

Adult teaching in Extension: Exploring teacher efficacy, andragogy, and outcome expectancy

by

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Abstract

The Cooperative Extension Service has long relied on county-based Extension agents to deliver adult education programming to local communities across the state. Despite their central role as educators, most Extension agents enter the profession with subject-matter expertise and limited formal training in adult education principles. This gap between preparation and practice raises important questions about how andragogical usage and teaching confidence operate among Extension agents. The purpose of this study was to determine the relationship between Kansas State Extension agents' usage of andragogical techniques and their level of teacher efficacy as adult educators, and to examine whether these constructs predict outcome expectancy.

A quantitative, correlational research design was employed. A census was attempted of 187 Kansas State Extension agents in agricultural and natural resources, family and consumer sciences, and community vitality programmatic areas. Eighty-eight usable responses were collected in January 2026. Participants completed a survey that measured andragogy usage, teacher efficacy, and outcome expectancy using Likert-scale instruments grounded in andragogy's six assumptions and Ohio State's Teacher's Sense of Efficacy Scale. Data was analyzed using descriptive statistics, Pearson product-moment correlations, and multiple linear regression.

Kansas State Extension agents reported moderate to moderately high levels of both andragogy usage ($M = 4.02$, $SD = 0.54$) and teacher efficacy ($M = 3.79$, $SD = 0.48$). A statistically significant, moderate positive correlation was found between teacher efficacy and andragogy usage ($r = .680$, $p < .001$). Andragogy usage and teacher efficacy together explained 45.2% of the variance in outcome expectancy ($R^2 = .452$), with teacher efficacy emerging as the stronger predictor ($\beta = .436$). A stepwise regression revealed that adult education training outside

of Extension added additional predictive value, raising the explained variance to 50.2%. Findings suggest that teaching confidence and andragogical practice are positively related. Increasing investment in either area may help strengthen both. Recommendations include targeted professional development, structured mentorship programs, and low-stakes practice opportunities for early-career agents.

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Chapter 1 - Introduction

The Cooperative Extension Service was born out of a desire to educate individuals from all backgrounds in the United States. Extension is a “public-funded, nonformal, education system that links the education and research resources of the United States Department of Agriculture, land-grant universities, and county administrative units” (Seevers et al., 1997, p. 1). It is believed that Extension is the world’s largest adult and youth nonformal educational organization (Fiske, 1989).

The Smith-Lever Act of 1914 created the Cooperative Extension Service, establishing cooperative Extension work in agriculture and home economics between land-grant colleges and the United States Department of Agriculture (Knapp, 1916). Before Extension, the primary ways of agricultural knowledge reaching farmers were farm journals, bulletins, experiment station publications, and farmers’ institutes. These forms did not effectively reach individuals who were in the most need of education (Rasmussen, 1989). As Knapp (1916) claimed, schools, colleges, and universities withdrew students from active life and gainful occupations. This made formal education inaccessible to working farm families. Above the primary grades, education remained largely a resource for a few individuals rather than the masses (Knapp, 1916). Extension was designed to address this gap by bringing practical education directly to individuals where they lived and worked. Rather than requiring individuals to seek out education, Extension brought the teacher to the learner, representing a fundamentally new approach to public education in America (Knapp, 1916; Rasmussen, 1989).

The mission of Extension was “...to aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same...” (Smith-Lever Act, 1914, p. 1). Extension

allowed for the diffusion of new ideas and technology to rural constituents across the United States. While Extension's historical mission focused primarily on agricultural and home economics education, Extension has always adapted “to aid rural men, women, boys, and girls in meeting the ever-changing problems of the farm, the home, and the community” (United States Department of Agriculture, 1951, p. 1). Modern Extension agents serve diverse audiences with varied learning needs across urban and rural communities. This outreach continues the original mission of Extension, which was to provide practical skills training to individuals without access to the University.

Extension is across the United States and is represented in all counties by land-grant institutions. Kansas State Extension (KSE) operates Extension units within all 105 counties of Kansas, serving its diverse population (U.S. Census Bureau, n.d.-a). Counties either have their own county-based professionals or share professionals in a designated district. KSE is made up of many professionals, including scientists and educators, who work to provide programming and share research-backed information with their local communities. Kansas has approximately 234 county-based Extension agents, serving populations ranging from densely populated urban areas to sparsely populated rural communities (Ammons, 2025; U.S. Census Bureau, n.d.-b). These professionals are split among four major programmatic areas: agriculture and natural resources; community development; family and consumer sciences; and youth development (SeEVERS et al., 1997).

County-based Extension agents take the role of an educator to deliver programming in their specific programmatic areas. These programs provide individuals with valuable knowledge, resources, and techniques. One of the major roles within educating individuals is the Extension agents’ ability to disseminate research knowledge to local individuals. “Effective agricultural

extension can bridge the gap between discoveries in the laboratory and changes in the individual farmer's fields” (Birkhaeuser et al., 1991, p. 608). Today, Extension agents share information with producers and other individuals, including urban residents, as they strive to meet the needs of modern society. While the constituents and ideas being shared have changed from the historical role of Extension, there is still a large value in meeting the constituents where they are. Being able to leverage evolving learning contexts and the learning needs of citizens has always been a characteristic of high-quality Extension education (Bull et al., 2004).

As Extension has grown and adapted to modern society, the landscape of agricultural information has become increasingly complex. There has been a rise in commercially driven agricultural research that has been shaped by the interests of those funding it. Bronson et al. (2021) described how private agricultural data platforms and decision-support tools are designed around large-scale commodity operations. This leaves smaller and more diverse producers underserved by the technology and information that is being produced. J. D. Anderson et al. (2024) argued that land-grant institutions and their Extension services are uniquely positioned to serve as objective, unbiased sources of research-based information. This role carries a higher importance as audiences must increasingly evaluate the motivations behind the knowledge they are consuming. This distinction between public-funded, mission-driven research and commercially-motivated information reinforces the value of Extension not only as an educational system, but as a trusted entity within an increasingly crowded information environment (J. D. Anderson et al., 2024; Seevers et al., 1997).

Extension agents have switched to utilizing internet-based resources to disseminate knowledge to individuals (Wallace II et al., 2025). Social media offers Extension agents the opportunity to reach new audiences while carrying out the land-grant mission (Gharis et al.,

2014). As new technology and methods take place, Extension must work to meet the clientele where they are at (Seevers et al., 1997). Seevers et al. (1997) noted that technology cannot be a replacement for proven in-person methods. New delivery methods should be used as a supplement to what has already worked for Extension.

The Extension Service, which was created to teach adults practical skills, has long focused on adult education. Formed as a vessel to educate non-college-bound individuals, Extension serves individuals from all backgrounds. Seaman Knapp, often referred to as the father of Extension, pioneered the idea of demonstration to educate individuals on the adoption of new techniques in agriculture (Seevers et al., 1997). The use of demonstration-based approaches showed that learners need hands-on experiential learning opportunities. Extension's education model differs from traditional classrooms as it serves voluntary learners seeking immediate applications of new knowledge (Prawl et al., 1994). Participants of Extension programs bring diverse experiences and learning styles. The effectiveness of Extension programming relies heavily on professionals' ability to adapt their teaching methods to meet the needs of their participants. Unlike formal education, where attendance is required, Extension educators must engage and motivate volunteers, making their educational competence important for the success of the program.

Extension relies heavily on county-based professionals to deliver programming to local communities. These professionals operate independently, without direct supervision, at all organizational levels (Prawl et al., 1994), requiring them to possess diverse competencies across multiple domains, including subject-matter expertise, program planning, and educational methodology (Cooper & Graham, 2001). However, most professionals enter Extension with gaps in key areas, particularly in education. Benge et al. (2011) identified teaching skills as one of the

six pre-entry competencies for county-based Extension agents, alongside self-management, program development process, communication skills, interpersonal skills, and technical/subject matter expertise. Despite this recognition, the majority of Extension agents are hired primarily for their subject-matter expertise while possessing little or no formal training in adult education principles (West et al., 2009). This creates a critical systemic disconnect within Extension organizations nationwide. While Extension agents hold degrees in agriculture, family sciences, community development, or related fields, few have completed coursework in education, andragogy, or instructional design. This gap becomes more problematic when considering that inadequate educational training can result in lower-quality programming across Extension. Training in andragogy and adult education principles is essential for Extension agents to effectively serve local adult learners (Strong et al., 2010). Unlike other educational systems that require formal pedagogy training, Extension agents are expected to develop teaching competencies through on-the-job experience and limited professional development opportunities. Equal importance should be given to teaching delivery methods and to the subject matter itself (Wise & Ezell, 2003).

Extension agents possess at least a bachelor's degree related to their programmatic area, but formal training in adult education or andragogy is not required. Kansas State Extension uses a multi-module professional development approach that includes orientation, basic 4-H operations, communications, local operations, and program development (Baker & Hadley, 2014). While this onboarding program addresses andragogy among many other essential topics, the depth and duration of the educational training may be insufficient, given the complex teaching responsibilities that Extension agents assume. Extension agents themselves have identified andragogy as a need in professional development (Conner et al., 2018). In a study by

Disberger and Ammons (2025), Extension agents in Kansas indicated a need for more focus on educational program delivery in the new agent training. Despite the recognized importance of adult education principles in Extension work, limited research has examined the relationship between Extension agents' usage of andragogy and their effectiveness as educators.

Statement of the Problem

A persistent challenge facing modern Extension organizations is the gap between Extension agents' educational preparation and the teaching responsibilities they are expected to perform. Extension agents serve as primary educators in their communities, translating university research into practical, usable knowledge. Despite this large task, most professionals enter the career with extensive subject-matter expertise and limited formal training in adult education (West et al., 2009). This disconnect becomes more problematic when considering the significant independence that Extension agents operate with (Prawl et al., 1994). This independence requires them to make decisions about educational programming without strong foundational understandings of andragogy.

Although there is a broad consensus on the importance of andragogy in Extension, the relationship between professionals' usage of andragogical principles and their effectiveness as educators remains unclear. Teacher efficacy, defined as a professional's judgment of their ability to bring about desired outcomes in learner engagement and achievement (Tschannen-Moran & Hoy, 2001), is a critical component of effective education. Extension organizations annually invest in training professionals in andragogical principles. However, no research has examined the relationship between Extension agents' knowledge of andragogy and their teacher efficacy.

Purpose of the Study

The purpose of this study was to determine the relationship between Kansas State Extension agents' andragogical usage and their level of teacher efficacy as adult educators. This research aims to address the gap in Extension education literature by establishing measurements of andragogical usage and teaching efficacy levels in Extension's informal education context. By offering evidence-based insights into the relationship between educational usage and teaching confidence, this will guide Kansas State Extension in the future development of its organization. The findings will serve as a valuable resource for professional development and strategies for enhancing educational effectiveness in the organization.

Research Questions

- 1) Determine the usage of andragogical techniques amongst Kansas State Extension agents.
- 2) Determine Kansas State Extension agents' teaching efficacy level towards adult education.
- 3) Determine if there is a significant relationship between self-efficacy and andragogy usage among Kansas State Extension agents.
- 4) To what extent do teacher efficacy and andragogy usage predict outcome expectancy among Kansas State Extension agents?
- 5) Predict Kansas State Extension agents' outcome expectancy towards adult education by identifying the best predictive model using andragogical usage, teacher efficacy, and demographic characteristics.

Definition of Key Terms

Adult Learning: "The process of adults gaining knowledge and expertise" (Knowles et al., 2025, p. 150).

Andragogy: "The art and science of helping adults learn" (Knowles et al., 2025, p. 287).

Extension Agent: A professional staff member of a cooperative Extension system that works at the local level. They have constant contact with local clientele and are categorized as educators, change agents, teachers, and social activists (Seevers et al., 1997).

Outcome Expectancy: “A person’s estimate that a given behavior will lead to certain outcomes” (Bandura, 1977, p. 193).

Self-Efficacy: “Beliefs in one’s capabilities to organize and execute courses of action required to produce given attainments” (Bandura, 1997, p. 3).

Teacher Efficacy: “The teacher’s belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (Tschannen-Moran et al., 1998, p. 233).

Limitations of the Study

The study includes multiple limitations that should be acknowledged. First, the research relies heavily on self-reported data, which may have been influenced by social pressure or inaccurate self-reports. Second, the focus is limited to professionals within Kansas State Extension, which restricts the generalizability of findings to other Extension organizations. Furthermore, the instruments used may not fully capture the complexity of andragogy usage or teacher efficacy, as differences in interpretations of questions could affect the accuracy of the survey. Nonresponse bias may also be an issue as participation is voluntary. Individuals who feel more confident in their skills may be more likely to participate. Next, the study examines perceptions and efficacy, rather than observing teacher practices or learner outcomes. This may limit the ability to connect findings to program effectiveness. Finally, each participant’s contextual factors, such as program area, county demographics, workload, and organizational support, were not controlled. These may influence both andragogical usage and teacher efficacy.

Basic Assumptions

There were multiple things that the researcher assumed in this study. First, it was assumed that participants provided honest responses to the survey. Second, it was assumed that, given their roles and tenure in the organization, these participants have some experience with adult education to inform their responses to the questions. The researcher assumed that the participants consistently interpreted the questions as intended. It was also assumed that the survey instruments used to measure teacher efficacy, andragogy usage, and outcome expectancy were valid and reliable measures of their constructs. It was also assumed that the respondents who completed the survey did not differ from non-respondents in ways that would skew the results, and that the sample was reasonably representative of Kansas Extension agents as a whole. Finally, it was assumed that the relationship between andragogical usage and teacher efficacy could be meaningfully assessed through quantitative analysis. It was further assumed that the theoretical relationships proposed by Bandura's Social Cognitive Theory, self-efficacy, outcome expectancy, and behavior, apply to the Extension agents' context. It was also assumed that these constructs translate meaningfully to this population.

Chapter 2 - Literature Review

Andragogy

The systematic study of how adults learn emerged as a distinct field in the mid-20th century. This fundamentally challenged traditional educational approaches designed for children. Malcolm Knowles, widely recognized as the leader of modern adult learning theory, introduced the concept of andragogy in 1968. He defined it as “the art and science of helping adults learn” (Knowles et al., 2025, p. 287). Andragogy is built on two foundational attributes: first, the view of adult learners as self-directed and autonomous, and second, the understanding of the teacher’s role as a facilitator of learning rather than a mere presenter of content (Pratt, 1998). Knowles argued that adults possess different learning characteristics, motivations, and needs compared to children in a learning setting (Knowles et al., 2025). Knowles’ andragogical framework rests on six core assumptions about adult learners: their need to know why they should learn something, their self-concept as autonomous individuals, their rich reservoir of experience that serves as a learning resource, their readiness to learn when facing real-life problems, their orientation toward immediate application of knowledge, and their primarily internal motivation to learn (Knowles et al., 2025). These principles are important for Extension education, where professionals work with adult audiences in voluntary, community-based learning environments. Understanding andragogical theory helps explain how Extension agents’ usage of these principles may influence both their confidence and effectiveness when working with adult learners.

The Need to Know

The first andragogical assumption centers on adults' fundamental need to understand why they should learn something before committing to the learning process. Unlike children, who generally accept instruction from authority figures without questioning its immediate relevance,

adults require clear justification for investing their time and energy in learning activities. Tough (1979) found that adults will invest a considerable amount of energy into discovering the benefits of learning and the negatives of not learning a topic before committing to learning.

Research identifies three dimensions of adults' need to know: how learning will be conducted (Tannenbaum et al., 1991), what learning will occur (Baldwin et al., 1991; Hicks & Klimoski, 1987), and why learning is important (Clark et al., 1993; Reber & Wallin, 1984). Adults want transparency about instructional methods, clear learning objectives, and explicit connections between content and real-world applications. Adult educators must make intellectual and experiential cases for learning importance, using strategies such as diagnostic assessments, real-world examples, or simulated experiences to demonstrate relevance (Knowles et al., 2025). This assumption carries particular significance given the voluntary nature of Extension programming (Prawl et al., 1994).

The Learner's Self-Concept

The second andragogical assumption is based on adults' self-concept of being responsible for their own decisions and lives. Adults develop a psychological need to be seen and treated as capable people when considering their self-direction (Knowles et al., 2025). In traditional educational settings, teachers typically view students as dependent learners who require direction and guidance (Knowles et al., 2025). This teacher expectation often reinforces dependent behaviors in students, creating a cycle where learners become accustomed to external control rather than developing self-direction. Conversely, adults resist situations where others impose their will on them (Knowles et al., 2025).

The Role of the Learner's Experiences

The third andragogical assumption proposes that adults enter the learning space with different experiences (Knowles et al., 2025). Unlike children, whose experiences are limited and similar within their age group, adults possess diverse backgrounds shaped by their careers, relationships, education levels, and life challenges. These experiences form the foundation of adults' identities, whereas children view experiences that happen to them; adults define themselves through their experiences (Knowles et al., 2025). Humans develop mental habits based on the experiences they have. This can lead to positive or negative associations related to those experiences. Negative experiences may lead to closing the mind to new ideas and perspectives (Knowles et al., 2025). Professionals should validate prior knowledge and experience, but open learners to new ideas and perspectives (Knowles et al., 2025). Brookfield (1986) argued that an emphasis should be placed on using experiential learning as it taps into a learner's experiences.

Readiness to Learn

Knowles' (2025) fourth assumption introduces the idea that adults are ready to learn when life situations create a need for information. Unlike adolescent learners, who gain readiness to learn when told by the teacher, adults only enter this state of mind under certain circumstances (Knowles et al., 2025). Modern neuroscience research supports Maslow's hierarchy of needs, which claims humans satisfy their physiological needs, then safety needs, then social needs, then esteem needs, and finally self-actualization needs (Tokuhamma-Espinosa, 2011). Adult learners require lower-level needs to be satisfied before seeking higher-level needs, such as learning new information. Adult educators cannot directly control individuals' learning readiness, but may

induce readiness. This may be achieved by teaching seasonally appropriate needs, superior performance models, career counseling, and simulation exercises (Knowles et al., 2025).

Orientation to Learning

Knowles' (2025) fifth assumption claims that adults learn best when learning is framed through real-life situations. Adults become motivated to learn information when they perceive that the information will help them perform tasks in their lives. Furthermore, adults learn most effectively when the information is presented in the context of real-life situations (Knowles et al., 2025). Tokuhamas-Espinosa (2011) stated, "The human brain learns best when facts and skills are embedded in natural contexts of concrete examples, in which the learner understands the problems he or she faces, and recognizes how the facts or skills might play roles in solving that problem" (p. 218). Adult educators must facilitate the opportunity for learners to connect the information to their real-life problems. While problem-based learning is effective in learning for young learners, adults differ in being able to understand how the information will benefit them in the long run (Knowles et al., 2025).

Motivation

The final assumption, motivation, proposes that adults are motivated by internal pressures, rather than external pressures. Internal pressures, such as desires for increased job satisfaction, self-esteem, and quality of life, represent motivating factors for adults (Knowles et al., 2025). Children are primarily motivated in learning settings by external motivators, including grades, teacher approval or disapproval, and parental pressures. Adult learners are motivated by some external pressures, such as better jobs, promotions, and higher salaries. While adults possess both internal and external motivators, internal motivators are more potent (Knowles et al., 2025). Tough (1979) found that all adults are motivated to keep growing and developing.

This motivation is frequently blocked by barriers, including negative self-concept, inaccessibility of opportunities or resources, time constraints, and programs that don't adhere to principles of adult learning.

Andragogy Outside of Extension

Knowles (1984) discussed andragogy's ability to adapt to any environment. Although goals change between situations, andragogy adapts as it focuses solely on the transaction of learning (Knowles et al., 2025). The usage of andragogy has been displayed across multiple fields. Bader et al. (2025) found that utilizing andragogical principles in online construction safety training increased trainee interest in safety. Knapke et al. (2024) found that andragogy was effective in educating students in team science training for biomedical research. Researchers collected qualitative and quantitative data that suggested the incorporation of andragogy was valuable. Forrest and Peterson (2006) claimed that andragogy was essential to preparing students for the workplace. They argued that without the practical implementation of skills learned, students cannot adapt to the ever-changing workplace. Across multiple disciplines, andragogy has shown value in being implemented to educate individuals. The flexibility of andragogy as a system of different elements is an essential feature for its use in different scenarios (Knowles, 1984).

Andragogy in Extension

Education pioneer Seaman Knapp introduced the idea of teaching adults through demonstration. Using the medium of demonstration farms, Knapp educated individuals in the south on new techniques and technologies (SeEVERS et al., 1997). His work would lead to the hiring of cooperative demonstration agents, and eventually the Cooperative Extension Service (SeEVERS et al., 1997). Knapp's learner-centered practice of demonstration continues to be used

by many of Extension's programs (Seevers et al., 1997). It wasn't until 1968 that Knowles introduced andragogy to the United States (Knowles et al., 2025). Extension's educational philosophy and andragogy align with similar goals of providing participant-centered learning (Knowles et al., 2025; Seevers et al., 1997).

Many studies have looked at the inclusion of andragogy by Extension agents in programming (Roberts, Bengt, et al., 2024; Roberts, Harder, et al., 2024; Strong et al., 2010). Roberts, Bengt, et al. (2024) found that agents identified as exemplary adult educators believed in andragogical education philosophy. In a follow-up study, Roberts, Harder, et al. (2024) found that agents nominated as exemplary educators used strategies consistent with andragogy. Strong et al., (2010) found that teaching strategies consistent with andragogy were viewed as most effective in Extension programming.

Criticisms of Andragogy

While used by many, andragogy has received much criticism since Knowles introduced it (Holmes & Abington-Cooper, 2000). The majority of the controversy stems from differences in philosophy, classification, and underlying values attached to the term adult education (Davenport & Davenport, 1985). In the beginning, the biggest issue was whether andragogy could be considered a theory of adult learning (Elias, 1979). Davenport and Davenport (1985) wrote that andragogy had been classified as a theory of adult education; theory of adult learning; theory of technology of adult learning; method of adult education; technique of adult education; and a set of assumptions. Houle (1972) preferred to view education as a single fundamental human process. He acknowledged differences but argued that the education of adults and children was essentially the same. Furthermore, Houle (1972) rejected andragogy as an organizing principle and perceived it to be only a technique. Knowles (1980) followed this by claiming that

andragogy and pedagogy may be used with children in particular situations. Hartree (1984) claimed that it was not clear whether Knowles presented a theory of learning or a theory of teaching. He also claimed it was unclear whether adult learning was different from child learning. Finally, Hartree (1984) claimed it was confusing whether there was a theory at all. Knowles' inconsistency in distinguishing andragogy from pedagogy is perceived as problematic amongst many researchers (Holmes & Abington-Cooper, 2000).

An enduring criticism of andragogy is that it lacks empirical support (Merriam et al., 2007; Merriam & Bierema, 2014; Taylor & Kroth, 2009). Rachal (2002) contended that andragogy relies heavily on anecdotal evidence rather than systematic research. With this, the field has struggled with “inconclusive, contradictory, and limited or insufficient empirical examinations” (Brookfield, 1986, p. 91). Brookfield (1986) also raised concerns over whether andragogy constitutes a proven theory. He argued that three of the assumptions were problematic when drawing inferences for practice. Brookfield (1986) noted that self-direction was more a desired outcome than a given condition, and that the assumptions relating learning to particular social roles and focusing on immediate application lead to a reductionist view of learning.

Despite the lack of empirical evidence, practitioners' attraction to the model seems stronger than ever (Roessger et al., 2022). Rachal (2002) stated, “the art of andragogy may be dominant over the science” (p. 212). Furthermore, Davenport (1984) claimed that the field practices are “an act of educational faith rather than an act of educational science” (p. 10). Additional criticism has emerged from sociological and critical perspectives. These criticisms note that andragogy's heavy focus on the individual learner makes the sociohistorical context in which learning takes place virtually invisible (Grace, 1996; Pearson & Podeschi, 1997; Pratt, 1993). Sandlin (2005) identified five issues from critical, feminist, and Africentric perspectives.

These issues include that andragogy assumes education is value neutral, presents a universal image of adult learners as white middle-class individuals, ignores structural systems of privilege and oppression, and ultimately reproduces societal inequalities and supports the status quo. Despite criticism, andragogy still serves as a primary theory or model for individuals to plan instruction for adults (Merriam & Bierema, 2014). However, it does appear to capture the characteristics of many adult learners, providing a basis for designing instruction that actively engages adults in learning (Ross-Gordon et al., 2017). Strawbridge (1994) suggests narrowing overall research questions to achieve higher empirical testability in the field.

Self-Efficacy

Albert Bandura (1997) defined self-efficacy as “beliefs in one's capabilities to organize and execute courses of action required to produce given attainments” (p. 3). Individuals with strong self-efficacy invest greater effort, persist longer when facing obstacles, and demonstrate greater resilience when dealing with failure. These beliefs regulate motivation, thinking, and affective states, and can lead to changes in environmental factors. Additionally, individuals with strong self-efficacy tend to approach challenges confidently, maintain effort when difficulties arise, recover from setbacks, and believe they can influence outcomes in their lives (Bandura, 1997).

Efficacy expectations fluctuate for individuals based on many different factors related to the specific situations (Bandura, 1977). The three dimensions, magnitude, generality, and strength, have a great influence on performance. Magnitude describes the difference in efficacy expectations related to the difficulty of the task. Individuals' efficacy expectations may be limited to easier tasks for some individuals or extended to more difficult tasks for other individuals (Bandura, 1977). Generality refers to the ability for efficacy expectations to be

transferred among similar situations. Individuals may have never experienced the problem, but can use past situations to form outcome expectations (Bandura, 1977). Strength refers to how expectations differ in their power. Weak expectations can easily be shut down by contradicting experiences. Strong expectations will allow individuals to persevere despite contradicting experiences (Bandura, 1977).

Bandura (1997) discussed the four sources that influence one's self-efficacy: enactive mastery experiences, vicarious experience, social persuasion, and physiological and affective states.

Enactive Mastery Experiences

The first source, enactive mastery experiences, is labeled as the most influential source for individuals to measure their self-efficacy (Bandura, 1997). Mastery experiences are an individual's past experiences of success and failure (Bandura, 1977). An individual's experiences—whether positive or negative—with specific tasks inform their self-efficacy when confronted with similar functions in the future (Lee & Bong, 2023). Strong efficacy expectations from repeated success will likely reduce the impact of negative outcomes (Bandura, 1977). The interpretation and attributions of these experiences by the individual affect the influence on their personal self-efficacy. An individual's perception of experiences resulting in success or failure can also vary, depending on the context and conditions (Bandura, 1997).

Vicarious Experience

The second source, vicarious experience, is gained by watching other individuals performing similar tasks. This source relies on social comparison to build one's self-efficacy (Bandura, 1977). Observing others perform activities without unfavorable consequences may generate expectations of being able to complete the task too (Bandura, 1977). The perceived

resemblance between the model and person may also increase the strength of this source (Schunk, 1987). These experiences are weaker than one's own experience, leading to higher vulnerability to change (Bandura, 1977). This source of self-efficacy becomes stronger when an individual has no direct experience with the task (Bandura, 1997).

Verbal Persuasion

The third source of efficacy is verbal persuasion, specifically from significant others (Bandura, 1997). Bandura (1997) claimed verbal persuasion is often used due to its ease and availability. These persuasions lead individuals to believe they can overcome past failures. While not as powerful as mastery and vicarious experiences, persuasion can be paired with different strategies to make it stronger. The source of verbal persuasion also dictates the amount of influence. Individuals deemed to be trustworthy, knowledgeable, and competent have more power in persuasion than other individuals (Won et al., 2017). Bandura (1997) suggests that verbal persuasion is most effective when its message seems credible to the individual in relation to an upcoming task.

Physiological and Affective States

The fourth and least influential source of efficacy is physiological and affective states (Bandura, 1997). Individuals interpret physical reactions and unpleasant emotional states as signs of vulnerability and lack of competence towards tasks. Negative physical reactions may include fatigue, aches, and pain. While unpleasant emotional states may include negative moods, arousal, and stress reactions (Bandura, 1997). Information from this source is ambiguous, as everyone has different personal and environmental factors. Depending on current factors and past experiences, individuals may be led to perceive physical reactions and emotional states differently from others (Bandura, 1997).

Self-efficacy is not a fixed ability that one possesses, but rather a generative capability (Bandura, 1997). There is a large difference between having certain subskills and being able to use them versus being able to execute them under certain situations (Bandura, 1997). Schwartz and Gottman (1976) claim that many individuals fail to operate optimally despite knowing what to do and having the skills to do it. Self-efficacy reflects one's belief about what they can accomplish rather than actual abilities. Individuals with comparable skill levels may achieve differing outcomes, and the same person may succeed or struggle depending on the strength of their self-efficacy in that specific context (Bandura, 1997). In a study, Collins (1982) found that students at the same mathematical level with higher levels of self-efficacy were more successful in solving math problems than students with lower self-efficacy. The mathematical level contributed to students' performances, but at all ability levels tested the more efficacious students were more successful. Self-doubt can completely undermine the capabilities of talented individuals if they don't believe in themselves (Wood & Bandura, 1989).

Bandura (1997) demonstrated that individuals with higher levels of self-efficacy exhibit enhanced sociocognitive functioning in numerous ways. These individuals approach difficult tasks as challenges to be mastered rather than obstacles to avoid, which fosters greater interest and engrossing involvement in their activities. They set challenging goals for themselves and maintain a strong commitment to achieving them, investing high levels of effort in their pursuits while remaining task-focused even in the face of difficulties. When they experience failure, they attribute it to insufficient effort rather than lack of ability, allowing them to quickly recover their sense of efficacy and persist in their endeavors. Additionally, they approach potential stressors or threats with confidence rather than anxiety or avoidance.

Bandura (1997) stated that self-efficacy is not a fixed ability or trait that individuals possess. Individuals possess efficacy levels specific to different tasks. High self-efficacy in one task does not equate to high self-efficacy in other tasks (Hofstetter et al., 1990).

Teacher Efficacy

Armor et al. (1976) first studied the idea of efficacy levels in teachers with 2 items in a questionnaire. This was the start of teacher efficacy as a concept being researched. The idea was well received, as many researchers began to explore the concept. This research showed that teachers' self-efficacy was strongly related to student outcomes (Tschannen-Moran et al., 1998). A strand of research was formed out of Bandura's (1977) work surrounding self-efficacy. Tschannen-Moran et al. (1998) defined teacher efficacy as "the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 233).

An important part of teacher efficacy is its cyclical nature (Tschannen-Moran et al., 1998). The outcome of teaching a lesson creates a mastery experience. This mastery experience directly shapes future efficacy beliefs. Teachers with higher efficacy levels give greater effort and persistence, leading to better teaching performance (Tschannen-Moran et al., 1998). Meanwhile, lower levels of efficacy lead to teachers putting in less effort and giving up more easily. These results affect the future efficacy beliefs of teachers as their efficacy eventually stabilizes. Ross (1998) concluded that experienced teachers develop a stable level of self-efficacy relating to their teaching abilities. Efficacy beliefs may still fluctuate due to new challenges, such as a new environment or new curriculum (Tschannen-Moran et al., 1998). Bandura (1997) claimed that teachers' beliefs about the task of teaching and the competence of teaching were unlikely to change unless strong evidence convinced them to reconsider.

Teachers carry different levels of efficacy into different teaching situations (Tschannen-Moran et al., 1998). Bandura (1977) claimed that “some situations require greater skill and more arduous performances, or carry greater risk of negative consequences, than others” (p. 200). These teaching situations are made up of many different factors that affect efficacy positively or negatively. A teacher’s efficacy is directly related to the specific context of the situation. Teachers may feel more or less efficacious towards a particular subject or skill they are teaching. Teachers may also fluctuate their level of efficacy based on the individuals they are teaching. Raudenbush et al. (1992) conducted a study to learn what contextual situations affected high school teachers. Teachers felt more efficacious when teaching honors classes rather than general track students. Teachers also reported feeling less efficacious when younger students were in their class and more efficacious with a larger class size.

Teacher efficacy has been shown to be a powerful catalyst for student outcomes in the classroom. Ross (1992) found a relationship between teacher efficacy and student achievement. Higher teacher efficacy was associated with greater academic achievement. Beyond academic achievement, teacher efficacy has a profound impact on students on a psychological level. Midgley et al. (1989) found that students’ motivation is impacted by their teacher’s efficacy levels. High efficacy teachers fostered greater student engagement and persistence in class. Moreover, Anderson et al. (1988) found that a teacher’s efficacy can affect their students’ own sense of efficacy, which affects their beliefs about their capabilities.

Teacher Efficacy in Extension Education

Despite the large amount of literature surrounding the importance of teacher efficacy in K-12 education, research examining teacher efficacy within Extension contexts remains remarkably limited. A review of the Extension literature reveals one published study addressing

teacher efficacy. This study focuses on volunteer educators in a master gardeners program rather than Extension agents themselves (Strong & Harder, 2010). The absence of literature is shocking, as Extension agents have always been core educators in local communities. Teacher efficacy research has been conducted in the agricultural education sector, as multiple studies are included on school-based agricultural educators. On a wider scale, teacher efficacy of adult educators has not been researched. This gap in the literature on teacher efficacy of Extension agents is important for several key reasons. Extension agents face vastly different contextual factors that influence teaching efficacy, such as voluntary learner participation (Seevers et al., 1997) and high levels of professional autonomy (Prawl et al., 1994). Second, existing teacher efficacy research has focused on K-12 educators, building a body of literature that only reflects pedagogical teaching efficacy. The body of literature has not adequately reflected the teaching efficacy of adult educators using andragogical teaching methods.

Outcome Expectancy

Outcome expectancy was defined by Bandura (1977) as “a person’s estimate that a given behavior will lead to certain outcomes” (p. 193). A distinct difference exists between perceived self-efficacy and outcome expectancy. Perceived self-efficacy is one’s judgment of one’s ability to execute a performance, whereas outcome expectations are one’s judgment of likely outcomes following the performance. An outcome is the consequence of a performance (Bandura, 1997). Bandura (1997) discussed how self-efficacy and outcome expectancy operate separately. However, they are connected in the fact that both influence behaviors. Self-efficacy reflects the confidence of an individual prior to performing a task. Outcome expectancy refers to the belief that executing capabilities will yield the desired results. Bandura (1977) noted the distinction between the two matters. Individuals can believe that a course of action will produce a certain

outcome, but they will not act if they doubt their own abilities to execute that behavior. Outcome expectations alone are unable to motivate action without a corresponding sense of personal efficacy. Skinner (1996) described outcome expectancy as a means-ends relation. Means-ends relations are “the connection between particular classes of potential causes and desired and undesired outcomes” (Skinner, 1996, p. 552). According to Tschannen-Moran et al. (1998) no previous literature has accurately assessed outcome expectancy. This is due to previous studies focusing on teachers’ beliefs in controlling environmental variables. These studies did not view outcome expectancy as a means-ends relation.

Outcomes expectations can be categorized into three forms: physical, social, and self-evaluative (Bandura, 1997). Inside each form, positive expectations serve as incentives and negative expectations serve as disincentives. In physical effects, positive forms include pleasant sensory experiences and physical pleasure. Meanwhile, negative physical effects are aversive sensory, pain, and discomfort (Bandura, 1997). The second form is social effects. The positive social effects can take the form of social reactions from others expressing interest, approval, social recognition, monetary compensation, and the conferral of status and power. The negative social effects can be others’ disinterest, disapproval, social rejection, censure, deprivation of privileges, and imposed penalties (Bandura, 1997). The final form, self-evaluative reactions, is based on an individual's personal standards. Positive self-evaluative effects can look like self-satisfaction, a sense of pride, and self-worth. Meanwhile, the negative self-evaluative effects can be self-dissatisfaction, self-devaluation, and self-censure (Bandura, 1997). Outcome expectations can also vary in their influence (Bandura, 1977). The influence depends on the personal agency a person perceives. Outcomes with well-understood probabilities still have limited motivational value when the individual believes the required behaviors are beyond their capabilities (Bandura,

1977). This shows why outcome expectancy cannot be treated by itself. It works with self-efficacy to shape if and how persistently an individual pursues a course of action.

The Relationship between Self-Efficacy and Outcome Expectancy

Bandura (1977) identified four possible combinations of efficacy and outcome expectations. Each combination produces different behavioral patterns. Individuals with both high self-efficacy and high outcome expectations will engage productively, foster aspirations, and have a sense of personal fulfillment. An individual possessing high self-efficacy with low outcome expectations may protest, have grievances, and make efforts to change existing institutional practices (Bandura, 1997). Meanwhile, an individual possessing low self-efficacy with high outcome expectations may lead to self-devaluation and depression. Finally, an individual with low self-efficacy and low outcome expectations will become apathetic and resigned (Bandura, 1997).

In situations where performance directly affects outcomes, an individual's efficacy beliefs account for most of the variance within outcome expectancy (Bandura, 1997). In contrast, when differences in efficacy beliefs are controlled, then performances give little to no independent contribution to the prediction of behavior (Bandura, 1997). The control of efficacy beliefs creates independence between expected outcomes and efficacy beliefs. This independence occurs in situations where an individual's performance has no way to produce desired outcomes. (Bandura, 1997). This mostly happens in pursuits that are segregated by sex, race, age, or other dimensions of diversity. Within these situations, individuals from the excluded group can expect negative outcomes, no matter their efficacy level (Bandura, 1997).

Theoretical Framework

Social Cognitive Theory, developed by Bandura (1997), shows how people exercise control and make things happen, while acknowledging the roles of internal beliefs and external influences, through a process called reciprocal determinism. Two key constructs in this study are self-efficacy and outcome expectancy. Self-efficacy refers to an individual's internal belief in their ability to perform a task before attempting it. Outcome expectancy represents the belief that a certain behavior will lead to certain outcomes. By using Social Cognitive Theory, this study examines how Extension agents' teacher efficacy and usage of andragogical techniques relate to their outcome expectancy in adult education contexts.

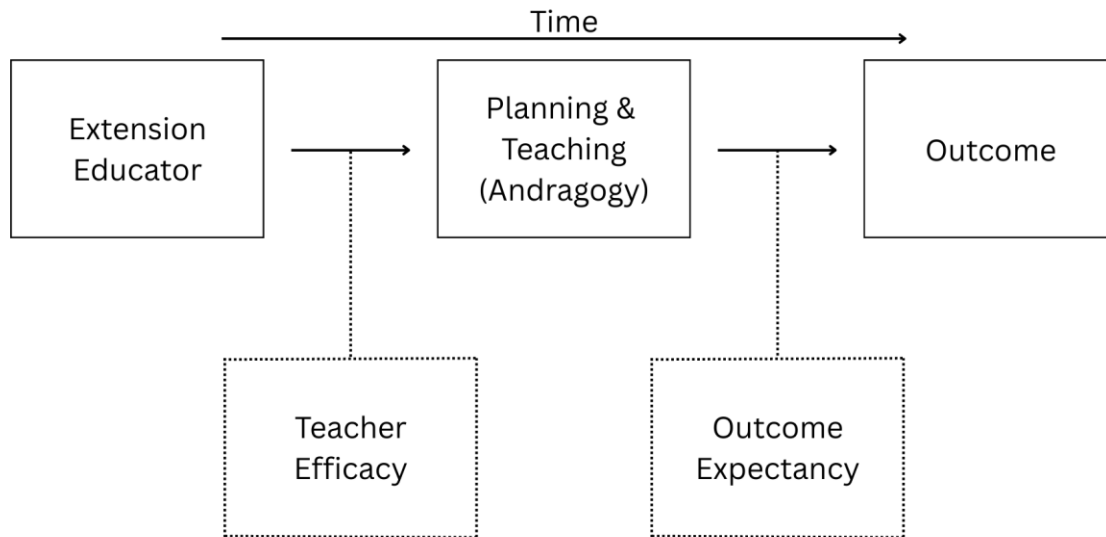
Within this framework, andragogic practice reflects a form of behavior shaped by an agent's professional knowledge and belief in andragogy principles. According to Bandura's (1997) model of reciprocal determinism, behavior, personal factors, and environmental factors influence one another. Extension agents who consistently apply andragogical techniques are actively investing in learner-centered teaching practices. Social Cognitive Theory predicts that this behavioral engagement, when reinforced by successful outcomes, would produce mastery experiences that would elevate their teacher efficacy (Bandura, 1997). Higher teacher efficacy is expected to be associated with stronger outcome expectancy.

Bandura (1997) explained that self-efficacy and outcome expectancy are both necessary for sustained behavioral engagement and optimal performance. An individual may possess knowledge and skills, but not have the confidence in their ability to execute, or lack the belief that their actions will produce good results. These individuals are unlikely to engage fully or persist through challenges (Bandura, 1997).

When considering the context of Extension education, Bandura's framework can be applied to understand Extension agents as adult educators. Teacher efficacy, defined by Tschannen-Moran et al. (1998) as a teacher's belief in their capability to execute teaching a specific task in a specific context, represents the self-efficacy component. This construct addresses the confidence level of Extension agents towards their ability to effectively teach adult learners. The performance in the framework is represented by using andragogical techniques. Extension agents' usage of andragogical techniques is indicative of their teaching abilities. Outcome expectancy in this study represents Extension agents' belief that their teaching efforts will lead to successful learning outcomes with adult learners. These outcomes include participants engaging with content, gaining knowledge, retaining information, and applying what they have learned. The visual representation of this framework is provided in Figure 1.

Bandura (1997) postulated that individuals with high self-efficacy and high outcome expectations will engage productively, foster aspirations, and have a good sense of personal fulfillment. It can be assumed that Extension agents exhibiting high levels of teacher efficacy and high outcome expectancies should lead to optimal adult education.

Figure 1. Bandura's (1977) Relationship Between Self-efficacy and Outcome Expectancy



Chapter 3 - Methods

This quantitative study utilized survey data to determine a correlation between Kansas Extension agents' teacher efficacy and usage of andragogical techniques while teaching adult learners. The survey was distributed online via Qualtrics to obtain the data for the study.

Extension agents were surveyed on three constructs: teacher efficacy, andragogy usage, and outcome expectancy. In teacher efficacy and outcome expectancy, professionals ranked their abilities on a Likert scale from 1 to 5. In andragogy usage, professionals ranked their frequency of using andragogical techniques on a Likert scale from 1 to 5.

Institutional Review Board (IRB)

This study was approved by Kansas State University's Institutional Review Board (IRB #13434) on December 16, 2025. Prior to submitting the IRB proposal, the researcher completed all required training through the Collaborative Institutional Training Initiative (CITI). The survey instrument included a consent statement, which outlined the study's purpose, voluntary nature of participating, confidentiality protections, and the right to withdraw from the study at any time. Participating in the survey constituted informed consent (see Appendix A).

Role of the Researcher

The researcher served as a graduate research assistant, funded by the Kansas State Extension, during the study. While employed by Kansas State Extension, the researcher had limited to no interaction with current Extension agents. The researcher did not work for Kansas State Extension before the start of the assistantship. This limited relationship with the organization and agents minimized bias.

The researcher brought relevant experience to the study from prior experiences and education. The researcher participated in multiple Extension programs in their home state for

multiple years. These experiences provided familiarization with challenges, programming, and the structure of Extension. The researcher has a Bachelor of Science in Agriculture and Extension Education. This educational background shaped the researcher's understanding of andragogical principles and Extension education.

The researcher utilized multiple strategies to lower the chances of bias in the study. The researcher utilized established instruments as the basis of the study. The instrument maintained a similar word structure and content as it was adapted to meet the needs of the study. The instrument was submitted to the researcher's committee to review the validity of the instrument. The instrument was then piloted in a separate state to determine the reliability of the instrument.

Research Design

This study employed a quantitative, non-experimental correlational research design to examine the relationships among Kansas State Extension agents' teacher efficacy, usage of andragogical techniques, and outcome expectancy in adult education contexts. A correlational design was selected because it allowed the researcher to identify and measure relationships among variables related to adult education in Extension. This approach allowed the researcher to investigate the relationship of the constructs without intervening in their practice.

The quantitative approach was used for multiple reasons. First, the research questions aimed to measure the relationship between variables across the population. This task required numerical data and statistical analysis. Second, the population for this study is dispersed geographically across the whole state of Kansas. Utilizing a survey was the most practical method for reaching the entire population. Finally, utilizing quantitative methods allowed the researcher to gather empirical data on the variables. This was crucial as little research has been conducted on these variables in Extension.

A limitation of the study is that Extension agents are self-reporting their data. These agents may be subject to social desirability bias or inaccurate self-assessment. Another limitation is the length of the survey. The study included 3 large constructs that had many Likert scales each. The length of the survey created the potential for respondent fatigue. This could affect data quality and response rates. Despite these limitations, the quantitative correlational design is still the most appropriate design for this study.

Population

The target population for this study consisted of Kansas State Extension agents. County-based Extension agents in the programmatic areas of agriculture and natural resources, family and consumer sciences, and community vitality were selected for the study as they conduct adult education as part of their job. 4-H and youth development agents were omitted from the population as their roles require them to educate youth, rather than adult learners. Agents with split appointments that included 4-H and youth development were included in the study as they spent time teaching multiple topics to adult learners.

Extension agents' contact information was gathered using the state database in December 2025. The population consisted of 187 agents across Kansas. The population consisted of 100 agriculture and natural resource agents, 75 family and consumer sciences agents, and 12 community vitality agents. Of the 187 surveys distributed, seven failed to send, resulting in 180 surveys being successfully delivered. A census was attempted as the population is finite.

Instrumentation

The survey instrument was developed to determine a correlation between teacher efficacy and andragogy technique usage amongst Kansas State Extension agents. The survey consisted of

46 items: 12 teacher efficacy items, 14 andragogy usage items, 12 outcome expectancy items, and 8 demographic questions (see Appendix B).

Pilot Study

Before distributing the survey to Kansas Extension agents, a pilot study was conducted with West Virginia Extension agents. The survey was sent to 25 recipients, consisting of agriculture and natural resource and family and consumer science agents. Fourteen Extension agents responded to the study, which is a response rate of 56%. The data from the pilot study were analyzed using SPSS to assess the internal consistency reliability of each construct. Cronbach's Alpha coefficients showed acceptable reliability for all three sections: teacher efficacy ($\alpha = .81$), andragogy usage ($\alpha = .825$), and outcome expectancy ($\alpha = .847$). These values exceeded the .80 threshold for acceptable reliability (Kline, 2000).

Survey Structure

Respondents were first asked to identify their programmatic area. Based on their response, participants were directed to a list of common topics within their programmatic area. These topics were identified from the Kansas State Extension website. Respondents were asked to select the topic they would be most confident teaching to a group of adult learners. All subsequent items in the survey asked respondents to consider their teaching of this selected topic when responding.

Construct 1: Teacher Efficacy

The first section measured Extension agents' teacher efficacy in adult education contexts. This section consisted of 12 items adapted from Tschannen-Moran and Hoy's (2001) Teachers' Sense of Efficacy Scale. The researcher utilized the shorter version of the survey to reduce the total survey length while maintaining adequate measurement of the construct. Items in the survey

were adapted to reflect adult education contexts while keeping the original sentence structure. It was also an effort to keep the meaning of the sentence close to the original one. Words were replaced consistently across items. The items also maintained an accessible reading level.

Respondents rated their perceived capability on a 5-point Likert scale ranging from 1 (Nothing) to 5 (A Great Deal). The original Teachers' Sense of Efficacy Scale has a strong reliability of $\alpha = .90$ (Tschannen-Moran & Hoy, 2001). The adapted version of the survey achieved a Cronbach's Alpha of .81 in the pilot study, which was above the acceptable threshold of .80 (Kline, 2000). A post-hoc reliability test found that the instrument was still reliable after the completion of the study ($\alpha = .867$).

Construct 2: Andragogy Usage

The second section assessed the frequency of Extension agents employing andragogical techniques in their adult education programming. This section consisted of 14 items developed by the researcher based on adult learning topics. These topics were originally identified by Conner et al. (2018), which were derived from Knowles' six assumptions of andragogy (Knowles et al., 2025). Each of the six assumptions was represented by 2-3 items to ensure comprehensive coverage of andragogical principles.

Participants responded on a 5-point Likert scale ranging from 1 (Never) to 5 (Very Often). The section demonstrated acceptable internal consistency reliability in the pilot study with a Cronbach's Alpha of .825 (Kline, 2000). After completion of the study, a reliability test found that the instrument was still reliable ($\alpha = .904$).

Construct 3: Outcome Expectancy

The third section measured Extension agents' outcome expectancy, their belief that their teaching behaviors will lead to successful learning outcomes. This section consisted of 12 items

developed by the researcher. The researcher utilized Tschannen-Moran and Hoy's (2001) Teachers' Sense of Efficacy Scale to develop the items. Tschannen-Moran et al. (1998) claimed that previous instruments had not accurately assessed outcome expectancy in teaching. Earlier research had focused on environmental factors rather than a means-ends relationship between their teaching behaviors and the outcomes. Following Skinner's (1996) conceptualization of outcome expectancy as a means-end relation, the researcher reframed each item from section 1 to focus on outcomes of behaviors. To accurately assess the relationship between means and ends, the teachers were asked to refer to the outcome, given certain actions that they felt capable of delivering (Tschannen-Moran et al., 1998).

Respondents rated the likelihood of positive outcomes on a 5-point Likert scale ranging from 1 (Very Unlikely) to 5 (Very Likely). This section yielded a Cronbach's Alpha of .847, making it an acceptable reliability (Kline, 2000). A post-hoc reliability test showed that the instrument was still reliable ($\alpha = .915$).

Demographics

The survey concluded with demographic questions to characterize the sample. Respondents were asked about their age, gender, years of experience, highest degree earned, program area, and if they had taken prior coursework on adult education outside of Extension.

Data Collection

Study respondents were contacted via email through the Qualtrics distribution system. The distribution system provided each participant with their own unique link to access the survey. The email addresses were obtained from the Kansas State Extension county websites in January 2025. The survey distribution procedures followed Dillman's Tailored Design Method (Dillman et al., 2014).

Data collection occurred in January 2026 using 4 points of contact with the population of 187 Extension agents. The initial contact was an invitation to participate in the study, accompanied by a link to the survey. The second and third contacts served as a reminder to non-respondents. These were sent on subsequent Mondays after the initial contact. The final reminder was sent on Monday, a week apart. All reminder emails were sent only to non-respondents. The survey was open for 3 weeks. The responses were collected anonymously through Qualtrics. The estimated completion time was 15 minutes.

Responding Sample

Of the 187 Extension agents that were contacted to participate, seven surveys failed to send, resulting in 180 surveys delivered. Of the 180 surveys delivered, 105 agents responded to the instrument. This yielded a response rate of 58.3%. The researcher then began cleaning the data only to include viable responses. The first removed response was a survey where the respondent straight-lined their responses. This was picked up by Qualtrics' system but verified by the researcher. The researcher then screened that data for responses that did not answer every Likert scale in the 3 constructs: teacher efficacy, andragogy usage, and outcome expectancy. This was chosen due to the plan to run a multiple linear regression. Missing values would not lead to an equal comparison between each construct. This resulted in 16 more responses being removed. The final total of usable responses in the study was 88.

To assess the nonresponse error in the study, early respondents were compared to late respondents on teacher efficacy, andragogy usage, and outcome expectancy. Using independent samples t-tests, recommended by Lindner et al. (2001). No statistically significant differences were found between early and late respondents on teacher efficacy ($t(58) = .362, p = .719$), andragogy usage ($t(58) = 1.310, p = .195$), or outcome expectancy ($t(58) = 1.022, p = .311$).

These results suggest that nonresponse error was not a significant threat to the validity of this study.

Table 1 presents personal information about the respondents in the study. Of the respondents, 70.5% ($f = 62$) of the respondents identified as female, while 28.4% ($f = 25$) of respondents identified as male. One participant (1.1%) preferred not to say.

Respondents reported their age. The largest range was 45-54 years (29.5%, $f = 26$). The next biggest range was 55 or older (26.1%, $f = 23$). Other large categories were 25-34 years (20.5%, $f = 18$) and 35-44 years (20.5%, $f = 18$). The smallest category was 18-24 years (3.4%, $f = 3$).

50% of respondents identified having a master's degree ($f = 44$) as their highest degree. Similarly, 48.9% of the respondents reported having a bachelor's degree ($f = 43$). 1 individual reported having a doctoral/professional degree (1.1%).

Table 1. Respondent's Personal Characteristics (n = 88)

Characteristic	<i>f</i>	%
Gender		
Male	25	28.4
Female	62	70.5
Prefer not to say	1	1.1
Age (Years)		
18-24	3	3.4
25-34	18	20.5
35-44	18	20.5

45-54	26	29.5
55+	23	26.1
Education Level		
Bachelors	43	48.9
Masters	44	50.0
Doctoral/Professional	1	1.1

Data Analysis

Descriptive statistics were calculated for all demographic variables and construct responses. Means and standard deviations were computed to characterize the sample. Frequency distributions were generated for categorical demographic variables to describe the sample.

Before conducting the primary analysis, the researcher examined the data for violations of statistical assumptions. Tests for normality were conducted using the Shapiro-Wilk test and visual inspection of histograms and Q-Q plots. The researcher also utilized scatterplots to assess linearity and homoscedasticity assumptions for correlation and regression analysis. Internal consistency reliability for each scale was assessed using a post-hoc Cronbach's alpha coefficient.

Teacher efficacy consisted of 12 Likert-scale questions based on Tschannen-Moran & Hoy's (2001) Teachers' Sense of Efficacy Scale. Each question utilized a 5-point Likert scale, with responses ranging from 1 (Nothing) to 5 (A Great Deal). The questions were coded so that a higher mean score indicated higher levels of teacher efficacy. Composite scores were calculated by averaging responses from all 12 items.

The use of andragogy was assessed using 14 Likert-scale questions. These topics were based on the six assumptions of andragogy by Knowles et al. (2025). Each item utilized a 5-point

Likert scale ranging from 1 (Never) to 5 (Very Often). The Likert scale was coded so that higher mean scores indicated a greater frequency of andragogical technique usage. Composite scores were calculated by averaging responses from all 14 items.

Outcome expectancy was assessed using 12 Likert scale questions. These questions were developed as a mirror to Tschannen-Moran and Hoy's (2001) Teacher's Sense of Efficacy Scale. The questions were developed as a means-ends relation. Each item utilized a 5-point Likert scale ranging from 1 (Very Unlikely) to 5 (Very Likely). The scale was coded so higher mean scores are correlated to higher outcome expectancy.

Multiple primary statistical analyses were conducted to address the research questions. A Pearson product-moment correlation was calculated to determine the coefficients of the 3 constructs. A correlation matrix was produced by SPSS to provide a comprehensive overview of relationships among the constructs. Cohen's (1988) guidelines were utilized to interpret the strength and direction of the coefficients.

A multiple regression analysis was run to examine the ability of andragogy usage and teacher efficacy to predict outcome expectancy. In this analysis, outcome expectancy served as the dependent variable, while andragogy usage and teacher efficacy served as predictor variables. Following the standard multiple regression, a stepwise multiple regression analysis was conducted to identify other predictors of outcome expectancy.

Chapter 4 - Results

Descriptives

Demographics

Table 2 presents general characteristics of the respondents ($n = 88$) within the study. Participants represented a range of programmatic areas. The largest portion of respondents identified as agricultural and natural resource agents (38.6%, $f = 34$). This was followed by family and consumer science agents (22.7%, $f = 20$). There was good representation of the other programmatic areas, community vitality (11.4%, $f = 10$), agriculture and natural resources/ 4-H youth development (14.8%, $f = 13$), and family and consumer sciences/ 4-H youth development (11.4%, $f = 10$). One respondent (1.1%, $f = 1$) reported other as their programmatic area.

Respondents' years in Extension varied widely. The largest group was 0-5 years (35.2%, $f = 31$). Other respondents reported 6-10 years (18.2%, $f = 16$), 11–15 years (14.8%, $f = 13$), and 16–20 years (8.0%, $f = 7$) of experience. The smallest groups in Extension were 21-25 years (4.5%, $f = 4$) and 26 or more years (17.0%, $f = 15$).

Regarding respondents' tenure in their current position, half the respondents reported 0-5 years (50.0%, $f = 44$). Respondents 6-10 years made up 15.9% ($f = 14$) of the population. These were followed by 11–15 years (10.2%, $f = 9$) and 16–20 years (5.7%, $f = 5$). Smaller portions of the population reported 21–25 years (4.5%, $f = 4$), while 12.5% ($f = 11$) reported 26 or more years in their current position.

More than half of the respondents indicated they had received a form of adult education training outside of Extension (54.5%, $f = 48$). Meanwhile, 45.5% ($f = 40$) reported no adult education training. Among the Extension agents reporting they received adult education training, 32 specified their types of training. 40.6% ($f = 13$) reported they had attended professional

development based on adult learning. 37.5% ($f = 12$) reported previously completing formal coursework on adult education. Meanwhile, smaller portions reported having prior experience in adult education (12.5%, $f = 4$) and an adult education degree/certification (9.4%, $f = 3$).

Table 2. Respondent's General Characteristics

Characteristic	<i>f</i>	%
Programmatic Area		
Agriculture & Natural Resources	34	38.6
Community Vitality	10	11.4
Family & Consumer Sciences	20	22.7
Agriculture & Natural Resources/ 4-H Youth Development	13	14.8
Family & Consumer Sciences/ 4-H Youth Development	10	11.4
Other	1	1.1
Years in Extension		
0-5	31	35.2
6-10	16	18.2
11-15	13	14.8
16-20	7	8.0
21-25	4	4.5
26+	15	17.0
Years in Current Position		

	0-5	44	50.0
	6-10	14	15.9
	11-15	9	10.2
	16-20	5	5.7
	21-25	4	4.5
	26+	11	12.5
Adult Education Training	Yes	48	54.5
	No	40	45.5
Training Types			
	Degree/Certificate	3	9.4
	Formal Coursework	12	37.5
	Prior Experiences	4	12.5
	Professional Development	13	40.6

Teacher Efficacy

Table 3 presents the teacher efficacy ratings of Extension agents for their role in adult education. The respondents rated 12 key teaching competencies. Table 3 shows response frequencies and percentages across a 5-point scale ranging from “Nothing” to “A Great Deal”, along with mean scores and standard deviation for all 12 items.

Respondents reported the highest levels of efficacy related to establishing a positive and productive learning environment for adult learners ($M = 4.23$, $SD = 0.66$), with 55.7% indicating they could perform this “quite a bit” and 34.1% reporting “a great deal” of capability. Similar

high confidence was expressed in helping adult learners recognize the value and relevance of their learning ($M = 4.13$, $SD = 0.66$), with 62.5% selecting “quite a bit” and 26.1% choosing “a great deal.” Providing alternative explanations or examples when adult learners are confused also garnered strong ratings ($M = 4.03$, $SD = 0.73$), with 53.4% responding “quite a bit” and 26.1% indicating a great deal.

Extension agents demonstrated moderately high efficacy in helping adult learners believe they can master new skills or knowledge ($M = 3.99$, $SD = 0.70$), with 58% selecting “quite a bit” and 21.6% choosing a great deal.” The ability to use a variety of instructional or assessment strategies appropriate for adult learners received a mean score of 3.86 ($SD = 0.75$), with 53.4% reporting “quite a bit” of capability. Crafting effective questions that promote critical thinking among adult learners yielded similar results ($M = 3.80$, $SD = 0.73$), with 53.4% indicating “quite a bit” and 14.8% selecting “a great deal.”

Extension agents showed moderate confidence in encouraging adult learners to follow agreed-upon group expectations ($M = 3.72$, $SD = 0.84$), with 48.9% selecting “quite a bit.” Implementing alternative instructional strategies when the usual approach is not effective received a mean of 3.65 ($SD = 0.80$), with 46.6% indicating “quite a bit” of capability. Supporting adult learners in overcoming challenges that limit their engagement or success had a nearly identical mean ($M = 3.64$, $SD = 0.76$), also with 46.6% selecting “quite a bit.”

The ability to manage disruptive behavior among adult learners in a group setting received a mean score of 3.58 ($SD = 0.81$), with responses fairly evenly distributed between “some influence” (42%) and “quite a bit” (37.5%). Similarly, the capacity to quickly redirect an adult learner who becomes disruptive or inattentive yielded a mean of 3.56 ($SD = 0.81$), with 37.5% reporting “some influence” and 42% indicating “quite a bit.”

The lowest-rated item was motivating adult learners who show low interest in a topic ($M = 3.36$, $SD = 0.81$), with 43.2% of respondents indicating “some influence,” 36.4% selecting “quite a bit,” and 13.6% reporting only “very little” capability.

The 12 competencies are equally separated into 3 dimensions of teacher efficacy: participant engagement, instructional strategies, and classroom management (Tschannen-Moran & Hoy, 2001). The dimension scoring the highest mean score was instructional strategies ($M = 3.83$, $SD = 0.60$). The other dimensions, participant engagement ($M = 3.77$, $SD = 0.56$) and classroom management ($M = 3.76$, $SD = 0.58$), scored slightly lower. Overall, the results suggest that Extension agents feel moderately confident in implementing andragogical techniques into their adult programming.

Table 3. Teacher Efficacy Responses (n = 88)

Question	Nothing		Very Little		Some Influence		Quite A Bit		A Great Deal		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
How much can you do to manage disruptive behavior among adult learners in a group setting?	0	0	6	6.8	37	42	33	37.5	12	13.6	3.58	0.81
How much can you motivate adult learners who show low interest in a topic?	0	0	12	13.6	38	43.2	32	36.4	6	6.8	3.36	0.81

Question	Nothing		Very Little		Some Influence		Quite A Bit		A Great Deal		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
How much can you help adult learners believe they are capable of mastering new skills or knowledge?	0	0	2	2.3	16	18.2	51	58	19	21.6	3.99	0.70
How much can you help adult learners recognize the value and relevance of what they are learning?	0	0	2	2.3	8	9.1	55	62.5	23	26.1	4.13	0.66
To what extent can you craft effective questions that promote critical thinking among adult learners?	0	0	3	3.4	25	28.4	47	53.4	13	14.8	3.80	0.73
How much can you encourage adult learners to follow agreed-upon group expectations during sessions?	0	0	8	9.1	23	26.1	43	48.9	14	15.9	3.72	0.84
How much can you do to quickly redirect an	0	0	8	9.1	33	37.5	37	42	10	11.4	3.56	0.81

Question	Nothing		Very Little		Some Influence		Quite A Bit		A Great Deal		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
adult learner who becomes disruptive or inattentive?												
How well can you establish a positive and productive learning environment for groups of adult learners?	0	0	1	1.1	8	9.1	49	55.7	30	34.1	4.23	0.66
How much can you use a variety of instructional or assessment strategies appropriate for adult learners?	0	0	3	3.4	22	25.0	47	53.4	16	18.2	3.86	0.75
To what extent can you provide alternative explanations or examples when adult learners are confused?	0	0	2	2.3	16	18.2	47	53.4	23	26.1	4.03	0.73
How much can you support adult learners in overcoming challenges	0	0	5	5.7	32	36.4	41	46.6	10	11.4	3.64	0.76

Question	Nothing		Very Little		Some Influence		Quite A Bit		A Great Deal		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
that limit their engagement or success?												
How well can you implement alternative instructional strategies when your usual approach is not effective for adult learners?	1	1.1	4	4.5	31	35.2	41	46.6	11	12.5	3.65	0.80

Andragogy Usage

Table 4 examines Extension agents' frequency of applying andragogical principles in their adult education practice. The table contains 14 items measured on a five-point scale ranging from "Never" to "Very Often," with response frequencies, percentages, means, and standard deviations reported for each item.

Extension agents reported their most frequently used andragogy principle was explaining why content is relevant to adult learners' personal or professional goals ($M = 4.38$, $SD = 0.63$), with 50% reporting they do this "often" and 44.3% indicating "very often." Similarly, showing how new skills or knowledge will help adults solve real-life problems was also practiced at high levels ($M = 4.28$, $SD = 0.76$), with 45.5% selecting "often" and 43.2% choosing "very often." Agents reported using real-world scenarios or problem-solving activities to facilitate learning

strongly ($M = 4.31$, $SD = 0.70$), with 48.9% indicating "often" and 42% reporting "very often." Helping adult learners see personal benefits of applying what they learn was another frequently practiced behavior ($M = 4.25$, $SD = 0.78$), with 44.3% responding "often" and 42% selecting "very often."

Aligning learning activities with problems or tasks adult learners are currently facing yielded a mean of 4.10 ($SD = 0.79$), with 47.7% reporting "often" and 33% indicating "very often." Encouraging learners to take responsibility for applying new knowledge on their own had a mean of 4.08 ($SD = 0.73$), with 53.4% selecting "often" and 28.4% choosing "very often." Organizing learning around tasks or issues rather than abstract concepts received a mean score of 4.06 ($SD = 0.89$), with 46.6% indicating "often" and 33% selecting "very often."

Respondents also frequently incorporated learners' past experiences into discussions and activities ($M = 3.95$, $SD = 0.80$), with 39.8% reporting "often" and 28.4% indicating "very often." Designing activities that allow adults to share and apply their prior knowledge had similar ratings ($M = 3.91$, $SD = 0.81$), where 51.1% selected "often" and 22.7% chose "very often." Using strategies to stimulate curiosity, personal relevance, or self-improvement also received a mean of 3.91 ($SD = 0.87$), with 47.7% indicating "often" and 25% selecting "very often." Assessing what adults need to learn to address current tasks or challenges yielded a mean of 3.90 ($SD = 0.86$), with 48.9% reporting "often" and 23.9% choosing "very often."

Extension agents reported helping adults identify what they need to learn based on their own goals or challenges with moderate frequency ($M = 3.78$, $SD = 0.89$), where 44.3% selected "often" and 21.6% indicated "very often." Modifying instruction based on the diverse backgrounds and experiences of adult learners received a mean of 3.72 ($SD = 0.90$), with 43.2% reporting "often" and 19.3% selecting "very often."

The item with the lowest mean score was giving adult learners choices and input in how they will learn or participate ($M = 3.69$, $SD = 0.86$), with responses fairly distributed between "occasionally" (39.8%), "often" (36.4%), and "very often" (19.3%). Overall, the results indicate that Extension agents most consistently emphasize relevance and real-world application in their teaching, while providing learner choice and autonomy in the learning process occurs somewhat less frequently.

Table 4. Andragogy Usage Responses (n = 88)

Question	Never		Rarely		Occasionally		Often		Very Often		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
I explain why the content is relevant to adult learners' personal or professional goals.	0	0	1	1.1	4	4.5	44	50	39	44.3	4.38	0.63
I show how new skills or knowledge will help adults solve real-life problems.	0	0	3	3.4	7	8	40	45.5	38	43.2	4.28	0.76
I give adult learners choices and input in how they will learn or participate.	1	1.1	3	3.4	35	39.8	32	36.4	17	19.3	3.69	0.86
I encourage learners to take responsibility for applying	0	0	2	2.3	14	15.9	47	53.4	25	28.4	4.08	0.73

Question	Never		Rarely		Occasionally		Often		Very Often		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
new knowledge on their own.												
I help adults identify what they need to learn based on their own goals or challenges.	0	0	8	9.1	22	25	39	44.3	19	21.6	3.78	0.89
I incorporate learners' past experiences into discussions and activities.	0	0	1	1.1	27	30.7	35	39.8	25	28.4	3.95	0.8
I design activities that allow adults to share and apply their prior knowledge.	0	0	5	5.7	18	20.5	45	51.1	20	22.7	3.91	0.81
I modify instruction based on the diverse backgrounds and experiences of adult learners.	0	0	9	10.2	24	27.3	38	43.2	17	19.3	3.72	0.9
I assess what adults need to learn to address current tasks or challenges.	1	1.1	4	4.5	19	21.6	43	48.9	21	23.9	3.9	0.86

Question	Never		Rarely		Occasionally		Often		Very Often		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
I align learning activities with problems or tasks adult learners are currently facing.	0	0	3	3.4	14	15.9	42	47.7	29	33	4.1	0.79
I use real-world scenarios or problem-solving activities to facilitate learning.	0	0	2	2.3	6	6.8	43	48.9	37	42	4.31	0.7
I organize learning around tasks or issues rather than abstract concepts.	2	2.3	2	2.3	14	15.9	41	46.6	29	33	4.06	0.89
I use strategies to stimulate curiosity, personal relevance, or self-improvement.	1	1.1	4	4.5	19	21.6	42	47.7	22	25	3.91	0.87
I help adult learners see personal benefits of applying what they learn.	0	0	3	3.4	9	10.2	39	44.3	37	42	4.25	0.78

Outcome Expectancy

Table 5 assesses Extension agents' outcome expectations for adult education, measuring their beliefs about the likelihood that specific teaching actions will produce desired learning outcomes. The table presents twelve items on a five-point scale ranging from "Very Unlikely" to "Very Likely," with response frequencies, percentages, means, and standard deviations for each item.

Respondents expressed the highest outcome expectations for demonstrating relevance of material, believing it is likely that adult learners will value what they are learning ($M = 4.30$, $SD = 0.68$), with 48.9% selecting "likely" and 40.9% indicating "very likely." Similarly strong expectations were held for establishing a positive and structured learning environment, with professionals believing it is likely that adult learners will stay engaged and respectful during sessions ($M = 4.20$, $SD = 0.68$), where 50% responded "likely" and 35.2% chose "very likely." Adjusting instructional approach when needed was also expected to improve adult learning outcomes ($M = 4.18$, $SD = 0.65$), with 54.5% indicating "likely" and 31.8% selecting "very likely." Using well-crafted questions was believed likely to promote critical thinking about content ($M = 4.17$, $SD = 0.63$), with 58% reporting "likely" and 29.5% choosing "very likely."

Extension agents also held strong expectations that providing alternative explanations or examples would help confused adult learners understand content ($M = 4.14$, $SD = 0.66$), with 58% selecting "likely" and 28.4% indicating "very likely." The belief that using a variety of instructional and assessment strategies would lead to effective learning received an identical mean score ($M = 4.13$, $SD = 0.71$), also with 58% responding "likely" and 28.4% choosing "very likely." Helping learners address barriers to participation was expected to improve their

engagement and success ($M = 4.08$, $SD = 0.70$), with 54.5% selecting "likely" and 27.3% indicating "very likely."

Encouraging adult learners' confidence and capabilities was believed likely to help them believe they can succeed ($M = 4.02$, $SD = 0.77$), with 50% responding "likely" and 27.3% choosing "very likely." Reinforcing agreed-upon group expectations was expected to promote compliance among adult learners ($M = 3.98$, $SD = 0.77$), where 51.1% selected "likely" and 25% indicated "very likely." Using effective strategies to manage disruptive behavior was believed likely to keep the group productive and on task ($M = 3.95$, $SD = 0.74$), with 54.5% reporting "likely" and 21.6% choosing "very likely."

Extension agents expressed somewhat lower outcome expectations for using effective motivational strategies with low-interest adult learners ($M = 3.70$, $SD = 0.82$), with responses distributed across "somewhat likely" (31.8%), "likely" (47.7%), and "very likely" (14.8%). The lowest outcome expectation was for applying appropriate redirection techniques to help disruptive adult learners return to constructive participation ($M = 3.63$, $SD = 0.75$), where 36.4% indicated "somewhat likely," 47.7% selected "likely," and only 10.2% chose "very likely."

Overall, the results suggest that Extension agents hold strongest outcome expectations for teaching strategies related to demonstrating relevance, creating positive environments, and adapting instruction, while expressing relatively less confidence in the effectiveness of interventions aimed at motivating disengaged learners and redirecting disruptive behaviors.

Table 5. Outcome Expectancy Responses (n = 88)

Question	Very Unlikely		Unlikely		Somewhat Likely		Likely		Very Likely		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
If you use effective strategies to manage disruptive behavior among adult learners, how likely is it that the group will remain productive and on task?	1	1.1	0	0	20	22.7	48	54.5	19	21.6	3.95	0.74
If you use effective motivational strategies, how likely is it that low-interest adult learners will become more engaged in the topic?	1	1.1	4	4.5	28	31.8	42	47.7	13	14.8	3.7	0.82
If you encourage adult learners' confidence and capabilities, how likely is it that they will believe they can succeed?	1	1.1	0	0	19	21.6	44	50	24	27.3	4.02	0.77
If you demonstrate the relevance	0	0	1	1.1	8	9.1	43	48.9	36	40.9	4.3	0.68

Question	Very Unlikely		Unlikely		Somewhat Likely		Likely		Very Likely		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
of the material, how likely is it that adult learners will value what they are learning?												
If you use well-crafted questions, how likely is it that adult learners will think critically about the content?	0	0	0	0	11	12.5	51	58	26	29.5	4.17	0.63
If you reinforce agreed-upon group expectations, how likely is it that adult learners will follow them?	0	0	3	3.4	18	20.5	45	51.1	22	25	3.98	0.77
If you apply appropriate redirection techniques, how likely is it that a disruptive adult learner will quickly return to constructive participation?	0	0	5	5.7	32	36.4	42	47.7	9	10.2	3.63	0.75

Question	Very Unlikely		Unlikely		Somewhat Likely		Likely		Very Likely		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
If you establish a positive and structured learning environment, how likely is it that adult learners will stay engaged and respectful during sessions?	0	0	0	0	13	14.8	44	50	31	35.2	4.2	0.68
If you use a variety of instructional and assessment strategies, how likely is it that adult learners will learn the material effectively?	1	1.1	0	0	11	12.5	51	58	25	28.4	4.13	0.71
If you provide alternative explanations or examples, how likely is it that confused adult learners will understand the content?	0	0	1	1.1	11	12.5	51	58	25	28.4	4.14	0.66
If you help learners address	0	0	1	1.1	15	17	48	54.5	24	27.3	4.08	0.7

Question	Very Unlikely		Unlikely		Somewhat Likely		Likely		Very Likely		Statistics	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>M</i>	<i>SD</i>
barriers to participation, how likely is it that their engagement and success will improve?												
If you adjust your instructional approach when needed, how likely is it that adult learning outcomes will improve?	0	0	0	0	12	13.6	48	54.5	28	31.8	4.18	0.65

Correlation

Pearson product-moment correlations were calculated to examine the relationships among Kansas State Extension agents' teacher efficacy, use of andragogical techniques, and outcome expectancies. All assumptions were satisfied, supporting the use of correlational analysis. Table 6 shows the correlation matrix displaying the relationships among the 3 constructs.

All three bivariate correlations were statistically significant at the $p < .001$. This indicates highly reliable relationships among the constructs. According to Cohen's (1988) guidelines for interpreting correlation coefficients, all three correlations represent moderate associations between the variables.

The correlation between teacher efficacy and andragogy usage was $r = .680$, representing a moderate positive correlation, with a 95% confidence interval ranging from .549 to .793. This indicates that Extension agents with higher levels of teacher efficacy tend to report more frequent usage of andragogical techniques in their adult programming.

Teacher efficacy and outcome expectancy showed a correlation of $r = .630$, also indicating a moderate positive correlation, with a 95% confidence interval ranging from .464 to .754. Extension agents with greater confidence in their teaching abilities tend to have higher expectations regarding the outcomes of their educational programming.

Finally, andragogy usage and outcome expectancy showed a correlation of $r = .601$, reflecting a moderate positive relationship, with a confidence interval ranging from .432 to .746. Professionals who more frequently employ andragogical principles in their teaching demonstrate higher expectations for the effectiveness and impact of their educational efforts.

Table 6. Pearson Correlations

Construct	Teacher Efficacy	Andragogy Usage	Outcome Expectancy
Teacher Efficacy		.680** [.549, .793]	.630** [.464, .754]
Andragogy Usage	.680** [.549, .793]		.601** [.432, .746]
Outcome Expectancy	.630** [.464, .754]	.601** [.432, .746]	

Note. $N = 88$. Confidence intervals shown in brackets

** $p < .001$.

Assumptions

Before conducting the multiple regression analysis, the researcher examined the data for violations of the assumptions required for a multiple linear regression. All assumptions were satisfied, supporting the use of the statistical method for this study.

The first assumption is one continuous dependent variable measured at the interval or ratio level (Pedhazur, 1997). This assumption was met, as outcome expectancy served as the dependent variable for the study. It was measured using a composite mean score derived from a 5-point Likert scale, which yielded continuous data at the interval level.

The next assumption is that the study must have two or more independent variables that are continuous or nominal. The independent variables are assumed to be fixed variables and measured without error (Pedhazur, 1997). The independent variables, teacher efficacy and andragogy usage, were measured using a composite mean score derived from 5-point Likert scales. The responses yielded continuous data at the interval level. The instruments utilized were reviewed by a panel to determine content validity. The instruments demonstrated internal consistency through Cronbach's alpha coefficients.

The next assumption is the independence of errors. The study must have errors of prediction that are independent of one another (Tabachnick & Fidell, 2001). The researcher utilized the Durbin-Watson statistic to measure the autocorrelation of errors within the study. There was independence of errors, as assessed by a Durbin-Watson statistic of 1.923. The value exceeds the upper bound for $n > 75$ and $k' = 2$ at the 5% significance level. This indicates no significant evidence of autocorrelation in the residuals (Durbin & Watson, 1951).

The next assumption requires linear relationships between the dependent variable and the independent variables. This assumption was assessed through a visual inspection of scatterplots of the standardized residuals against predicted values. These scatterplots displayed a horizontal band with no discernible pattern, which indicates linearity. Another assumption is that the relationship between the two independent variables is linear. This was assessed by viewing a

partial regression plot for each independent variable. The partial regression plots all showed linear relationships, indicating linear relationships.

Homoscedasticity requires that the variance of errors remain constant across all levels of the independent variables. This assumption was evaluated through a visual inspection of plotting the studentized residuals against the unstandardized predicted values. The plot showed homoscedasticity as the plots were randomly scattered and did not increase or decrease.

The absence of multicollinearity is required for multiple linear regression. This requires both independent variables not to be highly correlated with one another. The correlation was examined using the Variance Inflation Factor (VIF). Both independent variables yielded a VIF value of 1.859. This is within the acceptable threshold of VIF, as it is lower than 10 (Bowerman & O'Connell, 1990)

The absence of significant outliers requires that no cases exert undue influence on the regression results. Casewise diagnostics were reviewed in SPSS. According to Tabachnick and Fidell (2001) in studies with less than 1000 participants, it is appropriate for all standardized residuals to be less than ± 3.3 . All standardized residuals in the study were within the recommended range. The maximum standardized residual was 3.16, and the minimum was -3.16. Cook's Distance values were also calculated and assessed by the researcher in SPSS. No cases exceeded 1, which is recommended by Cook and Weisberg (1982).

Normality of residuals means that the errors are approximately normally distributed. This was assessed by the researcher through visual inspection of a histogram of the standardized residuals and a normal probability plot (P-P Plot). Both indicated that the residuals are in an approximate normal distribution. This satisfies this assumption and supports the validity of the multiple regression analysis.

Multiple Linear Regression

A multiple linear regression was conducted to examine the ability of teacher efficacy and andragogy usage to predict outcome expectancy amongst Kansas State Extension agents.

Outcome expectancy served as the dependent variable, while teacher efficacy and andragogy usage served as the two independent predictor variables. Before conducting the statistical test, all assumptions for multiple linear regression were evaluated. All assumptions passed and were reported in the section prior.

The model accounted for 45.2% of the variance in outcome expectancy ($R^2 = .452$, Adjusted $R^2 = .439$). This indicates a small effect size for the model (Cohen, 1988). The adjusted R^2 of .439 accounts for the number of predictors in the model relative to the sample size (Tabachnick & Fidell, 2001).

The ANOVA table confirmed the overall model was statistically significant, $F(2, 85) = 35.089, p < .001$. The regression sum of squares was 10.26, with 2 degrees of freedom, yielding a mean square of 5.13. The residual sum of squares was 12.42, distributed across 85 degrees of freedom, producing a mean square of .146. This significant F-ratio indicates that the regression model predicts outcome expectancy significantly better than the mean of the outcome variable alone. Table 8 presents the ANOVA results.

Table 7. ANOVA Results

Model	Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Regression	10.26	2	5.13	35.09	< .001
Residual	12.42	85	0.15		
Total	22.68	87			

Note: Dependent Variable: Outcome Expectancy. Predictors: (Constant), Andragogy Usage, Teacher Efficacy.

Teacher efficacy was a statistically significant predictor of outcome expectancy ($B = 0.436$, $SE = .116$, $\beta = .412$, $t = 3.77$, $p < .001$). These results show that for every one-unit increase in teacher efficacy composite score, outcome expectancy increased by .436 units when andragogy was held constant. Andragogy usage was also a statistically significant predictor of outcome expectancy ($B = .303$, $SE = .104$, $\beta = .320$, $t = 2.93$, $p = .004$). This indicates that for every one-unit increase in andragogy usage composite score, outcome expectancy increased by .303 units, holding teacher efficacy constant. These statistics can be found in Table 8.

Table 8. Coefficients

	Unstandardized B	SE	Standardized β	t	p
(Constant)	1.171	.346		3.39	.001
Teacher Efficacy	0.436	.116	.412	3.77	< .001
Andragogy Usage	0.303	.104	.320	2.93	.004

Note. Dependent Variable: Outcome Expectancy

When looking at the standardized coefficients, teacher efficacy ($\beta = .436$) demonstrated a slightly stronger predictive contribution to outcome expectancy than andragogy usage ($\beta = .303$). However, both variables contributed significantly to the prediction of outcome expectancy. This indicates that each construct explains variance in outcome expectancy beyond what is shared by both variables.

The unstandardized regression equation derived from the results is:

$$\text{Outcome Expectancy} = 1.171 + .436 (\text{Teacher Efficacy}) + .303 (\text{Andragogy Usage})$$

The equation indicates that an Extension agent who scores at the mean on both teacher efficacy and andragogy usage would be predicted to score approximately 4.04 on outcome expectancy, which closely aligns with the obtained mean of $M = 4.05$ ($SD = .483$).

Stepwise Multiple Regression

Following the standard multiple regression, a stepwise multiple regression analysis was conducted to identify additional demographic or background variables that might serve as significant predictors of outcome expectancy. Like the first multiple regression analysis, outcome expectancy was the dependent variable. Teacher efficacy and andragogy usage were also included as predictors. Demographic variables such as programmatic area, age, gender, education level, years in current position, years employed by Extension, and adult education training were included as candidate predictors. The stepwise method was applied using the default probability criteria, F -to-enter $\leq .05$ and F -to-remove $\geq .10$.

The stepwise procedure produced a three-model solution. In step 1, teacher efficacy entered the model as the strongest single predictor of outcome expectancy. In step 2, andragogy usage entered the model, improving the predictive power of the model. In step 3, adult education training entered the model as a significant predictor. No other demographic variables met the threshold for entry into the model, and no variables were removed at any step.

In step 1, teacher efficacy alone accounted for 38.7% of the variance in the outcome expectancy ($R = .622$, $R^2 = .387$, Adjusted $R^2 = .380$). The addition of andragogy usage in step 2 increased the explained variance to 45.7% ($R = .676$, $R^2 = .457$, Adjusted $R^2 = .444$). This represented a statistically significant R^2 change of .070, $F(1, 82) = 10.67$, $p = .002$. In step 3, the entry of adult education training further increased the explained variance to 50.2% ($R = .708$, $R^2 = .502$, Adjusted $R^2 = .484$). This represented a statistically significant R^2 change of .045, F

(1,82) = 7.40, $p = .008$. The final three-predictor model explained 48.4% of the variance in outcome expectancy after adjusting for the number of predictors.

Table 9. Stepwise Regression Model

Model	Predictors Entered	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	<i>R</i> ² Change	<i>F</i> Change	df1	df2	<i>p</i>
1	Teacher Efficacy	.622	.387	.380	.387	53.03	1	84	< .001
2	Andragogy Usage	.676	.457	.444	.070	10.67	1	83	.002
3	Adult Education Training	.708	.502	.484	.045	7.40	1	82	.008

Chapter 5 - Conclusions & Recommendations

This study was conducted to determine the relationship between Kansas State Extension agents' usage of andragogical principles and their level of teacher efficacy as adult educators. The final chapter of this thesis restates the research problem and reviews the methods used in the study. The sections of this chapter summarize the results and discuss the implications of the results.

As explained in chapter 2, the research was a quantitative, correlational design to measure Kansas State Extension agents' teacher efficacy and andragogy usage. These constructs were then used to build a predictive model in a multiple linear regression towards the dependent variable of outcome expectancy.

The study relied on Extension agents' self-reported levels of the constructs in the study. The researcher surveyed 88 Extension agents across the state of Kansas. Each survey included questions about teacher efficacy, andragogy usage, outcome expectancy, and demographics.

Summary of Findings

Research Question 1

The first research question sought to determine the usage of andragogical techniques amongst Kansas State Extension agents. Descriptive statistics revealed that Kansas State Extension agents reported moderate to moderately high usage of andragogical techniques in their adult education programming. The composite mean score for andragogy usage was 4.02 ($SD = 0.54$). Agents reported the most frequent use of explaining why content is relevant and showing how new skills or knowledge will help solve real-life problems. Meanwhile, the least used techniques were modifying instruction based on the diverse backgrounds and experiences of adults and giving adults choices and input in how they learn. These results suggest that Extension

agents incorporate andragogical elements into their practice. The consistency of implementation varies across specific techniques.

Research Question 2

The second research question sought to determine Kansas State Extension agents' teaching efficacy level towards adult education. Results indicated that Extension agents reported moderate to moderately high levels of teacher efficacy overall. The composite mean score for teacher efficacy was 3.79 ($SD = 0.48$). Extension agents reported the highest confidence in establishing a positive and productive learning environment ($M = 4.23$, $SD = 0.66$) and in helping adult learners recognize the value and relevance of their learning ($M = 4.13$, $SD = 0.66$). The Extension agents expressed lower confidence in motivating adult learners who show low interest in a topic ($M = 3.36$, $SD = 0.81$) and in managing disruptive behavior among adult learners in a group setting ($M = 3.58$, $SD = 0.81$).

Research Question 3

The third research question sought to determine the relationship between Kansas State Extension agents' usage of andragogical techniques and their teaching efficacy level towards adult education. A Pearson product-moment correlation was calculated to examine the relationship. The test revealed a statistically significant, moderate positive correlation between teacher efficacy and andragogy usage ($r = .680$, $p < .001$, 95% CI [.549, .793]). This indicates that Extension agents with higher levels of teacher efficacy tend to report more frequent usage of andragogical techniques in their adult programming.

Research Question 4

The fourth research question aimed to determine the ability of teacher efficacy and andragogy usage to predict outcome expectancy among Kansas State Extension agents. The

researcher utilized a standard multiple linear regression to determine the model. Outcome expectancy served as the dependent variable, while teacher efficacy and andragogy usage were the independent predictor variables. The overall model proved to be statistically significant, $F(2, 85) = 35.09, p < .001$, and explained 45.2% of the variance in outcome expectancy ($R^2 = .452$, Adjusted $R^2 = .439$). Both predictors contributed significantly to the model. Teacher efficacy was the stronger predictor ($\beta = .436, p < .001$), followed by andragogy usage ($\beta = .303, p = .004$). The resulting regression equation was: Outcome expectancy = $1.171 + .436$ (Teacher Efficacy) + $.303$ (Andragogy Usage). An Extension agent scoring at the mean on both predictor variables would be predicted to score approximately 4.04 on outcome expectancy, closely aligning with the obtained sample mean of $M = 4.05$ ($SD = 0.48$).

Research Question 5

The fifth research question aimed to identify the best predictive model of Kansas State Extension agents' outcome expectancy by examining andragogy usage, teacher efficacy, and a range of demographic and background variables. A stepwise multiple regression analysis was conducted with outcome expectancy as the dependent variable. Teacher efficacy, andragogy usage, and the demographic/background variables served as candidate predictors. In step 1, teacher efficacy entered as the strongest predictor, accounting for 38.7% of the variance in outcome expectancy ($R = .622, R^2 = .387$, Adjusted $R^2 = .380$). In step 2, andragogy usage entered the model, increasing explained variance to 45.7% (R^2 change = $.070, p = .002$). In step 3, adult education training entered as a significant predictor, further increasing explained variance to 50.2% (R^2 change = $.045, p = .008$). The final three-predictor model explained 48.4% of the variance in outcome expectancy after adjusting for the number of predictors (Adjusted $R^2 = .484$). No other demographic variables met the threshold for entry into the model.

Discussion

Interpretation of the Findings

The findings of this study offer valuable insights into how Kansas State Extension agents understand and approach adult education. Across all three constructs, agents reported moderate to moderately high scores. This suggests that Extension agents are operating at a practical level in their ability to educate adults across Kansas.

The study shows a moderately positive correlation between teacher efficacy and andragogy usage ($r = .680$). This result suggests that confidence and andragogy usage appear to be closely associated. Extension agents who feel confident in executing teaching tasks correspond with a greater usage of andragogical techniques. This relationship is consistent with Bandura's (1997) reciprocal determinism, which shows that behavior, personal factors, and environment operate as influences on each other. Bandura (1977) claimed that positive mastery experiences would lead to individuals being more self-motivated. These positive mastery experiences drive greater instructional effort and variety. Tschannen-Moran et al. (1998) wrote that teachers with higher self-efficacy put more effort into teaching. In an Extension context, improving the teacher efficacy and andragogical practice may not require two separate interventions. Strengthening one may result in the other being elevated.

The correlation between andragogy usage and outcome expectancy ($r = .601$) suggests that Extension agents who more frequently applied andragogical principles also held stronger beliefs that their teaching would lead to meaningful learning outcomes. This is consistent with Bandura (1977), who defined outcome expectancy as someone's estimate that a given behavior would produce certain results. Extension agents who had stronger outcome expectations also

reported high levels of andragogy usage. Agents may feel that aligning their teaching with andragogy would yield more meaningful educational outcomes.

The multiple linear regression findings support these relationships between the constructs. Teacher efficacy emerged as the strongest predictor of outcome expectancy ($\beta = .436$). Andragogy usage contributed additional predictive power ($\beta = .320$). Together, these constructs predicted 45.2% of the variance in the outcome expectancy. The stepwise regression revealed that adult education training outside of Extension added significant predictive value (R^2 change = .045, $p = .008$). This raised the predictive model to 50.2% of the variance in outcome expectancy. These results show that exposure to adult learning principles outside of Extension strengthens professionals' expectations for their own teaching effectiveness.

Relationship of the Current Study to Previous Research

The findings from this study build on a limited body of literature that connects andragogical practice and professional effectiveness in Extension. Roberts, Benge, et al. (2024) found that agents that were identified as exemplary adult educators held andragogical beliefs. Meanwhile, Roberts, Harder, et al. (2024) confirmed that these agents used strategies consistent with andragogy. The present study extends the literature by providing quantitative evidence that andragogy usage is not only a characteristic of excellent educators, but also related to teaching confidence and outcome expectations across the broader Extension workforce.

Strong et al. (2010) found that teaching practices consistent with andragogy were perceived as the most effective teaching approach in Extension programming. The current study complements that finding by demonstrating that professionals who use those strategies more frequently hold higher expectations for learning outcomes in their programming.

The sole published study on teacher efficacy in the context of Extension (Strong & Harder, 2010) focused on adult volunteers in the Master Gardening program. This leaves a significant gap in the literature on how efficacy operates among Extension employees. This study works to fill this gap by establishing a baseline of efficacy levels amongst Kansas State Extension agents.

Results of the teacher efficacy and andragogy usage constructs align with recent findings by Disberger and Ammons (2025). Similar to this study, Kansas State Extension agents under 5 years reported low confidence in having learned how to develop culturally appropriate programming from the new agent training. This low confidence in having learned it carries over to agents feeling low confidence in executing this type of programming. In Disberger and Ammons (2025) new Extension agents rated all educational program delivery items as low in confidence that they had learned them. In this study, agents rated their confidence in teaching as moderately high in confidence. Agents' experience in conducting adult education programming over their career serves as mastery experiences (Bandura, 1977). These experiences may have raised the average confidence of our respondents.

Recommendations for Extension

The findings of this study carry several practical implications for Kansas State Extension and other state Extension organizations.

First, Kansas State Extension should develop training and workshops specifically targeting the areas where agents reported lower confidence and usage of andragogy. These items are where agents have the most opportunity to grow in order to raise their teacher efficacy and andragogical usage. Training should focus on concrete examples, easy-to-implement tools, and practical strategies that agents can implement immediately.

Kansas State Extension should use modeling to teach successful andragogical methods in onboarding and professional development. Modeling would be an effective way to teach agents about andragogy as it simultaneously demonstrates the method and immerses the learner in it. When Extension trainers design training and professional development sessions that incorporate learner autonomy and self-directed discovery, they are conveying andragogical principles while carrying them out in real time. Observing someone carry out a task that an individual identifies similarly to will yield a stronger belief in their own ability to carry out that task (Bandura, 1997). For newer agents, watching an agent with experience in adult education conduct a program can serve as a meaningful vicarious experience. Kansas State Extension should be intentional about who leads their professional development and new agent training to prioritize individuals who utilize andragogy strongly. Having a conversation at the end of trainings about the specific methods used and why they were used would be a great way to deepen their understanding of what they experienced.

The cyclical relationship between teacher efficacy and andragogy usage suggests that professional development should be designed to produce early successes for Extension agents. Both constructs are related and positively impact outcome expectancy. Training building one of these constructs will improve the other. As Bandura (1997) described, mastery experiences are the most influential source of self-efficacy. Professional development should give Extension agents low-stakes opportunities to practice andragogical techniques. This would likely be more effective than passive instruction during training.

Kansas State Extension should formalize teaching mentorships that pair newer agents with agents who demonstrate high teacher efficacy and andragogical practice. The mentor's role should be shaped around working with the new agents through multiple areas surrounding adult

education. Mentors have the opportunity to build new agents' teaching efficacy and andragogical knowledge. Having conversations about different teaching strategies is a vicarious experience that can improve their efficacy. Mentors can also observe agents, providing them with encouragement and feedback in the form of verbal persuasion. Creating a peer-learning community in Extension can create a positive organizational culture surrounding adult education.

Future Research

This study opens the door to many different research opportunities. First, it is recommended by the researcher to replicate this study across other state Extension systems. This would allow researchers to assess whether the relationships observed in this study generalize outside of Kansas State Extension. Many key differences could affect results, including organizational structure, professional development investment, and regional contexts.

Second, longitudinal research would help determine the direction of the relationships identified. This correlational study cannot determine whether teacher efficacy or andragogy usage increases one another, or both. The results of a longitudinal study would have a great effect on understanding how to train agents towards higher levels of teacher efficacy and andragogy usage. The results would have a direct recommendation that Extension agents should be taught these constructs. A possible way to explore this would be to track Extension agents before and after adult education training. These scores, before and after, would allow researchers to understand the cause-and-effect relationship between the constructs.

Third, future research efforts should be made to explore observational measures of andragogy rather than relying on self-reporting. It is a recognized limitation that the study relies on self-reported data for andragogy usage. Professionals may not accurately assess their own practice or may respond in a socially desirable way. Observation could determine the actual

amount of andragogical techniques that each agent is exhibiting in their adult learning programs. Pairing survey data with observed teaching behaviors would strengthen future studies.

The role of adult education training in the predictive model warrants further investigation. Future research should examine the specific types of training that produce the greatest gain in outcome expectancy. The future research should also determine the minimum amount of training to produce change in the constructs. Extension organizations could use this information to determine the most influential types of training and how much of it is needed.

Future research should focus on determining other factors that explain the missing 49.8% of total variance in outcome expectancy. The researcher recommends looking at other demographics, personality traits, and environmental factors. Demographics and personality traits can be easily surveyed in future studies. Previous literature supports the environment being a factor in outcome expectancy. The researcher suggests having agents respond to items similar to this study. The difference would be prompting agents to consider different environmental factors when considering the outcome of the action.

Research should be done to understand how andragogy affects Extension agents as teachers and learners in adult education professional development. Extension agents occupy a dual role relating to andragogy. Extension agents are responsible for facilitating learning for adult learners utilizing andragogy. They are also adult learners themselves when participating in organizational training and professional development. Understanding how agents internalize andragogical practices as learners and if that experience translates into more intentional andragogy usage would be meaningful insight for Extension organizations. Future research could specifically examine whether agents who experience high-quality andragogical professional development report greater confidence in applying those same methods in their program. A

mixed-methods design could pair pre- and post-training efficacy measures with agent reflections on how their experience as a learner shaped their understanding of adult education. This research would advance the theoretical understanding of andragogy in Extension contexts and guide professional development designers.

Finally, qualitative research could enrich the understanding of how Extension agents experience the constructs in this study. Qualitative research could explore what motivates or hinders the use of andragogy in Extension's adult programming. Future research could also focus on how agents navigate the unique demands of voluntary learners. It is not understood how the voluntary nature affects the efficacy of adult educators. Qualitative research could also explore what forms of support were the most valuable to Extension agents in implementing more andragogical techniques. Finally, qualitative research could explore environmental factors that affect the outcome expectancy of adult education programming.

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Appendix A - Institutional Review Board



Office of Research Integrity,
Compliance and Security

TO: Jonathan Ulmer
Communications & Ag Education
Manhattan, KS 66506

Proposal Number: IRB-13434

FROM: Lisa Rubin, Chair
Committee on Research Involving Human Subjects

DATE: 12/16/2025

RE: Proposal Entitled, "Correlation Between Teacher Efficacy and Andragogy Amongst Kansas State Extension Professionals."

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written - and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §104(d), category:Exempt Category 2 Subsection ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

Electronically signed by Lisa Rubin on 12/16/2025 11:49 AM ET

Appendix B - Instrument



What is your Programmatic Area(s)?

- ☐ Agriculture & Natural Resources
- ☐ Community Vitality
- ☐ Family & Consumer Sciences
- ☐ Agriculture & Natural Resources/ 4-H Youth Development
- ☐ Community Vitality/ 4-H Youth Development
- ☐ Family & Consumer Sciences/ 4-H Youth Development
- ☐ Other (Please Specify):

Agriculture & Natural Resources:

Which topic would you be most confident in teaching to a group of adults?

- ☐ Crops, Soils, and Range
- ☐ Farm Finances
- ☐ Livestock
- ☐ Diseases, Pests, and Weeds

- ☐ Precision Agriculture
- ☐ Specialty Crops
- ☐ Ag Safety and Health
- ☐ Fruit and Vegetable Gardening
- ☐ Home Lawn and Ornamental Landscaping
- ☐ Lawn and Garden Problems
- ☐ Environment
- ☐ Fish and Wildlife
- ☐ Forestry
- ☐ Natural Disasters
- ☐ Water Resources

Community Vitality:

Which topic would you be most confident in teaching to a group of adults?

- ☐ Community Assessment
- ☐ Business Development
- ☐ Grant Support
- ☐ Leadership Development
- ☐ Local Foods
- ☐ Natural Disasters

Family and Consumer Sciences: Which topic would you be most confident in teaching to a group of adults?

- ☐ Food Business
- ☐ Home Food Preservation
- ☐ Food Safety
- ☐ Meat Science
- ☐ Access to Healthcare
- ☐ Adult Development and Aging
- ☐ Family and Child Development
- ☐ Financial Wellness
- ☐ Healthy Eating and Nutrition
- ☐ Physical Activity and Movement
- ☐ Stress Management

Which of the following topics would you feel most confident in teaching to a group of adults?

- ☐ Crops, Soils, and Range
- ☐ Farm Finances
- ☐ Livestock
- ☐ Diseases, Pests, and Weeds
- ☐ Precision Agriculture
- ☐ Specialty Crops
- ☐ Ag Safety and Health
- ☐ Fruit and Vegetable Gardening

- ☐ Home Lawn and Ornamental Landscaping
- ☐ Lawn and Garden Problems
- ☐ Environment
- ☐ Fish and Wildlife
- ☐ Forestry
- ☐ Natural Disasters
- ☐ Water Resources
- ☐ Community Assessment
- ☐ Business Development
- ☐ Grant Support
- ☐ Leadership Development
- ☐ Local Foods
- ☐ Food Business
- ☐ Home Food Preservation
- ☐ Food Safety
- ☐ Meat Science
- ☐ Access to Healthcare
- ☐ Adult Development and Aging
- ☐ Family and Child Development
- ☐ Financial Wellness
- ☐ Healthy Eating and Nutrition
- ☐ Physical Activity and Movement
- ☐ Stress Management

Section 1: Teaching Confidence

You will be answering questions related to your confidence while teaching adult learners.

Please answer each question based on teaching a course to adult learners on (Chosen Topic).

	Nothing	Very Little	Some Influence	Quite A Bit	A Great Deal
How much can you do to manage disruptive behavior among adult learners in a group setting?	☐	☐	☐	☐	☐
How much can you motivate adult learners who show low interest in a topic?	☐	☐	☐	☐	☐
How much can you help adult learners believe they are capable of mastering new skills or knowledge?	☐	☐	☐	☐	☐
How much can you help adult learners recognize the value and relevance of what they are learning?	☐	☐	☐	☐	☐

Please answer each question based on teaching a course to adult learners on (Chosen Topic).

	Nothing	Very Little	Some Influence	Quite A Bit	A Great Deal
To what extent can you craft effective questions that promote critical thinking among adult learners?	☐	☐	☐	☐	☐
How much can you encourage adult learners to follow agreed-upon group expectations during sessions?	☐	☐	☐	☐	☐
How much can you do to quickly redirect an adult learner who becomes disruptive or inattentive?	☐	☐	☐	☐	☐
How well can you establish a positive and productive learning environment for groups of adult learners?	☐	☐	☐	☐	☐

Please answer each question based on teaching a course to adult learners on (Chosen Topic).

	Nothing	Very Little	Some Influence	Quite A Bit	A Great Deal
How much can you use a variety of instructional or assessment strategies appropriate for adult learners?	☐	☐	☐	☐	☐
To what extent can you provide alternative explanations or examples when adult learners are confused?	☐	☐	☐	☐	☐
How much can you support adult learners in overcoming challenges that limit their engagement or success?	☐	☐	☐	☐	☐

	Nothing	Very Little	Some Influence	Quite A Bit	A Great Deal
How well can you implement alternative instructional strategies when your usual approach is not effective for adult learners?	☐	☐	☐	☐	☐

Section 2: Teaching Adults

Please answer each question based on teaching a course to adult learners on (Chosen Topic).

	Never	Rarely	Occasionally	Often	Very Often
I explain why the content is relevant to adult learners' personal or professional goals.	☐	☐	☐	☐	☐
I show how new skills or knowledge will help adults solve real-life problems.	☐	☐	☐	☐	☐

	Never	Rarely	Occasionally	Often	Very Often
I give adult learners choices and input in how they will learn or participate.	☐	☐	☐	☐	☐
I encourage learners to take responsibility for applying new knowledge on their own.	☐	☐	☐	☐	☐
I help adults identify what they need to learn based on their own goals or challenges.	☐	☐	☐	☐	☐
	Never	Rarely	Occasionally	Often	Very Often

Please answer each question based on teaching a course to adult learners on (Chosen Topic).

	Never	Rarely	Occasionally	Often	Very Often
I incorporate learners' past experiences into discussions and activities.	☐	☐	☐	☐	☐
I design activities that allow adults to share and apply their prior knowledge.	☐	☐	☐	☐	☐

	Never	Rarely	Occasionally	Often	Very Often
I modify instruction based on the diverse backgrounds and experiences of adult learners.	☐	☐	☐	☐	☐
I assess what adults need to learn to address current tasks or challenges.	☐	☐	☐	☐	☐
I align learning activities with problems or tasks adult learners are currently facing.	☐	☐	☐	☐	☐
	Never	Rarely	Occasionally	Often	Very Often

Please answer each question based on teaching a course to adult learners on (Chosen Topic).

	Never	Rarely	Occasionally	Often	Very Often
I use real-world scenarios or problem-solving activities to facilitate learning.	☐	☐	☐	☐	☐
I organize learning around tasks or issues rather than abstract concepts.	☐	☐	☐	☐	☐

	Never	Rarely	Occasionally	Often	Very Often
I use strategies to stimulate curiosity, personal relevance, or self-improvement.	☐	☐	☐	☐	☐
I help adult learners see personal benefits of applying what they learn.	☐	☐	☐	☐	☐
	Never	Rarely	Occasionally	Often	Very Often

Section 3: Teaching Outcomes

Please answer each question based on teaching a course to adult learners on (Chosen Topic).

	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely
If you use effective strategies to manage disruptive behavior among adult learners, how likely is it that the group will remain productive and on task?	☐	☐	☐	☐	☐

	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely
If you use effective motivational strategies, how likely is it that low-interest adult learners will become more engaged in the topic?	☐	☐	☐	☐	☐
If you encourage adult learners' confidence and capabilities, how likely is it that they will believe they can succeed?	☐	☐	☐	☐	☐
If you demonstrate the relevance of the material, how likely is it that adult learners will value what they are learning?	☐	☐	☐	☐	☐
	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely

Please answer each question based on teaching a course to adult learners on (Chosen Topic).

	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely
If you use well-crafted questions, how likely is it that adult learners will think critically about the content?	☐	☐	☐	☐	☐
If you reinforce agreed-upon group expectations, how likely is it that adult learners will follow them?	☐	☐	☐	☐	☐
If you apply appropriate redirection techniques, how likely is it that a disruptive adult learner will quickly return to constructive participation?	☐	☐	☐	☐	☐
If you establish a positive and structured learning environment, how likely is it that adult learners will stay engaged and respectful during sessions?	☐	☐	☐	☐	☐
	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely

Please answer each question based on teaching a course to adult learners on (Chosen Topic).

	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely
If you use a variety of instructional and assessment strategies, how likely is it that adult learners will learn the material effectively?	☐	☐	☐	☐	☐
If you provide alternative explanations or examples, how likely is it that confused adult learners will understand the content?	☐	☐	☐	☐	☐
If you help learners address barriers to participation, how likely is it that their engagement and success will improve?	☐	☐	☐	☐	☐
If you adjust your instructional approach when needed, how likely is it that adult learning outcomes will improve?	☐	☐	☐	☐	☐

Section 4: Demographics

Please answer the following questions about yourself.

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Nonbinary
- ☐ Prefer not to say

What is your age?

- ☐ 18-24 years
- ☐ 25-34 years
- ☐ 35-44 years
- ☐ 45-54 years
- ☐ 55+ years

What is your highest level of education?

- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Doctoral or Professional Degree

Have you completed any coursework or workshops related to adult education outside of Extension?

- ☐ Yes
- ☐ No

If yes, please list what coursework or workshops were taken:

How long have you been employed in your current position?

- ☐ 0-5 Years

- ☐ 6-10 Years
- ☐ 11-15 Years
- ☐ 16-20 Years
- ☐ 21-25 Years
- ☐ 26+ Years

How long have you been employed by Extension?

- ☐ 0-5 Years
- ☐ 6-10 Years
- ☐ 11-15 Years
- ☐ 16-20 Years
- ☐ 21-25 Years
- ☐ 26+ Years