($SE B$), the standardized beta coefficient (β), and significance (p) for all covariates in the regression models. The investigator also calculated t -value (t) and the variance inflation factor (VIF) for each covariate (See Appendix K). To evaluate the differences between models, the author calculated and reported the coefficient of determination (R), the adjusted coefficient of determination (R^2), the F statistic and the F change statistic.

Table 4.7

Hierarchical Forced Entry Multiple Linear Regression of Respondents' Teacher Self-Efficacy using Selected Demographic Characteristics and Perceptions of Various Types Social Support (n = 119)

	Model 1				Model 2			
	B	$SE B$	β	p^*	B	$SE B$	β	p^*
(Constant)	6.19	.52		.00	4.52	.69		.00
Total years teaching	.12	.05	.23	.02	.15	.05	.29	.00
Future plans to teach	.10	.04	.22	.02	.06	.04	.12	.18
Gender	-.27	.19	-.13	.16	-.20	.18	-.10	.28
Relationship status	-.01	.04	-.03	.76	.00	.04	.01	.95
Teaching licensure	.02	.11	.01	.89	.04	.11	.03	.70
Emotional/Appraisal					.16	.13	.20	.21
Informational					.16	.12	.19	.20
Instrumental					-.04	.14	-.05	.78
<i>Adjusted R²</i>			0.07				0.15	
<i>F</i>			2.78 (5,113)				4.38 (3,110)	
ΔR^2			0.11				0.10	
ΔF			2.78				4.38	

Note. The dependent variable for Model 1 and Model 2 is the mean for overall teacher self-efficacy. Independent variables for the types of social support included emotional/appraisal support, informational support, and instrumental support.

* $p < .05$

Types of Social Support. For research objective five, the author sought to describe the contribution of the three types of social support toward teacher self-efficacy in novice teachers of agriculture. Hierarchical forced entry multiple linear regression was utilized by the investigator to test the null hypothesis. In this statistical analysis, four demographic characteristic variables, one variable for future career plans, and the three social support constructs were included as covariates in the regression.

Null Hypothesis and Hypothesis 1. The author analyzed Model 2 of the regression to test the Null Hypothesis and Hypothesis 1 for research objective five. The overall model was significant, $F = 4.38(3,110, p < .05)$; however, the only statistically significant ($p < .05$) covariate in Model 2 was *total years of teaching* ($p = .00$). The three social support constructs of *emotional/appraisal* support, *informational* support, and *instrumental* support were not statistically significant ($p < .05$) predictors of novice teacher self-efficacy.

When controlling for other variables, demographic characteristics and future career plans explained 7.0% (*adjusted R*² = .07) of the variance in teacher self-efficacy, while the addition of the three types of social support in Model 2 explained 14.7% (*adjusted R*² = .15) of the variance in teacher self-efficacy. After analyzing the results from Model 2, the researcher concluded the differences among the social support constructs did not explain a significant ($p < .05$) and unique proportion of variance of teacher self-efficacy in novice teachers of agriculture. Consequently, the researcher accepted the Null Hypothesis and rejected Hypothesis 1 for research objective five.

CHAPTER V

DISCUSSION AND RECOMMENDATIONS

Purpose of the Study

The purpose of this descriptive-relational study was to determine the degree of social support novice agricultural education teachers experience from various sources and types of social support, in addition to the influence of perceived support on novice teacher self-efficacy.

Research Objectives

1. Determine the degree of support novice agricultural education teachers perceive as available from *non-school sources* (e.g., spouse or partner, family, friends) and *school sources* (e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community) of support.
2. Determine the *types* of social support (e.g., emotional/appraisal, informational, instrumental) which novice agricultural education teachers perceive as available.
3. Describe the perceived level of *teacher self-efficacy* in novice agricultural education teachers.
4. Describe the contribution of perceived support from *non-school sources* and *school sources* towards *teacher self-efficacy* in novice agricultural education teachers.

H₀: Differences in perceived support from *non-school sources* and *school sources* did not explain a significant ($p < .05$) proportion of variance in teacher self-efficacy in novice agricultural education teachers.

H₁: Differences in perceived support from *non-school sources* explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers.

H₂: Differences in perceived support from *school sources* explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers.

5. Describe the contribution of the *types* of social support (e.g., emotional/appraisal, informational, instrumental) toward *teacher self-efficacy* in novice agricultural education teachers.

H₀: Differences in perceived support from three *types* of social support did not explain a significant ($p < .05$) proportion of variance in teacher self-efficacy in novice agricultural education teachers.

H₁: Differences in perceived support from three *types* of social support explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers.

Limitations of the Study

The purposeful sample for this study included novice agricultural education teachers who were employed in the State of Illinois or the State of Indiana. The researcher identified this group as a time and place sample, representative of the population (Oliver & Hinkle, 1982) of agricultural teachers in Illinois and Indiana. As a result, the use of inferential statistical analysis was justified for this study as the population was considered to be a representative sample of future populations of novice agriculture teachers in Illinois and Indiana. However, caution should be used when applying the results of this purposive sample to populations of novice teachers in other disciplines, or to populations of agricultural education teachers in other states. Additionally, even though most respondents presumably had access to reliable internet service and adequate time to complete the questionnaire, some respondents may not have completed the questionnaire due to internet connectivity issues or time constraints. The names of novice teachers for this sample were provided by agricultural education affiliates and university teacher educators from each state; the contact information for novice teachers in this sample was accessed through public online directories. Contact information for teachers was not verified through a secondary source; consequently, some inaccuracies may have existed in the information acquired from public sources.

Research Design

The purpose of this descriptive-relational quantitative study was to determine the degree of social support novice agricultural education teachers experience from various sources and types of social support, in addition to the influence of perceived support on novice teacher self-efficacy.

Population and Sample

The target population for this study included a purposeful sample of novice high school agricultural education teachers ($N = 296$) from Illinois ($n = 192$) and Indiana ($n = 104$) with five or fewer years of teaching experience during the 2016-2017 academic year. Names and email addresses for teachers employed in Illinois were obtained from the Facilitating Coordination for Agricultural Education (FCAE) Program Advisors and the Illinois Association of Vocational Agriculture Teachers (IAVAT) public online directory (IAVAT Directory, 2016). The names of teachers employed in Indiana with five or fewer years of teaching experience were obtained from faculty at Purdue University; the email addresses for teachers were obtained through the Indiana Association of Agricultural Educators (IAAE) public online directory (IAAE Directory, 2016).

Instrumentation

The author utilized features of Qualtrics, an online survey platform, to create and distribute the survey instrument. The questionnaire included three survey instruments, in addition to questions related to personal and work-related demographic characteristics.

Social Support Scale. The social support scale, developed by the researcher, was the first survey instrument in the questionnaire. Ten survey items were used to evaluate three social support constructs (e.g., emotional/appraisal support, informational support, and instrumental support) from three non-school sources of support (e.g., spouse or partner, family, friends) and six school sources of support (e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community). The items and the Likert-type scales used in the instrument were primarily adapted from survey instruments created by House (1981) regarding the impact of social support and stress on overall health,

and research conducted by Tschannen-Moran and Woolfolk Hoy (2002, 2007) on teachers' perceptions of support (i.e., verbal persuasion) from administration, colleagues, parents, and community. Moreover, the development of the social support survey items was also influenced by the Medical Outcomes Study: Social Support Survey (MOS-SSS) (Sherbourne & Stewart, 1991), the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1988), the Interpersonal Support Evaluation List (ISEL) (Cohen & Hoberman, 1983), and The Social Provisions Scale (SPS) (Russell & Cutrona, 1984). Adaptations were made to the survey items to more accurately evaluate teachers' perceptions of support relative to work and personal life responsibilities of a teacher (Cohen & Wills, 1985; Smith et al., 2013; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007), in addition to the expectations of teachers of agriculture (Terry & Briers, 2010). A 9-point response scale with alternating anchor points was used to determine the degree of perceived support received from three non-school and six school sources of support within the context of three social support constructs. Anchors for the 9-point Likert-type scale assessing the degree of perceived support were 1 = *never*, 3 = *rarely*, 5 = *sometimes*, 7 = *often*, and 9 = *always*. The use of a 9-point response scale with anchors on alternating points is consistent with Tschannen-Moran and Woolfolk Hoy's (2002, 2007) research on teachers' perceived quality of support (i.e., verbal persuasion) received from administration, colleagues, parents, and community. Results from the pilot test ($N = 27$) of the survey instrument reflected "excellent" internal consistency (Cronbach, 1951; Nunnally, 1978) for the *emotional/appraisal* construct ($\alpha = .96$), *informational* construct ($\alpha = .92$), and the *instrumental* construct ($\alpha = .95$). Additionally, Cronbach's alpha estimates of internal consistency for the three *non-school sources* of support ranged from .89 to .92, while the

internal reliabilities for the six *school sources* of support ranged from .89 to .96. These reliability estimates exceeded the minimum coefficient threshold of .70 recommended by Nunnally (1978).

Teachers' Sense of Efficacy Scale. The second survey instrument used in the questionnaire was the *Teachers' Sense of Efficacy Scale (short form)*, developed by Tschannen-Moran and Woolfolk Hoy (2001). This survey instrument was used to measure teacher self-efficacy. The instrument has been widely described as the superior measurement to assess teacher self-efficacy, regardless of personal or school characteristics (Duffin et al., 2012; Hoy & Spero, 2005; Klassen & Chiu, 2010). The *Teachers' Sense of Efficacy Scale (short form)* includes twelve items which asked participants to evaluate their beliefs of their ability to influence or control factors related to instructional practices, classroom management, and student engagement. Anchors for the 9-point Likert-type scale assessing teacher self-efficacy were 1 = *nothing*, 3 = *very little*, 5 = *some influence*, 7 = *quite a bit*, and 9 = *a great deal*. This commercially available survey instrument has been assessed for validity and reliability. The published reliabilities for the three constructs (e.g., instructional practices, student engagement, and classroom management) of the *Teachers' Sense of Efficacy Scale (short form)* range from .81 to .90 (Tschannen-Moran & Woolfolk Hoy, 2001).

Career Commitment. The third survey instrument was a one-item measure used to assess career commitment. The survey item was modified from a question used by Hancock and Scherff (2010) wherein the researchers used a dependent variable to measure attrition risk. In this survey instrument, participants were asked to rate their level of agreement with the following statement, "Thinking about your *future career plans*, to what extent do you agree or disagree with the following statement: *I plan to continue teaching agriculture in a*

high school classroom for the next 5 years.” The single-item question asked participants to choose from one of seven responses. The seven possible options were 1 = *strongly disagree*, 2 = *disagree*, 3 = *somewhat disagree*, 4 = *neither agree nor disagree*, 5 = *somewhat agree*, 6 = *agree*, and 7 = *strongly agree*. A *prefer not to respond* option and a text box for qualitative comments was also provided.

Demographic Characteristics. In addition to the three survey instruments for social support, teacher self-efficacy, and career commitment, the researcher also collected information from subjects regarding personal and work-related demographic characteristics. Respondents self-reported their total years of teaching experience, gender, relationship status, and the form of teaching licensure in which they were currently employed. A panel of experts, consisting of four faculty from two universities who specialize in agricultural education and agricultural leadership education disciplines, reviewed and verified the face and content validity of the instrument.

Data Collection

Following data collection protocols from the Institutional Review Board (IRB) at the University of Illinois and University of Missouri, participant consent was required prior to data collection. Required participant consent, a description of the research project, its purpose, and the known risks to participants who engaged in the research project, were included in the opening page of the online survey instrument (See Appendix A).

Furthermore, participants were informed of their right to terminate participation at any time without penalty to current or future activities with the universities. The opening page of the survey instrument also listed IRB required release and consent language, in addition to contact information for the IRB and the researcher.

Guided by recommendations from Dillman, Smyth, and Christian (2009) for survey design, the investigator distributed a link for the questionnaire to participants (i.e., novice high school agriculture educators from Illinois and Indiana with five or fewer years of teaching experience) one week following the distribution of an advanced notice email (See Appendices D and E). Reminder emails were distributed to participants three days prior to and one day prior to the requested completion date (See Appendices F and G). The author utilized features of Qualtrics, an online survey platform, to distribute the emails to participants. From the 296 invited teachers, 119 completed responses, yielding a 40.20% response rate.

Controlling for non-response. To ensure external validity of the data, the author used recommended procedures from Lindner and colleagues (2001) to control for non-response error. After first using suggested protocols to collect as many responses as possible (Miller & Smith, 1983), the researcher utilized two comparison methods to analyze non-response error among the respondents. The first method used was the *Comparison of Early to Late Respondents*. Seeking the minimum of 30 respondents for this comparison, the researcher identified participants who completed the questionnaire after the first reminder email on November 8. These respondents were coded as “Late” responders ($n = 34$), while the remaining were coded as “Early” responders ($n = 85$). The researcher calculated and reported results of an independent samples t-test for 12 variables. The variables in this analysis included demographic characteristics, the sources and types of social support, career commitment, and the perceived levels of teacher self-efficacy (See Appendix K). Assessing results from Levene’s test for homogeneity of variances, no significant differences were found between the two groups of respondents for 10 out of the 12 variables; however, the

results from Levene's test indicated statistically significant unequal variances between early and late groups of respondents ($p < .05$) for two variables. The two variables of concern were *future career plans*, $F(1,117) = 5.09$, $p < .05$, and *non-school sources of support*, $F(1,117) = 6.37$, $p < .05$. These results prompted the investigator to use a second method to evaluate non-response error, "*Days to Respond*" as a *Regression Variable*. The investigator calculated the difference between each respondent's completion date and requested completion date (November 11, 2016) to create the *Days to Respond* continuous variable. The *Days to Respond* variable was included in a linear regression equation as the independent variable, while the dependent variables for two separate forced entry regressions were *future career plans* and *non-school sources of support*. Results of the regression revealed that (a) 4.10% of the variance in respondents' *future career plans* was explained by the number of days to respond, while (b) 1.50% of the variance in respondents' perceived support from *non-school sources* was explained by the number of days available to respond. The results of the regression prompted the researcher to (a) use some degree of caution in evaluation of the *future career plans* variable, and (b) accept the null hypothesis for the *non-school sources of support* covariate; thus, considering this as a valid measurement, generalizable to the target population.

Research Objective One

Determine the degree of support novice agricultural education teachers perceive as available from *non-school sources* (e.g., spouse or partner, family, friends) and *school sources* (e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community) of support.

Summary of Findings

The intent of research objective one was to determine the degree of support novice agricultural education teachers perceived as available from *non-school sources* of support (e.g., spouse or partner, family, friends) and *school sources* of support (e.g., administrators, teachers at school, teachers in FFA section or district, students, parents, community).

Research objective one was analyzed from the perspective of the novice agricultural education teacher. Participants were asked to estimate their level of perceived support from three non-school sources and six school sources of support. The scale used to rate perceived support had alternating anchor points which ranged from 1 = *never* to 9 = *always*. Novice teachers of agriculture perceived support as *sometimes* available from *non-school* sources of support ($M = 5.83, SD = 1.55$) and *school* sources of support ($M = 5.39, SD = 1.24$).

Conclusions

Based on the findings, novice teachers of agriculture perceived more support from *non-school* (i.e., personal) sources of support than *school* sources of support. Individual assessment of non-school sources of support revealed that teachers perceived the greatest degree of support from *family* ($M = 6.69, SD = 1.40$) and the least degree of support from a *spouse or partner* ($M = 4.97, SD = 1.58$). When individually evaluating the six

school sources of support, teachers indicated the greatest degree of support from *teachers in their FFA section or district* ($M = 5.94$, $SD = 1.66$) and the least degree of support from *parents of students* ($M = 4.86$, $SD = 1.54$).

Implications

Non-school Sources of Support. The psychological perception of support is influenced by type, quality, and frequency of social interactions in relationships or social networks (Brouwers et al., 2001; Deangelis et al., 2013; Fantilli & McDougall, 2009; Lakey & Cohen, 2000; Wethington & Kessler, 1986). Furthermore, knowledge of the characteristics of supportive relationships and social networks leads to the presumption that novice teachers would attain the essence of a quality relationship (i.e., feelings of companionship, value, love, and belonging) (Chou, 2015; Cobb, 1976) from personal relationships with a spouse or partner, family, or friends (i.e., non-school sources of support). This postulation was reinforced by teachers' indications of *family* providing the greatest degree of support, described as *often*, when compared with the mean for all nine measured sources of support, described as *sometimes*.

Whereas novice teachers felt the greatest degree of support from *family*, their perceptions of support from *friends outside of work* and *spouse or partner* were perceived as *sometimes* available. This impression of support from *friends outside of work* may be a consequence of geographic isolation for novice teachers who start their career in a new community (Buchanan et al., 2013; House, 2001). Additionally, novice teachers in this study indicated the least degree of support from a *spouse or partner*. However, it must also be acknowledged that respondents who selected *N/A* for the ten survey items which assessed the degree of support from a *spouse or partner* were coded 0 = *N/A* in the

descriptive statistics analysis. With nearly half of the respondents (46.2%) indicating they were divorced, never married, or preferred not to respond, the low mean for this non-school source of support accurately reflects the absence of support from a spouse or partner in this sample population.

School Sources of Support. Novice teachers in this sample population perceived the greatest degree of school support from *teachers in their FFA section or district*. Novice teachers' perceptions of support from *teachers in their FFA section or district* may be attributed to (a) the appropriateness of a match between the support needed and the type of support provided; (b) the influence of mutual respect and social comparison on perceived support; or (c) the value of type, quality, and frequency of social interactions on perceptions of available support (Beard et al., 2010; Brouwers et al., 2001; Cohen & Wills, 1985; Cohen, 2004; Collie et al., 2012; Cornu, 2013; Darling-Hammond, 2003; Deangelis et al., 2013; Fantilli & McDougall, 2009; Heaney & Israel, 2008; Kitchel et al., 2012; Lakey & Cohen, 2000; Nurullah, 2012; Wethington & Kessler, 1986; Wong, 2015). With respect to these essential characteristics of support, it is justifiable that novice teachers might perceive the greatest degree of support from *teachers in their FFA section or district*.

Novice Teachers in Other Disciplines. When evaluating the results from Tschannen-Moran and Woolfolk Hoy's (2002, 2007) research on novice teachers' perceptions of support and the influence of support on teacher self-efficacy, novice teachers of agriculture in this study expressed a similar degree of support from *parents of students*. When assessing the results for the school sources of support evaluated in each study (e.g., administrators, teachers, parents, community), novice teachers in both

groups indicated the least degree of support from *parents of students*. The results from psychological research confirm that type, quality, and frequency of interactions impact individuals' perceptions of support. Consequently, the perceived lack of support from *parents of students* may be a reflection of teachers' infrequent and predominantly negative interactions with parents of students.

Aside from the similar results for novice teachers' perceptions of support from *parents of students*, novice teachers in this study differed from novice teachers in other disciplines in all other measured variables. The most notable discrepancies were discovered in novice teachers' perceptions of support from the *community*, colleagues (i.e., *teachers at your school*), and *administrator(s)* (Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007). Novice agricultural education teachers in this study perceived more support from the *community* as compared to novice teachers in other disciplines. Novice agricultural education teachers' elevated ratings of perceived support from the *community* may be attributed to the increased expectations of community involvement for teachers with extracurricular responsibilities (Terry & Briers, 2010). Contrasting results also emerged between the two groups of novice teachers in the support they perceived from *administrator(s)* and colleagues (i.e., *teachers at your school*). Novice teachers of agriculture in this study indicated less support from *administrator(s)* and colleagues (i.e., *teachers at your school*) when likened to a peer group of novice teachers from other disciplines (Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007). Due to the nature of many agricultural education programs, novice teachers of agriculture may be expressing consequences of physical and professional isolation (Buchanan et al., 2013). The physical location of

agricultural education classrooms is often separated from other classrooms, sometimes in a completely different building away from the remainder of the school. This physical distance from the rest of the school population may result in infrequent interactions with administrators and colleagues, thus decreasing the degree of perceived support from these sources. To help combat negative effects of isolation, administrators and other teachers in the school should actively seek opportunities to engage with novice teachers in a non-judgmental, supportive context. This form of engagement may occur during informal interactions outside the classroom.

Research Objective Two

Determine the *types* of social support (e.g., emotional/appraisal, informational, instrumental) which novice agricultural education teachers perceive as available.

Summary of Findings

The author used research objective two to clarify the *types* of social support which novice agricultural education teachers perceived as available. Research objective two was evaluated from the perspective of the novice agricultural education teacher. The participants' responses to ten survey items were aligned with three social support constructs (e.g., emotional/appraisal support, informational support, instrumental support). Participants were asked to indicate their perceptions of support from three non-school sources and six school sources on a scale with alternating anchor points ranging from 1 = *never* to 9 = *always*. Novice teachers of agriculture indicated support as *sometimes*

available in the form of *emotional/appraisal* support ($M = 5.84, SD = 1.22$), *informational* support ($M = 5.60, SD = 1.16$) and *instrumental* support ($M = 5.61, SD = 1.19$).

Conclusions

In his research on the influence of social support and its relationship to stress and negative health outcomes, House (1981) determined *emotional* support was the most prevalent and beneficial type of support in the workplace, followed by *instrumental* support; novice teachers' assessment of *emotional/appraisal* support is consistent with these findings. No distinguishable differences were found between *informational* and *instrumental* support constructs for this group of novice agricultural education teachers.

Implications

Novice agricultural education teachers concluded *emotional/appraisal* support was the most available *type* of support. Social science researchers have determined emotional and appraisal support is primarily acquired through intimate, personal relationships. Even though nearly half of the novice teachers of agriculture in this study indicated they were not currently in a relationship with a spouse or partner, their estimation of *emotional/appraisal* support in relation to the other types of support was consistent with previous research findings (Heaney & Israel, 2008; House, 1981). Conversely, researchers have determined *informational* and *instrumental* support are most frequently expressed through professional relationships. Similar mean and standard deviation results among the three social support constructs evaluated in this study suggest novice teachers were challenged to discern the specific type of social support they perceived as available from the three non-school sources of support and six school sources of support.

Although the individual *types* of social support were not significant, the significance of the overall model affirms the need for support. Regardless of the type of support received or perceived as available, the psychological perception of support helps individuals cope with professional and personal life stressors. To further enhance the impact of support, researchers have determined the most beneficial support is provided within the context of a relationship founded on mutual trust and respect (Brouwers et al., 2001; Cohen, 2004; DeAngelis et al., 2013; Fantilli & McDougall, 2009; Lakey & Cohen, 2000; Nurullah, 2012; Uchino, 2009). As a result, novice teachers must develop quality relationships with individuals whom they trust and respect to mitigate a multitude of psychological challenges. The perceived availability of support in quality relationships may potentially reduce the likelihood of teacher attrition.

Research Objective Three

Describe the perceived level of *teacher self-efficacy* in novice agricultural education teachers.

Summary of Findings

The purpose of research objective three was to describe the perceived level of teacher self-efficacy in novice agricultural education teachers. Research objective three was evaluated from the perspective of the novice agricultural education teacher. Novice teachers reported their perceptions of teacher self-efficacy using a 9-point Likert-type response scale with alternating anchor points ranging from 1 = *nothing* to 9 = *a great deal*. In addition to overall teacher self-efficacy, the author also sought to determine the perceived

level of teacher self-efficacy within the three constructs of *Efficacy in Student Engagement*, *Efficacy in Instructional Practices*, and *Efficacy in Classroom Management*. Novice agricultural education teachers in this study indicated the greatest level of teacher self-efficacy in the area of *instructional practices* ($M = 6.84$, $SD = 1.12$), followed by *classroom management* ($M = 6.75$, $SD = 1.17$). The least degree of teacher self-efficacy was perceived by novice agricultural education teachers in the area of *student engagement* ($M = 6.13$, $SD = 1.10$). On average, novice teachers in this study believed they had *quite a bit* of influence ($M = 6.57$, $SD = 0.96$) to bring about desired outcomes of student engagement and learning, regardless of how difficult or unmotivated the student may be (Tschannen-Moran & Woolfolk Hoy, 2001).

Conclusions

Novice teachers of agriculture in this study expressed lower efficacious beliefs in each construct of the *Teachers' Sense of Efficacy Scale* than novice educators in similar research (Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007). The only notable similarity between the two groups of novice teachers was in their efficacious beliefs regarding *student engagement*; novice teachers in each study perceived the least efficacy for *student engagement*. Overall, teachers' low efficacious beliefs in instructional practices, classroom management, and student engagement imply novice teachers of agriculture lack a belief in their own ability to be an effective educator who can bring about desired outcomes of student learning.

Implications

Literature confirms low teacher self-efficacy is a primary reason teachers choose to leave the profession (Brown et al., 2014; Knobloch & Whittington, 2007;

McKim & Velez, 2015; Swam et al., 2011; Tschannen-Moran & Woolfolk-Hoy, 2001). Moreover, low perceptions of teacher self-efficacy negatively impact student achievement (Hancock & Scherff, 2010; Kelly & Northrop, 2015; Sorenson & McKim, 2014; Struyven & Vanthournout, 2014). The most influential source of teacher self-efficacy is mastery experiences, but novice teachers have limited mastery experiences to draw upon (Tschannen-Moran & Woolfolk Hoy, 2007). Furthermore, even though mastery experiences are the most influential source of self-efficacy (Bandura, 1977), the *effectiveness* of a mastery experience and one's determination of a successful performance is influenced by verbal or social persuasion (Bandura, 1982). As a result, novice teachers, who are in the most critical and formative stages of their development, should be provided more opportunities to develop their teacher self-efficacy beliefs by way of vicarious experiences, physiological and emotional arousal, and verbal or social persuasion.

In an effort to increase student achievement, improve job satisfaction, and enhance career commitment for novice teachers, school administrators should devote more time and resources to the development of teacher self-efficacy. Novice teachers should be provided opportunities to create mastery experiences; moreover, to enhance the likelihood novice teachers will deem the experience worthy of mastery achievement, school sources of support should provide timely, constructive feedback in the form of verbal or social persuasion.

Another strategy which can be used by administrators to potentially help develop novice teachers' self-efficacy beliefs is to offer a formalized mentoring or induction program. Successful mentoring or induction programs should allocate designated times

for novice teachers to collaborate with mentors about instructional strategies, reflect on experiences, and observe teachers in their classroom environment (i.e., vicarious experiences) (Kram & Ragins, 2007; National Commission on Teaching and America's Future, Carroll, 2005). The cumulative effects of mastery and vicarious experiences, supported with verbal or social persuasion, will nurture physiological and emotional stimulation; thus, potentially enhancing efficacious beliefs.

Research Objective Four

Describe the contribution of perceived support from *non-school sources* and *school sources* towards *teacher self-efficacy* in novice agricultural education teachers.

Summary of Findings

The intent of research objective four was to describe the contribution of perceived support from *non-school sources* and *school sources* toward teacher self-efficacy in novice agricultural education teachers. To test the null hypothesis for this objective, the author performed hierarchical forced entry multiple regression. The outcome variable for the regression was the overall mean of teacher self-efficacy. Five covariates were included in the first step of the regression to describe the change in teacher self-efficacy described by demographic characteristics and future career plans. Three covariates were added in the second step of the regression to describe the proportion of variance in teacher self-efficacy explained by perceived support from *non-school sources of support*. Finally, six covariates were added in the third step of

the regression to evaluate the contribution of *school sources of support* on novice teacher self-efficacy.

Null Hypothesis. The Null Hypothesis for research objective four stated the differences in perceived support from *non-school sources* and *school sources* did not explain a significant ($p < .05$) proportion of variance in teacher self-efficacy for novice agricultural education teachers. The researcher determined Model 3 was significant, $F = 3.85(6,104, p < .05)$. Furthermore, three covariates included in the model were statistically significant ($p < .05$) predictors of teacher self-efficacy. Of the three statistically significant variables, one variable was demographic (*total years of teaching*), while the other two variables were school sources of support (*students and community*). Consequently, the investigator rejected the Null Hypothesis.

Hypothesis 1: Non-school Sources of Support. Model 2 of the regression analysis included (a) four demographic characteristic variables and one variable for future career plans, and (b) the three non-school sources of support. One non-school source of support variable, *friends outside of work*, was statistically significant; however, the overall model for Step 2 of the regression was not significant ($p < .05$). The result of this analysis implied the differences in non-school sources of support did not explain a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers; therefore, the researcher rejected Hypothesis 1 of research objective four.

Hypothesis 2: School Sources of Support. Model 3 of the regression included (a) four demographic characteristic variables and one variable for future career plans; (b) three variables for non-school sources of support; and (c) six variables for school

sources of support. From this analysis, the researcher determined the overall model was statistically significant, $F = 3.85(6,104, p < .05)$. When controlling for all other variables, demographic characteristics and future career plans contributed 7.0% (*adjusted R*² = .07) of the variance for teacher self-efficacy, while school sources of support contributed 25.3% (*adjusted R*² = .25) of the variance for teacher self-efficacy. From this investigation, the researcher determined differences in perceived support from school sources explained a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy in novice agricultural education teachers; therefore, the researcher accepted Hypothesis 2 for research objective four.

Furthermore, individual assessment of Model 3 revealed three statistically significant ($p < .05$) covariates for teacher self-efficacy. The demographic characteristic for *total years of teaching* maintained significance ($p = .01$), while the support teachers perceived as available from *students* ($p = .00$) and *community* ($p = .02$) were also statistically significant predictors of teacher self-efficacy. As shown in Figure 5.1, the findings from this study reveal that novice teachers' perceptions of support from *students* ($\beta = 0.43$) is four times more predictive of teacher self-efficacy than *future plans to teach* ($\beta = 0.07$), and twice as predictive as *total years of teaching* ($\beta = 0.27$). Similarly, perceived support from *community* ($\beta = 0.34$) was three times more predictive than *future plans to teach* ($\beta = 0.07$), and nearly twice as predictive as *total years of teaching* ($\beta = 0.27$).

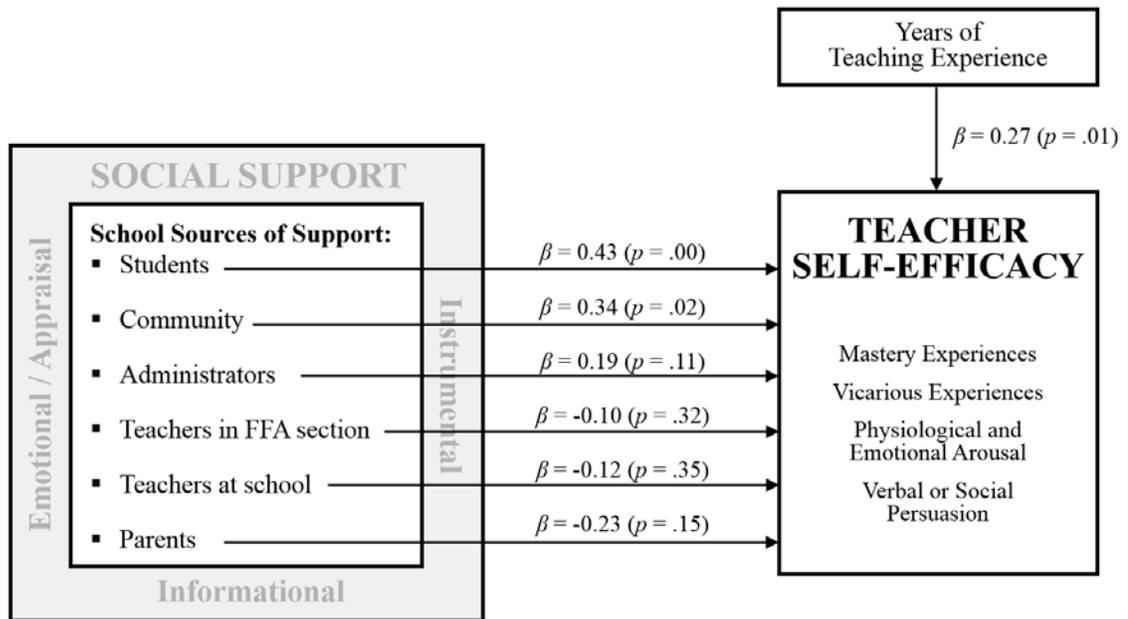


Figure 5.1 Standardized Beta (β) coefficients and significance levels (p) for covariates of school sources of support and years of teaching experience on the outcome variable of teacher self-efficacy.

Conclusions

Non-school Sources of Support. Based on the results from this study, conclusions can be made regarding the influence of *non-school* sources of support on the development of teacher self-efficacy in novice teachers of agriculture. As shown in Model 2 of the regression, the cumulative effects of *non-school* sources of support were not statistically significant ($p < .05$) predictors of teacher self-efficacy. Controlling for demographic characteristics, total years of teaching experience, and future plans to teach, novice teachers indicated the support they perceived from *non-school sources* only accounted for 10.8% of the variance in novice teacher self-efficacy. Thus, the variance in teacher self-efficacy explained by *non-school sources* of support was not statistically significant.

Among the non-school sources of support (e.g., spouse or partner, family, and friends outside of work), only one source of support was statistically significant in the regression (Model 2). Support from *friends outside of work*, in addition to covariates for *years of teaching* experience and *future plans to teach*, accounted for a majority of the variance in teacher self-efficacy experienced by novice teachers of agriculture. Although these results initially imply a lack of support from non-school sources, the author recognizes the unique circumstances surrounding the *spouse or partner* covariate in the regression. With nearly half (43.2%) of the respondents reporting they were not currently in a relationship, the *spouse or partner* variable included in each of the ten survey items was coded 0 = N/A. The result of this coding decision may have contributed to the non-significant outcome of the variance in teacher self-efficacy explained by *non-school sources* of support. However, the findings from the regression led the researcher to conclude the support novice teachers of agriculture perceived from *non-school sources* of support did not explain a significant proportion of variance in teacher self-efficacy.

School Sources of Support. The results from this study provide strong evidence that novice teachers' perceptions of available support from *school sources* contribute a significant and unique proportion of the variance in teacher self-efficacy for novice teachers of agriculture. More than 25% of the variance in teacher self-efficacy was explained by novice teachers' perceptions of support from *school sources*. More specifically, novice teachers' estimations of perceived support from *students* and *community* were significant predictors of teacher self-efficacy.

Whereas the covariate for *total years of teaching* implies acquisition of mastery experiences and mastery experiences are widely recognized as the primary source of teacher self-efficacy, the results from this study imply the support novice agricultural education teachers perceive from *students* and *community* in the form of verbal or social persuasion has greater predictive influence on teacher self-efficacy than mastery experiences. These findings contradict research from Tschannen-Moran and Woolfolk Hoy (2002, 2007) who concluded the contribution of interpersonal support was not a significant predictor of teacher self-efficacy in novice teachers. However, the author acknowledges Tschannen-Moran and Woolfolk Hoy (2002, 2007) did not include support from *students* as a covariate in their analyses.

Implications

Although the psychological construct of support is complex, researchers confirm the perception of support (a) is influenced by the quality and frequency of social interactions; (b) is of greater value when perceived as available compared to support which is received; (c) instills a sense of belonging within a community or support network; and (d) aids in fulfillment of basic human needs to feel valued, cared for, and loved (Chan, 2002; Chou, 2015; Cohen, 2004; Heaney & Israel, 2008; Lakey & Cohen, 2000; Maslow, 1943; Maslow, 1954; Nurullah, 2012; Uchino, 2009). Furthermore, the characteristics of support are demonstrated within the context of *relationships with others*, which subsequently contributes to an individual's physiological, psychological, and emotional well-being. With respect to previous research on teacher development (Fuller, 1969), the sources of teacher self-efficacy (Tschannen-Moran & Woolfolk Hoy, 2001), and known malleability of teacher self-efficacy in the early stages of a career

(Bandura, 1997) justify the need for novice teachers to develop quality relationships with school sources of support – particularly *students* and *community*. Novice teachers must perceive support from students and community to improve the likelihood of teacher retention.

The findings from this study advocate the importance for novice teachers of agriculture to develop quality relationships with *students* and *community*. Relationship is defined as “an association between two interacting partners,” wherein trust, loyalty, and mutual commitment are developed over time (Cropanzano & Mitchell, 2005, p. 883). Moreover, quality relationships demonstrate reciprocity, are founded in mutual trust and respect, and are characterized by frequent interactions which result in emotional familiarity and mutually beneficial outcomes (Heaney & Israel, 2008).

In his research on Social Exchange Theory, Blau (1964) identified six types of social rewards which provide positive reinforcement for quality relationships. Intrinsic and extrinsic rewards resulting from exchanges in a relationship include (a) personal attraction; (b) social acceptance; (c) social approval; (d) instrumental services; (e) respect or prestige; and (f) compliance or power. Although intended for assessment of organizational behaviors associated with quality relationships in the workplace environment, these same rewards can also be applied to novice teachers’ relationships with *students* and *community*. In addition to their needs to feel valued, cared for, and supported in their work, quality relationships with those whom teachers spend the majority of time with can provide (a) an enhanced psychological awareness of trust; (b) a desire to demonstrate reciprocity as a result of mutual obligation; (c) decreased feelings of risk; and (d) an amplified sense of cooperation (Cropanzano & Mitchell, 2005;

Dirks & Ferrin, 2002). The perceived support (i.e., verbal and social persuasion) novice teachers attain or perceive as available in relationships with *students* and *community* is a significant source of teacher self-efficacy, particularly in the early stages of their development as a teacher (Fuller, 1969).

As novice teachers strive to develop relationships with *students* and *community* who they can rely on to provide social support when faced with personal or professional life stressors (Cohen & Wills, 1985), the psychological state of trust grows from within the dynamics of a quality relationship. Trust involves (a) the reciprocity to care for and demonstrate consideration of another person; (b) feelings of mutual obligation, honesty, and vulnerability; and (c) an expectation that the emotional investment expressed within the relationship will result in positive intentions or behaviors (Cropanzano & Mitchell, 2005; Dirks & Ferrin, 2002; Evans & Revelle, 2008; Rotter, 1971). *Support* and *trust* are the foundations of a quality relationship; this relationship leads to a connection whereby the novice teacher feels valued, possesses a sense of freedom to give and receive without judgement, and develops a strength and sustenance to mediate any challenge (Brown, 2010). Over time, positive day-to-day exchanges with *students* and *community* can deepen the level of trust and support in relationships, lead to interpersonal attachment, and help affirm novice teachers' beliefs that others support and trust their abilities as a teacher.

Research Objective Five

Describe the contribution of the *types* of social support (e.g., emotional, appraisal, informational, instrumental) toward *teacher self-efficacy* in novice agricultural education teachers.

Summary of Findings

Research objective five was used to determine the contribution of the *types* of social support on novice teacher self-efficacy in agricultural education teachers. To test the Null Hypothesis for this objective, the author used hierarchical forced entry multiple regression. The outcome variable for the regression analysis was the overall mean of teacher self-efficacy. Five covariates were included in the first step of the regression to describe the change in teacher self-efficacy described by demographic characteristics and future career plans. Three covariates for *emotional/appraisal* support, *informational* support, and *instrumental* support were used as predictor variables in Step 2 of the regression.

Null Hypothesis and Hypothesis 1. Model 2 of the regression was used by the author to test the Null Hypothesis and Hypothesis 1 for research objective five. Even though the overall model was significant, $F = 4.38(3,110, p < .05)$, the only statistically significant ($p < .05$) covariate in Model 2 was *total years of teaching* ($p = .00$). Thus, the three social support constructs of *emotional/appraisal* support, *informational* support, and *instrumental* support were not statistically significant ($p < .05$) predictors of novice teacher self-efficacy.

When controlling for other variables, demographic characteristics and future career plans explained 7.0% (*adjusted R*² = .07) of the variance in teacher self-efficacy, while the addition of the three types of social support in Model 2 explained 14.7% (*adjusted R*² = .15) of the variance in teacher self-efficacy. After analyzing the results from Model 2, the researcher concluded the differences among the social support constructs did not explain a significant ($p < .05$) and unique proportion of variance in teacher self-efficacy for novice teachers of agriculture. Consequently, the researcher accepted the Null Hypothesis and rejected Hypothesis 1 for research objective five.

Conclusions

By adding the three covariates of *emotional/appraisal* support, *informational* support, and *instrumental* support to the regression, the percentage of variance in teacher self-efficacy explained by the three social support constructs increased from 7.0% in Model 1 to 14.7% in Model 2. Regardless of the specific type of social support provided or perceived as available, the statistically significant ($p < .05$) increase between Model 1 and Model 2 substantiates the psychological need for support to enhance teacher self-efficacy in novice teachers of agriculture (Bandura, 1982; Burke et al., 2015; Knobloch & Whittington, 2002; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007).

Whereas the collective influence of social support was significant ($p = .01$), the individualized social support constructs of *emotional/appraisal* support, *informational* support, and *instrumental* support were not statistically significant ($p < .05$). Moreover, evaluation of the variance inflation factor (VIF) in assessment of collinearity revealed values higher than 3.00 for each social support construct. Although still within the

tolerance threshold of .20 and the maximum acceptance value of 10.0 to meet the multicollinearity assumption of regression (Field, 2013), the similarities of the VIF results insinuate a strong linear relationship among the three social support constructs. Therefore, the ten survey items which were intended to measure three distinct constructs of social support may have been measuring the same overall construct of psychological support.

Implications

The results of this study affirm the need for the psychological perception of available support, regardless of the specific *type* of support received (Brouwers et al., 2001; Cohen, 2004; DeAngelis et al., 2013; Fantilli & McDougall, 2009; Lakey & Cohen, 2000; Nurullah, 2012; Uchino, 2009). In spite of the negative effects of reality shock, culture shock, and isolation, novice teachers must feel valued and supported to reduce attrition (Burke et al., 2015; Hancock & Scherff, 2010). Moreover, the support novice teachers of agriculture perceive as available impacts their perceptions of control and subsequent behavioral responses, along with their discernment of coping efficacy, risk, and vulnerability to trust others in a relationship (Bandura, 1997). Ultimately, novice teachers who perceive the availability of *support* can overcome the unexpected challenges of the profession, resist the lure of wealth in another career, and regardless of where they are ‘planted’ have the capability to grow into the teacher they have the potential to become. The psychological construct of support will be most effective at increasing teacher self-efficacy and improving career commitment when novice teachers of agriculture develop the awareness to recognize support, the emotional

capacity to feel worthy of support, and demonstrate a willingness to seek out and accept support when offered.

Recommendations for Practice

School Administrators. The first and second recommendations for practice are directed toward school administrators. Formalized induction programs should be provided for novice teachers which focus on developing a network of collegial support (i.e., collective efficacy) in the school environment (Carroll, 2005). To ensure implementation of a mutually beneficial induction program, mentor teachers should receive training and appropriate resources to help novice teachers develop teacher self-efficacy, and be provided with incentives or recognition for successful completion of the program (Kram & Ragins, 2007). A successful induction program should include designated times for mentor teachers and novice teachers to (a) collaborate on classroom management techniques, student engagement strategies, and instructional practices; (b) engage in vicarious learning experiences through classroom observations; and (c) exchange feedback (i.e., verbal or social persuasion) related to mastery and vicarious experiences. Induction programs which more closely mirror onboarding programs in business and industry will enhance teacher self-efficacy, whereby potentially reducing teacher attrition.

The second recommendation for school administrators is to offer professional development for novice teachers specifically focused on relationship building strategies with students (Blau, 1964; Cropanzano & Mitchell, 2005). Novice teachers should be informed of the many psychological benefits of quality relationships, particularly as they relate to student-teacher interactions, collective efficacy in the school environment, teacher self-efficacy, and

retention. Professional development workshops should include strategies which novice teachers can immediately implement to establish or enhance rapport with students.

University Teacher Educators. The third and fourth recommendations for practice are directed toward university teacher educators. Teacher educators should increase awareness of the psychological benefits associated with novice teachers' perceptions of support and subsequent influence on teacher retention. Research which justifies the value of social support must be communicated to school administrators, in addition to pre-service and novice teachers. Through a collective effort between school administrators and university teacher educators, mentors can be identified early in the transition from pre-service status to full-time employment for novice teachers. Early identification of mentors, along with a formalized induction program which provides specific opportunities for novice teachers to reflect on mastery and vicarious experiences, may reduce the negative consequences of isolation, improve student achievement, and increase teacher self-efficacy (Hancock & Scherff, 2010; Kelly & Northrop, 2015; Sorenson & McKim, 2014; Struyven & Vanthournout, 2014).

The fourth recommendation for practice is directed toward university teacher educators. The results from this study affirm novice teachers feel supported by agricultural education *teachers in their FFA section or district*, but more support is needed. University teacher educators in agricultural education have a unique opportunity to interact with teachers of all experience levels and provide professional development workshops for educators. As a result, teacher educators should (a) communicate the value of support (i.e., verbal and social persuasion) toward the development of novice teacher self-efficacy and career commitment,

and (b) provide experienced teachers of agriculture with specific, practical application strategies to use with novice teachers in the agricultural education community.

Recommendations for Future Research

Researchers in the medical community confirm the vast array of psychological and physiological benefits of support. Additionally, research conducted on employee engagement and organizational behaviors advocate the need for support from supervisors and colleagues to enhance career commitment and self-efficacy. Unfortunately, limited research has been completed in education to evaluate the ways in which social support enhances teacher self-efficacy, wherein potentially reducing teacher attrition.

The first recommendation for future research is to investigate the relationship between perceptions of *support* and *trust* in novice teachers. The recommended survey instruments to use for this assessment include the social support scale from this study, in addition to the *Comprehensive Teacher Trust Scale* developed by Tschannen-Moran & Hoy (2003). This instrument includes statements which prompt teachers to estimate their perceptions of trust from school sources of support (e.g., principal, colleagues, students, parents). Whereas the psychological state of trust is an essential characteristic of quality relationships, and the perceived quality of a relationship between receiver and provider influences the psychological benefits of support, this analysis will help determine connections between the two psychological constructs of *trust* and *support*. Particularly in novice teachers, whose efficacious beliefs for teaching are malleable in the early years of their career, an enhanced understanding of the connections between trust, support, and self-efficacy relative to school sources of support may reduce teacher attrition.

The second recommendation for future research is to examine the relative impact of the four sources of teacher self-efficacy on instructional practices, classroom management, and student engagement (Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007). Enhanced understanding of the influence of mastery experiences, vicarious experiences, verbal or social persuasion, and physiological and emotional arousal on the three constructs of teacher self-efficacy may improve the methods university teacher educators and administrators use to prepare novice teachers for the profession.

The third recommendation for future research is to compare perceptions of social support among five groups of agricultural education teachers – (a) preservice teachers; (b) novice teachers (i.e., teachers with five or fewer years of experience) who are currently teaching; (c) mid-career teachers (i.e., teachers with more than five, but less than ten years of experience); (d) teachers who left the profession of agricultural education with five or fewer years of experience; and (e) veteran teachers (i.e., teachers with more than ten years of experience) who have remained in the profession. The purpose of this investigation is to describe the perceptions of *support* and *career commitment* across different stages of a career, and explore possible relationships between teachers' stages of development, years of experience, and attrition. A mixed methods approach, utilizing quantitative and qualitative research methods, is recommended for this investigation.

The fourth recommendation for future research is to utilize the social support survey instrument in this study along with the *Maslach's Burnout Inventory (MBI)* to determine potential relationships between perceived support, the three dimensions of

psychological burnout (e.g., emotional exhaustion, depersonalization, personal accomplishment), and career commitment (Bataineh, 2009; Brouwers et al., 2001; Burke et al., 1996; Guglielmi, 1998; Kitchel et al., 2012). Whereas school sources of support significantly influence teacher self-efficacy beliefs, more research is needed to investigate possible relationships between the specific stages of psychological burnout, support, and career commitment.

More investigation is necessary to determine the psychological and physiological benefits of support and its impact on teacher self-efficacy. Researchers, administrators, and university teacher educators must find specific ways to help novice teachers recognize the availability of support from school sources of support and seek out resources to overcome the challenges of the profession. An enhanced understanding of the connections among perceived support, teacher self-efficacy, and career commitment will improve novice teachers' sustainability and longevity in the profession.

Appendix A

Participant Consent for Online Questionnaire

Sources of Support for Agricultural Education Teachers

Consent to Participate in an Online Survey

Please read the consent statement carefully before you decide to participate in this study.

The purpose of this questionnaire is to gather information about the support you receive as an agricultural education teacher from a variety of sources. The results from this questionnaire will be used, in part, to develop or enhance sources of support for novice agriculture education teachers. The data collected from the study will be analyzed by researchers from the University of Illinois Agricultural Education Program. This research presents no more than a minimal risk of harm to subjects. Your decision to participate or decline participation in this study is completely voluntary and you have the right to terminate your participation at any time without penalty. Only those 18 and older are invited to participate. If you do not wish to complete this survey or are under 18 years old, please close the webpage. In the interest of privacy, please do not name any specific individuals in the open-ended questions. Possible outlets of dissemination of the results of this study may be publication in a journal and presentation at a conference. If you have questions about the questionnaire, please contact Debra Korte at dskorte@illinois.edu or by phone at (217) 244-8086.

When this research is discussed or published, no one will know that you were in the study. However, laws and university rules might require us to disclose information about you. For example, if required by laws or University Policy, study information which identifies you may be seen or copied by the following people or groups: a) The university committee and office that reviews and approves research studies, the Institutional Review Board (IRB) and Office for Protection of Research Subjects, and b) University and state auditors, and Departments of the university responsible for oversight of research.

This survey should take approximately **15 minutes** to complete. Please complete the survey on or before **November 11th**.

The University of Illinois Counseling Center provides a wide range of counseling services for psychological, education, social, and developmental needs. More information about their services can be found on their website (<http://counselingcenter.illinois.edu>). If you feel you have not been treated according to the descriptions in this form, or if you have any questions about your rights as a research subject, including questions, concerns, complaints, or to offer input, you may call the Office for the Protection of Research Subjects (OPRS) at 217-333-2670 or e-mail OPRS at irb@illinois.edu. Please print a copy of this consent form for your records.

Consent to Participate in an Online Survey

Your decision to participate, decline, or withdraw from participation will have no effect on your current status or future relations with the University of Illinois.

- I have read the procedure described above and am 18 years or older. I voluntarily agree to participate in this survey.

- I do not wish to participate in this survey.

Appendix B

Social Support Survey Instrument – Pilot Test:

Social Support Constructs, Anchors, Scales, Sources, and Review Panel

Emotional/Appraisal

1. How often do you *receive positive feedback* about your work as an agricultural education teacher from the following people? (Cohen & Hoberman, 1983)
2. How often do you feel *valued as a teacher* by the following people? (Russell & Cutruna, 1984; Zimet et al., 1988)
3. How often do the following people go out of their way to *praise your work* as an agricultural education teacher? (Cohen & Hoberman, 1983; House & Wells, 1978)
4. How often do the following people *show empathy* (i.e., shared understanding) *for your needs*? (Russell & Cutruna, 1984; Sherbourne & Stewart, 1991; Zimet et al., 1988)

Instrumental

5. As an agricultural education teacher, how often are these people *helpful to you in getting your job done*? (Cohen & Hoberman, 1983; House & Wells, 1978; Russell & Cutruna, 1984)
6. How often can these people be relied upon to *provide resources* (e.g., money, time, equipment) which help you succeed as an agricultural education teacher? (Cohen & Hoberman, 1983; Russell & Cutruna, 1984; Tschannen-Moran & Woolfolk Hoy, 2002; Zimet et al., 1988)
7. How often do the following people *demonstrate care and concern* for your well-being through *tangible acts of kindness* (e.g., time, resources, gifts)? (Cohen & Hoberman, 1983; Sherbourne & Stewart, 1991; Tschannen-Moran & Woolfolk Hoy, 2002)

Informational

8. How often can these people be *relied on to give practical advice* related to your profession as an agricultural education teacher? (Russell & Cutruna, 1984; Sherbourne & Stewart, 1991)
9. How often do the following people *provide helpful suggestions* related to your profession as an agricultural education teacher? (Russell & Cutruna, 1984)
10. How often do you *seek advice* from the following people regarding situations related to your profession as an agricultural education teacher? (Sherbourne & Stewart, 1991)

Scale and Anchors

- 9-point Likert scale
(Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007)
- Anchors expanded from House & Wells (1978)

Sources of Support – School

- **Building Administrator**
(House & Wells, 1978; Knobloch & Whittington, 2002; Tickle et al., 2010; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007)
- **District Administrator**
(House & Wells, 1978; Knobloch & Whittington, 2002; Tickle et al., 2010; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007)
- **School Board**
(House & Wells, 1978)
- **Teachers at your school**
(House & Wells, 1978; Knobloch & Whittington, 2002; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007)
- **Teachers in your FFA section or district**
(House & Wells, 1978; Knobloch & Whittington, 2002; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007)
- **Students in your agriculture classes**
(Beard et al., 2010; Caspersen & Raaen, 2013; Emmer & Hickman, 1991; Fantilli & McDougall, 2005; Hancock & Scherff, 2010; Klassen & Chiu, 2010; Smith et al., 2013; Veenman, 1984)
- **Students in FFA**
(Beard, Hoy, & Hoy, 2010; Caspersen & Raaen, 2013; Emmer & Hickman, 1991; Fantilli & McDougall, 2005; Hancock & Scherff, 2010; Klassen & Chiu, 2010; Smith et al., 2013; Veenman, 1984)
- **Parents of your students**
(Beard, Hoy, & Hoy, 2010; Buchanan et al., 2013; Fantilli & McDougall, 2015; Struyven & Vanthrounout, 2014; Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007; Veenman, 1984)
- **Community where you teach**
(Tschannen-Moran & Woolfolk Hoy, 2002; Tschannen-Moran & Woolfolk Hoy, 2007)

Sources of Support – Non-School

- **Spouse or partner**
(Bataineh, 2009; Cohen & Wills, 1985; House & Wells, 1978; Wethington & Kessler, 1986; Zimet et al., 1988)
- **Family**
(Bataineh, 2009; Cohen & Wills, 1985; Cornu, 2013; Dignam & West, 1988; Fantilli & McDougall, 2009; Zimet et al., 1988)
- **Friends outside of work**
(Bataineh, 2009; Cohen & Wills, 1985; Cornu, 2013; Dignam & West, 1988; Fantilli & McDougall, 2009; House & Wells, 1978; Zimet et al., 1988)

Pilot Test Review Panel

- **Dr. Jon Simonsen**
University of Missouri
Department of Agricultural Education and Leadership
- **Dr. Tracy Kitchel**
The Ohio State University
Department of Agricultural Communication, Education, and Leadership
- **Dr. David M. Rosch**
University of Illinois
Agricultural Education Program
- **Dr. Kari H. Keating**
University of Illinois
Agricultural Education Program

Appendix C

Teachers' Sense of Efficacy Scale (short form) and Permission Letter

Teachers' Sense of Efficacy Scale

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

Teacher Beliefs Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.

	How much can you do?								
	Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal
How much can you do to control disruptive behavior in the classroom?	1	2	3	4	5	6	7	8	9
How much can you do to motivate students who show low interest in school work?	1	2	3	4	5	6	7	8	9
How much can you do to get students to believe they can do well in school work?	1	2	3	4	5	6	7	8	9
How much can you do to help your students value learning?	1	2	3	4	5	6	7	8	9
To what extent can you craft good questions for your students?	1	2	3	4	5	6	7	8	9
How much can you do to get children to follow classroom rules?	1	2	3	4	5	6	7	8	9
How much can you do to calm a student who is disruptive or noisy?	1	2	3	4	5	6	7	8	9
How well can you establish a classroom management system with each group of students?	1	2	3	4	5	6	7	8	9
How much can you use a variety of assessment strategies?	1	2	3	4	5	6	7	8	9
To what extent can you provide an alternative explanation or example when students are confused?	1	2	3	4	5	6	7	8	9
How much can you assist families in helping their children do well in school?	1	2	3	4	5	6	7	8	9
How well can you implement alternative [teaching] strategies in your classroom?	1	2	3	4	5	6	7	8	9



ANITA WOOLFOLK HOY, PH.D.

PROFESSOR
PSYCHOLOGICAL STUDIES IN EDUCATION

Dear

You have my permission to use the *Teachers' Sense of Efficacy Scale* in your research. A copy the scoring instructions can be found at:

<http://u.osu.edu/hoy.17/research/instruments/>

Best wishes in your work,

A handwritten signature in cursive script that reads 'Anita Woolfolk Hoy'.

Anita Woolfolk Hoy, Ph.D.
Professor Emeritus

COLLEGE OF EDUCATION
29 WEST WOODRUFF AVENUE
COLUMBUS, OHIO 43210-1177

WWW.COE.OHIO-STATE.EDU/AHOY

PHONE 614-292-3774
FAX 614-292-7900
HOY.17@OSU.EDU

Appendix D

Introduction Email

(Subject) Survey Announcement: Sources of Support for Agricultural Education Teachers

The Agricultural Education Program at the University of Illinois, along with the Department of Agricultural Education and Leadership at the University of Missouri, are conducting a research study to describe the influence of social support on novice teacher self-efficacy. All novice agricultural education teachers in Illinois and Indiana have been invited to participate in this study.

Next Tuesday, November 1st, you will receive an email with a link to an electronic survey. Your participation is crucial to the success of this study. The survey should take approximately 15 minutes to complete. Please complete the survey on or before November 11th.

Please be assured your responses will remain anonymous. This study is completely voluntary and you have the right to withdraw from the study at any time without penalty. In the interest of privacy, please do not name any specific individuals in the open-ended questions. Possible outlets of dissemination of the results of this study may be publication in a journal and presentation at a conference. This research presents no more than a minimal risk of harm to subjects. No identifying information will be used in any publications or presentations which result from this research.

If you have any questions about this study, you can contact:

Debra Korte
University of Illinois
905 South Goodwin Avenue
174C Bevier Hall
Urbana, IL 61801
(217) 244-8086
dkorte@illinois.edu

If you have any questions about your rights as a research subject, including questions, concerns, complaints, or to offer input, you may call the Office for the Protection of Research Subjects (OPRS) at 217-333-2670 or e-mail OPRS at irb@illinois.edu.

Appendix E

Recruitment Email

(Subject) Survey: Sources of Support for Agricultural Education Teachers

In an effort to improve teacher retention, researchers at the University of Illinois and University of Missouri are seeking your input on the quality and perceived value of support you receive from a variety of school non-school related sources.

Participation in this questionnaire is completely voluntary. The responses you provide will remain confidential to anyone outside of the research team. You have the right to terminate your participation at any time without penalty. The information you provide is extremely valuable, and may impact future changes in the teacher preparation curriculum and retention efforts in agricultural education.

The questionnaire should only take about *15 minutes* to complete. *For ease of viewing, please complete the questionnaire on a computer or tablet.*

If possible, please complete the survey on or before **November 11, 2016**.

If you have questions about the research, please contact Debra Korte at dskorte@illinois.edu. If you have any questions about your rights in this study or any concerns, please contact the University of Illinois Institutional Review Board at 217-333-2670 or via email at irb@illinois.edu.

Thank you for your consideration of this important project!

Follow this link to the Survey:

[Take the survey](#)

Or copy and paste the URL below into your internet browser:

https://illinoisaces.co1.qualtrics.com/SE?Q_DL=5dbpau9N8uAPAuV_25jBsFN99LIAMvz_MLRP_bmGZObbfcG1W8l&Q_CHL=email

Follow the link to opt out of future emails:

[Click here to unsubscribe](#)

Appendix F

First Reminder Email

(Subject) Reminder: Support for Agricultural Education Teachers Survey

Last week, you received an email request to complete a questionnaire for agricultural education teachers. The questionnaire should only take about **15 minutes** to complete. For ease of viewing, you may want to complete the questionnaire on a computer or tablet. Please complete the survey on or before this **Friday, November 11, 2016**.

Follow this link to the Survey:

[Take the survey](#)

Or copy and paste the URL below into your internet browser:

https://illinoisaces.co1.qualtrics.com/SE?Q_DL=0kw1RFODySPyp6Z_dd2hUBjYmj0attH_MLRP_1BIXJUaqDr8m9tr&Q_CHL=email

If you have questions about the research, please contact Debra Korte at dskorte@illinois.edu. If you have any questions about your rights in this study or any concerns, please contact the University of Illinois Institutional Review Board at 217-333-2670 or via email at irb@illinois.edu.

Participation in this questionnaire is completely voluntary. The responses you provide will remain confidential to anyone outside of the research team. You have the right to terminate your participation at any time without penalty. The information you provide is extremely valuable, and may impact future changes in the teacher preparation curriculum and retention efforts in agricultural education.

Thank you for your consideration of this important project!

Follow the link to opt out of future emails:

[Click here to unsubscribe](#)

Appendix G

Second Reminder Email

(Subject) Reminder: Support Survey

Last week, you received an email request to complete a questionnaire for agricultural education teachers. The questionnaire should only take about **15 minutes** to complete. For ease of viewing, you may want to complete the questionnaire on a computer or tablet. Please complete the survey on or before the end of the day tomorrow, **Friday, November 11, 2016**.

Follow this link to the Survey:

[Take the survey](#)

Or copy and paste the URL below into your internet browser:

https://illinoisaces.co1.qualtrics.com/SE?Q_DL=0kw1RFODySPyp6Z_dd2hUBjYmj0attH_MLRP_1BIXJUaqDr8m9tr&Q_CHL=email

If you have questions about the research, please contact Debra Korte at dskorte@illinois.edu. If you have any questions about your rights in this study or any concerns, please contact the University of Illinois Institutional Review Board at 217-333-2670 or via email at irb@illinois.edu.

Participation in this questionnaire is completely voluntary. The responses you provide will remain confidential to anyone outside of the research team. You have the right to terminate your participation at any time without penalty. The information you provide is extremely valuable, and may impact future changes in the teacher preparation curriculum and retention efforts in agricultural education.

Thank you for your consideration of this important project!

Follow the link to opt out of future emails:

[Click here to unsubscribe](#)

Appendix H

Thank You Email

(Subject) Thank you

Thank you for completing the sources of support survey! Your opinions on this topic are important.

Best wishes for a successful school year!

Follow the link to opt out of future emails:
\${1://OptOutLink?d=Click here to unsubscribe}

Appendix I

Survey Instrument for Illinois Novice Agricultural Education Teachers

Sources of Support

The first section of the survey is designed to help us gain a better understanding of the support you receive as an agricultural education teacher. Your answers are confidential.

Directions: Please respond to each of the following questions by reflecting on your role as an agricultural education teacher. Please indicate your opinion about the support you receive from each potential source of support listed on the left side. You may mark any one of the nine responses in the columns on the right side, ranging from (1) "Never" to (9) "Always" as each represents a degree on the continuum.

As an agricultural education teacher, how often are these people *helpful to you in getting your job done?*
 (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA section										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often can these people be *relied on to give practical advice* related to your profession as an agricultural education teacher? (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA section										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

143

Additional Comments:

How often do you *receive positive feedback* about your work as an agricultural education teacher from the following people?
 (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA section										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often do the following people *provide helpful suggestions* related to your profession as an agricultural education teacher?
 (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA section										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

145

Additional Comments:

How often can these people be relied upon to *provide resources* (e.g., money, time, equipment) which help you succeed as an agricultural education teacher? (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA section										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

146

Additional Comments:

How often do you feel *valued* as a teacher by the following people? (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA section										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often do the following people go out of their way to *praise your work* as an agricultural education teacher?
 (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA section										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often do you *seek advice* from the following people regarding situations related to your profession as an agricultural education teacher? (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA section										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

149

Additional Comments:

How often do the following people *show empathy* (i.e., shared understanding) *for your needs*?
 (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA section										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

150

Additional Comments:

How often do the following people *demonstrate care and concern* for your well-being through *tangible acts of kindness* (e.g., time, resources, gifts)? (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA section										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

Teacher Beliefs

The next section of the survey is designed to help us gain a better understanding of the kinds of things that create challenges for teachers. Your answers are confidential.

Directions: Please indicate your opinion about each of the questions below by marking any one of the nine responses in the columns on the right side, ranging from (1) "None at all" to (9) "A Great Deal" as each represents a degree on the continuum. Please respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position.

Teacher Beliefs

	How much can you do?								
	Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal
How much can you do to control disruptive behavior in the classroom?	1	2	3	4	5	6	7	8	9
How much can you do to motivate students who show low interest in school work?	1	2	3	4	5	6	7	8	9
How much can you do to get students to believe they can do well in school work?	1	2	3	4	5	6	7	8	9
How much can you do to help your students value learning?	1	2	3	4	5	6	7	8	9
To what extent can you craft good questions for your students?	1	2	3	4	5	6	7	8	9
How much can you do to get children to follow classroom rules?	1	2	3	4	5	6	7	8	9
How much can you do to calm a student who is disruptive or noisy?	1	2	3	4	5	6	7	8	9
How well can you establish a classroom management system with each group of students?	1	2	3	4	5	6	7	8	9
How much can you use a variety of assessment strategies?	1	2	3	4	5	6	7	8	9
To what extent can you provide an alternative explanation or example when students are confused?	1	2	3	4	5	6	7	8	9
How much can you assist families in helping their children do well in school?	1	2	3	4	5	6	7	8	9
How well can you implement alternative [teaching] strategies in your classroom?	1	2	3	4	5	6	7	8	9

Demographics and Future Plans

The final section of the survey is designed to help us learn more about you and your future career plans. Your answers are confidential.

Directions: Please provide a response for each prompt which most accurately describes you and/or your future plans.

Please enter the number of years you have ***completed teaching*** in a full-time position at your ***current school***.

- Less than 1 year
- 1 year
- 2 years
- 3 years
- 4 years
- 5 years
- More than 5 years

Please enter the ***total number of years*** you have ***completed teaching*** (include current school and other full-time teaching experience).

- Less than 1 year
- 1 year
- 2 years
- 3 years
- 4 years
- 5 years
- More than 5 years

Thinking about your ***future career plans***, to what extent do you agree or disagree with the following statement:

I plan to continue teaching agriculture in a high school classroom for the next 5 years.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree
- Prefer not to respond

Additional Comments:

Please select your gender.

- Male
- Female
- Prefer not to respond

Choose the option below which best describes your relationship status.

- Married
- Widowed
- Divorced
- Separated
- Never married
- Prefer not to respond

Please indicate the type of licensure and/or certification in which you are employed.

- Fully state licensed according to State Board of Education minimum requirements
- Provisionally licensed, working toward full licensure
- Provisionally licensed
- Other _____

Please select the grade level of students you are responsible for teaching. (Select all that apply.)

- 12 - Seniors
- 11 - Juniors
- 10 - Sophomores
- 9 - Freshmen
- 8 - Junior High
- Adult Education
- Other _____

Now that you've completed your first year(s) of teaching, are there any differences between *what you expected* it to be like and *your actual experience*?

Appendix J

Survey Instrument for Indiana Novice Agricultural Education Teachers

Sources of Support

The first section of the survey is designed to help us gain a better understanding of the support you receive as an agricultural education teacher. Your answers are confidential.

Directions: Please respond to each of the following questions by reflecting on your role as an agricultural education teacher. Please indicate your opinion about the support you receive from each potential source of support listed on the left side. You may mark any one of the nine responses in the columns on the right side, ranging from (1) "Never" to (9) "Always" as each represents a degree on the continuum.

As an agricultural education teacher, how often are these people *helpful to you in getting your job done*?
 (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA district										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often can these people be *relied on to give practical advice* related to your profession as an agricultural education teacher? (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA district										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often do you *receive positive feedback* about your work as an agricultural education teacher from the following people?
 (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA district										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

161

Additional Comments:

How often do the following people *provide helpful suggestions* related to your profession as an agricultural education teacher?
 (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA district										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often can these people be relied upon to *provide resources* (e.g., money, time, equipment) which help you succeed as an agricultural education teacher? (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA district										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often do you feel *valued* as a teacher by the following people? (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA district										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often do the following people go out of their way to *praise your work* as an agricultural education teacher?
 (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA district										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often do you *seek advice* from the following people regarding situations related to your profession as an agricultural education teacher? (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA district										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

166

Additional Comments:

How often do the following people *show empathy* (i.e., shared understanding) *for your needs*?
 (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA district										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

How often do the following people *demonstrate care and concern* for your well-being through *tangible acts of kindness* (e.g., time, resources, gifts)? (1=Never through 9=Always)

	Never (1)	(2)	Rarely (3)	(4)	Sometimes (5)	(6)	Often (7)	(8)	Always (9)	N/A
Administrator(s)										
Teachers at your school										
Teachers in your FFA district										
Students										
Parents of your students										
Community where you teach										
Spouse or Partner										
Family										
Friends Outside of Work										

Additional Comments:

Teacher Beliefs

The next section of the survey is designed to help us gain a better understanding of the kinds of things that create challenges for teachers. Your answers are confidential.

Directions: Please indicate your opinion about each of the questions below by marking any one of the nine responses in the columns on the right side, ranging from (1) "None at all" to (9) "A Great Deal" as each represents a degree on the continuum. Please respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position.

Teacher Beliefs

	How much can you do?								
	Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal
How much can you do to control disruptive behavior in the classroom?	1	2	3	4	5	6	7	8	9
How much can you do to motivate students who show low interest in school work?	1	2	3	4	5	6	7	8	9
How much can you do to get students to believe they can do well in school work?	1	2	3	4	5	6	7	8	9
How much can you do to help your students value learning?	1	2	3	4	5	6	7	8	9
To what extent can you craft good questions for your students?	1	2	3	4	5	6	7	8	9
How much can you do to get children to follow classroom rules?	1	2	3	4	5	6	7	8	9
How much can you do to calm a student who is disruptive or noisy?	1	2	3	4	5	6	7	8	9
How well can you establish a classroom management system with each group of students?	1	2	3	4	5	6	7	8	9
How much can you use a variety of assessment strategies?	1	2	3	4	5	6	7	8	9
To what extent can you provide an alternative explanation or example when students are confused?	1	2	3	4	5	6	7	8	9
How much can you assist families in helping their children do well in school?	1	2	3	4	5	6	7	8	9
How well can you implement alternative [teaching] strategies in your classroom?	1	2	3	4	5	6	7	8	9

Demographics and Future Plans

The final section of the survey is designed to help us learn more about you and your future career plans. Your answers are confidential.

Directions: Please provide a response for each prompt which most accurately describes you and/or your future plans.

Please enter the number of years you have *completed teaching* in a full-time position at your *current school*.

- Less than 1 year
- 1 year
- 2 years
- 3 years
- 4 years
- 5 years
- More than 5 years

Please enter the *total number of years* you have *completed teaching* (include current school and other full-time teaching experience).

- Less than 1 year
- 1 year
- 2 years
- 3 years
- 4 years
- 5 years
- More than 5 years

Thinking about your *future career plans*, to what extent do you agree or disagree with the following statement:

I plan to continue teaching agriculture in a high school classroom for the next 5 years.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree
- Prefer not to respond

Additional Comments:

--

Please select your gender.

- Male
- Female
- Prefer not to respond

Choose the option below which best describes your relationship status.

- Married
- Widowed
- Divorced
- Separated
- Never married
- Prefer not to respond

Please indicate the type of licensure and/or certification in which you are employed.

- Fully state licensed according to State Board of Education minimum requirements
- Provisionally licensed, working toward full licensure
- Provisionally licensed
- Other _____

Please select the grade level of students you are responsible for teaching. (Select all that apply.)

- 12 - Seniors
- 11 - Juniors
- 10 - Sophomores
- 9 - Freshmen
- 8 - Junior High
- Adult Education
- Other _____

Now that you've completed your first year(s) of teaching, are there any differences between *what you expected* it to be like and *your actual experience*?

Appendix K

SPSS Output

Frequencies : Non-School Sources

Statistics

NonSCHOOL_Sum_Mean	
N	Valid 119 Missing 0
Mean	5.8300
Median	5.9000
Std. Deviation	1.55200
Range	8.10
Minimum	.90
Maximum	9.00

Frequencies : School Sources

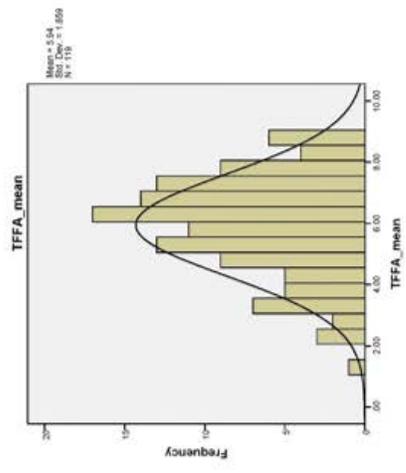
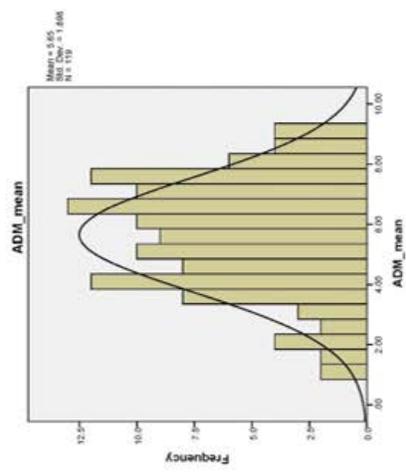
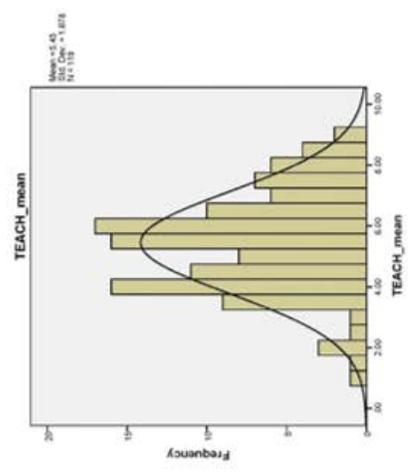
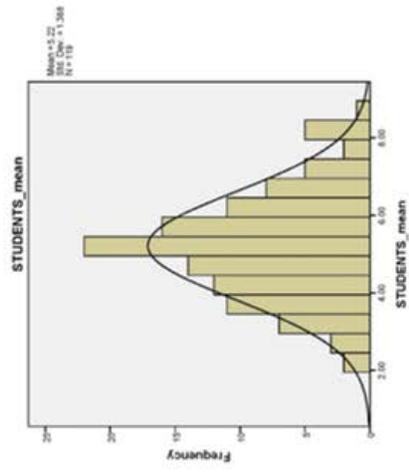
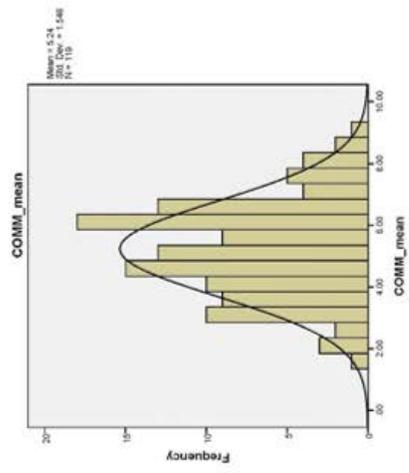
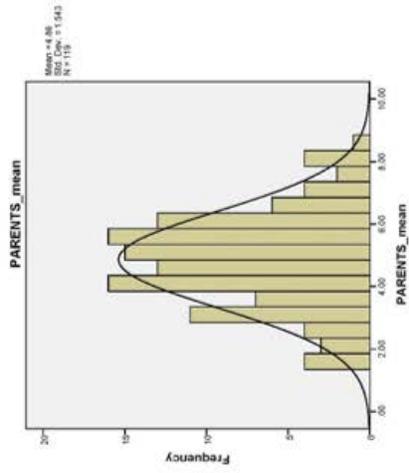
Statistics

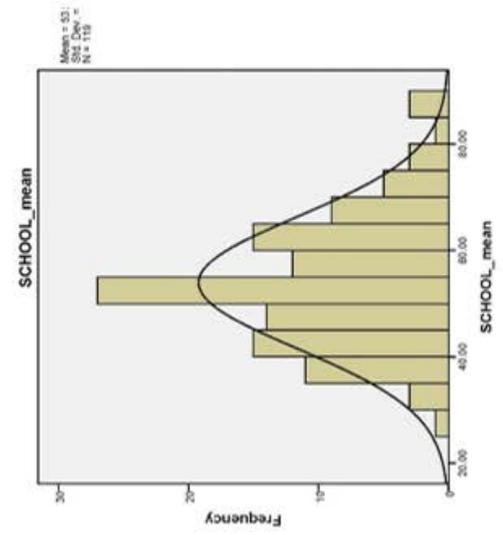
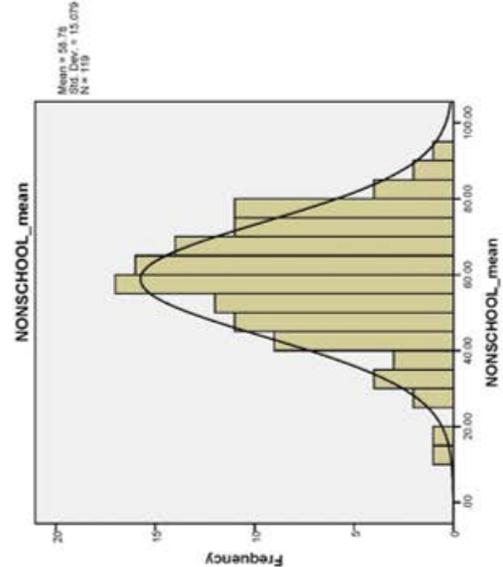
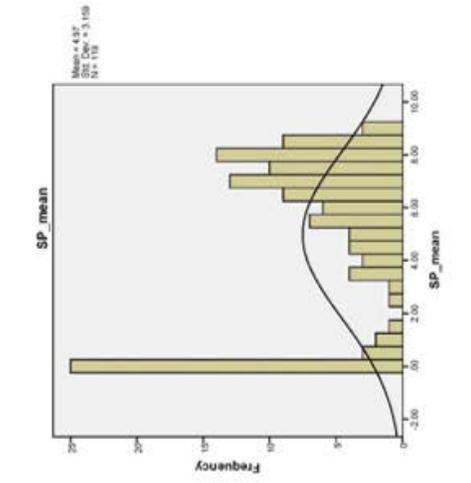
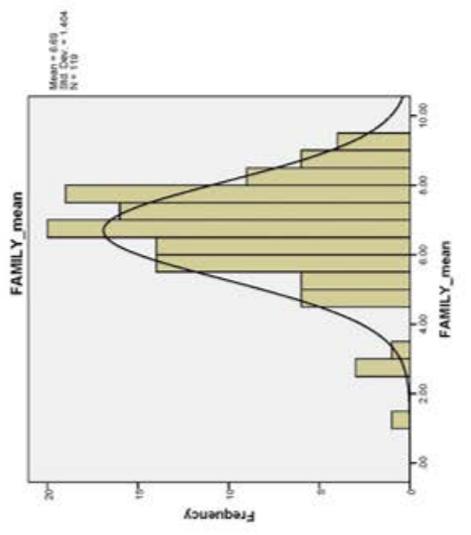
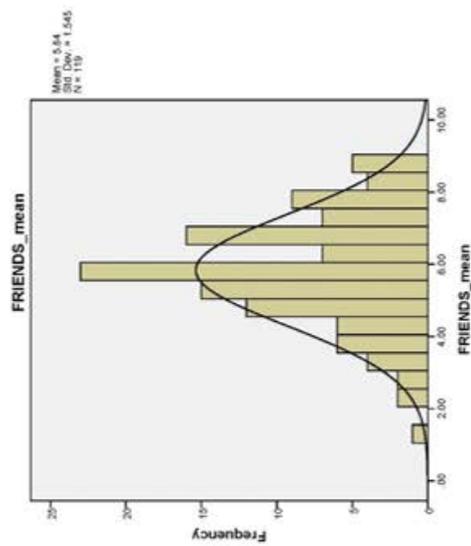
SCHOOL_Sum_Mean	
N	Valid 119 Missing 0
Mean	5.3896
Median	5.2833
Std. Deviation	1.23528
Range	5.88
Minimum	2.73
Maximum	8.62

Frequencies : Objective 1 - School and Non-School Sources of Support

Statistics

	ADM_mean	TEACH_mean	TFFA_mean	STUDENTS_mean	PARENTS_mean	COMM_mean	SP_mean	FAMILY_mean	FRIENDS_mean
N	Valid 119 Missing 0	119 0	119 0	119 0	119 0	119 0	119 0	119 0	119 0
Mean	5.6513	5.4546	5.9429	5.2151	4.8622	5.2353	4.9664	6.8906	5.8387
Median	5.8000	5.6000	6.2000	5.1000	5.0000	5.3000	6.2000	6.8000	5.8000
Mode	6.10 ^a	4.30 ^a	6.50	5.00	4.20	4.50 ^a	.00	6.00 ^a	5.60
Std. Deviation	1.89785	1.67776	1.85941	1.38625	1.54349	1.54638	3.15891	1.40398	1.54487
Variance	3.602	2.815	2.754	1.927	2.382	2.391	9.979	1.971	2.387
Skewness	-.300	-.076	-.429	.203	.013	.040	-.606	-.971	-.224
Std. Error of Skewness	.222	.222	.222	.222	.222	.222	.222	.222	.222
Kurtosis	-.565	-.275	-.258	-.236	-.260	-.487	-1.191	1.809	-.021
Std. Error of Kurtosis	.440	.440	.440	.440	.440	.440	.440	.440	.440
Range	7.90	7.90	7.60	6.40	6.90	7.40	9.00	7.60	7.70
Minimum	1.10	1.00	1.30	2.20	1.60	1.60	.00	1.40	1.30
Maximum	9.00	8.90	8.90	8.60	8.50	9.00	9.00	9.00	9.00
Sum	672.50	649.10	707.20	620.60	578.60	623.00	591.00	796.18	694.80





Statistics

	SCHOOL_mean		NONSCHOOL_mean	
	n	mean	n	mean
N	Valid 119		119	
	Missing 0		0	
Mean	53.9356	58.7759		
Median	52.8333	59.3333		
Mode	35.17*	62.67		
Std. Deviation	12.35277	15.07865		
Variance	152.591	227.366		
Skewness	.424	-.504		
Std. Error of Skewness	.222	.222		
Kurtosis	-.035	.269		
Std. Error of Kurtosis	.440	.440		
Range	58.83	79.00		
Minimum	27.33	11.00		
Maximum	86.17	90.00		
Sum	6418.33	6994.33		

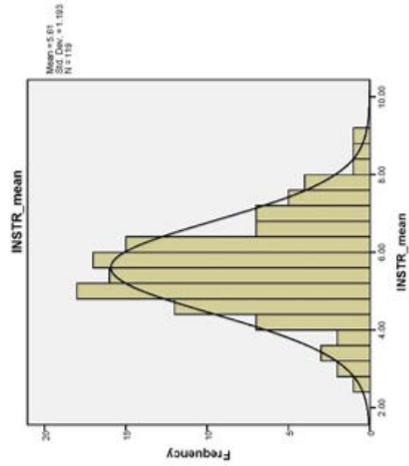
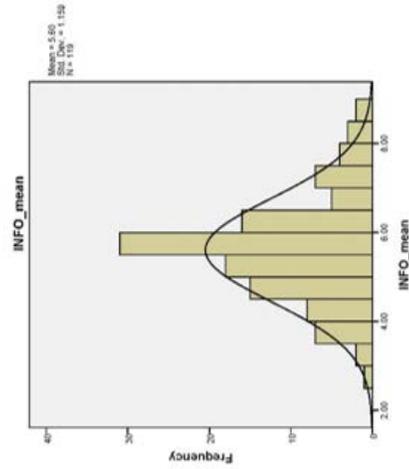
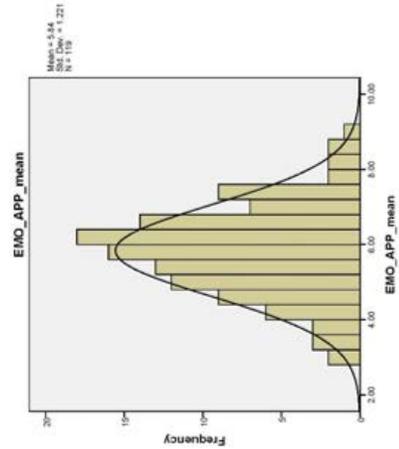
a. Multiple modes exist. The smallest value is shown

Frequencies : Objective 2 - Social Support Constructs

Statistics

	EMO_APP_me an	INFO_mean	INSTR_mean
N	Valid 119	119	119
	Missing 0	0	0
Mean	5.8393	5.6049	5.6069
Median	5.9167	5.5926	5.5165
Mode	4.31 ^a	4.59 ^a	5.41
Std. Deviation	1.22092	1.15943	1.19273
Variance	1.491	1.344	1.423
Skewness	-.032	.336	.213
Std. Error of Skewness	.222	.222	.222
Kurtosis	-.008	.250	.183
Std. Error of Kurtosis	.440	.440	.440
Range	6.16	5.70	6.33
Minimum	2.84	2.93	2.67
Maximum	9.00	8.63	9.00
Sum	694.87	666.99	667.22

a. Multiple modes exist. The smallest value is shown



Factor Analysis: TSES

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
CM_DB	6.86	1.373	119
SE_M	5.95	1.506	119
SE_VL	6.19	1.379	119
CM_MS	6.82	1.306	119
IS_Q	6.70	1.369	119
SE_BW	6.37	1.261	119
CM_R	6.89	1.287	119
CM_DN	6.43	1.273	119
IS_AS	6.90	1.337	119
IS_EX	7.03	1.228	119
SE_F	6.01	1.369	119
IS_St	6.72	1.340	119

Correlation Matrix^a

	CM_DB	SE_M	SE_VL	CM_MS	IS_Q	SE_BW
Correlation	CM_DB	1.000	.509	.480	.595	.383
	SE_M	.509	1.000	.596	.517	.431
	SE_VL	.480	.596	1.000	.471	.483
	CM_MS	.595	.517	.471	1.000	.485
	IS_Q	.383	.431	.483	.485	1.000
	SE_BW	.471	.430	.733	.518	.453
	CM_R	.700	.430	.437	.623	.453
	CM_DN	.733	.458	.425	.612	.402
	IS_AS	.315	.389	.374	.631	.641
	IS_EX	.284	.308	.351	.516	.578
	SE_F	.339	.346	.448	.352	.382
	IS_St	.374	.468	.488	.626	.610
Sig. (1-tailed)	CM_DB	.000	.000	.000	.000	.000
	SE_M	.000	.000	.000	.000	.000
	SE_VL	.000	.000	.000	.000	.000
	CM_MS	.000	.000	.000	.000	.000
	IS_Q	.000	.000	.000	.000	.000

Correlation Matrix^a

	CM_R	CM_DN	IS_AS	IS_EX	SE_F	IS_St
Correlation	CM_DB	.700	.733	.315	.284	.339
	SE_M	.430	.458	.389	.308	.346
	SE_VL	.437	.425	.374	.351	.448
	CM_MS	.623	.612	.631	.516	.352
	IS_Q	.433	.402	.641	.578	.382
	SE_BW	.422	.460	.364	.390	.420
	CM_R	1.000	.655	.461	.335	.347
	CM_DN	.655	1.000	.414	.332	.411
	IS_AS	.461	.414	1.000	.560	.366
	IS_EX	.335	.332	.560	1.000	.323
	SE_F	.347	.411	.366	.323	1.000
	IS_St	.459	.488	.722	.547	.426
Sig. (1-tailed)	CM_DB	.000	.000	.000	.001	.000
	SE_M	.000	.000	.000	.000	.000
	SE_VL	.000	.000	.000	.000	.000
	CM_MS	.000	.000	.000	.000	.000
	IS_Q	.000	.000	.000	.000	.000

Correlation Matrix^a

	CM_DB	SE_M	SE_VL	CM_MS	IS_Q	SE_BW
Correlation	CM_DB	.000	.000	.000	.000	.000
	SE_M	.000	.000	.000	.000	.000
	SE_VL	.000	.000	.000	.000	.000
	CM_MS	.000	.000	.000	.000	.000
	IS_Q	.000	.000	.000	.000	.000
	SE_BW	.000	.000	.000	.000	.000
Sig. (1-tailed)	CM_DB	.000	.000	.000	.000	.000
	SE_M	.000	.000	.000	.000	.000
	SE_VL	.000	.000	.000	.000	.000
	CM_MS	.000	.000	.000	.000	.000
	IS_Q	.000	.000	.000	.000	.000

Correlation Matrix^a

	CM_R	CM_DN	IS_AS	IS_EX	SE_F	IS_St
SE_BW	.000	.000	.000	.000	.000	.000
CM_R		.000	.000	.000	.000	.000
CM_DN	.000		.000	.000	.000	.000
IS_AS	.000	.000		.000	.000	.000
IS_EX	.000	.000	.000		.000	.000
SE_F	.000	.000	.000	.000		.000
IS_St	.000	.000	.000	.000	.000	

a. Determinant = .001

Inverse of Correlation Matrix

	CM_DB	SE_M	SE_VL	CM_MS	IS_Q	SE_BW	CM_R	CM_DN
CM_DB	3.075	-.413	-.359	-.538	-.208	.140	-.994	-1.307
SE_M	-.413	2.038	-.297	-.205	-.106	-.722	.079	.050
SE_VL	-.359	-.297	2.706	.139	-.257	-1.461	-.147	.319
CM_MS	-.538	-.205	.139	2.880	.362	-.446	-.476	-.301
IS_Q	-.208	-.106	-.257	.362	2.236	-.145	-.139	.056
SE_BW	.140	-.722	-1.461	-.446	-.145	2.823	.096	-.324
CM_R	-.994	.079	-.147	-.476	-.139	.096	2.446	-.450
CM_DN	-1.307	.050	.319	-.301	.056	-.324	-.450	2.736
IS_AS	.453	.031	.342	-.768	-.758	-.184	-.343	.079
IS_EX	-.025	.179	.102	-.422	-.571	-.242	.114	.098
SE_F	.021	.031	-.261	.185	-.056	-.200	-.044	-.290
IS_St	.412	-.382	-.708	-.542	-.364	.769	.059	-.555

Communalities

	Initial	Extraction
CM_DB	.675	.807
SE_M	.509	.526
SE_VL	.631	.727
CM_MS	.653	.657
IS_Q	.553	.579
SE_BW	.646	.754
CM_R	.591	.643
CM_DN	.634	.689
IS_AS	.649	.755
IS_EX	.447	.471
SE_F	.304	.293
IS_St	.663	.693

Extraction Method: Principal Axis Factoring.

Anti-image Matrices

Anti-image Covariance		CM_DB	CM_R	CM_DN	IS_AS	IS_EX	SE_F	IS_St
SE_M		.016	.009	.005	.049	.011	.063	
SE_VL		-.022	.043	.044	.021	-.067	-.068	
CM_MS		-.068	-.038	-.094	-.081	.040	-.063	
IS_Q		-.025	.009	-.119	-.141	-.017	-.055	
SE_BW		.014	-.042	-.023	-.047	-.049	.092	
CM_R		.409	-.067	-.049	.028	-.013	.008	
CM_DN		-.067	.366	.010	.020	-.074	-.068	
IS_AS		-.049	.010	.351	-.044	-.022	-.132	
IS_EX		.026	.020	-.044	.553	-.030	-.059	
SE_F		-.013	-.074	-.022	-.030	.696	-.054	
IS_St		.008	-.068	-.132	-.059	-.054	.337	
Anti-image Correlation		CM_DB	CM_R	CM_DN	IS_AS	IS_EX	SE_F	IS_St
CM_DB		-.363	-.451	.153	-.011	.010	.136	
SE_M		.036	.021	.013	.063	.018	-.155	
SE_VL		-.057	.117	.123	.046	-.132	-.250	
CM_MS		-.179	-.107	-.268	-.185	.081	-.185	
IS_Q		-.059	.023	-.300	-.284	-.031	-.141	
SE_BW		.036	-.117	-.065	-.107	-.099	.266	
CM_R		.923 ^a	-.174	-.130	.054	-.024	.022	
CM_DN		-.174	.863 ^a	.028	.044	-.146	-.195	
IS_AS		-.130	.028	.876 ^a	-.069	-.044	-.385	
IS_EX		.054	.044	-.069	.920 ^a	-.048	-.136	
SE_F		-.024	-.146	-.044	-.048	.866 ^a	-.112	
IS_St		.022	-.195	-.385	-.136	-.112	.869 ^a	

a. Measures of Sampling Adequacy(MSA)

Anti-image Matrices

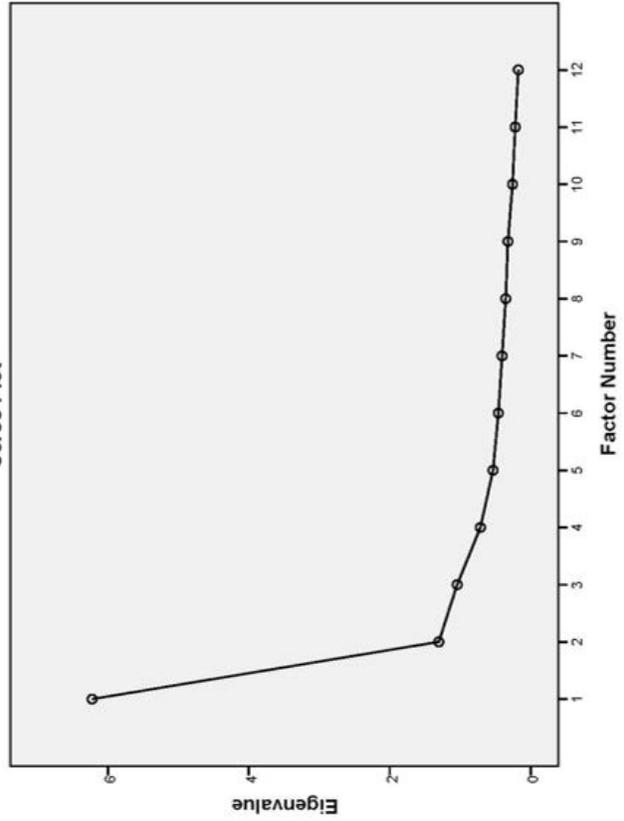
Anti-image Covariance		CM_DB	SE_M	SE_VL	CM_MS	IS_Q	SE_BW
CM_DB		.325	-.066	-.043	-.061	-.030	.016
SE_M		-.066	.491	-.054	-.035	-.023	-.126
SE_VL		-.043	-.054	.369	.018	-.042	-.191
CM_MS		-.061	-.035	.018	.347	.056	-.055
IS_Q		-.030	-.023	-.042	.056	.447	-.023
SE_BW		.016	-.126	-.191	-.055	-.023	.354
CM_R		-.132	.016	-.022	-.068	-.025	.014
CM_DN		-.155	.009	.043	-.038	.009	-.042
IS_AS		.052	.005	.044	-.064	-.119	-.023
IS_EX		-.005	.049	.021	-.081	-.141	-.047
SE_F		.005	.011	-.067	.040	-.017	-.049
IS_St		.045	-.063	-.088	-.063	-.055	.062
Anti-image Correlation		CM_DB	SE_M	SE_VL	CM_MS	IS_Q	SE_BW
CM_DB		.853 ^a	-.165	-.124	-.181	-.079	.047
SE_M		-.165	.932 ^a	.127	.065	-.050	-.301
SE_VL		-.124	.127	.858 ^a	.050	-.105	-.529
CM_MS		-.181	-.065	.050	.922 ^a	.143	-.157
IS_Q		-.079	-.050	-.105	.143	.916 ^a	-.058
SE_BW		.047	-.301	-.529	-.157	-.058	.837 ^a
CM_R		-.363	.036	-.057	-.179	-.059	.036
CM_DN		-.451	.021	.117	-.107	.023	-.117
IS_AS		.153	.013	.123	-.288	-.300	-.065
IS_EX		-.011	.063	.046	-.185	-.284	-.107
SE_F		.010	.018	-.132	.081	-.031	-.069
IS_St		.136	-.155	-.250	-.185	-.141	.266

Total Variance Explained

Factor	Initial Eigenvalues		Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings	
	Total	% of Variance	Total	% of Variance	Total	% of Variance
1	6.224	51.870	5.875	48.958	2.861	23.846
2	1.303	10.862	.982	8.183	2.492	20.766
3	1.042	8.683	.735	6.129	2.239	18.658
4	.712	5.937				63.270
5	.533	4.445				
6	.457	3.807				
7	.405	3.374				
8	.353	2.938				
9	.322	2.683				
10	.256	2.133				
11	.218	1.819				
12	.174	1.450				

Extraction Method: Principal Axis Factoring.

Scree Plot



Factor Matrix^a

	Factor		
	1	2	3
CM_DB	.722	-.465	-.263
SE_M	.672	-.152	.228
SE_VL	.716	-.152	.437
CM_MS	.792	.030	-.169
IS_Q	.697	.301	.051
SE_BW	.715	-.197	.451
CM_R	.716	-.220	-.288
CM_DN	.731	-.277	-.278
IS_AS	.719	.473	-.120
IS_EX	.596	.340	-.008
SE_F	.532	.012	.100
IS_St	.750	.354	-.069

Extraction Method: Principal Axis Factoring.

a. 3 factors extracted. 10 iterations required.

Rotated Factor Matrix^a

	Factor		
	1	2	3
CM_DB	.126	.832	.314
SE_M	.268	.335	.584
SE_VL	.267	.235	.775
CM_MS	.538	.536	.283
IS_Q	.658	.197	.327
SE_BW	.229	.252	.798
CM_R	.314	.704	.220
CM_DN	.279	.740	.253
IS_AS	.828	.215	.154
IS_EX	.633	.153	.216
SE_F	.325	.238	.361
IS_St	.749	.270	.245

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 5 iterations.

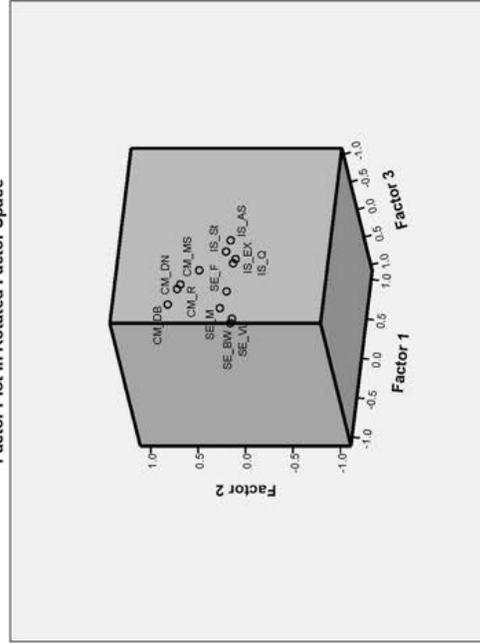
Factor Transformation Matrix

Factor	1	2	3
1	.621	.571	.537
2	.772	-.566	-.290
3	-.138	-.595	.792

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

Factor Plot in Rotated Factor Space



Reproduced Correlations

	CM_DB	SE_M	SE_VL	CM_MS	IS_Q	SE_BW
Reproduced Correlation	.807 ^a	.496	.473	.603	.350	.489
SE_M	.496	.528 ^b	.603	.400	.434	.613
SE_VL	.473	.603	.727 ^a	.489	.475	.739
CM_MS	.603	.400	.489	.657 ^a	.552	.485
IS_Q	.350	.434	.475	.552	.579 ^a	.482
SE_BW	.489	.613	.739	.485	.462	.754 ^a
CM_R	.695	.449	.420	.609	.418	.425
CM_DN	.730	.470	.444	.618	.412	.462
IS_AS	.331	.384	.390	.604	.637	.366
IS_EX	.275	.347	.372	.494	.517	.356
SE_F	.352	.378	.423	.405	.379	.423
IS_St	.396	.435	.453	.617	.626	.435
Residual ^b	.012	.007	.007	-.008	.033	-.018
SE_M	.012	.007	-.007	.027	-.003	.017
SE_VL	.007	-.007	.007	-.018	.007	-.006
CM_MS	-.008	.027	-.018	.007	-.067	.034
IS_Q	.033	-.003	.007	-.067	.007	-.009
SE_BW	-.018	.017	-.006	.004	-.009	.004
CM_R	.006	-.019	.017	.015	.015	-.004
CM_DN	.004	-.013	-.019	-.006	-.010	.008
IS_AS	-.016	.005	-.016	.027	.004	.018
IS_EX	.020	-.039	-.020	.033	.061	.025
SE_F	-.014	-.033	.025	-.063	.003	-.002
IS_St	-.021	.033	.035	.009	-.016	-.058

Reproduced Correlations

	CM_DB	SE_M	SE_VL	CM_MS	IS_Q	SE_BW
Reproduced Correlation	.695	.449	.420	.609	.418	.425
SE_M	.449	.470	.444	.618	.412	.462
SE_VL	.420	.444	.618	.604	.637	.366
CM_MS	.609	.618	.604	.590	.471 ^a	.320
IS_Q	.418	.412	.637	.517	.379	.626
SE_BW	.425	.452	.366	.423	.356	.435
CM_R	.643 ^b	.664	.445	.354	.349	.479
CM_DN	.664	.689 ^b	.428	.344	.320	.470
IS_AS	.445	.428	.755 ^a	.590	.376	.715
IS_EX	.354	.344	.590	.471 ^a	.320	.568
SE_F	.349	.358	.376	.320	.293 ^b	.396
IS_St	.479	.470	.715	.568	.396	.693 ^b
Residual ^b	.006	.004	-.016	.020	-.014	-.021
SE_M	-.019	-.013	.005	-.039	-.033	.033
SE_VL	.017	-.019	.016	-.020	.025	.035
CM_MS	.015	-.006	.027	.033	-.053	.009
IS_Q	.015	-.010	.004	.061	.003	-.016
SE_BW	-.004	.008	.018	.025	-.002	-.058
CM_R	-.009	.016	-.019	-.002	-.002	-.020
CM_DN	-.009	.016	-.014	-.012	.054	.028
IS_AS	.016	-.014	-.030	-.009	-.009	.007
IS_EX	-.019	-.012	-.030	.002	.002	-.022
SE_F	-.002	.054	-.009	.002	.002	.030
IS_St	-.020	.028	.007	-.022	.030	.030

Extraction Method: Principal Axis Factoring

a. Reproduced communalities

b. Residuals are computed between observed and reproduced correlations. There are 5 (7.0%) nonredundant residuals with absolute values greater than 0.05.

Frequencies : TSES

Statistics

	TSES_CM_me an	TSES_SE_mea n	TSES_IS_mea n	TSES_TTL_me an
N	Valid 119	119	119	119
	Missing 0	0	0	0
Mean	6.7500	6.1303	6.8382	6.5728
Median	6.7500	6.0000	7.0000	6.5833
Mode	7.00	6.50	7.00	6.92
Std. Deviation	1.12700	1.10749	1.11642	.96108
Variance	1.270	1.227	1.246	.924
Skewness	.197	.554	.071	.485
Std. Error of Skewness	.222	.222	.222	.222
Kurtosis	-.490	-.164	-.598	-.273
Std. Error of Kurtosis	.440	.440	.440	.440
Range	5.00	4.75	4.50	4.25
Minimum	4.00	4.25	4.50	4.75
Maximum	9.00	9.00	9.00	9.00
Sum	803.25	729.50	813.75	782.17

	CM_DB	SE_M	SE_VL	CM_MS	IS_Q	SE_BW	CM_R	CM_DN	IS_AS	IS_EX	SE_F	IS_St
N	Valid 119	119	119	119	119	119	119	119	119	119	119	119
	Missing 0	0	0	0	0	0	0	0	0	0	0	0
Mean	6.86	5.95	6.19	6.82	6.70	6.37	6.89	6.43	6.90	7.03	6.01	6.72
Median	7.00	6.00	6.00	7.00	7.00	6.00	7.00	7.00	7.00	7.00	6.00	7.00
Mode	7	5	5	7	7	7	7	7	7	7	5	7
Std. Deviation	1.373	1.506	1.379	1.306	1.399	1.261	1.287	1.273	1.337	1.228	1.369	1.340
Variance	1.886	2.269	1.903	1.706	1.959	1.591	1.657	1.620	1.786	1.507	1.873	1.795
Skewness	-.037	.193	.138	-.038	-.104	.403	.013	.100	-.181	-.177	.106	.071
Std. Error of Skewness	.222	.222	.222	.222	.222	.222	.222	.222	.222	.222	.222	.222
Kurtosis	-.523	-.286	-.266	-.527	-.590	-.523	-.532	-.042	-.331	-.386	.227	-.653
Std. Error of Kurtosis	.440	.440	.440	.440	.440	.440	.440	.440	.440	.440	.440	.440
Range	6	7	6	5	5	5	5	6	6	5	7	5
Minimum	3	2	3	4	4	4	4	3	3	4	2	4
Maximum	9	9	9	9	9	9	9	9	9	9	9	9
Sum	816	708	737	812	797	758	820	765	821	837	715	800

Regression : Objective 4 - School and Non-school Sources + TSES

Descriptive Statistics

	Mean	Std. Deviation	N
TSES_TTL_mean	6.5728	.96108	119
TtlYrs	2.77	1.825	119
Future	5.24	2.147	119
Gender	1.69	.465	119
Relationship	2.82	2.007	119
LicProv	1.47	.779	119
SP_mean	4.9884	3.15891	119
FAMILY_mean	6.8906	1.40398	119
FRIENDS_mean	5.8387	1.54487	119
ADM_mean	5.6513	1.89785	119
TEACH_mean	5.4546	1.67776	119
TFFA_mean	5.9429	1.65941	119
STUDENTS_mean	5.2151	1.38825	119
PARENTS_mean	4.8622	1.54349	119
COMM_mean	5.2353	1.54638	119

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LicProv, Gender, Relationship, Future, TtlYrs ^b	.	Enter
2	FAMILY_mean, SP_mean, FRIENDS_mean ^{a,b}	.	Enter
3	ADM_mean, TFFA_mean, PARENTS_mean, STUDENTS_mean, TEACH_mean, COMM_mean ^b	.	Enter

a. Dependent Variable: TSES_TTL_mean

b. All requested variables entered.

Coefficients^a

Model	Unstandardized Coefficients			Standardized Coefficients		t	Sig.	95.0% Confidence Interval for B			Correlations			Collinearity Statistics	
	B	Std. Error	Beta	Beta				Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF	
1	(Constant)	6.193	.519			11.929	.000	5.165	7.222						
	TriYrs	.120	.050	.228		2.403	.018	.021	.219	.219	.220	.213	.875	1.143	
	Future	.097	.041	.218		2.407	.018	.017	.178	.174	.221	.214	.962	1.039	
	Gender	-.266	.167	-.129		-1.424	.157	-.636	.104	-.156	-.133	-.126	.967	1.035	
	Relationship	-.014	.044	-.028		-.310	.757	-.100	.073	-.071	-.029	-.027	.941	1.062	
	LicProv	.016	.111	.013		.140	.869	-.205	.236	-.035	.013	.012	.970	1.031	
	(Constant)	5.534	.639			8.655	.000	4.267	6.801						
2	TriYrs	.154	.051	.292		3.034	.003	.053	.254	.219	.278	.264	.816	1.228	
	Future	.092	.040	.205		2.290	.024	.012	.171	.174	.213	.199	.946	1.057	
	Gender	-.231	.189	-.112		-1.221	.225	-.606	.144	-.156	-.116	-.106	.902	1.109	
	Relationship	-.017	.053	-.036		-.324	.747	-.122	.088	-.071	-.031	-.028	.618	1.617	
	LicProv	.074	.111	.060		.669	.505	-.146	.266	-.035	.064	.058	.929	1.076	
	SP_mean	-.009	.035	-.028		-.246	.806	-.077	.060	.015	-.023	-.021	.590	1.725	
	FAMILY_mean	-.123	.087	-.179		-1.265	.208	-.315	.069	.066	-.120	-.110	.377	2.653	
3	FRIENDS_mean	.227	.087	.364		2.602	.011	.054	.399	.184	.241	.226	.385	2.595	
	(Constant)	4.865	.648			7.510	.000	3.581	6.150						
	TriYrs	.140	.050	.266		2.767	.006	.040	.240	.219	.264	.222	.687	1.435	
	Future	.033	.040	.074		.834	.406	-.045	.111	.174	.082	.066	.812	1.231	
	Gender	-.129	.182	-.062		-.708	.480	-.489	.232	-.156	-.069	-.056	.819	1.222	
	Relationship	-.014	.049	-.029		-.284	.777	-.112	.064	-.071	-.028	-.023	.600	1.668	
	LicProv	.044	.103	.036		.427	.670	-.160	.248	-.035	.042	.034	.909	1.100	
SP_mean	-.023	.033	-.075		-.699	.486	-.087	.042	.015	-.068	-.056	.553	1.808		
FAMILY_mean	-.163	.093	-.238		-1.756	.082	-.346	.021	.066	-.170	-.140	.343	2.912		
FRIENDS_mean	.133	.084	.214		1.595	.114	-.032	.299	.184	.155	.127	.351	2.846		
ADM_mean	.094	.058	.165		1.617	.109	-.021	.209	.245	.157	.129	.482	2.076		
TEACH_mean	-.070	.075	-.123		-.938	.350	-.219	.078	.162	-.092	-.075	.369	2.712		
TEFA_mean	-.056	.056	-.097		-1.010	.315	-.167	.054	.075	-.099	-.080	.681	1.468		
STUDENTS_mean	.295	.088	.426		3.337	.001	.120	.471	.418	.311	.266	.388	2.579		
PARENTS_mean	-.140	.097	-.225		-1.443	.152	-.333	.052	.313	-.140	-.115	.261	3.837		
COMM_mean	.209	.085	.337		2.472	.015	.041	.377	.344	.236	.197	.341	2.932		

a. Dependent Variable: TSES_TTL_mean

Model Summary^d

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Change Statistics		
					R Square Change	F Change	df1	F Change	Sig. F Change	Durbin-Watson
1	.331 ^a	.109	.070	.92685	.109	2.776	5	113	.021	
2	.411 ^b	.169	.108	.90767	.059	2.609	3	110	.055	
3	.584 ^c	.341	.253	.83086	.173	4.546	6	104	.000	1.696

a. Predictors: (Constant), LicProv, Gender, Relationship, Future, TtYrs

b. Predictors: (Constant), LicProv, Gender, Relationship, Future, TtYrs, FAMILY_mean, SP_mean, FRIENDS_mean

c. Predictors: (Constant), LicProv, Gender, Relationship, Future, TtYrs, FAMILY_mean, SP_mean, FRIENDS_mean, ADM_mean, TFFA_mean, PARENTS_mean, STUDENTS_mean, TEACH_mean, COMM_mean

d.

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	11.922	5	2.384	2.776	.021 ^b
	Residual	97.072	113	.859		
	Total	108.994	118			
2	Regression	18.370	8	2.296	2.787	.008 ^c
	Residual	90.624	110	.824		
	Total	108.994	118			
3	Regression	37.200	14	2.657	3.849	.000 ^d
	Residual	71.794	104	.690		
	Total	108.994	118			

a. Dependent Variable: TSES_ITL_mean

b. Predictors: (Constant), LicProv, Gender, Relationship, Future, TtYrs

c. Predictors: (Constant), LicProv, Gender, Relationship, Future, TtYrs, FAMILY_mean, SP_mean, FRIENDS_mean

d. Predictors: (Constant), LicProv, Gender, Relationship, Future, TtYrs, FAMILY_mean, SP_mean, FRIENDS_mean, ADM_mean, TFFA_mean, PARENTS_mean, STUDENTS_mean, TEACH_mean, COMM_mean

Excluded Variables^a

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics	
					Tolerance	VIF
1	SP_mean	-.003 ^b	.977	-.003	.847	1.545
	FAMILY_mean	.086 ^b	.348	.089	.854	1.048
	FRIENDS_mean	.220 ^b	.017	.224	.918	1.089
	ADM_mean	.269 ^b	.003	.273	.913	1.095
	TEACH_mean	.213 ^b	.024	.212	.882	1.133
	TFFA_mean	.072 ^b	.459	.070	.849	1.176
	STUDENTS_mean	.394 ^b	.000	.391	.878	1.139
	PARENTS_mean	.286 ^b	.002	.285	.888	1.126
	COMM_mean	.326 ^b	.000	.332	.911	1.097
2	ADM_mean	.284 ^c	.006	.259	.769	1.251
	TEACH_mean	.188 ^c	.081	.166	.651	1.536
	TFFA_mean	.020 ^c	.765	.025	.773	1.293
	STUDENTS_mean	.387 ^c	.000	.354	.661	1.514
	PARENTS_mean	.286 ^c	.008	.251	.725	1.379
	COMM_mean	.319 ^c	.001	.307	.771	1.288

Excluded Variables^a

Model	Minimum Tolerance	Collinearity ...	
		SP_mean	TSES_TTL_mean
1	.647	.647	.647
	.875	.875	.875
	.850	.850	.850
	.835	.835	.835
	.798	.798	.798
	.829	.829	.829
	.853	.853	.853
	.870	.870	.870
	.866	.866	.866
2	.356	.356	.356
	.350	.350	.350
	.372	.372	.372
	.359	.359	.359
	.367	.367	.367
	.373	.373	.373

a. Dependent Variable: TSES_TTL_mean

b. Predictors in the Model: (Constant), LcProv, Gender, Relationship, Future, TBYrs

c. Predictors in the Model: (Constant), LcProv, Gender, Relationship, Future, TBYrs, FAMILY_mean, SP_mean, FRIENDS_mean

Collinearity Diagnostics^a

Model	Dimension	Relationship	Variance Proportions				FRIENDS_mea n
			LicProv	SP_mean	FAMILY_mean		
1	1	.01	.01				
	2	.36	.00				
	3	.42	.34				
	4	.09	.39				
	5	.02	.11				
	6	.10	.15				
2	1	.00	.00	.00	.00	.00	
	2	.23	.01	.11	.00	.00	
	3	.01	.01	.07	.00	.00	
	4	.04	.73	.01	.00	.00	
	5	.16	.01	.18	.00	.00	
	6	.44	.01	.51	.03	.10	
3	1	.05	.19	.00	.00	.11	
	2	.03	.00	.04	.96	.75	
	3	.00	.00	.00	.00	.00	
	4	.20	.00	.11	.00	.00	
	5	.03	.00	.03	.00	.00	
	6	.01	.69	.00	.00	.00	
4	1	.23	.04	.25	.00	.00	
	2	.03	.00	.03	.00	.00	
	3	.03	.00	.03	.00	.00	
	4	.23	.04	.25	.00	.00	
	5	.03	.00	.03	.00	.01	
	6	.26	.03	.32	.00	.01	
5	1	.09	.00	.14	.01	.07	
	2	.00	.00	.01	.01	.04	
	3	.03	.06	.02	.02	.04	
	4	.01	.03	.02	.03	.08	
	5	.02	.01	.00	.00	.02	
	6	.01	.00	.00	.00	.11	
6	1	.04	.11	.00	.01	.01	
	2	.04	.05	.08	.01	.04	
	3	.05	.19	.00	.00	.11	
	4	.03	.00	.04	.96	.75	
	5	.00	.00	.00	.00	.00	
	6	.20	.00	.11	.00	.00	
7	1	.03	.00	.03	.00	.00	
	2	.03	.00	.03	.00	.00	
	3	.03	.00	.03	.00	.00	
	4	.01	.69	.00	.00	.00	
	5	.23	.04	.25	.00	.00	
	6	.03	.00	.03	.00	.01	
8	1	.26	.03	.32	.00	.01	
	2	.09	.00	.14	.01	.07	
	3	.00	.00	.01	.01	.04	
	4	.03	.06	.02	.02	.04	
	5	.01	.03	.02	.03	.08	
	6	.02	.01	.00	.00	.02	
9	1	.01	.00	.00	.00	.00	
	2	.01	.00	.00	.00	.00	
	3	.01	.00	.00	.00	.00	
	4	.01	.00	.00	.00	.00	
	5	.01	.00	.00	.00	.00	
	6	.04	.11	.00	.01	.01	
10	1	.00	.00	.00	.00	.00	
	2	.00	.00	.00	.00	.00	
	3	.00	.00	.00	.00	.00	
	4	.00	.00	.00	.00	.00	
	5	.00	.00	.00	.00	.00	
	6	.00	.00	.00	.00	.00	
11	1	.00	.00	.00	.00	.00	
	2	.00	.00	.00	.00	.00	
	3	.00	.00	.00	.00	.00	
	4	.00	.00	.00	.00	.00	
	5	.00	.00	.00	.00	.00	
	6	.00	.00	.00	.00	.00	
12	1	.00	.00	.00	.00	.00	
	2	.00	.00	.00	.00	.00	
	3	.00	.00	.00	.00	.00	
	4	.00	.00	.00	.00	.00	
	5	.00	.00	.00	.00	.00	
	6	.00	.00	.00	.00	.00	
13	1	.00	.00	.00	.00	.00	
	2	.00	.00	.00	.00	.00	
	3	.00	.00	.00	.00	.00	
	4	.00	.00	.00	.00	.00	
	5	.00	.00	.00	.00	.00	
	6	.00	.00	.00	.00	.00	
14	1	.00	.00	.00	.00	.00	
	2	.00	.00	.00	.00	.00	
	3	.00	.00	.00	.00	.00	
	4	.00	.00	.00	.00	.00	
	5	.00	.00	.00	.00	.00	
	6	.00	.00	.00	.00	.00	
15	1	.00	.00	.00	.00	.00	
	2	.00	.00	.00	.00	.00	
	3	.00	.00	.00	.00	.00	
	4	.00	.00	.00	.00	.00	
	5	.00	.00	.00	.00	.00	
	6	.00	.00	.00	.00	.00	

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	(Constant)	Variance Proportions			Gender
					TtYrs	Future		
1	1	5.047	1.000	.00	.01	.00	.00	
	2	.393	3.585	.00	.36	.00	.00	
	3	.251	4.485	.00	.23	.01	.01	
	4	.194	5.095	.00	.08	.32	.02	
	5	.095	7.296	.01	.05	.47	.40	
	6	.021	15.683	.99	.27	.20	.57	
2	1	7.654	1.000	.00	.00	.00	.00	
	2	.505	3.883	.00	.05	.00	.00	
	3	.306	5.002	.00	.62	.01	.00	
	4	.230	5.772	.00	.00	.03	.00	
	5	.129	7.717	.00	.00	.75	.01	
	6	.083	9.618	.00	.03	.11	.01	
3	1	.069	10.527	.00	.00	.00	.70	
	2	.014	23.034	.97	.25	.08	.26	
	3	.011	26.568	.02	.04	.00	.00	
	4	.000	31.170	.00	.00	.00	.00	
	5	.000	33.170	.00	.00	.00	.00	
	6	.000	37.170	.00	.00	.00	.00	
4	1	13.285	1.000	.00	.00	.00	.00	
	2	.510	5.106	.00	.05	.00	.00	
	3	.330	6.340	.00	.48	.01	.00	
	4	.242	7.408	.00	.01	.01	.00	
	5	.169	8.957	.00	.02	.00	.06	
	6	.126	10.283	.00	.00	.76	.00	
5	1	.084	12.603	.00	.00	.00	.24	
	2	.060	14.885	.00	.04	.02	.01	
	3	.056	15.386	.00	.00	.01	.21	
	4	.047	16.740	.00	.00	.08	.11	
	5	.031	20.627	.00	.00	.05	.02	
	6	.024	23.497	.00	.03	.03	.00	
6	1	.014	31.150	.00	.00	.01	.00	
	2	.012	33.185	.99	.24	.02	.32	
	3	.010	37.170	.00	.12	.01	.03	

Collinearity Diagnostics^a

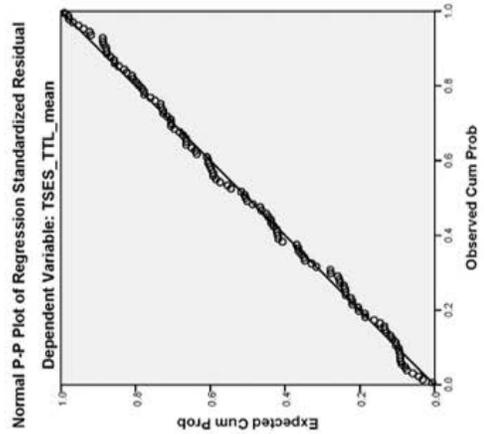
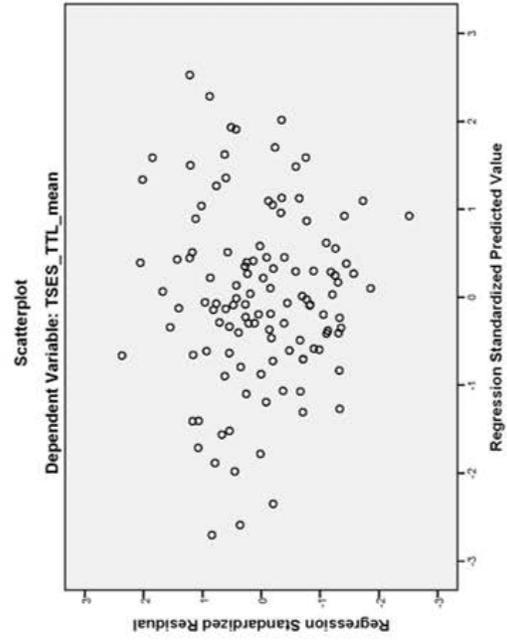
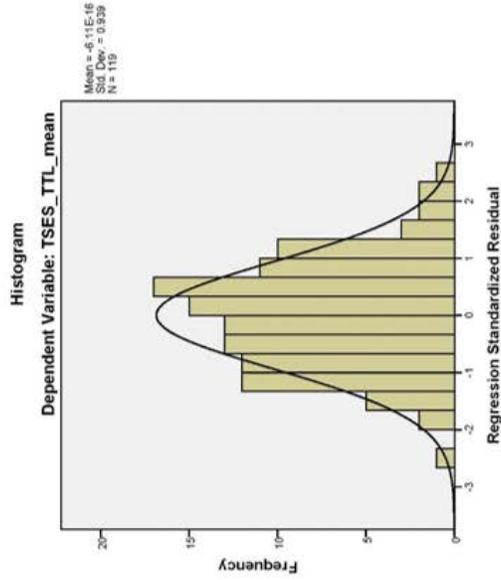
Model	Dimension	Variance Proportions						
		ADM_mean	TEACH_mean	TFFA_mean	STUDENTS_mean	PARENTS_mean	COMM_mean	
1	1							
	2							
	3							
	4							
	5							
	6							
2	1							
	2							
	3							
	4							
	5							
	6							
3	1	.00	.00	.00	.00	.00	.00	.00
	2	.00	.00	.00	.00	.00	.00	.00
	3	.00	.00	.00	.00	.00	.00	.00
	4	.00	.00	.00	.00	.00	.00	.00
	5	.03	.01	.00	.00	.01	.01	.01
	6	.01	.01	.00	.00	.00	.00	.00
	7	.02	.02	.00	.00	.00	.03	.02
	8	.31	.02	.01	.05	.04	.00	.00
	9	.03	.00	.31	.00	.06	.05	.05
	10	.07	.02	.46	.02	.01	.07	.07
	11	.00	.04	.04	.38	.00	.22	.22
	12	.50	.80	.06	.02	.02	.05	.05
	13	.01	.04	.01	.35	.61	.40	.40
	14	.01	.00	.10	.00	.00	.01	.01
	15	.00	.04	.00	.18	.22	.16	.16

a. Dependent Variable: TSES_TTL_mean

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.0539	7.9912	6.5728	.56147	119
Std. Predicted Value	-2.705	2.526	.000	1.000	119
Standard Error of Predicted Value	.187	.427	.280	.052	119
Adjusted Predicted Value	4.8056	7.8475	6.5664	.56693	119
Residual	-2.09141	1.96700	.00000	.78002	119
Std. Residual	-2.517	2.367	.000	.939	119
Stud. Residual	-2.616	2.634	.004	1.006	119
Deleted Residual	-2.25828	2.43413	.00638	.89707	119
Stud. Deleted Residual	-2.693	2.713	.004	1.014	119
Mahal. Distance	4.966	30.210	13.882	5.470	119
Cook's Distance	.000	.110	.010	.016	119
Centered Leverage Value	.042	.256	.118	.046	119

a. Dependent Variable: TSES_TTL_mean



Regression : Objective 5 - Demographics + SS constructs + TSES

Descriptive Statistics

	Mean	Std. Deviation	N
TSES_TTL_mean	6.5728	.96108	119
TtYrs	2.77	1.825	119
Future	5.24	2.147	119
Gender	1.69	.465	119
Relationship	2.82	2.007	119
LicProv	1.47	.779	119
EMO_APP_mean	5.8393	1.22092	119
INFO_mean	5.6049	1.15943	119
INSTR_mean	5.6069	1.19273	119

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LicProv, Gender, Relationship, Future, TtYrs ^b	.	Enter
2	INSTR_mean, INFO_mean, EMO_APP_mean ^b	.	Enter

a. Dependent Variable: TSES_TTL_mean

b. All requested variables entered.

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Change Statistics		
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.331 ^a	.109	.070	.92685	.109	2.776	5	113	.021	
2	.452 ^b	.204	.147	.86788	.095	4.378	3	110	.006	1.612

a. Predictors: (Constant), LicProv, Gender, Relationship, Future, TtYrs

b. Predictors: (Constant), LicProv, Gender, Relationship, Future, TtYrs, INSTR_mean, INFO_mean, EMO_APP_mean

c. Dependent Variable: TSES_TTL_mean

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	11.922	5	2.384	2.776	.021 ^b
	Residual	97.072	113	.859		
	Total	108.994	118			
2	Regression	22.277	8	2.785	3.532	.001 ^c
	Residual	86.717	110	.788		
	Total	108.994	118			

a. Dependent Variable: TSES_TTL_mean

b. Predictors: (Constant), LicProv, Gender, Relationship, Future, TtYrs

c. Predictors: (Constant), LicProv, Gender, Relationship, Future, TtYrs, INSTR_mean, INFO_mean, EMO_APP_mean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics		
		B	Std. Error				Beta	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	6.193	.519		11.929	.000	5.165	7.222						
	TBYrs	.120	.060	.228	2.403	.018	.021	.219	.219	.220	.213	.875	1.143	
	Future	.067	.041	.218	2.407	.018	.017	.218	.174	.221	.214	.962	1.039	
	Gender	-.266	.187	-.129	-1.424	.157	-.636	.104	-.156	-.133	-.126	.967	1.035	
	Relationship	-.014	.044	-.028	-.310	.757	-.100	.073	-.071	-.029	-.027	.941	1.062	
	LicProv	.016	.111	.013	.140	.889	-.205	.236	-.035	.013	.012	.970	1.031	
	(Constant)	4.517	.690		6.542	.000	3.148	5.885						
2	TBYrs	.152	.049	.268	3.104	.002	.055	.249	.219	.284	.264	.839	1.192	
	Future	.055	.041	.122	1.346	.181	-.026	.135	.174	.127	.115	.878	1.139	
	Gender	-.197	.180	-.095	-1.092	.277	-.554	.160	-.156	-.104	-.093	.952	1.051	
	Relationship	.003	.043	.005	.059	.953	-.082	.087	-.071	.008	.005	.908	1.104	
	LicProv	.041	.108	.033	.362	.703	-.173	.255	-.035	.036	.032	.946	1.057	
	EMO_APP_mean	.160	.128	.203	1.250	.214	-.094	.413	.305	.118	.108	.275	3.641	
	INFO_mean	.160	.124	.193	1.298	.197	-.085	.405	.263	.123	.110	.326	3.070	
INSTR_mean	-.039	.138	-.048	-.281	.779	-.311	.234	.245	-.027	-.024	.248	4.031		

a. Dependent Variable: TSES_ITL_mean

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics	
						Tolerance	VIF
1	EMO_APP_mean	.307 ^b	3.371	.001	.304	.870	1.150
	INFO_mean	.304 ^b	3.368	.001	.303	.885	1.130
	INSTR_mean	.263 ^b	2.879	.005	.263	.887	1.127

Excluded Variables^a

Model		Collinearity ...	
		Minimum Tolerance	
1	EMO_APP_mean	.850	
	INFO_mean	.847	
	INSTR_mean	.840	

a. Dependent Variable: TSES_ITL_mean

b. Predictors in the Model: (Constant), LicProv, Gender, Relationship, Future, TBYrs

Collinearity Diagnostics^a

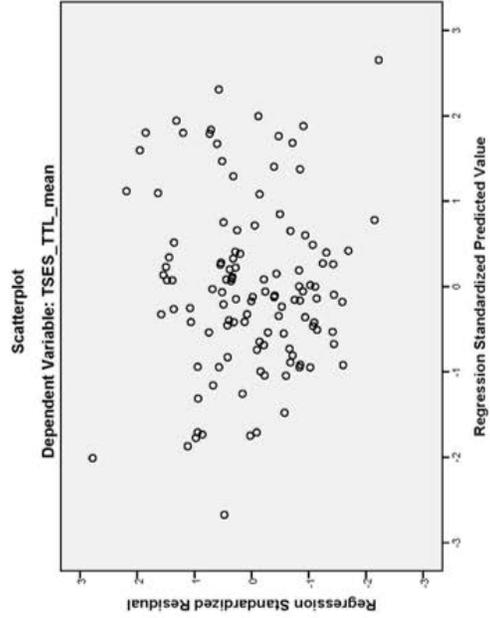
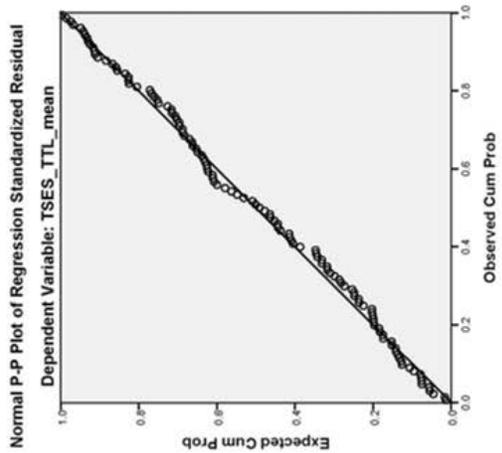
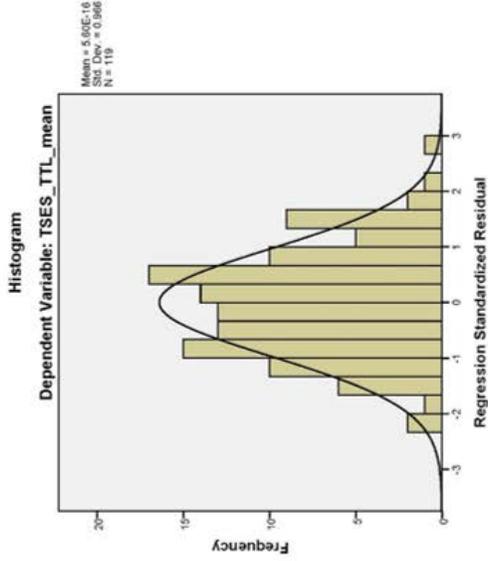
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Variance Proportions			Variance Proportions						
					TtYrs	Future	Gender	Relationship	LicProv	EMO_APP_me an	INFO_mean	INSTR_mean		
1	1	5.047	1.000	.00	.01	.00	.00	.01	.01					
	2	.393	3.585	.00	.36	.00	.00	.36	.00					
	3	.251	4.485	.00	.23	.01	.01	.42	.34					
	4	.194	5.095	.00	.08	.32	.02	.09	.39					
	5	.095	7.296	.01	.05	.47	.40	.02	.11					
	6	.021	15.683	.99	.27	.20	.57	.10	.15					
2	1	7.914	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.393	4.488	.00	.34	.00	.00	.35	.00	.00	.00	.00	.00	.00
	3	.259	5.527	.00	.32	.02	.00	.51	.11	.00	.00	.00	.00	.00
	4	.221	5.979	.00	.03	.09	.00	.01	.66	.00	.00	.00	.00	.00
	5	.101	8.862	.00	.05	.83	.08	.01	.07	.00	.00	.01	.01	.01
	6	.083	9.780	.00	.00	.03	.55	.00	.01	.01	.01	.01	.01	.01
	7	.012	25.811	.99	.26	.01	.36	.07	.12	.01	.01	.05	.02	.02
	8	.010	28.550	.01	.00	.00	.01	.00	.02	.00	.37	.85	.06	.06
	9	.007	33.738	.00	.00	.02	.00	.04	.00	.61	.08	.08	.90	.90

a. Dependent Variable: TSES_TTL_mean

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.4108	7.7254	6.5728	.43450	119
Std. Predicted Value	-2.674	2.653	.000	1.000	119
Standard Error of Predicted Value	.134	.443	.238	.054	119
Adjusted Predicted Value	5.3642	7.9545	6.5689	.44501	119
Residual	-1.97538	2.46739	.00000	.85726	119
Std. Residual	-2.225	2.779	.000	.966	119
Std. Residual	-2.350	2.956	.002	1.006	119
Deleted Residual	-2.20453	2.79259	.00380	.93177	119
Stud. Deleted Residual	-2.401	3.067	.003	1.015	119
Mahal. Distance	1.698	28.339	7.933	4.197	119
Cook's Distance	.000	.128	.010	.017	119
Centered Leverage Value	.014	.240	.067	.036	119

a. Dependent Variable: TSES_TTL_mean



Group Statistics

	E_L_response	N	Mean	Std. Deviation	Std. Error Mean
ThYrs	E	85	2.87	1.778	.193
	L	34	2.53	1.942	.333
Future	E	85	5.02	2.257	.245
	L	34	5.79	1.754	.301
Gender	E	85	1.69	.464	.050
	L	34	1.68	.475	.081
Relationship	E	85	2.88	2.026	.220
	L	34	2.68	1.981	.340
LicProv	E	85	1.48	.811	.088
	L	34	1.44	.705	.121
SCHOOL_mean	E	85	54.2529	12.41651	1.34676
	L	34	53.1422	12.34051	2.11638
NONSCHOOL_mean	E	85	58.3765	16.47082	1.78651
	L	34	59.7745	11.00068	1.88660
EMO_APP_mean	E	85	5.8569	1.24011	.13451
	L	34	5.7952	1.18863	.20385
INFO_mean	E	85	5.6166	1.21292	.13156
	L	34	5.5759	1.02992	.17663
INSTR_mean	E	85	5.5941	1.27072	.13783
	L	34	5.6389	.98751	.16936
TSES_ITL_mean	E	85	6.5676	.89601	.09719
	L	34	6.5858	1.12207	.19243
TSES_ITL_sum	E	85	78.8118	10.75207	1.16623
	L	34	79.0294	13.46485	2.30920

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Variances		95% Confidence Interval of the Difference				
	F	Sig.	t	df	Mean Difference	Std. Error Difference	Lower	Upper	
TIYrs	Equal variances assumed	.887	.409	.921	117	-.341	.371	-.393	1.075
	Equal variances not assumed			.886	56.350	.341	.385	-.430	1.112
Future	Equal variances assumed	5.092	.026	-1.785	117	-.771	.432	-1.626	.084
	Equal variances not assumed			-1.987	77.776	-.771	.388	-1.543	.002
Gender	Equal variances assumed	.133	.716	.186	117	.018	.095	-.170	.205
	Equal variances not assumed			.184	59.549	.018	.096	-.174	.209
Relationship	Equal variances assumed	2.348	.128	.504	117	.206	.409	-.603	1.015
	Equal variances not assumed			.509	62.134	.206	.405	-.603	1.015
LicProv	Equal variances assumed	1.001	.319	.259	117	-.041	.159	-.273	.356
	Equal variances not assumed			.276	89.554	-.041	.149	-.257	.339
SCHOOL_mean	Equal variances assumed	.022	.882	.442	117	1.11078	2.51522	-3.87047	6.09204
	Equal variances not assumed			.443	61.195	1.11078	2.50855	-3.90505	6.12862
NONSCHOOL_mean	Equal variances assumed	6.367	.013	-.455	117	-1.39804	3.07009	-7.47818	4.68210
	Equal variances not assumed			-.538	90.218	-1.39804	2.59825	-6.55974	3.76366
EMO_APP_mean	Equal variances assumed	.001	.969	.248	117	.06169	.24874	-.43083	.55431
	Equal variances not assumed			.253	65.279	.06169	.24423	-.42631	.54970
INFO_mean	Equal variances assumed	1.341	.249	.172	117	.04070	.23624	-.42717	.50857
	Equal variances not assumed			.185	71.167	.04070	.22024	-.36843	.47883

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
INSTR_mean	2.503	.116	-.185	117	.854	-.04487	.24302	-.52617	.43642
			-.206	77.785	.838	-.04487	.21835	-.47960	.38985
TSES_TTL_mean	2.729	.101	-.093	117	.928	-.01814	.19585	-.40600	.36973
			-.084	50.685	.933	-.01814	.21558	-.45100	.41473
TSES_TTL_sum	2.729	.101	-.093	117	.926	-.21785	2.35016	-4.87202	4.43673
			-.084	50.685	.933	-.21785	2.58699	-5.41202	4.97673

Descriptive Statistics

	Mean	Std. Deviation	N
Future	5.24	2.147	119
DaystoRespond	5.9496	4.04812	119

Correlations

	Future	DaystoRespond
Pearson Correlation	Future 1.000	DaystoRespond -.222
	DaystoRespond -.222	1.000
Sig. (1-tailed)	Future .	DaystoRespond .008
	DaystoRespond .008	.
N	Future 119	DaystoRespond 119
	DaystoRespond 119	119

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression 26.774	1	26.774	6.057	.015 ^b
	Residual 517.158	117	4.420		
	Total 543.933	118			

a. Dependent Variable: Future

b. Predictors: (Constant), DaystoRespond

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	DaystoRespond ^b	.	Enter

a. Dependent Variable: Future

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	Sig. F Change
1	.222 ^a	.049	.041	2.102	.049	6.057	.015
							1.823

a. Predictors: (Constant), DaystoRespond

b. Dependent Variable: Future

Coefficients ^a		Coefficients ^a										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		Collinearity Statistics	
		B	Std. Error				Lower Bound	Upper Bound	Zero-order	Partial	Tolerance	VIF
1	(Constant)	5.944	.344		17.269	.000	5.283	6.624				
	DaystoRespond	-.118	.048	-.222	-2.461	.015	-.212	-.023	-.222	-.222	-.222	1.000

a. Dependent Variable: Future

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	DaystoRespond
1	1	1.828	1.000	.09	.09
	2	.172	3.259	.91	.91

a. Dependent Variable: Future

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.77	5.94	5.24	.476	119
Residual	-4.826	2.233	.000	2.093	119
Std. Predicted Value	-1.001	1.470	.000	1.000	119
Std. Residual	-2.296	1.062	.000	.996	119

a. Dependent Variable: Future

Descriptive Statistics

	Mean	Std. Deviation	N
NONSCHOOL_mean	58.7759	15.07665	119
DaystoRespond	5.9496	4.04812	119

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Durbin-Watson		
					F Change	df1	df2			
1	.015 ^a	.000	-.008	15.14121	.000	.027	1	117	.870	1.870

a. Predictors: (Constant), DaystoRespond

b. Dependent Variable: NONSCHOOL_mean

Correlations

	NONSCHOOL_mean	DaystoRespond
Pearson Correlation	NONSCHOOL_mean 1.000	.015
	DaystoRespond .015	1.000
Sig. (1-tailed)	NONSCHOOL_mean .435	.435
	DaystoRespond .435	.435
N	NONSCHOOL_mean 119	119
	DaystoRespond 119	119

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	DaystoRespo nd ^a		Enter

a. Dependent Variable: NONSCHOOL_mean

b. All requested variables entered.

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression 6.143	1	6.143	.027	.870 ^b
	Residual 26822.992	117	229.256		
	Total 26829.135	118			

a. Dependent Variable: NONSCHOOL_mean

b. Predictors: (Constant), DaystoRespond

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B		Correlations		Collinearity Statistics	
	B	Std. Error				Lower Bound	Upper Bound	Zero-order	Partial	Tolerance	VIF
1	(Constant)	58.441	2.475	23.617	.000	53.540	63.341				
	DaysToRespond	.056	.344	.164	.870	-.628	.738	.015	.015	.015	1.000

a. Dependent Variable: NONSCHOOL_mean

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	DaysToRespond
1	1	1.828	1.000	.09	.09
	2	.172	3.259	.91	.91

a. Dependent Variable: NONSCHOOL_mean

Relationship

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
1	64	53.8	53.8	53.8
3	3	2.5	2.5	56.3
5	49	41.2	41.2	97.5
6	3	2.5	2.5	100.0
Total	119	100.0	100.0	

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	58.4406	59.0042	58.7759	.22816	119
Residual	-48.00420	30.99580	.00000	15.07692	119
Std. Predicted Value	-1.470	1.001	.000	1.000	119
Std. Residual	-3.170	2.047	.000	.996	119

a. Dependent Variable: NONSCHOOL_mean

Future

Future	N	Valid	Missing
Mean	112	5.57	7
Median	6.00	6.00	
Std. Deviation	1.749	1.749	
Range	6	6	
Minimum	1	1	
Maximum	7	7	

LicProv

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
1	83	69.7	69.7	69.7
2	17	14.3	14.3	84.0
3	18	15.1	15.1	99.2
4	1	.8	.8	100.0
Total	119	100.0	100.0	

References

- Bandura, A. (2009). Cultivate self-efficacy for personal and organizational effectiveness. In E. Locke, *Handbook of principles of organization behavior (2nd Ed.)* (pp. 179-200). New York: Wiley.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*(2), 117-148.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1997). *Self-Efficacy: The exercise of control*. New York: W.H. Freeman and Company.
- Bataineh, O. (2009). Sources of social support among special education teachers in Jordan and their relationship to burnout. *International Education, 39*(1), 65-78. Retrieved from <http://trace.tennessee.edu/internationaleducation/vol39/iss1/4>
- Beard, K. S., Hoy, W. K., & Hoy, A. W. (2010). Academic optimism of individual teachers: Confirming a new construct. *Teaching and Teacher Education, 1136-1144*. doi:10.1016/j.tate.2020.02.003
- Blau, G. J. (1985). The measurement and prediction of career commitment. *Journal of Occupational Psychology, 58*, 277-288. doi:10.1111/j.2044-8325.1985.tb00201.x

- Blau, G. J. (1988). Further exploring the meaning and measurement of career commitment. *Journal of Vocational Behavior, 32*, 284-297.
- Blau, P. (1964). *Exchange and power in social life*. New York: Wiley.
- Brouwers, A., Evers, W., & Tomic, W. (2001). Teacher Burnout and Self-Efficacy in Eliciting Social Support. *Journal of Applied Social Psychology, 31*(7), 1474-1491.
- Brown, A. L., Lee, J., & Collins, D. (2014). Does student teaching matter? Investigating pre-service teachers' sense of efficacy and preparedness. *Teaching Education, 26*(1), 77-93. doi:<http://dx.doi.org/10.1080/10476210.2014.957666>
- Brown, B. (2010). *The gifts of imperfection: Let go of who you think you're supposed to be and embrace who you are*. Center City, MN: Hazelden.
- Buchanan, J., Prescott, A., Schuck, S., Aubusson, P., & Burke, P. (2013). Teacher retention and attrition: Views of early career teachers. *Australian Journal of Teacher Education, 38*(3), 112-129. Retrieved from <http://ro.ecu.edu.au/ajte/vol38/iss3/8>
- Bullough, R. V. & Hall-Kenyon, K. M. (2012). On teacher hope, sense of calling, and commitment to teaching. *Teacher Education Quarterly, 39*(2), 7-27.
- Burke, R. J., Greenglass, E. R., & Schwarzer, R. (1996). Predicting teacher burnout over time: Effects of work stress, social support, and self-doubts on burnout and its consequences. *Anxiety, Stress, & Coping, 9*, 261-275.
doi:10.1080/10615809608249406

- Burke, P. F., Aubusson, P. J., Schuck, S. R., Buchanan, J. D., & Prescott, A. E. (2015). How do early career teachers value different types of support? A scale-adjusted latent class choice model. *Teaching and Teacher Education, 47*, 241-253. doi:10.1016/j.tate.2015.01.005
- Caspersen, J., & Raaen, F. D. (2013). Novice teachers and how they cope. *Teachers and Teaching: Theory and Practice, 1-23*. doi:10.1080/13540602.2013.848570
- Carroll, T. G. (2005). *Induction Into Learning Communities*. Washington D.C.: National Commission on Teaching and America's Future.
- Chan, D. W. (2002). Stress, self-efficacy, social support, and psychological distress among prospective Chinese teachers in Hong Kong. *Educational Psychology, 22*(5), 557-569. doi:10.1080/0144341022000023635
- Chang, E. (1999). Career commitment as a complex moderator of organizational commitment and turnover intention. *Human Relations, 52*(10), 1257-1278.
- Chou, P. (2015). The effects of workplace social support on employee's subjective well-being. *European Journal of Business and Management, 7*(6), 8-19.
- Cobb, S. (1976). Social support as a moderator of life stress. *Psychometric Medicine, 38*(5), 300-314.
- Cohen, S. (2004). Social relationships and health. *American Psychologist, 67*6-684.
- Cohen, S., & Hoberman, H. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology, 13*, 99-125.

- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98(2), 310-357.
- Coladarci, T. (1992). Teachers' sense of efficacy and commitment to teaching. *Journal of Experimental Education*, 60(4), 323-337. Retrieved from <http://www.jstor.org/stable/20152340>
- Collie, R. J., Shapka, J. D., & Perry, N. E. (2012). School climate and social-emotional learning: Predicting teacher stress, job satisfaction, and teaching efficacy. *Journal of Educational Psychology*, 104(4), 1189-1204. doi:10.1037/a0029356
- Conway, P. F., & Clark, C. M. (2003). The journey inward and outward: a re-examination of Fuller's concerns-based model of teacher development. *Teaching and Teacher Education*, 465-482. doi:10.1016/S0742-051X(03)00046-5
- Corbell, K. A., Reiman, A. J., & Nietfeld, J. L. (2008). The perceptions of success inventory for beginning teachers: Measuring its psychometric properties. *Teaching and Teacher Education*, 1551-1563. doi:10.1016/j.tate.2008.02.004
- Cornu, R. L. (2013). Building early career teacher resilience: The role of relationships. *Australian Journal of Teacher Education*, 38(4), 1-16. Retrieved from <http://ro.ecu.edu.au/ajte/vol38/iss4/1>
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*. 16, 297-334.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 874-900. doi:10.1177/0149206305279602

- Darling-Hammond, L. (2003). Keeping good teachers: Why it matters, what leaders can do. *Association, 60*(8), 6-13.
- Darling-Hammond, L., & Bransford, J. (2005). *Preparing teachers for a changing world*. San Francisco: Jossey-Bass.
- DeAngelis, K., Wall, A. F., & Che, J. (2013). The impact of preservice preparation and early career support on novice teachers' career intentions and decisions. *Journal of Teacher Education, 338*-355.
- Devos, C., Dupriez, V., & Paquay, L. (2012). Does the social working environment predict beginning teachers' self-efficacy and feelings of depression? *Teaching and Teacher Education, 206*-217.
- Dick, R. V., & Wagner, U. (2001). Stress and strain in teaching: A structural equation approach. *British Journal of Educational Psychology, 71*, 243-259.
- Dicke, T., Elling, J., Schmeck, A., & Leutner, D. (2015). Reducing reality shock: The effects of classroom management skills training on beginning teachers. *Teaching and Teacher Education, 48*, 1-12. Retrieved from <http://dx.doi.org/10.1016/j.tate.2015.01.013>
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method*. Hoboken, New Jersey: John Wiley & Sons.
- Dignam, J. T., & West, S. G. (1988). Social support in the workplace: Tests of six theoretical models. *American Journal of Community Psychology, 16*(5), 701-722.

- Dirks, K. T., Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology, 87*(4), 611-628.
- Duffin, L. C., French, B. F., & Patrick, H. (2012). The teachers' sense of efficacy scale: Confirming the factor structure with beginning pre-service teachers. *Teaching and Teacher Education, 28*, 827-834.
- Emmer, E. T., & Hickman, J. (1991). Teacher efficacy in classroom management and discipline. *Educational and Psychological Measurement, 755-765*.
- Evans, A. M., & Revelle, W. (2008). Survey and behavioral measurements of interpersonal trust. *Journal of Research in Personality, 42*, 1585-1593.
- Fantilli, R. D., & McDougall, D. E. (2009). A study of novice teachers: Challenges and supports in the first years. *Teaching and Teacher Education, 25*, 814-825.
doi:10.1016/j.tate.2009.02.021
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics, 4th Edition*. London: Sage.
- Fives, H., & Buehl, M. M. (2010). Examining the factor structure of the teachers' sense of efficacy scale. *The Journal of Experimental Education, 78*, 118-134.
doi:10.1080/00220970903224461
- Foster, D. D., Lawver, R. G., & Smith, A. R. (2015). *National agriculture education supply and demand study*. Lexington, Kentucky: American Association for Agricultural Education.

Foster, D. D., Smith, A. R., & Thompson, E. (2016, July 29). *2015 Tagged to teach ag.*

Retrieved from National Association of Agricultural Educators:

<http://www.naae.org/teachag/2015%20Region%204.pdf>

Freese, M. (1999). Social support as a moderator of the relationship between work stressors and psychological dysfunctioning: A longitudinal study with objective measures. *Journal of Occupational Health Psychology, 4*(3), 179-192.

Friedrichsen, P., Chval, K. B., & Teuscher, D. (2007). Strategies and sources of support for beginning teachers of science and mathematics. *School Science and Mathematics, 107*(5), 169-181.

Fuller, F. F. (1969, March). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal, 6*(2), 207-226. Retrieved from <http://www.jstor.org/stable/1161894>

Fuller, F., & Brown, O. (1975). *Becoming a teacher*. Chicago: University of Chicago Press.

Gersten, R., Gillman, J., Morvant, M. & Billingsley, B. (1995). *Teachers' perceptions of working conditions*. Washington D.C.: National Dissemination Forum on Issues Relating to Special Education Teacher Satisfaction, Retention, and Attrition.

Goulet, L. R., & Singh, P. (2002). Career commitment: A reexamination and an extension. *Journal of Vocational Behavior, 61*, 73-91.
doi:10.1006/jvbe.2001.1844

- Green, S. B., & Salkind, N. J. (2014). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (7th ed.). Upper Saddle River, N.J.: Prentice Hall.
- Guarino, C. M., Santibanez, L., & Daley, G. A. (2006). Teacher recruitment and retention: A review of the recent empirical literature. *Review of Education Research, 76*(2), 173-208.
- Guglielmi, R. S., & Tatrow, K. (1998). Occupational stress, burnout, and health in teachers: A methodological and theoretical analysis. *Review of Educational Research, 68*(1), 61-99.
- Guskey, T. R., & Passaro, P. D. (1993). Teacher efficacy: A study of construct dimensions. *American Educational Research Journal, 31*(3), 627-643.
- Hancock, C. B., & Scherff, L. (2010). Who will stay and who will leave? Predicting secondary English teacher attrition risk. *Journal of Teacher Education, 328-338*.
doi:10.1177/022487110372214
- Heaney, C. A., & Israel, B. A. (2008). *Health Behavior and Health Education; Theory, Research, and Practice* (4th ed.). (K. Glanz, & B. K. Rimer, Eds.) San Francisco, CA: Jossey-Bass. Retrieved from
http://fhc.sums.ac.ir/files/salamat/health_education.pdf
- Henson, R. K. (2001). The effects of participation in teacher research on teacher efficacy. *Teaching and Teacher Education, 17*, 819-836.

- Henson, R. K., Kogan, L. R., & Vacha-Haase, T. (2001). A reliability generalization study of the teacher efficacy scale and related instruments. *Educational and Psychological Measurement, 61*(3), 404-420.
- House, J. S. (1987). Social support and social structure. *Sociological Forum, 2*(1), 135-146.
- House, J. S. (2001). Social isolation kills, but how and why? *Psychosomatic Medicine, 63*, 273-274.
- House, J. S. (1981). *Work stress and social support*. Reading, Massachusetts: Addison-Wesley Publishing Company, Inc.
- House, J. S., & Wells, J. A. (1978). Occupational stress, social support and health. In A. McLean, G. Black, & M. Colligan (Ed.), *Reducing occupational stress* (pp. 8-29). Washington, DC: U.S. Department of Health, Education, and Welfare.
- House, J., Umberson, D., & Landis, K. (1988). Structures and processes of social support. *Annual Review of Sociology, 14*, 293-318.
- Hoy, A. W., & Spero, R. B. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education, 34*, 343-356.
- Hoy, W. K., & Woolfolk, A. E. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal, 93*(4), 355-372. Retrieved from <http://www.jstor.org/stable/1002017>

Illinois Association of Vocational Agriculture Teachers (IAVAT) Directory. (n.d.).

Retrieved from <http://iavat.cmititestbank.com>

Indiana Association of Agricultural Educators (IAAE) Directory. (n.d.). Retrieved from

<http://www.indianaaged.org/downloads/14Directory.pdf>

Ingersoll, R. (2012, May). Beginning teacher induction: What the data tell us. *Phi Delta*

Kappa International, 93(8), 47-51.

Ingersoll, R., Merrill, L., & May, H. (2014). *What are the effects of teacher education*

and preparation on beginning teacher attrition? University of Pennsylvania.

Philadelphia: Consortium for Policy Research in Education.

Jensen, J. M., Patel, P. C., & Messersmith, J. G. (2013). High-performance work systems

and job control: Consequences for anxiety, role overload, and turnover intentions.

Journal of Management, 39(6), 1699-1724. doi:10.1177/0149206311419663

Jones, N. D., Youngs, P., & Frank, K. A. (2013). The role of school-based colleagues in

shaping the commitment of novice special and general education teachers.

Exceptional Children, 79(3), 1-19.

Kantrovich, A. J. (2010). *The 36th volume of a national study of the supply and demand*

for teachers of agricultural education 2006-2009. Alexandria: American

Association for Agricultural Education.

Kelly, S., & Northrop, L. (2015). Early career outcomes for the "Best and the Brightest":

selectivity, satisfaction, and attrition in the beginning teacher longitudinal survey.

American Educational Research Journal, 1-31. doi:10.3102/0002831215587352

- Kitchel, T., Smith, A. R., Henry, A. L., Robinson, J. S., Lawver, R. G., Park, T. D., & Schell, A. (2012). Teacher job satisfaction and burnout viewed through social comparisons. *Journal of Agricultural Education, 53*(1), 31-44.
- Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology, 102*(3), 741-756. doi:10.1037/a0019237
- Knobloch, N. A. (2006). Exploring relationships of teachers' sense of efficacy in two student teaching programs. *Journal of Agricultural Education, 47*(2), 36-47.
- Knobloch, N. A., & Whittington, M. S. (2002). Novice teachers' perceptions of support, teacher preparation quality, and student teaching experience related to teacher efficacy. *Journal of Vocational Education Research, 331-341*.
- Knobloch, N. A., & Whittington, M. S. (2003). Differences in teacher efficacy related to career commitment of novice agriculture teachers. *Journal of Career and Technical Education, 20*(1), 87-98.
- Kram, K. E., & Ragins, B. R. (2007). The landscape of mentoring in the 21st century. In Ragins, B. R. & Kram, K. E. (Eds.), *The Handbook of Mentoring at Work: Theory, Research, and Practice*. (pp. 659-687). Thousand Oaks: Sage Publications, Inc.

- Lakey, B., & Cohen, S. (2000). Social support theory and measurement. In S. Cohen, L. G. Underwood, & B. H. Gottlieb, *Social support measurement and intervention: A guide for health and social scientists*. (pp. 29-52). New York, NY, US: Oxford University Press.
- Langley, G. C., Martin, M., & Kitchel, T. (2014). Novice agriculture teachers' general self-efficacy and sense of community connectedness. *Journal of Agricultural Education*, 55(4), 1-11. doi:10.5032/jae.2014.04001
- Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social research. *Journal of Agricultural Education*, 42(4), 43-53. doi: 10.5032/jae.2001.04043
- Maistre, C. L., & Pare, A. (2010). Whatever it takes: How beginning teachers learn to survive. *Teaching and Teacher Education*, 26, 559-564. doi:10.1016/j.tate.2009.06.016
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 430-437.
- Maslow, A. H. (1954). *Motivation and personality*. New York: Harper.
- Massenberg, A. C., Spurk, D., & Kauffeld, S. (2015). Social support at the workplace, motivation to transfer and training transfer: a multilevel indirect effects model. *International Journal of Training and Development*, 161-178. doi:10.1111/ijtd.12054

- McKim, A. J., & Velez, J. J. (2015). Exploring the relationship between self-efficacy and career commitment among early career agriculture teachers. *Journal of Agricultural Education, 56*(1), 127-140. doi:10.5032/jae.2015.01127
- Miller, L., & Smith, K. (1983). Handling non-response issues. *Journal of Extension, 21*, 45-50.
- Nunnally, J. (1978). *Psychometric theory*. New York: McGraw-Hill.
- Nurullah, A. S. (2012). Received and provided social support: A review of current evidence and future directions. *American Journal of Health Studies, 27*(3), 173-188.
- Oliver, J. D., & Hinkle, D. E. (1982). Occupational Education Research: Selecting Statistical Procedures. *Journal of Studies in Technical Careers, 4*(3), 199-209.
- Onafowora, L. L. (2004). Teacher efficacy issues in the practice of novice teachers. *Educational Research Quarterly, 34*-43.
- Pendergast, D., Garvis, S., & Keogh, J. (2011). Pre-service student-teacher self-efficacy beliefs: An insight into the making of teachers. *Australian Journal of Teacher Education, 36*(12), 46-58. Retrieved from <http://dx.doi.org/10.14221/ajte.2011v36n12.6>
- Pigge, F. L., & Marso, R. N. (1997). A seven year longitudinal multi-factor assessment of teaching concerns development through preparation and early years of teaching. *Teaching and Teacher Education, 13*(2), 225-235.

- Roberts, T. G., Harlin, J. F., & Ricketts, J. C. (2006). A longitudinal examination of teaching efficacy of agricultural science student teachers. *Journal of Agricultural Education, 47*(2), 81-92.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied, 80*(1), 1-28.
- Rotter, J. B. (1971). Generalized expectancies for interpersonal trust. *American Psychologist, 26*(5), 443-452.
- Russell, D., & Cutruna, C. (1984). *The provision of social relationships and adaptation to stress*. Toronto, ON, Canada: American Psychological Association.
- Shaughnessy, M. F. (2004). An interview with Anita Woolfolk: The educational psychology of teacher efficacy. *Educational Psychology Review, 16*(2), 153-176.
- Sherbourne, C., & Stewart, A. (1991). The MOS Social Support Survey. *Social Science and Medicine, 32*(6), 705-714.
- Smith, L. F., Corkery, G., Buckley, J., & Calvert, A. (2013). Changes in secondary school preservice teachers' concerns about teaching in New Zealand. *Journal of Teacher Education, 60*-74. doi:10.1177/0022487112449019
- Sorensen, T. J., & McKim, A. J. (2014). Perceived work-life balance ability, job satisfaction, and professional commitment among agriculture teachers. *Journal of Agricultural Education, 55*(4), 116-132. doi:10.5032/jae.2014.04116

- Stockard, J., & Lehman, M. B. (2004, December). Influences on the satisfaction and retention of 1st-year teachers: The importance of effective school management. *Educational Administration Quarterly*, 40(5), pp. 742-771.
- Stripling, C., Ricketts, J. C., Roberts, T. G., & Harlin, J. F. (2008). Preservice agricultural education teachers' sense of teaching self-efficacy. *Journal of Agricultural Education*, 49(4), 120-130.
- Struyven, K., & Vanthournout, G. (2014). Teachers' exit decisions: An investigation into the reasons why newly qualified teachers fail to enter the teaching profession or why those who do enter do not continue teaching. *Teaching and Teacher Education*, 43, 37-45. doi:10.1016/j.tate.2014.06.002
- Swan, B. G., Wolf, C. J., & Cano, J. (2011). Changes in teacher self-efficacy from the student teaching experience through the third year of teaching. *Journal of Agricultural Education*, 128-139.
- Terry, R., & Briers, G. E. (2010). Roles of the secondary agriculture teacher. In Torres, R. M., Kitchel, T., & Ball, A. L. (Eds.), *Preparing and Advancing Teachers in Agricultural Education*. (pp. 86-98). Columbus: Curriculum Materials Service The Ohio State University.
- The Project on the Next Generation of Teachers. (2006, Summer). Why new teachers leave...and why new teachers stay. *American Federation of Teachers*, pp. 8-21.
- Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior*, 59-79.

- Tickle, B. R., Chang, M., & Kim, S. (2011). Administrative support and its meditating effect on US public school teachers. *Teaching and Teacher Education, 27*, 342-349. doi:10.1016/j.tate.2010.09.002
- Tschannen-Moran, M., & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education, 27*, 751-761. doi:10.1016/j.tate.2010.12.005
- Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*(2), 202-248.
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805.
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2002). *The influence of resources and support on teachers' efficacy beliefs*. New Orleans, LA: American Educational Research Association.
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education, 23*, 944-956. doi:10.1016/j.tate.2006.05.003
- Uchino, B. N. (2009). Understanding the links between social support and physical health. *Perspectives on Psychological Science, 4*(3), 236-255.
- University of Chicago Urban Education Institute. (2009). *The Schools Teachers Leave: Teacher Mobility in Chicago Public Schools*. Chicago: Consortium on Chicago School Research.

- Veenman, S. (1984). Perceived problems of beginning teachers. *Review of Educational Research, 54*(2), 143-178.
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A Meta-Analysis. *Journal of Vocational Behavior, 54*, 314-334.
- Wethington, E., & Kessler, R. C. (1986). Perceived support, received support, and adjustment to stressful life events. *Journal of Health and Social Behavior, 27*(1), 78-89.
- Wolf, K. J. (2011). Agricultural education perceived teacher self-efficacy: A descriptive study of beginning agricultural education teachers. *Journal of Agricultural Education, 52*(2), 163-176. doi:10.5032/jae.2011.02163
- Woolfolk Hoy, A. (2000). *Changes in teacher efficacy during the early years of teaching*. New Orleans, LA: American Educational Research Association.
- Woolfolk, A. E., Rosoff, B., & Hoy, W. K. (1990). Teachers' sense of efficacy and their beliefs about managing students. *Teaching and Teacher Education, 6*(2), 137-148.
- Wong, Y. J. (2015). The psychology of encouragement: Theory, research, and applications. *The Counseling Psychologist, 43*(2), 178-216.
doi:10.1177/0011000014545091
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*(1), 30-41. doi:10.1207/s15327752jpa5201_2

VITA

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