AN EXPLORATION OF THE RELATIONSHIP BETWEEN RESILIENCE AND COMMITMENT TO TEACHING ACROSS MONTANA AGRICULTURAL EDUCATOR CAREER STAGES

by

Joshua Thomas Toft

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ABSTRACT

The purpose of this study was to fill an identified research gap between resilience and commitment to teaching and establish whether a relationship between these two factors exists across educator career stages. This study used a mixed methods research design, beginning with a quantitative survey instrument examining resilience and commitment to teaching. The survey was delivered to all Montana agricultural educators in each defined career stage (pre-service, early, mid, and late). All quantitative data was analyzed using Excel. A purposive sample of participants was selected for further qualitative analysis via semi-structured interviews. Interviews were delivered face-to-face and over the phone, with audio recordings and field notes used for data collection. Data analysis was completed for quantitative and qualitative data separately, with analysis of variance (ANOVA) and correlation analyses used for quantitative data and thematic analysis used for qualitative data. The two analyses were integrated, with the qualitative analysis used to help explain and support the results of the quantitative data analysis. Results from the survey revealed no statistically significant differences in mean resilience scores; however, a significant mean difference was identified between the commitment to teaching scores of pre-service and early-career educators. Subsequent interviews revealed four prevalent themes: (1) distinct purpose, (2) lifelong learners, (3) focusing on the good, and (4) strong support systems. A statistically significant difference in commitment to teaching scores between pre-service and early-career educators was discovered and linked, using interview data, to the presence or absence of strong support systems. A significant correlation between resilience and commitment to teaching was also observed, though the low strength of the correlation was suggestive of the complexity of both concepts. Interviews revealed noticeable discrepancies in perceived resilience between quantitative and qualitative measures, leading to a recommendation for an updated and educator specific instrument for evaluating resilience. Lastly, a suggested relationship, particularly among experienced educators, between prior successes and their resilience and commitment to teaching was discovered. It was therefore recommended teacher educators design programs to help pre-service and early-career educators develop a bank of successes to draw on as they begin their teaching career.

CHAPTER 1

INTRODUCTION

Background and Setting

Agricultural education is facing a shortage of qualified teachers stretching back more than a decade (Foster et al., 2015; Kantrovich, 2010). The causes of this shortage are numerous and include, but are not limited to, lack of competency in relevant areas, retirement, switching industries, and advancement to administrative roles (Foster et al., 2015; McKim et al., 2017). However, many cite the low retention rate of educators, whether in agricultural education or other subjects, as the most significant driving factor for the shortage, particularly among educators in their first five years of teaching (Doerfert, 2011; Ingersoll, 2003; Sorenson & McKim, 2014).

Substantial research has been conducted in an effort to analyze and hopefully decrease shortage and increase retention of agricultural educators (Ingersoll, 2003; McKim et al., 2017; Myers et al., 2005; Osborne, 1992). This body of research has focused on several aspects related to teacher retention. For example, McKim et al. (2017) considered the effect of competency in four different areas of agricultural education; Sorenson and McKim (2014) analyzed the role of work-life balance; and Croom (2003) reviewed several potential factors including work satisfaction and accomplishment, work exhaustion, depersonalization, teacher characteristics, and school characteristics.

Stress and other psychological factors have also been studied in relation to burnout and retention among agricultural educators (Kyriacou, 2001; Thieman et al., 2014; Torres et al., 2009). A more recent area of research is the concept of resilience or teacher resiliency, with agricultural

education researchers exploring its effects on job satisfaction, teaching success, and engagement in professional development (Bobek, 2002; Easterly & Myers, 2018; Thieman et al., 2012; Thieman et al., 2014). Although these factors are related to the issue of teacher burnout and commitment (Sorenson & McKim, 2014), no studies thus far have directly analyzed the potential relationship between educator resiliency and commitment to teaching. Additionally, the effect of different skill competencies on commitment to teaching across career stages has been demonstrated, but no study has investigated that same concept through the lens of resiliency (McKim et al., 2017).

Problem Statement

While several studies have examined resiliency among early-career educators (Mansfield et al., 2012; Mansfield et al., 2014; Thieman et al., 2014), minimal research exists on the influence of resiliency among other educator career stages and its connection to burnout and commitment to teaching. With this in mind, this study will seek to fill the identified research gap between resiliency and teaching commitment and establish whether a relationship between these two factors exists across the range of educator career stages from pre-service to late career.

Purpose

The purpose of this study is to determine whether perceived commitment to teach is affected by an agricultural educator's level of resiliency, as categorized by career stage. To address the study's purpose, four distinct objectives were identified:

1. Determine Montana agricultural educators' level of resiliency.
2. Evaluate Montana agricultural educators' perceived commitment to teach.

3. Determine if a relationship exists between Montana agricultural educators' levels of resiliency and perceived commitment to teach.
4. Identify potential between-group differences across qualitative and quantitative measures of resiliency and teaching commitment.

Assumptions, Limitations, and Biases

The belief that educators would respond honestly and accurately to both survey and interview questions was a key assumption. In addition to this assumption, two limitations were identified: the recognition that this study only examines the effects of resiliency among agricultural educators still currently in the profession; and that while respondents would be representative of Montana career stage frequencies, they are not necessarily representative of any other state's educator population. Finally, the potential bias is that the researcher is a member of one of the researched career stages. This bias was addressed by removing the researcher from inclusion in the study.

Operational Definitions

1. Resilience: ''Capacity to overcome personal vulnerabilities and environmental stressors, to be able to 'bounce back' in the face of potential risks, and to maintain well-being (Oswald et al., 2003, p. 50).''
2. Commitment to Teaching: Educator's self-identified intention to continue teaching agriculture as a career (Sinclair, 2008).
3. Pre-service: Students currently enrolled in a post-secondary agricultural education teacher preparation track.

4. Early-career: Educators currently in a secondary teaching position with between one and five years of total teaching experience (Moulthrop, 2018).
5. Mid-career: Educators currently in a secondary teaching position with 6 to 15 years of teaching experience (Moulthrop, 2018).
6. Late-career: Educators currently in a secondary teaching position with 16 or more years of teaching experience (Moulthrop, 2018).

Chapter Summary

Agricultural education is suffering from a decades long shortage of qualified educators (Foster et al., 2015; Kantrovich, 2010). Research on this topic has found an extensive list of causes, though difficulty with teacher retention is the most prevalent (Doerfert, 2011; Ingersoll, 2003; Sorenson & McKim, 2014). Teacher retention issues have multiple facets, including stress, burnout, school support, work exhaustion, low pay, and poor work-life balance (Croom, 2003; Kyriacou, 2001; Sorenson & McKim, 2014; Thieman et al., 2014; Torres et al., 2009). Resilience is a more recent topic of inquiry regarding teacher retention, although most resilience research has focused on pre-service or early career educators and has not been tied to an educator's commitment to teach (Bobek, 2002; Easterly & Myers, 2018; Thieman et al., 2014). This study assumes honest participant involvement throughout and recognizes that its methodology prohibits generalizability beyond the state of Montana. The researcher's position within the target population is also recognized as a potential bias to be avoided. Ultimately, this study seeks to close the gap between resilience research and research on commitment to teaching by exploring the potential relationship between these characteristics among Montana agricultural educators and comparing the results across four educator career stages, from pre-service to late-career.

CHAPTER 2

REVIEW OF LITERATURE

A Perennial Teacher Shortage

Despite an understanding of the importance and impact qualified and committed teachers have on students and school communities, there has been, and continues to be, a decades long national teacher shortage (Aragon, 2016; Ingersoll, 2003; Kantrovich, 2010). Sutcher et al. (2016) estimated a shortage of approximately 60,000 teachers in the 2015-2016 school year. They also predicted this quantity would nearly double to 112,000 by 2018 and remain near that level for the foreseeable future if current rates remain. Due to the lack of available recent research in this area, it may be assumed the teacher shortage remains close to this predicted value. Sutcher et al. (2016) also found the shortage to not be limited to specific disciplines; it remains a multi-disciplinary issue. However, research by Aragon (2016) suggests this shortage may not be as drastic as researchers such as Ingersoll (2003) previously believed. Rather than the approximately 50% attrition rate cited by Ingersoll (2003), Aragon (2016) asserts the value may be closer to 17%. This attrition rate is considerably lower than commonly believed, but it has not been eliminated either. Although its numbers are not as drastic as other disciplines, agricultural education has not been immune to shortage issues, and research reveals a more than four-decade long shortage of agricultural educators (Blackburn et al., 2017; Ingram et al., 2018; Kantrovich, 2010). Recent supply and demand studies by the National Association of Agricultural Educators (NAAE) have found this shortage to be yet unresolved (Foster et al., 2020). Before exploring the factors behind this shortage, teacher retention, its impacts and importance, need to be examined.

The Need for Qualified and Committed Teachers

The importance of committed and highly qualified teachers for continued student and school success is well established (Brill & McCartney, 2008; Crosswell & Elliott, 2004; Darling-Hammond & Baratz-Snowden, 2007; Thomson et al., 2004). Brill and McCartney (2008) highlight studies demonstrating a positive correlation between teaching experience and student achievement, suggesting that teachers become more capable of building student success as they progress through their careers. Teaching experience is not the only factor contributing to student achievement though. Socioeconomic background has been cited as a substantial indicator of student success, but among characteristics more easily controlled by schools, teacher quality has demonstrated a stronger connection (Goldhaber, 2002). The work of Goldhaber (2002) therefore helps to support the concept that both qualified and committed teachers are instrumental in student and school success. With committed teachers playing such a pivotal role, a brief examination of professional commitment and commitment to teaching is appropriate.

Commitment to Teaching

The concept of commitment is often explored in relation to organizations and employees, and the understandings gleaned from that perspective have implications for teachers and the education industry alike (Thein et al., 2014). Commitment to teaching has been defined in several different ways, though Collie et al. (2011) cite evidence of a common theme in each definition; the presence of a psychological bond between the individual and object to which they are committed. Collie et al. (2011) then break commitment to teaching into two different subsets, professional commitment and organizational commitment, depending on the bond being

considered. This commitment dichotomy is further supported by the work of Billingsley and Cross (1992) and Somech and Bogler (2002), both of whom clearly delineate between commitment to the teaching profession and commitment to the school. Commitment to the school, or organizational commitment, is traditionally considered a measure of an individual's commitment to one specific organization in which they are involved (Somech & Bogler, 2002, Thien et al., 2014). From an education perspective, this can be thought of as the commitment or bond a teacher feels towards the school currently employing them. Commitment to the teaching profession, or professional commitment, on the other hand, takes a wider view of commitment and considers the bond an individual feels towards their chosen profession as a whole. This aspect of commitment has been linked to one's identification and satisfaction as a teacher (Somech & Bogler, 2002). While these two domains are the most well established, Thien et al. (2014) identified several other related domains which have been cited throughout the literature. These include commitment to students, commitment to academic goals, commitment to the body of knowledge, and commitment to teaching. In their study, Thien et al. (2014) refer to the commitment to teaching domain as one's desire to engage in the work of being a teacher. This includes creating effective instruction, showing enthusiasm for their subject matter, and a willingness to help students.

Commitment to teaching is a complex, multi-dimensional subject; and although this study will focus on the commitment to the teaching profession, consideration of all dimensions of teacher commitment is necessary (Collie et al., 2011; Thien et al., 2014). Recognizably, commitment to teaching does not operate in a vacuum. It is also influenced by, and influences, numerous other factors. Coladarci (1992) cited self-efficacy as one of the strongest factors influencing a teacher's commitment to teaching, with self-efficacy positively correlated to commitment to teaching. Collie

et al. (2014) further cited teacher commitment as a predictor of such factors as student achievement, effort and self-confidence, in addition to teacher attrition, burnout, and performance. With an understanding of commitment to teaching and its related factors thus established, a deliberate examination of teacher attrition and the teacher shortage may be addressed.

Causes of the Teacher Shortage

The 2019 NAAE National Supply and Demand Report found more than 450 secondary agricultural educators left the profession before reaching retirement age (Foster et al., 2020). This finding corroborates one of the primary factors identified by Myers et al. (2005) for the teacher shortage; a high attrition rate among agricultural educators. This educator attrition is the result of a wide variety of factors and influences, which include stress, burnout, lack of support, low self-efficacy, lack of work-life balance, and inadequate compensation (Croom, 2003; McKim et al., 2017; Myers et al., 2005; Solomonson & Retallick, 2018; Torres et al., 2009).

Stress and burnout are continually researched causes of teacher attrition and are often identified in many of the studies conducted within the realm of agricultural education (Croom, 2003; Thieman et al., 2012). Kyriacou (2001) and Thieman et al. (2012) define stress as anything that negatively impacts self-esteem or well-being and thereby creates a negative emotional response in the educator. Burnout is described as a "state of emotional, physical, and attitudinal exhaustion (Thieman et al., 2012, p. 82). Burnout is often seen among individuals in higher stress professions, with teaching being cited as a clear example of a high stress profession (Kyriacou, 2001). The causes of stress, and therefore burnout, for educators depend considerably on each individual case, but some of the most frequently cited include workload, coping with change, self-esteem and status, administration, and poor working conditions (Kyriacou, 2001). Brill and

McCartney (2008) supports several of these factors as causing stress, burnout, and ultimately teacher attrition.

Why Teachers Stay

Even though teaching is recognized as one of the most stressful professions (Kyriacou, 2001); countless teachers still continue. A thorough body of research has explored factors influencing continued teacher retention. Solomonson and Retallick (2018) highlighted several studies which contributed to understanding why educators often choose to remain in the profession. These factors include having a high initial commitment to teaching (Crutchfield et al., 2013), generous amounts of external support (Clark et al., 2014; Rice et al., 2011), positive school environments (Thobega & Miller, 2003), motivated students (Rice et al., 2011), adequate compensation (Warnick et al., 2010), and high degrees of autonomy in their teaching (Clark et al., 2014). Igo and Perry (2019, p. 119) found stable contracts, work-life balance, and competitive salary to be "substantial influencers" for Montana agricultural educators who have remained in the profession. Brill and McCartney (2008) discovered school support and mentoring programs to be effective means of retaining educators, even above salary increases. Ingersoll et al. (2012) explored pre-service and early-career educator factors on retention and found teachers with more sufficient pedagogical preparation and self-efficacy to be more likely to remain in the profession. Stockard and Lehman (2004) also found that first year educators with more support from colleagues and parents, as well as those who had been provided mentoring, were more satisfied with their positions and likely to remain. On the other end of the experience spectrum, Hughes (2012) found statistically significant positive relationships between years of teaching experience and retention, indicating educators with more experience tend to be more committed to remain in the profession

compared to those with less experience. This was thought to be due to the increased knowledge and self-efficacy in and about teaching which arises as an educator gains experience. Crosswell and Elliott (2004) explored educators' perceptions of commitment and found passion to be at the heart of why educators choose to either stay or leave the profession. The concept of "passion" encompasses a wide range of emotional responses and any description of passion is unique to particular educators (Crosswell & Elliott, 2004). Crosswell and Elliott (2004) found a connection between an educator's sense of passion about the job and their motivation to overcome the difficult aspects of teaching. Motivation, and specifically intrinsic motivation, plays an important role in a more recent topic of research related to teacher retention; teacher resiliency (Kitching et al., 2009). Mansfield et al. (2012) suggests that changing the focus from attrition to resilience offers a more effective means to identify and change necessary behaviors to increase teacher retention.

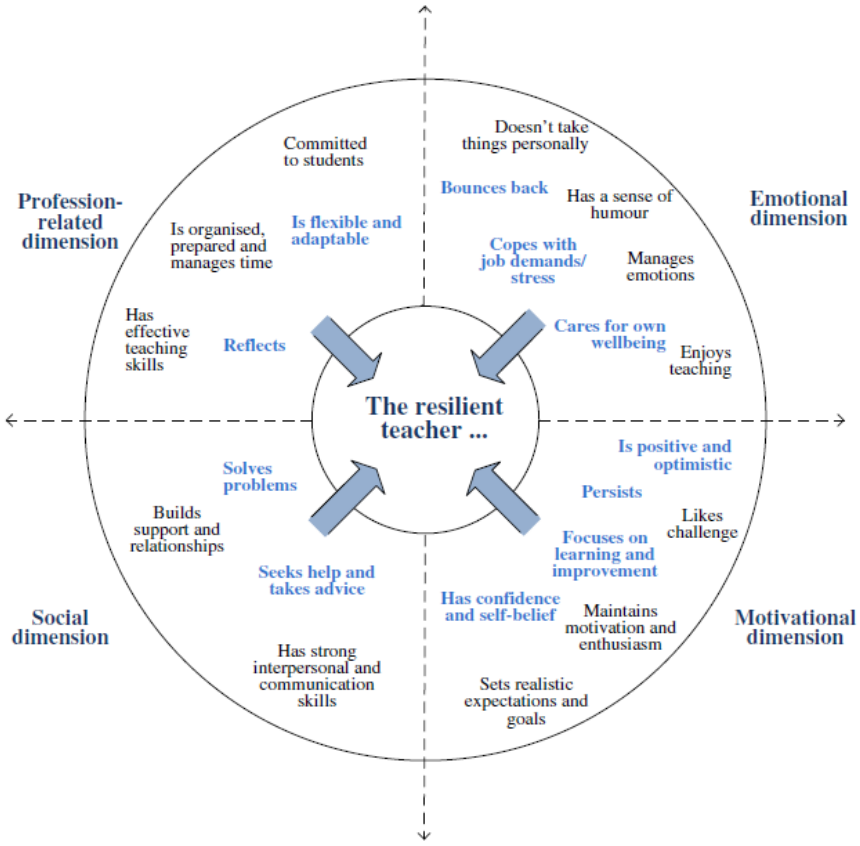
Resilience

Resilience is a difficult term to define, as its definition is often highly dependent upon the nature of the research. Patterson et al. (2004) defined resilience as "using energy productively to achieve school goals in the face of adverse conditions (p. 3)." Bobek (2002) defined teacher resilience as, "the ability to adjust to varied situations and increase one's competence in the face of adverse conditions (p. 202)." Mansfield et al. (2012) identified that resilience may be thought of as a trait or quality, a process, or an ability to overcome challenges. Easterly and Myers (2018) noted that resilience is often thought of as the ability to "bounce back" from difficult or adverse situations. Beyond the academic sphere, in Eric Greitens' book *Resilience: Hard-won wisdom for living a better life,* resilience is defined as, "the virtue that enables people to move through hardship and become better" (Greitens, 2015, p. 3). Regardless of the specifics, one common theme

throughout the majority of resilience definitions and research is that resilience involves some form of reaction to an adverse or challenging event, time or situation.

The current body of research on teacher resilience has explored its influence on a variety of different factors. Bobek (2002) found relationships, competency, personal ownership and advancement, and a sense of accomplishment and humor to be vital for improving one's sense of resiliency. Mansfield et al. (2012) interviewed Australian educators to identify what they believed a resilient educator was and then used this data to create a conceptual framework (Figure 1) for understanding the various facets, or dimensions, of resiliency. The four identified dimensions were emotional, professional-related, social, and motivational. Participant responses in Mansfield et al.'s (2012) study demonstrated a variable use of these four dimensions when defining teacher resilience. Some participants included aspects of just two dimensions in their response, while still others used three, and even all four in some cases. This framework, along with the corresponding data, suggests resilient educators draw upon several of these dimensions at any given time as a way to overcome difficulties, and "emphasizes the complexity and potentially individualized nature of resiliency" (Mansfield et al., 2012, p. 363).

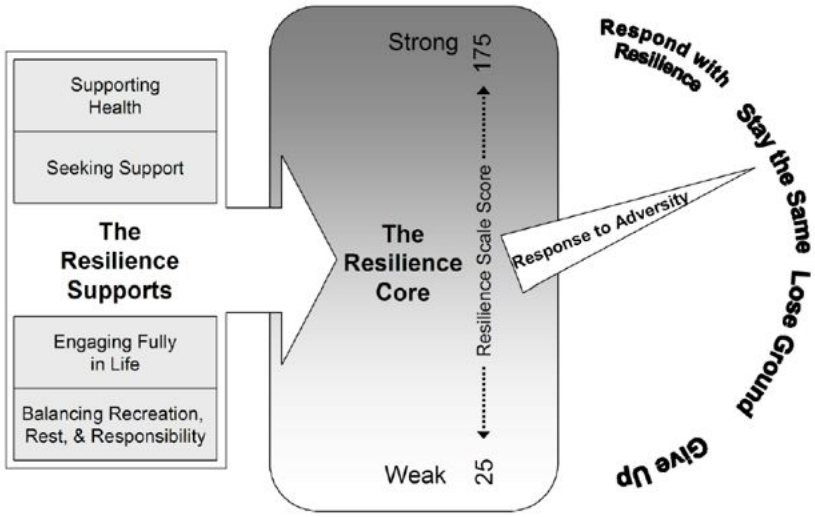
Figure 1. Mansfield et al.'s (2012) Four Dimensional Framework of Teacher Resilience



Before Mansfield et al. (2012) developed their conceptual framework for resilience with its four dimensions; Wagnild (2009b) had established a different model (Figure 2) based upon a concept called the Resilience Core. This Resilience Core is composed of five defining characteristics: purpose, perseverance, equanimity, self-reliance, and authenticity (Wagnild, 2009b). This framework is closely tied to Wagnild and Young's (1993) Resilience Scale, with individual scores on the assessment guiding estimated reactions to adversity. As seen in the Figure 2, the framework identifies key supporting factors for individual resilience, including support systems and proper work-life balance. These are among the factors associated with the previously discussed topic of teacher retention (McKim et al., 2017; Solomonson & Retallick, 2018).

A key understanding of Wagnild's (2009b) Resilience Model is that because it directly links an individual's score on the Resilience Scale with their response to adversity, an effectively resilient individual must possess high levels of *all* Resilience Core components. Having just high levels of purpose and perseverance, for example, will not overcome low levels of authenticity, self-reliance, and/or equanimity.

Figure 2. Resilience Core (Wagnild, 2009b)



To understand Wagnild's (2009b) Resilience Model and concept of resilience more completely, a discussion of each Resilience Core characteristic is provided. Wagnild (2009b) argues that of the five characteristics of resilience, purpose is the most important for it is the groundwork upon which the other four are built. Without a true sense of purpose guiding one's life, characteristics such as perseverance or authenticity have little meaning or room to develop (Wagnild & Young, 1993; Wagnild, 2009b). Nygren et al. (2005) argue the concept of purpose is derived from Frankl's (1963) 'will to meaning,' which he described as the primary motivational force in one's life. Wagnild and Young (1993) cite a later version of Frankl (1985) when defining

the characteristic of meaningfulness, or purpose, for their Resilience Scale. In their definition, meaningfulness is the recognition that life has a purpose; and "conveys a sense of having something for which to live" (Wagnild & Young, 1993, p. 168).

Perseverance is the second characteristic of Wagnild and Young's (1993) Resilience Core. Wagnild (2009b) defined perseverance as "the determination to keep going despite difficulties, discouragement, and disappointments (p. 16)." Since resilience can be thought of as one's reaction to adverse situations, it is easy to see the importance of perseverance in developing a resilient nature. Without the perseverance to push past challenges, resilience cannot be displayed. Robertson-Kraft and Duckworth (2014) expanded these ideas with their work on "grit," which can be thought of as perseverance and passion directed towards a goal. Grit has similarities to resilience, including a demonstrated commitment to goals despite challenges or adversities, but is distinct from resilience in its focus on particular interests or areas of an individual's life (Duckworth et al., 2007; Robertson-Kraft, & Duckworth, 2014). It is possible to demonstrate grit in one area of life, while not in another, whereas resilience is holistic and considered to impact all areas of life (Robertston-Kraft & Duckworth, 2014).

Along with demonstrating purpose and perseverance, Wagnild and Young (1993) described the resilient individual as one with a high degree of equanimity, or emotional balance and harmony (Wagnild, 2009b). They are not the only ones to cite this characteristic as a contributor to resilience; Mansfield et al. (2012) described a similar idea in the emotional dimension of their resilience framework. In both cases, the ability to manage emotions effectively and one's sense of humor manifest themselves as indicators of a resilient nature (Wagnild, 2009b; Mansfield et al., 2012). These ideas are corroborated by Tait (2008), who cited emotional

intelligence, which includes managing feelings, handling stress, and maintaining optimism and persistence, as a key factor for resilience. Additionally, Tait (2008, p. 60) suggested emotional intelligence may serve as a "bedrock" upon which "personal and social competencies," such as self-efficacy and support systems, may be built. The importance of this bedrock becomes more apparent with the recognition that self-efficacy (Klassen & Chiu, 2011) and strong support systems (Thieman et al., 2012) are also tied to the development of resilience.

The fourth characteristic of the Resilience Core, self-reliance, is related to the concept of self-efficacy described by Bandura (1978). Self-reliance may be defined as "a belief in oneself and one's abilities," (Wagnild & Young, 1993, p. 167) which provides the confidence to act out of one's own initiative (Meyer & Sternberger, 2007). Since self-efficacy is based on perceived mastery over a skill or set of skills, it is clear how self-reliance would become a natural offshoot of increased self-efficacy, and by association, resilience as well (Bandura, 1978; Klassen & Chiu, 2011). Furthermore, Wagnild (2009b) described self-reliant individuals as those who learn from their experiences, and in doing so, develop effective problem-solving abilities which have also been cited as indicators of resilience (Thieman et al., 2012).

The final characteristic in Wagnild and Young's (1993) Resilience Core is existential aloneness, or authenticity. Wagnild (2009b, p. 17) described authenticity as the acceptance of "yourself as you are," along with a recognition of one's own worth and strengths. This understanding of authenticity is echoed by psychologists, who cite the discovery of one's unique talents and skills as critical to the development of well-being and the authentic self (Seligman, 2011; Medlock, 2012). In addition to accepting oneself as they are, Wagnild (2009b) also attributed an ability to face the world alone and be content with just ourselves as determinants of authenticity

and resilience. The findings of Rogers et al. (2003) help to support this claim, as they cited a 'comfort with solitude' as one of several potential factors associated with resiliency. With a more thorough understanding of resilience and its related factors and components laid out, we can now take a step back to examine the historical and philosophical foundations of resilience.

Foundations of Resilience

The first focus of resilience researchers was primarily concerned with the ability of children to succeed in life despite prior negative experiences (Gu & Day, 2007). According to Gu and Day (2007), this model shifted in the 1980s to a more positive perspective, with research examining the strengths and positive outcomes which arise with the development of resilience. This change supports the rooting of resilience research, and subsequently this research study, within the framework of positive psychology. The purpose of positive psychology is to direct negative experiences and circumstances towards the improvement and strengthening of a positive and good life (Seligman, 2002). Sheldon and King (2001) tout the necessity of positive psychology to accurately examine individuals' life satisfaction despite external and internal difficulties. Sheldon and King (2001) also suggest this satisfaction, in spite of challenges, is possible precisely because of the human capacity for personal resilience. The general framework for positive psychology consists of three different levels: the subjective level, focused on positive subjective experiences such as well-being and joy; the individual level, concerned with positive personal traits such as forgiveness and perseverance; and the group level, which focuses on civic virtues such as responsibility and work ethic (Seligman, 2002). The connection to resilience is again seen within these levels, particularly in the subjective and individual levels. At the subjective level, the Resilience Core characteristics of purpose and equanimity, described by Wagnild and Young

(1993) are evident in the emphasis on well-being and joy. Findings from Shek (2013) suggest that, while the causation is complex, a sense of meaningfulness and purpose is a positive factor in one's well-being. At the individual level, Seligman (2002) explicitly identifies the trait of perseverance which is also clearly seen in Wagnild and Young's (1993) Resilience Core. Furthermore, the focus of positive psychology on the positive traits, strengths, and abilities of individuals makes it an ideal framework by which to increase and improve the self-efficacy of individuals, which is linked to both the concept of self-reliance and to the development of resilience (Costello & Stone, 2012; Wagnild, 2009b;).

The Role of Self-Efficacy in Resilience

Self-efficacy has become an extremely popular field of research, particularly in relation to education and teaching. Self-efficacy is but one component of Bandura's (1977) larger Social Learning Theory. Due to the connection between self-efficacy, positive psychology, and resilience, this study also drew upon Bandura's (1997) self-efficacy theory. According to Bandura (1978), self-efficacy can be thought of as one's perceived mastery over a certain skill or ability. As mentioned previously, this is strikingly similar to Wagnild and Young's (1993) explanation of self-reliance, which is founded upon a clear understanding of one's own abilities. Additionally, Bandura (1978) asserted that a greater sense of self-efficacy alters behavioral responses and can motivate the individual to continue to try, and cope, with a situation rather than simply give up. Given this relationship, assertions by Gu and Day (2007) relating self-efficacy and resilience, or results such as those discovered by Klassen and Chiu (2011) indicating higher self-efficacy leads to greater overall commitment to remain teaching are not especially surprising. Despite its importance though, self-efficacy is not the only factor which influences resilience or a teacher's

decision to remain teaching (Brill & McCartney, 2008; Crosswell & Elliott, 2004; Ingersoll et al., 2012; Klassen & Chiu, 2011). Another factor is the degree of perseverance an individual possesses. Robertson-Kraft and Duckworth (2014) found "grit," which includes perseverance, to be a positive predictor of teacher commitment and retention. Moreover, as discussed previously, Wagnild and Young (1993) identified perseverance as one of the five characteristics of their Resilience Core; and Mansfield et al. (2012) included the related concept of persistence in their own conceptual framework. While theoretical and conceptual understandings of resilience are useful for developing an understanding of a decidedly complex characteristic, it is arguably more important to explore the practical results of resilience among individuals, particularly educators.

The Role of Resilience

While resilience research has been conducted for several decades, teacher resilience is a more novel inquiry area (Beltman et al., 2011). Still, there does exist an ever-expanding body of literature on the role of resilience in various aspects of the teaching profession. Easterly and Myers (2018) researched the effects of resilience on professional development participation and engagement, finding that personal resilience was able to explain at least some of an agricultural educator's likelihood to engage in professional development. Thieman et al. (2012) conducted a research synthesis of teacher resilience as it relates to stress and burnout, particularly in agricultural education. Their synthesis found resilient educators demonstrate several characteristics, including competence and effective problem-solving abilities (Thieman et al., 2012). Another vital component discovered in resilience is the influence of coping mechanisms (Thieman et al., 2012). Coping is considered the "effort to master, reduce, or tolerate the demands that are created as a consequence of a stressful transaction" (Carmona et al., 2006, p. 87). Resilience is developed and

practiced in response to stressful or difficult situations, making it clear how important effective coping mechanics are in becoming a resilient teacher. As evidenced, resilience is becoming a more popular topic of research in education while also being identified as a way to decrease teacher attrition (Bobek, 2002; Mansfield et al., 2012). However, while several studies have examined resiliency among early-career educators (Mansfield et al., 2012; Mansfield et al., 2014; Thieman et al., 2014), minimal research exists on the influence of resiliency among other teacher career stages and its connection to commitment to teaching.

Considering all that has been addressed here, it is clear resilience and commitment to teaching are not black and white topics, but instead a complex tapestry of factors and influences. Understanding each of the various contributing pieces; including the Resilience Core, years of experience, support systems, competency, coping mechanics, and the foundational underpinnings of positive psychology and self-efficacy all help unravel this tapestry and develop a more thorough understanding of the connection between resilience and educators' commitment to teaching.

Chapter Summary

The need for quality and committed educators (Brill & McCartney, 2008; Darling-Hammond & Baratz-Snowden, 2007) and high rates of teacher attrition (Foster et al., 2020; Kantrovich, 2010) is well established (McKim et al., 2017). One approach to reducing attrition rates is addressing teacher resiliency (Mansfield et al., 2012), a dynamic, multifaceted topic (Bobek, 2002; Mansfield et al., 2012; Thieman et al., 2014) rooted in positive psychology (Sheldon & King, 2001), with strong ties to self-efficacy (Bandura, 1977; Klassen & Chiu, 2011) and perseverance (Wagnild & Young, 1993). While a growing body of research has explored the influence of resilience on stress and burnout (Thieman et al., 2012) and teaching commitment

(Thieman et al., 2014), it has largely focused on resiliency's role in the lives of pre-service or early-career educators. Recognizing these understandings, this study will seek to fill the identified research gap between resilience and teaching commitment across the range of teacher career stages from pre-service to late career and determine if a relationship exists between these two concepts.

CHAPTER 3

RESEARCH METHODOLOGY

Research Design

The purpose of this study was to fill an identified research gap between resilience and commitment to teaching across educator career stages and determine if a relationship exists between these two concepts. A mixed methods research design was employed to accomplish this purpose. Specific objectives included (1) determine the level of resiliency among Montana agricultural educators; (2) evaluate Montana agricultural educators' perceived commitment to teach; (3) determine if a relationship exists between Montana agricultural educators' levels of resiliency and perceived commitment to teach; and (4) identify potential between-group differences across qualitative and quantitative measures of resiliency and teaching commitment. In its most basic form, the mixed methods approach involves "combining or integration of qualitative and quantitative research… in a research study" (Creswell & Creswell, 2018, p. 14). This type of research has been described in a number of ways, such as *integrating, mixed research, synthesis,* and *multimethod*, although more recent publications typically refer to it as simply *mixed methods* (Creswell, 2015; Creswell & Creswell, 2018). Mixed methods research studies typically possess a common set of characteristics: (1) collection of both quantitative and qualitative data, (2) rigorous methods for quantitative and qualitative, (3) integration of both data sets during data analysis, (4) incorporation into a distinct mixed methods approach, and (5) a set philosophy and theory to guide research procedures (Creswell & Creswell, 2018). The mixed methods research design is a relatively new type of methodology when compared to purely quantitative or qualitative

design methods, having truly been established in the mid-1980's (Creswell & Creswell, 2018). Mixed methods research continues to gain traction and popularity across a wide range of subject areas including sociology, health sciences, evaluation, management, and education (Creswell & Creswell, 2018).

Much of the growing popularity for the use of mixed method research designs comes from the additional benefits offered through the integration of quantitative and qualitative data and procedures. These benefits exist within three different perspectives or levels: the general, practical, and procedural levels. At the general level, a mixed methods approach provides an opportunity to develop a more complete understanding of a phenomenon through stronger connections between the quantitative and qualitative information (Leedy & Ormrod, 2019; Morse, 2010). Additionally, in drawing upon both quantitative and qualitative methods, a mixed methods approach is able to reduce some of the limitations of each component method, such as generalizability in qualitative data or completeness in quantitative data (Creswell & Creswell, 2018; Leedy & Ormrod, 2019). From a practical level, the mixed methods approach fits well for this particular research study because of the ease in obtaining both quantitative and qualitative data on the desired phenomenon and identified research problem. Lastly, from a procedural standpoint, a mixed methods design enables the researcher to establish comparisons effectively and more completely between participants, add contextual strength to research conclusions, and develop more effective strategies for addressing discovered issues or disparities among participant groups. Given the complexity and multifaceted nature of resilience and teaching commitment, these benefits all support the appropriateness of a mixed methods approach. By collecting and analyzing both quantitative and qualitative measures of resilience and teaching commitment, a fuller and more beneficial

understanding of the relationship between resilience, teaching commitment, and career stage can be developed.

Within the umbrella of mixed method approaches, there are three primary design types: convergent, explanatory sequential, and exploratory sequential (Creswell & Creswell, 2018). Leedy and Ormrod (2019) also introduced a fourth possible type, the longitudinal mixed method design. A convergent design method gathers quantitative and qualitative data simultaneously, analyzes each dataset separately and then merges the two analyses to compare findings between the quantitative and qualitative data. The goal of this design type is typically to identify whether the quantitative data confirms or contradicts the qualitative data, and vice versa (Creswell & Creswell, 2018). In an exploratory sequential design, the researcher begins by collecting qualitative data, then identifies a particular factor or variable to explore further. With the factor identified, the researcher then designs or selects methods to quantitatively measure the desired factor. Finally, the quantitative data is analyzed and interpreted as a means to support and strengthen the original qualitative data set (Creswell & Creswell, 2018). As Creswell and Creswell (2018) described, the purpose of this design type is to allow for tailoring of quantitative collection methods to the particular individuals or groups being studied. Leedy and Ormrod's (2019) longitudinal mixed method design simply takes the well-known longitudinal design, whereby a selected individual or group is studied consistently over an extended time period and introduces mixed method data collection into an otherwise singularly focused data collection method. The final mixed method design type, which was used for this research study, is the explanatory sequential design. This design is quite similar to the exploratory sequential design, although instead of beginning with qualitative and progressing from that point, the explanatory sequential

design begins with quantitative data which informs the collected qualitative data (Creswell & Creswell, 2018; Leedy & Ormrod, 2019). In this design, the quantitative data collected is used to develop interview questions for qualitative collection methods in an effort to more fully explain and explore the quantitative findings. In many cases, the quantitative data is collected from a large sample size and, after analysis, provides a purposive sample group for further qualitative exploration (Creswell & Creswell, 2018). The integration of quantitative and qualitative data thus occurs when the quantitative data is used to inform the qualitative data collection procedures. Interpretation of results is primarily focused on how the qualitative findings inform or explain the original quantitative findings. In this way, the quantitative results are emphasized above the qualitative.

Morse (2010) described mixed methods designs in a slightly different manner, focusing on two key factors, the primary data form, or theoretical drive, and the timeline of data collection between quantitative and qualitative. The first factor is concerned with whether the quantitative or qualitative portion of the study is primary or supplemental. If it is primary, then capital letters are used to designate it. For example, if the primary data in a study is qualitative, it would be referred to as a *QUAL* study (Morse, 2010). If quantitative data is used to help supplement the qualitative portion, it is written as *quan.* It is worth mentioning that a mixed methods study may use two forms of qualitative or two forms of quantitative data rather than one of each (Morse, 2010). As for the data collection timeline, two symbols may be used. If both forms of data are collected simultaneously, a plus-sign (+) is used between the primary and supplemental data (Morse, 2010). If the primary data collection occurs after which the supplemental is collected, an arrow (→) is the appropriate symbol (Morse, 2010). These combinations create eight possible common research

designs for a mixed methods study: QUAN + qual, QUAL + quan, QUAN + quan, QUAL + qual, QUAN → qual, QUAL → quan, QUAN → quan, QUAL → qual. Therefore, this particular study used a sequential explanatory design with a QUAN → qual paradigm.

For the quantitative aspect of this mixed methods research, a survey design was used for data collection. Creswell and Creswell (2018, p. 147) explain that survey designs are used as a means of quantitatively describing "trends, attitudes and opinions of a population," or to test "for associations among variables of a population." This study used an internet administered survey due to the associated economic and response rapidity benefits. More specifically, the survey used a modified internet version of Wagnild and Young's (1993) Resilience Scale, with an additional construct included assessing participants' commitment to teaching. The additional construct was taken from a previously validated survey measuring several dimensions of educators' professional commitment (Thien et al., 2014). The survey used a seven-point Likert type scale to assess teacher resilience; and, combined with a construct for commitment to teaching, enabled the researcher to explore potential correlations between resilience and commitment to teaching.

Qualitative data was collected by interviewing purposively selected Montana agricultural educators from each identified career stage (pre-service, early, mid, and late-career) based upon survey results. Interviews provide an opportunity for rich data collection within qualitative research as they can gather a great variety of information from the participant (Leedy & Ormrod, 2019). Ravitch and Carl (2016, p. 146) assert interviews as the mainstay of qualitative research and qualitative data collection as they "provide deep, rich, individualized and contextualized data." Interviews are occasionally used in quantitative research. Leedy and Ormrod (2019) suggest they differ in two important aspects when used for qualitative studies. First, they are less structured or

prescribed than quantitative interviews; and second, they have a more informal and conversational feel to them. This can aid in the development of trust and comfort between interviewer and participant. One significant benefit to qualitative interview strategies is that they can allow for customization and subjectivity during questioning as needed depending on the participant (Creswell, 2013; Ravitch & Carl, 2016). Qualitative interviews possess several unique characteristics. They are relational, contextualized, nonevaluative, person centered, temporal, partial, subjective, and nonneutral (Ravitch & Carl, 2016). All of these characteristics influence how a researcher should approach, conduct and interpret data collected through interviews.

In addition to the described characteristics, interviews can also take on three different approaches: structured, semi-structured, and unstructured. Structured interviews, or survey interviews (Ravitch & Carl, 2016), use a set question list and ask the same questions of all participants. Semi-structured interviews also make use of a defined question list which is asked to each participant; however, they allow for the researcher to tailor or reorder questions according to each participant (Ravitch & Carl, 2016). In a semi-structured interview, the researcher can also ask follow-up questions of participants to develop a more complete dataset. The last interview approach described by Ravitch and Carl (2016) is the unstructured interview. In this approach, there is no guiding question list and all questions are open-ended and tailored for individual participants. Given the QUAN → qual mixed methods approach and general complexity of resilience, semi-structured interviews, combined with quantitative survey results, provide an ideal avenue through which to contextualize and develop a more holistic understanding of resilience.

Research Objectives

The following research objectives guided the data collection, analysis, and discussion of this research project.

1. Determine Montana agricultural educators' level of resiliency.
2. Evaluate Montana agricultural educators' perceived commitment to teach.
3. Determine if a relationship exists between Montana agricultural educators' levels of resiliency and perceived commitment to teach.
4. Identify potential between-group differences across qualitative and quantitative measures of resiliency and teaching commitment.

Institutional Review Board

The Montana State University Institutional Review Board (IRB) is responsible for scrutinizing all research proposals involving research on human subjects conducted under the auspices of the university. The IRB review process ensures the potential benefits for participants outweigh any potential risks. This research was approved by the IRB on April 24, 2020. The approval number for this research is 00000165.

Procedures

The population for this research study was all currently teaching Montana agricultural educators as well as all pre-service agricultural education students completing their student teaching experience during the Spring 2021 semester ($N = 108$). Although the primary researcher fell into this target population, he was excluded from selection criteria to avoid potential implicit or explicit biases. Respondents were broken down by career stage (pre-service, early, mid, and late-career) to facilitate analysis. Career stage distinctions were self-defined or drawn from

Moulthrop's (2018) defined ranges for each career stage. Thus, pre-service is defined as students currently enrolled in a post-secondary agricultural education teacher preparation track; early-career as educators who have been teaching for 1 to 5 years; mid-career as educators who have been teaching for 6 to 15 years; and late-career educators are identified as those who have been teaching for more than 15 years. The survey achieved a 71.3% response rate (n = 77) with the four career stages represented as such: pre-service (n = 7), early-career (n = 25), mid-career (n = 27), and late-career (n = 18). Since the response rate fell below the 75% required by Ary et al. (1996) for minimal non-response error, the suggestions of Miller and Smith (1983) were followed; comparing respondents' personal and program demographic data to data from the 2020 Montana Agricultural Education Directory. After appropriate follow-up procedures, no significant differences between respondents and non-respondents were discovered.

A modified version of Wagnild and Young's (1993) Resilience Scale, including an additional construct exploring commitment to teaching, was sent to the entire population of agricultural educators via an online Qualtrics survey. Prior to survey distribution, pilot testing was completed by Montana State University Agriculture Education – Broadfield Teaching majors who had not yet entered the Teacher Education Program. Pilot tests are typically considered in one of two ways: as a feasibility or trial run in preparation for the primary study, or as a means of pre-testing a certain research instrument (Teijlingen & Hundley, 2001). Williams-McBean (2019) describes several benefits of pilot studies for quantitative data, including developing and refining instruments; designing, assessing, and refining protocols; and identifying challenges in data collection and analysis. Further, pilot tests can be used in qualitative research to help ensure the credibility of instruments and interview protocols (Dikko, 2016). However, pilot studies still have

limitations, one of which is the issue of contamination (Teijlingen & Hundley, 2001). Contamination can occur in one of two ways: when pilot test data is included in the final study, or when pilot test participants are also sampled for the major study (Teijlingen & Hundley, 2001). By selecting individuals for the pilot study from educators not used in the major study, namely freshman and sophomore agricultural education students, the opportunity for contamination was mitigated.

After pilot testing, the final survey was delivered to the target population. To help increase participation (Singer, 2002), an incentive in the form of a small gift card was provided to all participants who completed the survey. Once survey data was collected and analyzed, qualitative interviews of a purposively selected sample of agricultural educators, chosen based on survey results, were conducted. Specifically, participants resilience and commitment to teaching scores were standardized using z-scores then added together to identify participants with the largest combined discrepancies between their scores and the population mean. Two participants were selected from each career stage, one based on the largest positive deviation and one based on the largest negative deviation from the mean. In the case of pre-service educators, there was no combined negative deviation, so the largest negative resilience score deviation was used instead. This strategy follows Palinkas et al.'s (2015, p. 3) description of "maximum variation" purposive sampling wherein individuals are chosen who are most different from each in selected categories. Participants selected for interviews were each assigned a pseudonym to anonymize qualitative results. Interview questions were developed and peer-reviewed in collaboration with faculty members in teacher education. This process ensured interview questions met the criteria for both face and content validity (Leedy & Ormrod, 2019). The interviews occurred over the course of one

week, from January 29, 2021 to February 5, 2021 and were completed using a combination of phone and video conferencing methods. Interviews were conducted using a semi-formal structure as described by Ravitch and Carl (2016) and typically lasted between 30 and 45 minutes in length.

Participants

The target population was all currently teaching Montana agricultural educators and pre-service teachers student teaching in the Spring 2021 semester. Of the 108 educators in the survey population, there were 77 useable responses, yielding a 71.3% response rate. Table 1 summarizes collected demographic data from all participants.

Table 1. Summary of Participant Demographics

Category	*n*	%
Career stage (*n* = 77)		
Pre-service (0 years teaching)	7	9.1
Early-career (1-5 years teaching)	25	32.5
Mid-career (6-15 years teaching)	27	35.1
Late-career (15+ years teaching)	18	23.4
Gender (*n* = 77)		
Male	36	46.8
Female	41	53.2
Highest level of education (*n* = 77)		
Associate's degree	3	3.9
Bachelor's degree	50	64.9
Master's degree	18	23.4
Other	6	7.8
Age (*n* = 75)		
19-36	47	62.7
37-54	21	28.0
55+	7	9.3
Community size (*n* = 74)		
Rural (population < 5,000)	63	85.1
Small urban (population 5,000–20,000)	9	12.2
Urban (population > 20,000)	2	2.7

Category	*n*	%
Number of agricultural educators in program (*n* = 72)		
1 teacher	61	84.7
2+ teachers	11	15.3

The average participant was a female (*n* = 41, 53.2%) mid-career educator (*n* = 27, 35.1%) between the ages of 19-36 (*n* = 47, 62.7%) with a bachelor's degree (*n* = 50, 64.9%) who taught in a rural (*n* = 63, 85.1%), one teacher (*n* = 61, 84.7%) agricultural education program. Results also showed participants rarely (*n* = 2, 2.7%) came from an urban program and few (*n* = 11, 15.3%) had more than one teacher in their program. Table 2 provides the pseudonym used, career stage, age, and community size of the eight participants selected for interviews.

Table 2. Summary of Interview Participants

Pseudonym	Career Stage	Age	Community Size
Amy	Pre-service	23	Rural
Adam	Pre-service	23	Rural
Brittney	Early-career	24	Rural
Brandon	Early-career	23	Small Urban
Caroline	Mid-career	42	Rural
Carter	Mid-career	30	Rural
Danielle	Late-career	59	Rural
Dylan	Late-career	44	Rural

Data Collection

By its nature, data in a mixed-methods design is a collection from a variety of sources, including both quantitative and qualitative. The quantitative data aspect of this study was collected via participant survey. Participants' responses were aggregated into an Excel-based data set which could then be used for data analysis. For the qualitative interviews, data collection involved audio

recording interviews (Ravitch and Carl, 2016). Although recordings were the primary collection method, interview notes were also taken (Creswell & Creswell, 2018) to aid in triangulation.

Data Analysis

Data analysis followed the explanatory sequential mixed methods design (Creswell & Creswell, 2018) and used a *QUAN* → *qual* paradigm design (Morse, 2010). Under this framework, the quantitative and qualitative data are analyzed separately and then integrated together to develop a complete view of collected data. Additionally, the quantitative analysis occurred prior to qualitative analysis and aided in developing the qualitative data procedures. This study's quantitative data analysis employed both descriptive and inferential analyses. Microsoft Excel was used to complete quantitative analysis from survey data. Descriptive statistics for each educator career stage were summarized, including gender, age, years teaching, and program characteristics such as school size, number of teachers, and community size.

Survey data results from the two constructs, resilience and commitment to teaching, were used to determine a Pearson correlation between the two variables. This aided in visualizing the relationship and drawing conclusions about the potential relationships. The use of parametric statistical analysis is justified by Allen and Seaman (2007) and Boone and Boone (2012) because both constructs being evaluated met the specifications of a composite Likert scale and may thus be considered interval data. These specifications included a minimum of four items, combination of item scores into a single composite score, and acceptable reliability and validity tests (Allen & Seaman, 2007; Boone & Boone, 2012). A single factor analysis of variance (ANOVA) was also used to evaluate potential differences between each identified career stage with regard to level of resilience and commitment to teaching.

To achieve rigorous data collection and analysis with qualitative interviews, transcription is critically important (Ravitch & Carl, 2016). For qualitative analysis, all interviews were audio-recorded and then transcribed using Descript, a voice to transcription software program. After transcription, NVivo, a qualitative analysis software program, was employed. This enabled the researcher to identify and evaluate interviews for the presence of thematic elements developed from quantitative survey analysis. Codes were based on initial open coding with no a priori codes, followed by subsequent sets of coding using a priori codes drawn from Mansfield et al.'s (2012) conceptual framework. Coding is simply a way of organizing and labeling data to aid in analysis (Ravitch & Carl, 2016). The first step in coding, often called open coding, is used to summarize transcripts and identify areas of the interview which stood out to the researcher (Ravitch & Carl, 2016). Once the open coding is complete, a more precise form of coding, axial coding, can take place. Whereas open coding can result in a wide variety of themes, axial coding attempts to narrow down the data to what is more relevant for the identified research questions. Axial coding enables the researcher to more accurately pinpoint the qualitative data related to the themes and analysis completed during the quantitative portion of the study. This was done for all interview data and the resulting coding sets were organized by educator cohort. The use of both open and axial coding to analyze and organize data allowed the researcher to more effectively compare findings within each educator cohort as well as compare entire cohorts against each other. Following the explanatory sequential design approach, the two analyses, quantitative and qualitative, were integrated to analyze how the qualitative findings supported the quantitative.

Validation and Reliability of the Study

For mixed methods research, validity and reliability must be considered in terms of quantitative and qualitative measures. In the realm of quantitative research, validity is the degree to which one can "draw meaningful and useful inferences from scores on the instruments" (Creswell & Creswell, 2018, p. 153). Typically, validity involves consideration in three different areas: content validity, predictive validity, and construct validity (Creswell & Creswell, 2018). Content validity is the degree to which items measure what they mean to; predictive validity informs the researcher about how well scores are correlated with results; and construct validity establishes whether items measure hypothetical concepts or constructs (Creswell & Creswell, 2018). The validity of the Resilience Scale, which was used for quantitative data in this study, has been clearly established over the course of several studies and is consistently between 0.73 and 0.91 (Wagnild, 2009a). The validity of the added commitment to teaching construct was supported via convergent validity measures and standardized loading factors, with all loading values exceeding the necessary $\lambda = 0.50$ cutoff (Thien et al., 2014).

Reliability, on the other hand, measures the repeatability or consistency of an instrument (Creswell & Creswell, 2018). Most important for quantitative instrument reliability is internal consistency, measured by Cronbach's alpha coefficient (Creswell & Creswell, 2018). Once again, Wagnild (2009) supports the reliability of the Resilience Scale as a quantitative research instrument ($\alpha = 0.91$). Thien et al (2014) demonstrated acceptable reliability ($\alpha = 0.71$) of the commitment to teaching construct included in the survey. Post-hoc reliability testing for the sample in this study revealed acceptable reliability for Resilience Scale scores ($\alpha = 0.83$) and commitment to teaching scores ($\alpha = 0.74$).

Qualitative research operates slightly differently in terms of validity and reliability, using instead the concepts of credibility, transferability, dependability and confirmability to describe these measures and their subtypes (Guba, 1981; Ravitch & Carl, 2016). Credibility is the ability of the research to "take into account all of the complexities… in a study and to deal with patterns that are not easily explained," and "produce findings that are plausible" (Guba, 1981, p. 83; Ravitch & Carl, 2016, p. 188). The concept of credibility is similar to that of internal validity in quantitative research as both are concerned with ensuring instruments are able to measure what they intend and draw meaningful connections. Credibility was established in this study through several means. First, data were gathered in multiple forms, including audio and transcribed. Second, member checking was employed to help confirm identified themes. Lastly, interview questions were pilot tested using non population members.

Transferability is akin to external validity or generalizability in a quantitative study. Since most qualitative data is not designed to be overly generalizable (Ravitch & Carl, 2016), transferability is more a measure of how well the study methods can be applied to alternative contexts. Guba (1981) suggests one way to increase transferability is by providing thick descriptions which include detailed descriptions of the data and the context in which the study took place. The researcher thus provided extensive notes and details regarding the methodological approach of this study to improve its transferability.

Reliability is instead known as dependability when conducting qualitative research (Guba, 1981; Ravitch & Carl, 2016). Miles et al. (2014) stated a need for consistency and stability in qualitative research for it to be deemed dependable. Dependability is established when valid reasoning is applied to justify the methods one takes in qualitative research to answer the proposed

research questions. The use of data triangulation through audio, transcription, interview notes, and faculty and expert reviews of methodology and data analysis, ensured a highly dependable research design for this study.

The last area of validity which is addressed in qualitative data is known as confirmability. This term may be juxtaposed with the concept of objectivity in quantitative research. However, qualitative researchers cannot claim to be objective as Guba (1981) asserts, although they may attempt to remain relatively neutral and should always make any biases explicit (Miles et al., 2014). The mixed methods approach to this study enabled the researcher to maintain confirmability as all qualitative data could be compared to or confirmed against the quantitative data.

Chapter Summary

To accomplish the purpose of this study, to explore the relationship between resiliency and commitment to teaching, researchers implemented and integrated quantitative and qualitative methods. The mixed methods design is a relatively new research design but is popular among subject areas where complexity in phenomena is common (Creswell & Creswell, 2018). Mixed methods research provides several unique benefits, including the ability to develop a deeper understanding of studied phenomenon (Morse, 2010), an opportunity to overcome potential weaknesses in purely quantitative or qualitative research (Leedy & Ormrod, 2019), and the capability of drawing stronger comparisons with more contextual strength (Creswell & Creswell, 2018; Leedy & Ormrod, 2019). Of the three primary mixed methods designs, this study employed an explanatory sequential design wherein quantitative data is collected first and helps to inform the methods used for the qualitative aspect; these two data sets are then integrated and the qualitative helps to fill out the findings from the original quantitative data (Creswell & Creswell,

2018; Leedy & Ormrod, 2019). A survey instrument, based upon Wagnild and Young's (1993) Resilience Scale and delivered in an online format via Qualtrics, was used for the quantitative aspect of this study. An additional construct was added to the original Resilience Scale, based on the work of Thien et al. (2014), which evaluated participants' commitment to teaching. The commitment to teaching construct was added to fully explore the research question and enable correlative analysis. The survey was delivered to all Montana agricultural educators in each defined career stage (pre-service, early, mid, and late). All quantitative data was aggregated into Excel for data analysis. Data collection efforts resulted in 77 useable responses, for a final response rate of 71.3%. Demographic analysis of respondents revealed the average respondent was a mid-career, female agricultural educator between the ages of 19 and 36, with a bachelor's degree, teaching in a rural, one-teacher program.

Once the quantitative data had been analyzed, a purposive sample of participants was selected from the data pool for further qualitative analysis via semi-structured interviews. Interviews were delivered face-to-face and over the phone, with audio recordings and field notes being used for data collection as suggested by Ravitch and Carl (2016). Data analysis was completed for quantitative and qualitative data separately, with ANOVA and correlation analyses used for quantitative data; while qualitative data was analyzed through coding procedures outlined by Ravitch and Carl (2016). Finally, the two analyses were integrated, with the qualitative analysis being used to help explain and support the results of the quantitative data analysis.

CHAPTER 4

RESULTS OF THE STUDY

Introduction

The purpose of this study was to fill an identified research gap and explore the potential relationship between resilience and commitment to teaching across educator career stages. Four major objectives guided this research: (1) determine the level of resiliency among Montana agricultural educators; (2) evaluate Montana agricultural educators' perceived commitment to the teach; (3) determine if a relationship exists between Montana agricultural educators' levels of resiliency and perceived commitment to teach; (4) and identify potential between-group difference across qualitative and quantitative measures of resiliency and teaching commitment. To accomplish these objectives, both quantitative and qualitative research methodology was employed. Data collection was segmented into five areas: 1) demographics, 2) resiliency, 3) commitment to teaching, 4) relationship between level of resiliency and commitment to teaching, and 5) participant interview analysis. Objectives One through Three align with the quantitative data presented in areas 1-4, while the fifth area, qualitative thematic analysis, is aligned with Objective Four.

Resiliency Scale Scores

Objective One sought to explore the level of resilience among Montana agricultural educators. Wagnild and Young's (1993) Resilience Scale; a 25 question, Likert-type survey with

possible total scores ranging from 25 to 175, was used to determine participants' level of resilience. Table 3 provides a summary of resilience scores, separated by educator career stage.

Table 3. Summary of Resilience Scale Scores by Career Stage

Participant Career Stage	*n*	*M*	*SD*	Minimum	Maximum	Range (Δ)
Pre-Service	7	152	7.57	142	165	23
Early-Career	25	142	10.08	123	167	44
Mid-Career	27	143	13.47	113	172	59
Late-Career	18	147	9.91	137	173	36
All Participants	77	145	11.31	113	173	60

The mean resilience score across all participants was 145 (*SD* = 11.24) (Table 3). By career stage, pre-service educators demonstrated the highest mean score (*M* = 152; *SD* = 7.57) while early-career educators had the lowest (*M* = 142; *SD* = 10.08). The highest resiliency scores occurred among participants in the mid (172) and late-career stages (173), although the range of scores in these stages (Δ59 and Δ36 respectively) was greater than that of the pre-service educators (Δ23).

A single-factor ANOVA was performed to determine potentially significant differences between the mean resilience scores of each educator career stage. Analyses for these groups revealed no statistically significant differences ($p = 0.15$; $\acute{\eta}^2 = 0.07$) between the mean resilience scores of any career stages. Table 4 provides a summary of ANOVA results.

Table 4. Analysis of Variance Summary for Resilience Scores

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	683.0196	3	227.6732	1.813245	0.152267	2.730019
Within Groups	9165.967	73	125.5612			
Total	9848.987	76				

Commitment to Teaching Scores

Objective Two sought to explore the commitment to teaching among Montana agricultural educators. Participants' commitment to teaching was determined from responses to a modified version of Thein et al.'s (2014) commitment to teaching construct; a four question, Likert-type survey with possible scores ranging from 4 to 28. Table 5 provides a summary of commitment to teaching scores, separated by educator career stage.

Table 5. Summary of Commitment to Teaching Scores by Career Stage

Participant Career Stage	*n*	*M*	*SD*	Minimum	Maximum	Range (Δ)
Pre-Service	7	24	1.83	21	26	5
Early-Career	25	18	4.67	8	28	20
Mid-Career	27	19	4.89	8	28	20
Late-Career	18	21	4.17	12	27	15
All Participants	77	20	4.69	8	28	20

Across all participants, the mean commitment to teaching score was 20 (*SD*= 4.69) (Table 5). The career stage with the highest mean commitment to teaching was pre-service educators (*M* = 24; *SD* = 1.83), while early-career educators had the lowest (*M* = 18; *SD* = 4.67). Pre-service participants also had the lowest standard deviation (*SD* = 1.83) and smallest range of scores for commitment to teaching with only a five-point difference between minimum and maximum scores. Mid-career participants had the greatest standard deviation (*SD* = 4.89) and a range of scores (Δ20) equal to early-career participants with minimum scores of eight and maximum scores of 28.

To compare mean commitment to teaching scores between career stages and determine potentially significant differences, another single-factor ANOVA was completed. Results from this ANOVA test are shown in Table 6 and indicated a statistically significant difference ($p = .01$; $\acute{\eta}^2 = 0.14$) between at least two group means. Thus, a Tukey-Kramer multiple comparisons post-

hoc analysis was completed to evaluate which groups contained statistically significant differences between their mean scores. Table 7 summarizes the findings from this post-hoc analysis. Only one comparison, between pre-service and early-career educators, met the criteria for statistical significance.

Table 6. Analysis of Variance Summary for Commitment to Teaching Scores

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	230.4363	3	76.81211	3.838543	0.013068	2.730019
Within Groups	1460.784	73	20.01075			
Total	1691.221	76				

Table 7. Tukey-Kramer Multiple Comparisons Post-Hoc Analysis

Comparison	Absolute Difference	Standard Error of Difference	Crit. Range
Pre-service to Early-career	6*	1.350	5.05
Pre-service to Mid-career	5	1.339	5.01
Pre-service to Late-career	3	1.418	5.30
Early-career to Mid-career	1	0.876	3.28
Early-career to Mid-career	3	0.992	3.71
Mid-career to Late-career	2	0.977	3.66

*Note: * indicates honestly significant difference (HSD) between group means and critical range*

Correlation Between Resilience and Commitment to Teaching

Objective Three sought to determine if a relationship exists between educators' level of resilience and their commitment to teaching. A correlation analysis of the entire sample, and individual career stages, was conducted to accomplish this objective with results from the analysis shown in Table 7. There existed a statistically significant, "low" correlation (Ravid, 2015, p. 110) between resilience and commitment to teaching across the entire study sample, $r(76) = 0.25$, $p =$

.03. Analysis of individual career stages found no other statistically significant correlations, and all other correlations were classified as low (Ravid, 2015).

Table 8. Summary of Correlations Between Resilience and Commitment to Teaching

Category	Correlation Between Resilience and Commitment to Teaching
Overall	0.248
Pre-service	0.241
Early-career	-0.139
Mid-career	0.370
Late-career	0.179

Educator Interview Analysis

Objective Four sought to examine potential between-group differences across qualitative and quantitative measures of resiliency and commitment to teaching. Analysis of eight interviews with two purposively sampled participants from each career stage identified four major themes among and across career stages. These four themes were: distinct purpose, lifelong learners, positive mindsets, and support systems.

Distinct Purpose

Regardless of career stage, perceived level of resilience, or commitment to teaching, all participants made a point to discuss the influence their identified purpose for teaching has had and continues to have on their choices. While specifics for each participant differed slightly, there was a consistent grounding of their purpose in either students or past agricultural educators. Adam, a pre-service educator, when asked about what drove his commitment to teaching, said, “past teachers that have… connected with me… and taught me more about life than just school itself.” This teaching “more about life than just school” was echoed in his self-identified reason for

teaching; there, he mentioned wanting to "connect real-life scenarios to kids" and teach them such things as "brown milk does not come from brown cows." Another pre-service educator, Amy, demonstrated a purpose for teaching also rooted in a past teacher. When asked about what brought her to choose agricultural education as a profession, after spending time pursuing agricultural business, she mentioned a past teacher who told her "I've always thought you were going to be a teacher just like me." It was this comment, and the implicit sense of support included, which gave Amy the confidence to pursue teaching, which was something she "always wanted to be," but hadn't actually pursued up to that point. This conversation with her agriculture teacher was what prompted her career adjustment, but according to Amy, it was a love of agriculture and desire to see students succeed which helped her push through otherwise difficult moments. At one point, she talked about a student in her class who struggles with the subject matter and mentioned her desire for this student to succeed, see value in themselves, and help them "boost their confidence." This was not the only time Amy mentioned the sight of students succeeding as a source of strength in difficult times, as seen in this story:

> …it is absolutely driving me insane. But on the other hand, they just did… conduct of chapter meetings for the first time. Obviously not all of them, but we've been practicing, and it's been a long time coming for them with this. It's been really… difficult for them, but to see them actually, they like got through it. They did the contest and they really didn't do that bad at all. So even though that they like drive me crazy and after like their class leaves, I'm like, oh my gosh, I don't know if I can do this, but seeing that… and competing in a contest… makes it all worth it, seeing the end result.

This idea of "seeing the end result" was shared by other participants as well. Caroline and Carter, both mid-career educators, highlighted this idea over the course of their interviews. In Carter's case, he talked about "being able to see the difference that what I'm doing can make" and having students "come back and tell you… I always learn stuff from you." Caroline shared similar

feelings, discussing how she enjoys “seeing how they grow,” seeing “the maturity occur,” or watching “their dreams come true.” Not one teacher, when asked what influenced their resilience or drove their commitment to teaching, did not mention having a commitment first and foremost to their students’ success, even if there were also other variables which affected their overall resilience or commitment to teaching. Some, like Dylan, a late-career educator, even went as far as to say that while “the reason I was a teacher was so I could farm,” he also believed that if students are not “the biggest reward, they’ll drive you out of it.” While purpose was critically important to all participants interviewed, it was not the only major theme identified, nor the only universally shared theme.

Lifelong Learners

One theme seen more among participants with higher resilience and commitment to teaching scores was a view, implicit or explicit, of themselves as lifelong learners. Brittney, one of the early-career educators interviewed, discussed this concept of lifelong learning in a more indirect manner. While answering a question about her personal definition and understanding of resilience, she mentioned “fighting for making things make sense to students” and “finding the best ways to deliver curriculum.” While not a direct mention of continual learning, this mindset of “finding the best ways” entails a degree of learning and development as one tries new techniques and strategies in their teaching. Brittney eschewed the idea that resilience can be taught but was adamant about leaning on and learning from others in similar situations as a way to push through the otherwise difficult challenges faced by agricultural educators. As she put it, “find friends… who are in the same age bracket” then make a point of “asking them questions and getting advice and feedback from all those people.” Danielle, a late-career teacher, brought this lifelong learning

mentality into the classroom by partnering with NASA's Beyond Earth Program to teach her and her students about "growing plants in simulated growing environments for the space station to see if we can get them to grow up there… for the astronauts." The most succinct evidence of this proclivity towards lifelong learning came from Adam, who when asked how he though resilience and commitment to teaching were connected, replied "there's always a way to find something… materials, activities, lesson plans" and "there's always, always room for improvement."

An emphasis on lifelong learning tended to also lend itself to a more adaptable and flexible nature, capable of solving novel problems. Returning to Adam, he made it clear his background as a rancher had exposed him to, "being ready to overcome obstacles in a different fashion" making him "flexible [and] adaptable." Moreover, he saw this influencing his teaching by helping him as he is "dealing with students… trying to connect… if one way doesn't work try another." All of these comments demonstrate an openness to problem solving and adaptability within the teaching profession. Pre-service teachers were not the only ones to exhibit this reliance on problem solving and flexibility, as Caroline, a mid-career educator, demonstrated. She connected these ideas to the topic of teaching commitment, going so far as to define commitment to teaching as "willingness to change… to grow and move forward with the technologies." She also shared how her classroom recently received a new Smart Board interface and the challenge all its new features and gadgetry had presented her. In response, and reflective of a lifelong learning mentality, she reached out to her students, who were far more technologically savvy for assistance, letting them teach her how to use this new piece of equipment. An ability to effectively solve problems or adapt was not entirely limited to participants with high levels of resilience and commitment to teaching, though the topic did not arise nearly as often. For Dylan, a late-career educator, resiliency was "basically

the ability to bounce back," though he went on to say that he "wouldn't necessarily say it's the ability to be flexible." His problem with flexibility was that it did not focus on the long-term goals. This led him to slightly adapt his definition of resilience to mean, "the ability to adjust and still keep your purpose." Again, the importance of adaptability is evident, though much less emphasized and tied to one's purpose rather than lifelong learning and development. A more common characteristic espoused, especially by participants with more teaching experience, was an optimistic outlook on teaching and an emphasis on looking forward to the positive and enjoyable moments of the profession. This mentality was primarily associated with the ability to overcome challenges and adversity.

Focusing on the Good

Participants spoke of a number of ways or means by which they found the strength and drive to continue teaching despite the challenges faced. For one it was a matter of patience and willingness to work with students to find the best way forward. For another it was simply "addictive" and she was driven to always be better and "know how this… story plays out." In another case, the drive to continue came from seeing students' "little excitements of little things" and being reminded of their original purpose for becoming an agricultural educator. In many cases, those participants who had taught for at least three or four years already noted their tendency to look back on the good they had experienced and remind themselves those times would come again. When asked how he would define resilience, Carter, a mid-career educator, brought up his preference to remember "there's always going to be some bad, but there's also going to be a lot of good, and just to focus on the good to be able to not worry so much about the bad." Within this comment, there seems to be a recognition that the pros outweigh the cons, which is further

supported by a later comment of his that "most days, most class periods, I get to have fun at my job." Again, it is clear that Carter has no presumption that every day will be excellent, but instead a belief the cumulative teaching experience will be more positive than negative. He was not the only one with such a perspective; Caroline discussed how January and February tended to be difficult times for many teachers, but by looking forward to upcoming FFA events and the associated student excitement, she is able to find the bright spot in an otherwise challenging time. As she put it, there is an optimistic, "look into the future" mentality at play.

The optimism so intrinsic to this type of perspective was infectious for Brittney, an early-career educator, and her students. In her case, the first year of teaching brought along some major financial challenges for her program, forcing her and her students to work incredibly hard to set the ship right and be able to participate in all the FFA and intracurricular activities they had been looking forward to. They "begged and borrowed and… did a bunch of stupid little fundraisers the first month," ultimately turning a negative $3,000 into a positive $3,000 for the program. This experience helped Brittney, her students, school, and community, believe in themselves more. Now, whenever they doubt themselves, she brings this story up to show her students "look how far we've come… if we could do that, we could do literally anything." Danielle, a late-career educator, used a similar strategy to Brittney with her own students. When students were beginning to doubt themselves or think "they're not worthy" she would use stories from her own life, including how her house burned down while she was in it. These stories help her relate to her students and show them "…my life hasn't been perfect. I know yours isn't, but we can both go on and make this happen and succeed." As was the case with Brittney and Carter, among experienced teachers there seemed to be a strong desire to remain optimistic and hopeful for the future,

reminding oneself that things have been tough before and they got through those.

While a focus on the good and previous accomplishments was prevalent, it was not brought up by every participant. Among the three participants who had less than three years of teaching experience, only one of them mentioned a hope for the good like that of the more experienced educators. Brandon, an early-career educator, when asked about what had influenced his sense of resilience, brought up his experiences with volunteer organizations, the fire service, and the funeral service. In these he recognized "there's definitely some hard moments" but also made it clear that "trying to remember the good when you have some bad times" is what helped him get through those times and find success. At the same time, he shared a similar mindset as the two pre-service educators interviewed, who both emphasized an "I'm not a quitter" mentality as what helps them get through challenges, rather than looking back on the past knowing they got through hard times before and can do it again now. Considering the absence of extensive teaching experience, this reaction is not entirely surprising. To be able to use past successes as fuel for moving through present challenges, it is necessary to have had ample opportunities for success. One way to make sure opportunities become accomplishments to be drawn on later is through persistence. Comments such as Amy's "I'm not gonna stop. I'm gonna finish and see it through" or Adam's "I want to show myself that I can do what my past teachers did for the other kids" are both strong evidence for a persistent nature. In addition to persistence and prior experience overcoming difficult times, many participants also noted the importance of strong support systems in the development of their own resilience and commitment to remain in the teaching profession.

Strong Support Systems

All interviewed participants referenced the importance of a strong support system, whether

that was at the administrative, community, or personal level. Educators in the pre-service, early-career and mid-career stages were the most explicit about its benefits for their resilience and commitment to teaching, although both late-career educators addressed the topic at least once during their interviews. The importance of strong support systems, particularly at the school or administrative level was broadly shared by participants and was always associated with their own commitment to teaching. For most of these participants, school support was positively associated with commitment to teaching. When asked what about his current situation would need to change to alter his commitment to teaching, Carter brought up the support he currently received from administration, noting that he is in a "pretty fortunate situation" and that if "I'm not happy about the way things are going, I have the ability to approach people who are able to make those changes or help alleviate those problems." For him, this ability was strongly tied to his continued commitment to his school and the profession. Brittney shared similar attitudes about her administrative support, commenting "I really, really love our school principal" and "she does such a good job… supporting us and not micromanaging us." As Brittney explained, the loss of that level of support is one of the only things which could diminish her commitment to teaching, at least at the school she teaches in currently. The effect of a micromanaging administrative was also addressed by Dylan, who when asked the same question about what could change his commitment to teaching, mentioned that he thought "a very domineering micromanaging administration" could affect his commitment. Several participants addressed a connected concept within school support; the autonomy they found in their careers. Caroline, in response to a question about the source of her teaching resilience, explained she felt a certain degree of autonomy as an agricultural educator because standards "aren't as stringent" and "we have more leniency with it." She went on to

explain how this leniency affected her teaching by saying, “I mean, I’m tied to a standard, but I can teach that standard… five different ways depending on who the kid is.” Adam, when asked what could change his commitment, gave a similar answer to Caroline, explain that “If somebody told me what I had to teach… a certain lesson… or a certain curriculum on the dot” his commitment to teaching would likely decline. Adam found an enjoyment in the autonomy of agricultural education since it allowed him to focus on his purpose of providing useful, relevant teaching to his students. Along with fellow participants, Amy believed there was a definite connection between the level of school support and her commitment to teaching, but she had an entirely different perspective regarding the relationship. Hers was an inverse, rather than direct, relationship. She believed minimal school support would actually serve to increase her commitment and motivate her to change minds. As she said, “I think if I was at a school where the administration didn’t support the program… it might make it [her commitment] even stronger because I’m going to really try and, you know, like push for them to be on our side.”

Strong levels of support from administration or the school were usually tied to participants’ commitment to teaching in one way or another; however, support systems also influenced participants’ sense of resilience. In these cases, the support generally came from friends, family, or mentors. The presence of challenges in teaching, and life, was often repeated by participants. One common way they got past these challenges was through their support systems. Brittney discussed how “in the teaching world, especially as a first year teacher… you’re kind of confronted with these giant obstacles” and because of “all the mentors in my life… my dad… cooperating teacher… roommate… or my best friend,” she has learned how to bounce back and keep moving forward. Caroline shared a similar strategy for finding success teaching outside her comfort zone.

She relied not exactly on mentors, but rather took advantage of "community members or other ag teachers" to ask, "…how did you do this? What do you recommend?" Reaching out in this way and finding individuals who are strong in areas she is weak in has allowed her to remain resilient in her teaching and continue to expand her program and opportunities. The significance of having supportive individuals to rely upon was also voiced by Danielle, a late-career educator, who described how one of her professors, and her family, helped Danielle after her house burned down. Danielle contributes the presence of those connections to her high sense of resilience. Support systems like these were almost exclusively mentioned by those who had scored above average on their level of resiliency and commitment to teaching. The only exception to this was Brandon, an early-career educator, who explicitly included support systems in his definition of resiliency, explaining, "I would define resiliency as being able to overcome challenges by having a good support network… who can support you when the times are tough."

Chapter Summary

A mixed methods research design, involving initial quantitative data collection followed by supplementary qualitative data collection, was employed to examine the objectives of this study. Quantitative measures collected included demographic and program characteristics, along with scores for both resiliency and commitment to teaching.

The mean resilience score across all participants was 145, with a standard deviation of 11.24. Pre-service educators demonstrated the highest mean score while early-career educators had the lowest. A single-factor ANOVA was performed to determine potentially significant differences between the mean resilience scores of each educator career stage, and results indicated no significant differences in resilience scores. Participants' commitment to teaching was

determined from responses to a modified version of Thein et al.'s (2014) commitment to teaching construct, and results revealed a mean commitment to teaching score of 20 out of a possible 28. The career stages with the highest and lowest mean scores on this construct tracked identically to the mean resilience score results. Another single-factor ANOVA was completed to compare commitment to teaching scores between career stages, with a statistically significant difference found between the mean scores of pre-service and early-career educators. To examine the relationship between resiliency and commitment to teaching, a series of Pearson correlations were calculated. Among all participants, the correlation was found to be low, though of a statistically significant degree. Within individual career stages, all correlations were low, with none determined to be significant.

The final stage of data collection involved qualitative data gathered during interviews from eight purposively selected participants, two from each career stage, based upon their cumulative scores for resiliency and commitment to teaching. Analysis of these interviews revealed four prevalent themes: distinct purpose, lifelong learners, focusing on the good, and strong support systems. The themes of distinct purpose and strong support systems were present among all participants, while themes of lifelong learning and focusing on the good were more common among those with higher scores for resiliency and commitment to teaching, or who had more overall teaching experience.

CHAPTER 5

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Introduction

The purpose of this study was to fill an identified research gap regarding resiliency and commitment to teaching across the full range of educator career stages and explore potential relationships between the two concepts. To accomplish this purpose, four objectives were set: (1) determine Montana agricultural educators' level of resiliency; (2) evaluate Montana agricultural educators' perceived commitment to teaching; (3) determine if a relationship exists between Montana agricultural educators' levels of resiliency and perceived commitment to teaching; and (4) identify potential between-group differences across qualitative and quantitative measures of resiliency and teaching commitment. With quantitative and qualitative analysis completed, this chapter integrates all the collected data in an attempt to reach conclusions about the study's objectives and provide future research recommendations along with practical considerations for Montana agricultural education.

Conclusions, Implications, and Recommendations

Participants' level of commitment to teaching was measured using a construct developed by Thien et al. (2014) and results from this construct revealed a statistically significant difference between the mean commitment to teaching scores of pre-service and early-career educators. Specifically, early-career educators' commitment to teaching score fell compared to pre-service educators' scores. Considering the long running epidemic of teacher attrition, (Aragon, 2016;

Ingersoll, 2003), particularly among early-career educators, understanding the cause for this identified difference is crucial. One potentially important facet for explaining this discrepancy are differences in the support systems between pre-service and early-career educators; with pre-service educators possessing more built-in teaching supports than early-career educators. Support systems can involve many different areas, including administrative, school, or personal. Additionally, it should not be assumed that strong support in one area will provide the same level or type of commitment than another. For example, administrative support will vary from school to school, and educators along with universities and professional organizations have little to no control over this type of support. However, these supports may not be as vital for long-term commitment to the profession as other support systems. Previous research by Igo and Perry (2019) among early-career Montana agricultural educators indicated administrative support to be only a minor influencing factor on their choice to stay in the profession. Participants interviewed seem to support these findings as most explained that a lack of support from administration may be a cause for them to leave the school, but only two suggested it might cause them to leave the entire profession. For the two early-career educators interviewed, this feeling was nearly identical, even though their commitment to teaching scores were far apart. Brittney, who scored highly on commitment to teaching, explained how supportive she found her administration and went on to say that she had told herself, "as long as she's [her principal] here, I'll be here." On the other hand, Brandon, whose commitment to teaching score was much lower, indicated that an increase in administrative support would subsequently increase his commitment to the school. Additionally, his experiences in the area have not caused him to abandon the profession as a whole, and instead have made him believe he "can be a better educator in the future having gone through these… experiences."

Clearly, administrative support is important for educators' commitment levels, but the support system which appears most closely linked to whether one stays in the profession or not, especially for those in the early-career stage, are mentors and personal supports. This might provide the most definitive explanation for understanding commitment to teaching between career stages. It is known that mentoring programs impact early-career educators' choice to remain in the profession (Brill & McCartney, 2008; Igo & Perry, 2019). Additionally, among all those interviewed, it was only the participants with higher commitment scores who mentioned mentors or other educators as a source of their continued teaching commitment. Although neither pre-service educator interviewed directly referenced mentors or similar supports as a reason for their commitment, it can be reasonably inferred, given their place in the profession, that these supports have some influence. Between their cooperating teacher, field supervisor, and other members of their cohort, this particular group has more inherit supports to draw upon than most of the other career stages, particularly early-career educators. Once pre-service educators complete their student teaching and enter the profession, they are typically spread across the state in various schools and lose the direct and persistent support and mentorship of their cooperating teachers and field supervisors. Combine this with the lack of appropriate mentorship programs for agricultural educators and the acknowledged influence of strong support systems on continued teaching satisfaction and commitment to the profession (Stockard & Lehman, 2004), and it is not entirely surprising to see such a significant drop in this area among early-career educators.

Currently, Montana is without any clear formal or informal mentoring programs specifically for agricultural educators. In many schools, a mentor is provided to new teachers, but with typical programs only having one teacher, it is unlikely for this mentor to have a similar

teaching background. This reality, along with the other findings regarding commitment to teaching from this study, lead to several recommendations. First, it is recommended that university researchers and the Montana agricultural educator association explore the development of a mentoring program for early-career agricultural educators. This program should take into account educator preferences and interests, as well as research backed effective models for educator mentorship programs. Second, teacher educators should place an increased emphasis on preparing students for working with administration and advocating for their own agricultural education programs. Although administrative support is difficult to control across the board, better preparing future teachers with the knowledge and skills for developing this type of support may improve student success and achievement by increasing educators' commitment to their schools and decreasing teacher turnover (Brill & McCartney, 2008). Lastly, since commitment to teaching is a complex topic, further research should be conducted within the Montana agricultural educator population to better understand what factors most influence educators' commitment, particularly among the pre-service, mid, and late-career stage populations.

In Objective Three, the relationship between resiliency and commitment to teaching among Montana agricultural educators was explored. Analysis revealed a low, but significant, correlation between an educator's resilience score and their commitment to teaching. This relationship is not surprising considering how much overlap there is between the influencing factors for resilience and commitment to teaching. If factors such as support systems, competency, and achievement all contribute to both concepts (Beltman et al., 2012; Crosswell and Elliott, 2004), then it makes sense that higher resilience would typically be indicative of higher commitment to teaching as well. This assertion is backed up by participant interviews, as all but one acknowledged some degree of

relationship between their own resilience and their commitment to teaching. The only participant who did not make this connection was a late-career educator, but his response, “I don’t really think of resiliency much, you just wake up every day and do what needs to be done” appears to illustrate a sense of perseverance which is central to one’s level of resilience.

The low correlation between resilience and commitment to teaching seen among all groups was also somewhat expected. Commitment to teaching is a complex concept, as is resilience, and the multitude of factors influencing both concepts means it can be complicated to find strong correlations between the two. While not statistically significant, the mid-career group had the strongest correlation, which interview data supports. Both of the educators interviewed in this stage saw a strong connection between their resilience and their commitment to teaching. Caroline commented that she thought “it [resilience] impacts it [commitment to teaching] big time.” Carter expressed a similar view commenting, “I really think in the first couple of years it was my resilience that… allowed me to make it to the point where now I don’t feel like it’s as much of a struggle.” Though these are only two examples, it is reasonable to conclude a similar perception could be present among others. This group has made it through arguably the toughest of the four career stages and may be more likely see a connection between their sense of resilience, or specific components of resilience, and what helped them overcome the challenges early-career educators face. What neither interviews nor survey data fully revealed though was whether mid-career educators saw resilience as a continuing influence on their commitment, or if it was resilience which kept them committed during their first few years. Part of the challenge in understanding this difference is that the correlation was weakest among the early-career educators in the group, suggesting that resilience may play a minor role in their commitment to teaching. Alternatively,

the myriad of responsibilities encountered by early-career educators could overshadow and be the primary influence on their commitment to teaching, while resilience acts in the background to some extent, providing the strength and perseverance to continue pushing forward. To steal an idiom, if resilience is the forest, and teaching responsibilities the trees, then the early-career educators may struggle to 'see the forest for the trees.' However, once they make it through the trees, they are now able to look back and notice the forest, explaining why resilience had a stronger correlation to teaching commitment among mid-career educators.

Recognizing that resilience has a statistically significant, but low correlation to Montana agricultural educators' commitment to teaching, and that commitment to teaching is important for student and school success, the following recommendation is provided. Additional research should be conducted with this population on resilience and commitment to teaching, with resilience broken down into its key variables and compared against educators' teaching commitment. This would create a more precise picture of what drives educators' commitment and allow for a more targeted approach to be taken with each career stage to improve retention rates.

A practically significant, albeit not statistically significant, finding which should be addressed is the apparent disparity between participants' resilience scores and the data collected during participant interviews. Specifically, while the participants interviewed differed considerably on their numerical resilience scores, each one of them expressed a personal sense of resilience which appeared greater than their particular scores. Resilience is a complex, multi-faceted topic (Bobek, 2002; Mansfield et al., 2012) which could partially explain this discrepancy as qualitative methods are better able to capture to intricacies of complex topics (Cresswell & Cresswell, 2018). Additionally, since Wagnild and Young's (1993) Resilience Scale was not

developed specifically for educators, it may not represent the best evaluation of teacher resilience. Regardless, the influence of resilience in important areas such as professional development, stress, burnout, and retention, coupled with the lack of resilience research with mid and late-career educators necessitate a means for conducting more accurate and effective research on this topic. Lastly, previous research has established resilience as a dynamic characteristic, rather than an attribute either innately present or absent from individuals (Beltman et al., 2011; Bobek, 2002).

This aspect of resilience provides further impetus for future research to identify problem areas and develop methods for improving teacher resilience. Qualitative methods may be able to explore the complexity of resiliency well, but they are not suited for widescale research among diverse populations. With these factors in mind, it is recommended that researchers explore the development of a new, or updated, instrument for evaluating resilience, specifically designed for educators. The new instrument could use Mansfield et al.'s (2012) conceptual framework as a model or be developed after conducting a similar, but more career-stage inclusive study among educators in the United States. Ultimately, the goal should be to create a valid and reliable instrument capable of exploring resilience among educators so more practical and actionable steps can be taken by teacher educators and educator associations across the country.

Another practical aspect of resilience revealed during participant interviews was the influence of prior successes and accomplishments. Interestingly, this connection did not appear to depend on resilience scores, but instead on participants' levels of teaching experience. Educators with three or more years of experience spoke about their ability to get through adversity by reflecting on previous instances of challenges overcome and trusting they can do it again. For example, Caroline, a mid-career educator, spoke of how she found January and February to be

difficult times as an educator, but by keeping in mind the potential and excitement of her students, she is able to "know that it's coming and that you'll get over that hump." Brittney, one of the early-career educators interviewed, had to overcome $3,000 of debt in her program in her first month of teaching, accomplished that, and now reminds herself and her students of what they accomplished anytime they begin to have reservations about their abilities. Carter, a mid-career educator, discussed how he was "still learning the profession" in the first couple of years, but now is more familiar with the challenges he faces and can find ways to adjust when things don't go as planned, rather than "just trying to emotionally deal with them." It's easy to see how experiencing successes in these situations, and simply gaining teaching experience, could have helped form those educators' senses of self-efficacy or self-reliance, since both of these represent a trust or belief in your own abilities and skills. To build that trust, educators must first have had opportunities to overcome adversity. Crucial for this particular study is previous research showing how self-efficacy and self-reliance positively contribute to one's sense of resilience (Gu & Day, 2007; Wagnild, 2009b).

The fact the educators with less than three years of experience did not reference this same "lean on past accomplishments" mentality or focused more on a persistence and "I'm not a quitter" attitude for overcoming adversity is also interesting. It certainly does not mean accomplishments are unimportant for resilience in that experience range; perhaps, it is exactly that persistence which allows them to experience success and draw upon it later in their careers. Comments from the more experienced educators interviewed support this idea, as several mentioned knowing they just had to "get through it" or try to "keep my head above water" in those first few years. For them, there was a clear sense of perseverance or grit in the early years which has gotten them to where they

are now. This corroborates findings from Robertson-Kraft and Duckworth (2014) who found a positive relationship between grit, which is associated with perseverance, and educator retention. Taking it a step further, findings from this study along with Wagnild's (2009b) work on the Resilience Core, helps to link perseverance, self-efficacy or self-reliance, resilience, and commitment to teaching. What is not entirely clear within this linkage though is the direction of, or connection between, each of these concepts, especially in the pre-service or early-career stage. Does perseverance drive commitment to teaching, leading to greater self-efficacy and ultimately resilience? Or, does a sense of resilience enhance perseverance, improving self-efficacy and ultimately commitment to teaching?

With all of this in mind, the following practical and research recommendations are provided. First, at the post-secondary level, teacher educators should create opportunities in their programs for students to encounter adversity and build a bank of successes which can be drawn on when they enter the profession. Second, in a similar vein, student teaching placements should attempt to balance students' strengths with opportunities for challenges and aim to provide a more realistic experience of the agricultural education profession. Third, research should be conducted at the crossroads of grit, perseverance, resilience, and commitment to teaching to identify how factors influence each other, and in what direction, so practitioners can design effective methods for fostering the qualities needed to improve teacher retention.

Chapter Summary

The purpose of this study was to help fill an identified research gap and explore potential relationships between resilience and commitment to teaching among Montana agricultural educators across the career stage spectrum. The use of both quantitative and qualitative research

methods allowed for a more in-depth analysis to be conducted resulting in several key conclusions, implications, and recommendations.

The first conclusion revolved around commitment to teaching, specifically the significant decrease in commitment to teaching scores between pre-service and early-career educators. Existing research, knowledge of Montana agricultural education, and qualitative data suggests the presence or absence of support systems plays an important role in an educator's commitment to teaching. The two most important types of support appeared to be administrative and personal. Furthermore, interview responses indicated administrative support is linked more closely to school commitment, while personal supports, such as family, friends, or mentors, are more associated with commitment to the teaching profession. Recommendations included establishing a mentoring program for early-career educators, better preparing pre-service educators to work with administrations to build support, and conducting further research to examine primary factors influencing commitment to teaching among pre-service, mid, and late-career educators.

The second conclusion regarded the correlation and connection between resilience and commitment to teaching. Here, the low correlation discovered in the quantitative data was relatively unsurprising given the complex nature of both resilience and commitment to teaching. Too many factors influence these concepts to make a strong correlation likely in any case. However, all interviewed participants supported the idea that resilience and commitment to teaching are linked. Additionally, though not statistically significant, mid-career educators showed the strongest correlation in the sample, which made sense based on their position in the career cycle and responses received from interviewed participants. Both mid-career educators interviewed expressed a belief the two concepts were connected, though neither their responses

nor the survey data fully explained whether resilience continues to influence their commitment or if resilience simply kept them committed during their first few years of teaching. Based on these conclusions, it was recommended future research be aimed at examining resilience and commitment to teaching among this population, with resilience segmented further to capture a fuller picture of exactly what drives educators' commitment to teaching.

A practically significant conclusion was introduced next based on the apparent disparity between educators' resilience scores and interview data. Although no statistically significant differences were noted between mean resilience scores of each group, it was seen that interviewed participants' resilience appeared greater than their scores would suggest. This may be due simply to the complexity of resilience and the ability for qualitative methods to probe that complexity more effectively. However, it was also noted that resilience is a growing, and important, topic of research necessitating a valid and reliable means of researching its effect on educators. As such, it was recommended that the Resilience Scale instrument be examined, and a new or updated instrument be created to specifically target teacher resilience. This would allow for more beneficial and practical research to be conducted on resilience and generalized to wider populations so that appropriate methods can be taken for improving resilience among educators and hopefully thereby decrease attrition rates.

The last conclusion introduced considered data arising from interviews around the impact of previous success on resilience and commitment to teaching. This characteristic was linked not to particular resilience or commitment to teaching scores, but to the level of experience an educator possessed. More experienced educators expressed how previous teaching successes they had experienced continue to help them overcome new challenges. This perspective was further tied to

self-efficacy, grit, and self-reliance as all reflect a belief in one's ability and a perseverance to continue. However, it was also noted that for self-reliance to build around these accomplishments, one must first have the opportunity to experience them. To this end, three recommendations were presented. First, teacher educators should create opportunities in their programs for students to encounter adversity and build a bank of successes which they can draw upon when new challenges present themselves. Second, student teaching placements should attempt to balance students' strengths with opportunities for challenges and aim to provide a more realistic experience of the agricultural education profession. Lastly, research should be conducted at the crossroads of grit, perseverance, resilience, and commitment to teaching to identify effective methods for fostering these qualities among pre-service and early-career educators.

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APPENDICES

APPENDIX A

IRB APPROVAL

INSTITUTIONAL REVIEW BOARD
For the Protection of Human Subjects
FWA 00000165

MONTANA STATE UNIVERSITY

2155 Analysis Drive
c/o Microbiology & Immunology
Montana State University
Bozeman, MT 59718
Telephone: 406-994-4706
FAX: 406-994-4303
E-mail: cherylj@montana.edu

Chair: Mark Quinn
406-994-4707
mquinn@montana.edu
Administrator:
Cheryl Johnson
406-994-4706
cherylj@montana.edu

MEMORANDUM

TO: Joshua Toft and Dustin Perry

FROM: Mark Quinn Mark Quinn CJ
Chair, Institutional Review Board for the Protection of Human Subjects

DATE: April 24, 2020

RE: *"Relationship between Level of Resilience and Commitment to Teaching of Montana Agricultural Educators" [JT042420-EX]*

The above research, described in your submission of April 24, 2020, is exempt from the requirement of review by the Institutional Review Board in accordance with the Code of Federal regulations, Part 46, section 101. The specific paragraph which applies to your research is:

____ (b) (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

_X_ (b) (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation; and (iii) the information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by section 16.111(a)(7).

____ (b) (3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

____ (b) (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that the subjects cannot be identified, directly or through identifiers linked to the subjects.

____ (b) (5) Research and demonstration projects, which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

____ (b) (6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the FDA, or approved by the EPA, or the Food Safety and Inspection Service of the USDA.

Although review by the Institutional Review Board is not required for the above research, the Committee will be glad to review it. If you wish a review and committee approval, please submit 3 copies of the usual application form and it will be processed by expedited review.

APPENDIX B

INFORMED CONSENT DOCUMENT

SUBJECT CONSENT FORM FOR PARTICIPATION IN HUMAN RESEARCH AT MONTANA STATE UNIVERSITY

I am asking you to participate in a research study titled "Relationship Between Resiliency and Commitment to Teaching Among Montana Agricultural Educators." I will describe this study to you and answer any of your questions. This study is being led by Joshua Toft, Department of Agricultural and Technology Education. The **Faculty Advisor for this study is** Dr. Dustin Perry, Department of Agricultural and Technology Education.

What the study is about
The purpose of this research is to explore the potential relationship between teachers' sense of resiliency and their commitment to remain in the teaching profession. This research will help researchers, educators, and teacher organizations better understand the issue of teacher attrition. It will be used to help improve the teacher preparation program at Montana State University and to provide beneficial opportunities for current educators to support them in their careers.

What we will ask you to do
I will ask you to participate in a semi-structured 30-45 minute interview. The interview will include questions related to background and experience, your own definitions regarding resiliency and commitment to teaching, and about influencing factors for your own sense of resiliency and commitment to teaching. Interviews may take place via telephone or through online video meeting software.

Risks and discomforts
I do not anticipate any risks from participating in this research.

Benefits
No likely direct or indirect benefits are identified with this study.

The information received in this study may help benefit the MSU Agricultural and Technology Education Department, by potentially informing future courses and instruction. Findings may also benefit current teachers by providing or promoting new opportunities to support their continued teaching.

Compensation for participation
Participants will not receive any compensation from participating in this research study**.**

Audio/Video Recording
Interviews will be audio recorded in order to facilitate data analysis after the interview is completed. Utilizing audio recordings for interviews provides a more accurate transcript and understanding of interview content which will help accomplish the purpose of the research more effectively. Audio recordings will be archived after transcription and kept on a separate hard drive.

Please sign below if you are willing to have this interview audio recorded. You may still participate in this study if you are not willing to have the interview recorded.

☐ **I do not want to have this interview recorded.**
☐ **I am willing to have this interview recorded:**

Signed: _____
Date: _____

Privacy/Confidentiality/Data Security
The records of this study will be kept private. In any sort of report made public, we will not include any information that will make it possible to identify you. Research records will be kept in a locked file; only the researchers will have access to the records. You will be provided an access code to get into the online survey. This information will be kept confidential. Only those directly involved in conducting this research project will have access to this information. Once your access code number is no longer needed, it will be removed from records so that no personal identification can be made.

Please note that email communication is neither private nor secure. Though I am taking precautions to protect your privacy, you should be aware that information sent through e-mail could be read by a third party.

Data may exist on backups and server logs beyond the timeframe of this research project.

Sharing De-identified Data Collected in this Research

De-identified data from this study may be shared with the research community at large to advance science and health. We will remove or code any personal information that could identify you before files are shared with other researchers to ensure that, by current scientific standards and known methods, no one will be able to identify you from the information we share. Despite these measures, we cannot guarantee anonymity of your personal data.

Future use of Identifiable Data or Specimens Collected in this Research
Identifiable information might be used for future research with obtaining your consent.

Taking part is voluntary

Participation is voluntary and you may withdraw yourself or skip questions at any time. If you decide not to participate, it will not affect your current or future relationship with MSU. If you have any questions about your voluntary participation, please feel free to ask them before or during the interview process.

If you have questions

The main researcher conducting this study is Joshua Toft, a graduate student at Montana State University. Please ask any questions you have now. If you have questions later, you may contact Joshua Toft at joshuatoft@montana.edu or at (815) 570-1526. If you have any questions or concerns regarding your rights as a subject in this study, you may contact the Institutional Review Board (IRB) for Human Participants at 406-994-4706 or access their website at http://www.montana.edu/orc/irb/index.html.

APPENDIX C

SURVEY INSTRUMENT

Introduction

Agricultural Educator Resilience and Commitment to Teaching Survey

You are being asked to participate in a Master's thesis project examining the levels of resilience and commitment to teaching among agricultural educators. The primary reason for this research project is to gain a better understanding of the role resilience has in influencing retention among Montana's agricultural educators. The more we understand this phenomenon, the better we can serve teachers in the state of Montana. You were identified as a potential participant in this study because your are either a currently employed Montana agricultural educator or will be completing a post-secondary program of study in Agricultural Education – Broadfield Teaching by the Spring 2021 semester.

Participation is voluntary. If you decide not to participate, it will not affect your current or future relationship with MSU. If you have any questions about your voluntary participation, please feel free to ask them. If you agree to be in this study, you will be tasked with completing a survey instrument. The survey will include questions designed to assess your level of resilience and commitment to the teaching profession, questions about your personal demographic characteristics, and a few questions about your agricultural education program. The survey should take 15-20 minutes to complete. Participation in this survey will also entitle you to a $10 Amazon gift card. Completion of this survey may lead to a request for participation in subsequent interviews.

The records of this study will be kept private. In any sort of report made public, we will not include any information that will make it possible to identify you. Research records will be kept in a locked file; only the researchers will have access to the records. You will be provided an access code to get into the online survey. This information will be kept confidential. Only those directly involved in conducting this research project will have access to this information. Once your access code number is no longer needed, it will be removed from records so that no personal identification can be made.

If you have questions about the research, you can contact Mr. Joshua Toft with the Department of Agricultural and Technology Education at Montana State University by phone at (815) 570-1526 or by email at joshuatoft@montana.edu. If you have additional questions about the rights of human subjects, you can contact the Chair of the Institutional Review Board, Mark Quinn, by phone at (406) 994-4707 or by email at mquinn@montana.edu.

Do you agree to proceed?

- ◯ Yes
- ◯ No

The following two pages contain two different surveys. The first will ask you respond to 25 questions to assess your level of resiliency. The second is only four questions long, and is related to your commitment to the teaching profession. Please read each question carefully before responding.

Resilience

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
When I make plans, I follow through with them.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I usually manage one way or another.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I am able to depend on myself more than anyone else.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Keeping interested in things is important to me.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I can be on my own if I have to.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I feel proud that I have accomplished things in life.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I usually take things in stride.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I am friends with myself.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I feel that I can handle many things at a time.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I am determined.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I seldom wonder what the point of it all is.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I take things one day at a time.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I can get through difficult times because I've experienced difficulty before.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I have self-discipline.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I keep interested in things.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I can usually find something to laugh about.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
My belief in myself gets me through hard times.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
In an emergency, I'm someone people can generally rely on.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I can usually look at a situation in a number of ways.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Sometimes I make myself do things whether I want to or not.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
My life has meaning.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I do not dwell on things that I can't do anything about.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
If I could do it all over again, I would choose to work in the teaching profession.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I am never disappointed that I entered the teaching profession.	○	○	○	○	○	○	○

Please indicate your level of agreement with the question, from *strongly disagree* to *strongly agree*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The best decision that I ever made was to become a teacher.	○	○	○	○	○	○	○

Teacher Characteristics

How many years have you been teaching (including this year)? **Enter "0" if you are a pre-service teacher or have just completed your student teaching experience.**

Please indicate your highest level of education.

- ○ Associate's Degree
- ○ Bachelor of Science

- ○ Master's of Science
- ○ Other

What is your age?

What is your gender?

- ○ Male
- ○ Female

What grade levels do you teach? (select all that apply)

- ☐ 7th Grade
- ☐ 8th Grade
- ☐ 9th Grade
- ☐ 10th Grade
- ☐ 11th Grade
- ☐ 12th Grade

Program Characteristics

How would you describe the location of your school?

- ○ Rural (population under 5,000)
- ○ Small Urban (5,000 - 20,000)
- ○ Urban (20,000+)

How many Agricultural Education teachers currently teach in your school?

Approximately how many students are currently enrolled in your Agricultural Education program?

Block 5

Thank you for your participation in this graduate thesis project. Please indicate the email address where you would like your complementary $10 Amazon gift card sent.

APPENDIX D

INTERVIEW PROTOCOL

Interviewee: _____

Date: _____

Interview Format (bold one): Phone/Video Conference

Category	**Question**
Background	[Initial Question] Could you briefly describe yourself as a teacher; how long you've been teaching, what your program looks like, what path did you take to the profession?
Resiliency	How would you define resiliency?
	What factors have influenced your personal sense of resiliency?
	Has your sense of resiliency changed over the course of your teaching career? a. *In what ways has it changed?* b. *What has influenced that particular change?*
	How would you describe how you feel about teaching? a. *Do you ever find teaching difficult?* b. *How do you deal with those difficulties?*
Commitment to Teaching	What does "commitment to teaching" mean to you?
	What drives your commitment to the teaching profession?
	Has your sense of commitment to teaching changed over the course of your teaching career?
	What, if anything, about your current teaching situation could change your overall commitment to the profession?
	In what ways does your own sense of resiliency impact your commitment to teaching?
Misc./Follow-up Questions	*How has experiencing difficult times helped you get through new and continuing challenges?*
	How has your belief in yourself and your abilities as an educator been developed?