

# Preparing for the Future: Evaluating the Employability Skills of 4-H Extension Agents

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## Abstract

*The long-standing mission of 4-H has been to positively develop youth, assist them in career development, and provide high-impact experiences. The attrition of extension agents has substantially impacted this youth development goal. Although numerous reasons exist why extension agents are leaving the profession, a lack of employability skills could be a primary factor. Many agents struggle with managing key aspects of their position, including interpreting scientific information, communicating effectively, resolving conflicts, and managing volunteers. This study assessed the self-reported employability skills of New Mexico extension agents and examined how career stage affected perceptions of their abilities within each skill area. Using a descriptive-correlational research design, we distributed a survey to all extension agents (N = 49) in New Mexico who had a youth development appointment with 4-H. We received 19 responses, which equates to a 38.8% response rate. The results suggested that agents felt moderately to very confident in their employability skills, with the lowest-ranking skills being the use of technology, modifying systems, managing time and personnel resources, and applying mathematical and scientific concepts. The results also suggested a statistical difference in the perceptions of induction-stage agents and their non-induction-stage colleagues regarding some employability skill areas. Based on these results, we recommend providing professional development to agents to increase employability skills in selected areas.*

## Introduction

The United States Cooperative Extension Service has positively impacted millions of citizens over its more than 100-year history (Rasmussen, 1989). This service was developed when Woodrow Wilson signed the Smith-Lever Act in 1914, a piece of legislation that President Wilson described as “one of the most significant and far-reaching measures for the education of adults ever adopted by the government” (Rasmussen, 1989, p. vii). The Cooperative Extension Service intended to provide “instruction and practical demonstrations in agriculture and home economics” (Smith-Lever Act of 1914, p. 2) through the land grant universities established by the Morrill Acts of 1862 and 1890 (Rasmussen, 1989). While established in 1902 by A.B. Graham in Ohio, the 4-H organization was nationalized by the Smith-Lever Act, which broadened its impact and expanded its youth development mission (National 4-H Council, 2025a). Today, 4-H has over 6 million members nationwide and a network of more than 500,000 volunteers (National 4-H Council, 2025b). In New Mexico, more than 4,700 youth were engaged in 4-H clubs in their communities, and over 30,000 youth were reached through school enrichment programs and other special initiatives (New Mexico State University, 2023). This extensive youth development system is managed by 49 employees of New

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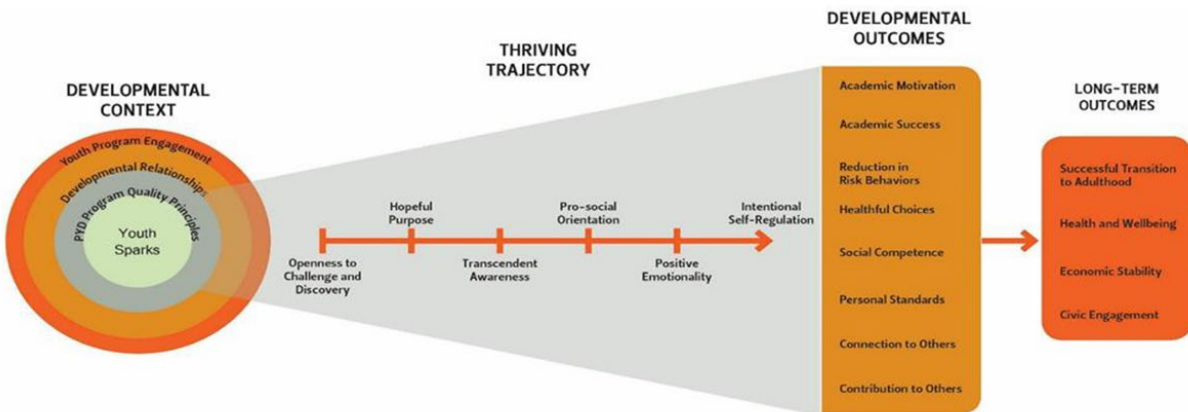
Mexico State University, commonly referred to as ‘Extension 4-H agents’ (New Mexico State University, 2025), across all 33 counties of New Mexico. These agents are responsible for managing 4-H youth programming, recruiting and leading adult volunteers, recruiting and retaining youth in 4-H programs, and evaluating the success of 4-H youth development efforts (Halbritter et al., 2021). These efforts aim to prepare the next generation with leadership and employability skills to succeed in their future endeavors (Borden et al., 2014; Hoover et al., 2007). While youth development through 4-H programming can be rewarding (Borden et al., 2014; Hoover et al., 2007), there has been difficulty in recruiting and retaining agents (Benge & Beattie, 2021; Benge et al., 2015), which can lead to reduced impact on youth employability skills development through 4-H.

### Review of Literature

Youth development plays a critical role in facilitating young people's cognitive, social, and physical growth (Hoover et al., 2007). The long-standing mission of 4-H has been to educate youth on agriculture, prepare them for a bright future, and provide opportunities for career exploration (Hoover et al., 2007). Borden et al. (2014) noted 4-H’s historical commitment to youth development, and Scholl and Munya (2004) described that more than 1,550 studies were conducted worldwide on youth development through 4-H, highlighting its global impact. Roth and Brooks-Gunn (2015) concluded that efforts to provide positive experiences for youth have increased over time. Furthermore, Butler (2014) praised 4-H’s efforts on youth development and states that it could “change food and farming forever” (p. 1). Arnold (2018) described 4-H’s mission as instilling leadership qualities in youth and promoting future career success, and proposed a model for youth development through 4-H (see Figure 1).

**Figure 1**

*4-H Youth Development Model*



*Note.* Model developed by Arnold (2018).

Arnold’s (2018) model illustrates how 4-H offers high-impact experiences that positively influence the development of adolescents, leading to outcomes such as a successful transition to adulthood, improved health and well-being, economic stability, and increased civic engagement. The 4-H organization offers a multitude of opportunities for personal growth, with youth involved in state-level leadership. These opportunities foster skills such as understanding the importance of serving others, self-awareness, motivation to succeed, and communication skills (i.e., oral, listening, and writing), as well as progress toward college and career goals (Kelsey, 2020). Ross and Tolan (2017) described the social and emotional development that many youths experience from 4-H. While 4-H’s established goal has been to instill leadership qualities in youth (Hoover et al., 2017), Phelps et al. (2007) noted that only approximately 17% of youth demonstrated a pattern of increasing leadership skills and decreasing risky behaviors, with the

others showing alternative development patterns. This ambiguity in 4-H's goal of developing youth but receiving neutral or negative outcomes in some students (Phelps et al., 2007) could present an opportunity for positive program evaluation and growth. Unfortunately, many employers worldwide claim that young adults entering the workforce are unprepared for entry-level positions and lack the employability and leadership skills necessary for success in the workplace (Cavanaugh et al., 2015; Institute of Student Employers, 2018; Robinson & Garton, 2008). While employers lack confidence in the next generation's employability skills, many students exiting secondary and post-secondary education feel prepared for many aspects of the workforce (Garton & Robinson, 2006; Norris et al., 2019; Parrella et al., 2024). This suggests that a disconnect exists between the beliefs of students (Garton & Robinson, 2006; Norris et al., 2019; Parrella et al., 2024) and the observations of their employers (Cavanaugh et al., 2015; Institute of Student Employers, 2018; Robinson & Garton, 2008), which is particularly concerning due to the necessity of employability skills to be successful in the economy and the agricultural industry (Robinson & Garton, 2008). The youth development aspects of 4-H (Borden et al., 2014; Hoover et al., 2007) could be a tool in developing the next generation of workers.

Halbritter et al. (2021) determined that there are numerous skills and competencies that new agricultural extension agents need to succeed, including customer service, public speaking, organization, time management, and communication. In New Mexico, new agents are required to attend professional training through the Education Designed to Generate Excellence in the Public Sector (EDGE) program (New Mexico State University, 2024), and agents are required to have a master's degree or obtain the degree within their first five years of employment as an agent. Hall and Broyles (2016) determined that agents felt least prepared to develop, recruit, train, and manage volunteers, yet they found these skills to be critical to their success. Lakai et al. (2014) measured the competency of North Carolina extension agents in various areas and found that managing stress, marketing and evaluating extension programs, and managing conflict were the areas in which agents were the least competent. This issue is compounded by the difficulty of recruiting and retaining high-quality extension agents (Benge & Beattie, 2021; Benge et al., 2015). Strong and Harder (2009) found that extension programs have difficulty recruiting and retaining agents, and Scott et al. (2005) found that agents are often dissatisfied with their careers. Furthermore, Benge et al. (2015) noted that low compensation, a lack of professional promotion and advancement, high workloads, and inadequate organizational support for agent development were the top factors affecting their decision to leave the profession. Additionally, Windon et al. (2019) determined that gender, level of education, marital status, and having children at home were not significant predictors of turnover intentions despite many agents associating missed family time as a negative aspect of the profession (Harder et al., 2015).

Weeks et al. (2020) found that school-based agricultural educators perceive employability skills as important but lack the knowledge and abilities to integrate them into their curriculum, which could negatively affect their students' skill development. If agricultural extension agents share the same lack of knowledge and abilities in employability skills, combined with agent attrition, it could negatively impact 4-H's youth development.

### **Conceptual Framework**

The employability skills of extension agents are directly tied to their ability to execute key professional duties, including developing youth development programming (Borden et al., 2014; Hoover et al., 2007), managing volunteers (Hall & Broyles, 2016), and evaluating extension efforts (Lakai et al., 2014). Halbritter et al. (2021) found that employability skills, such as customer service, public speaking, time management, organization, communication, program evaluation, and conflict resolution, were critical to success as an agent. Additionally, the profession has faced a significant challenge in recruiting and retaining quality agents (Benge & Beattie, 2021; Benge et al., 2015), which may result in a lack of continuity in affected 4-H programs. Considering Hall and Broyles' (2016) and Lakai et al.'s (2014) findings that extension agents have difficulty managing certain key aspects of the job, the high attrition rate of

agricultural extension agents (Benge & Beattie, 2021; Benge et al., 2015; Strong & Harder, 2009) could affect 4-H’s impact on youth development. This study utilized the employability skills framework developed by the Perkins Collaborative Resource Network (PCRN, 2022) as a guide. This network developed a conceptual model to depict the employability skills necessary for success in the workplace (PCRN, 2022; see Figure 2). This model has been used to measure employability skill development in other agricultural education studies (Manuel, 2025; Norris et al., 2023; Norris & Norris-Parish, 2024). These skills are often developed through hands-on experiences, such as raising livestock (Martin & Rusk, 2021), participating in leadership conferences (Worker, 2014), and engaging in service learning (Stafford et al., 2003), which are all common activities for youth engaged in 4-H and are key aspects of 4-H’s youth development strategy. Developing a deeper understanding of the employability skills of extension agents in New Mexico will assist in providing targeted training and professional development to retain and recruit highly qualified agents.

Figure 2

*Employability Skills Framework*



Note. Developed by (PCRN, 2022).

While extension agent attrition is high, there are numerous efforts to draw quality agents into the profession, including training programs, professional development, and incentives (Ellison, 2011; Garst et

al., 2007; Landini & Brites, 2018). Landini and Brites (2018) suggested that providing training to agents that allows them to share and discuss their experiences is beneficial. Arnold and Place (2010) determined that several factors influence an agent's decision to maintain their career in extension, including career benefits, personal job satisfaction, work environment, network of support, and the ability to be a change agent in the industry. Finding innovative ways to increase extension agent retention and reduce attrition will be critical to executing the youth development mission of 4-H and preparing the future workforce. Considering that many agents feel unconfident in managing key aspects of their job (Halbritter et al., 2021; Hall & Broyles, 2016; Lakai et al., 2014), the attrition among extension agents could be due to a lack of personal employability skills.

### Purpose and Objectives

This study aimed to assess the employability skills of 4-H extension agents in New Mexico. The following research objectives guided the study:

1. Describe the self-perceived employability skills of 4-H extension agents in New Mexico.
2. Assess the effects of career stage on New Mexico 4-H extension agents' perceptions of their employability skills.

### Methods

#### Participants

The participants in this study were New Mexico extension agents with at least partial duties involving 4-H in their county, comprising a total of 49 agents in the population. Guided by a descriptive correlational research design, we aimed to assess the employability skills of New Mexico 4-H agents. The New Mexico State University Institutional Review Board (IRB) approved this study in the spring of 2023.

#### Instrumentation

The instrument we utilized in this study was based on the Employability Skills Framework developed by the Perkins Collaborative Resource Network (PCRN, 2022). This framework encompasses nine overarching skill areas, with 42 corresponding individual subskills (see Table 1).

**Table 1**

#### *Employability Skills Measured in the Instrument*

Employability Skills and Skill Areas
<b>Applied Academic Skills</b>
Uses Reading Skills
Used Writing Skills
Uses Mathematical Strategies
Uses Scientific Principles and Procedures
<b>Communication Skills</b>
Communicates Verbally
Listens Actively
Comprehends Written Material
Conveys Information in Writing
Observes Carefully

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 Employability Skills and Skill Areas
 

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**Critical Thinking Skills**

- Thinks Critically
- Thinks Creatively
- Makes Sound Decisions
- Solves Problems
- Reasons
- Plans and Organizes

**Information Use Skills**

- Locates Information
- Organizes Information
- Uses Information
- Analyzes Information
- Communicates Information

**Interpersonal Skills**

- Understands Teamwork and Works Well With Others
- Responds to Customer Needs
- Exercises Leadership
- Negotiates to Resolve Conflict
- Respects Individual Differences

**Personal Qualities**

- Demonstrates Responsibility and Self-Discipline
- Adapts and Shows Flexibility
- Works Independently
- Demonstrates a Willingness to Learn
- Demonstrates Integrity
- Demonstrates Professionalism
- Takes Initiative
- Displays Positive Attitude and Sense of Self-Worth
- Takes Responsibility for Professional Growth

**Resource Management Skills**

- Manages Time
- Manages Money
- Manages Materials
- Manages Personnel

**Systems Thinking Skills**

- Understands and Uses Systems
- Monitors Systems
- Improves Systems

**Technology Use**

- Understands and Uses Technology
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*Note.* Developed from PCRN, 2022.

We asked the participants to rate their abilities within each subskill using a Likert scale ranging from 1 = *No Confidence*, 2 = *Somewhat Confident*, 3 = *Moderately Confident*, 4 = *Very Confident*, and 5 = *Extremely Confident*. We assessed the instrument's reliability *post hoc* using Cronbach's alpha, which

ranged from .75 to .93 (see Table 2). According to Ary et al. (2010), these reliability coefficients meet the necessary threshold for a reliable instrument.

**Table 2**

*Likert Scale Reliability Test Results for Employability Skills*

Employability Skill Area	$\alpha$	$f$
Applied Academic Skills	.77	4
Critical Thinking Skills	.85	6
Resource Management Skills	.75	4
Information Use Skills	.75	5
Communication Skills	.82	5
System Thinking Skills	.89	3
Technology Skills	N/A	1
Personal Qualities	.93	9
Interpersonal Skills	.91	5

*Note.* Each coefficient suggested a high level of reliability (Ary et al., 2010).

We assembled a three-person committee consisting of New Mexico State University faculty and graduate students to assess the instrument's content, construct, and face validity and deemed it acceptable for this audience. Additionally, past research instruments utilizing the employability skills framework have been assessed for reliability and validity and were deemed suitable by Norris et al. (2023) and Norris and Norris-Parish (2024).

### Data Collection

We employed a census approach to mitigate sampling bias (Bluman, 2004) and collect quantitative data for this study. Using their employer email, we distributed the survey to 49 extension agents. We developed the frame for this study using the New Mexico State University extension agent directory to identify individuals with responsibilities involving 4-H and to collect their email addresses. We distributed the survey four times in weekly intervals to request the population's participation and to maximize the response rate (Dillman et al., 2014). Overall, we received 19 responses, producing a 38.8% response rate. We excluded three responses from the analysis due to being incomplete and missing critical data, resulting in a total of 16 usable responses.

We used a non-parametric Mann-Whitney  $U$  test to assess non-response bias by comparing the perceptions of early responders ( $f=7$ ) and late responders ( $f=9$ ) (Linder et al., 2001). The early responders were those who responded to the initial contact email, and the late responders were those who responded to the subsequent three reminder emails. Overall, the results suggested no statistically significant non-response bias issues in eight of the nine skill areas. A statistically significant finding was observed in the interpersonal skills area ( $U = 11.5, z = -2.16, p = .03$ ) (see Table 3). This non-response error restricts the study's findings.

Table 3

*Results of the Mann-Whitney U Test Assessing Non-Response Bias*

Constructs	<i>n</i>	<i>M</i>	<i>SD</i>	<i>U</i>	<i>z</i>	<i>p</i>
Early Responders	7	4.11	.76			
<b>Applied Academic Skills</b>				14.0	-1.95	.07
Late Responders	9	3.61	.49			
Early Responders	7	4.41	.51			
<b>Critical Thinking Skills</b>				22.0	-1.02	.35
Late Responders	9	4.13	.59			
Early Responders	7	4.04	.62			
<b>Resource Management Skills</b>				22.0	-1.03	.35
Late Responders	9	3.64	.61			
Early Responders	7	4.43	.50			
<b>Information Use Skills</b>				13.0	-1.99	.06
Late Responders	9	3.82	.59			
Early Responders	7	4.49	.53			
<b>Communication Skills</b>				13.5	-1.93	.06
Late Responders	9	3.91	.50			
Early Responders	7	3.81	.69			
<b>Systems Thinking Skills</b>				17.0	-1.59	.14
Late Responders	9	3.26	.72			
Early Responders	7	4.57	.53			
<b>Technology Skills</b>				19.5	-1.38	.21
Late Responders	9	4.11	.93			
Early Responders	7	4.64	.48			
<b>Personal Qualities</b>				16.0	-1.66	.10
Late Responders	9	4.16	.52			
Early Responders	7	4.69	.53			
<b>Interpersonal Skills</b>				11.5	-2.16	.03*
Late Responders	9	3.98	.59			

*Note.*  $\alpha = .05$ . 1 = No Confidence, 2 = Somewhat Confident, 3 = Moderately Confident, 4 = Very Confident, and 5 = Extremely Confident

### Analysis of the Data

We used central tendencies, including the mean, median, standard deviation, and interquartile range to analyze the data for objective one. We executed the second research objective using a non-parametric Mann-Whitney *U* test. The non-parametric test was selected because of the small data set (Kim, 2019). The data were analyzed using SPSS version 30.0.

## Limitations

While this study provides a robust analysis of the employability skills of New Mexico youth development extension agents, it does have some limitations. The first limitation is the small sample size ( $n = 16$ ), which limits the generalizability of the results. These results should not be generalized beyond the participants in this study.

## Demographics of the Participants

The participants of this study were ( $f = 10$ ) female and ( $f = 6$ ) male. Additionally, the sample consisted of ( $f = 14$ ) white participants, ( $f = 2$ ) Hispanic participants, ( $f = 4$ ) individuals with a Bachelor's degree, and ( $f = 12$ ) individuals with a Master's degree. Furthermore, ( $f = 7$ ) were in the induction career stage, and ( $f = 9$ ) were in the non-induction career stage.

**Table 4**

### *Demographics of the Participants*

Demographic	Descriptor	<i>f</i>	%
Gender	Female	10	62.5
	Male	6	37.5
Race	White	14	87.5
	Hispanic	2	12.5
	Other	0	0.0
Highest Degree Earned	Bachelor's Degree	4	25.0
	Master's Degree	12	75.0
Years of Extension Experience	Induction Stage (0–7 Years)	7	43.8
	Non-Induction Stage (8+ Years)	9	56.2

*Note.*  $n = 16$

## Results

### Research Objective One

The first research objective for this study was to describe the self-perceived employability skills of 4-H extension agents in New Mexico. The employability skill areas in which 4-H agents rated their abilities the highest were Personal Qualities ( $M = 4.37$ ,  $SD = .54$ ,  $Mdn = 4.50$ ), Technology Skills ( $M = 4.31$ ,  $SD = .79$ ,  $Mdn = 3.00$ ), Interpersonal Skills ( $M = 4.29$ ,  $SD = .66$ ,  $Mdn = 4.40$ ), Critical Thinking Skills ( $M = 4.25$ ,  $SD = .55$ ,  $Mdn = 4.33$ ), Communication Skills ( $M = 4.16$ ;  $SD = .58$ ,  $Mdn = 4.00$ ), and Information Use Skills ( $M = 4.09$ ;  $SD = .62$ ,  $Mdn = 3.90$ ). The individual subskills that were rated the highest included skills such as integrity ( $M = 4.50$ ,  $SD = .52$ ,  $Mdn = 4.50$ ), working independently ( $M = 4.50$ ,  $SD = .52$ ,  $Mdn = 4.50$ ), working with others ( $M = 4.50$ ,  $SD = .63$ ,  $Mdn = 5.00$ ), and reading ( $M = 4.50$ ,  $SD = .63$ ,  $Mdn = 5.00$ ). The lowest-rated employability skill areas included Systems Thinking Skills ( $M = 3.50$ ,  $SD = .74$ ,  $Mdn = 3.50$ ), Technology Use Skills ( $M = 3.56$ ,  $SD = .89$ ,  $Mdn = 3.00$ ), Resources Management Skills ( $M = 3.81$ ,  $SD = .63$ ,  $Mdn = 3.75$ ), and Applied Academic Skills ( $M = 3.83$ ;  $SD = .65$ ,  $Mdn = 4.13$ ). The lowest-rated individual skills were applying scientific and mathematical principles ( $M = 3.25$ ,  $SD = 1.00$ ,  $Mdn = 3.00$ ), using mathematical strategies ( $M = 3.38$ ,  $SD = .89$ ,  $Mdn = 3.00$ ), improving systems ( $M = 3.44$ ,  $SD = .73$ ,  $Mdn = 3.00$ ), monitoring systems ( $M = 3.50$ ,  $SD = .82$ ,  $Mdn = 3.00$ ), managing time ( $M = 3.63$ ,  $SD = .89$ ,  $Mdn = 3.50$ ), and personnel resources ( $M = 3.63$ ,  $SD = .96$ ,  $Mdn = 4.00$ ; see Table 5).

Table 5

*Descriptive Statistics for New Mexico Extension Agents' Perceptions Regarding Their Employability Skills*

Employability Skills and Skill Areas	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>IQR</i>
<b>Personal Qualities</b>	<b>4.37</b>	<b>.54</b>	<b>4.50</b>	<b>1.33</b>
Demonstrates Responsibility and Self-Discipline	4.37	.62	4.00	2.00
Adapts and Shows Flexibility	4.06	.93	4.00	3.00
Works Independently	4.50	.52	4.50	1.00
Demonstrates a Willingness to Learn	4.37	.62	4.00	2.00
Demonstrates Integrity	4.50	.52	4.50	1.00
Demonstrates Professionalism	4.44	.63	4.50	2.00
Takes Initiative	4.44	.51	4.00	1.00
Displays Positive Attitude and Sense of Self-Worth	4.38	.72	4.50	2.00
Takes Responsibility for Professional Growth	4.25	.86	4.50	2.00
<b>Technology Use</b>	<b>4.31</b>	<b>.79</b>	<b>3.00</b>	<b>4.00</b>
Understands and Uses Technology	4.31	.79	3.00	4.00
<b>Interpersonal Skills</b>	<b>4.29</b>	<b>.66</b>	<b>4.40</b>	<b>1.80</b>
Understands Teamwork and Works Well with Others	4.50	.63	5.00	2.00
Responds to Customer Needs	4.19	.66	4.00	2.00
Exercises Leadership	4.38	.72	4.50	2.00
Negotiates to Resolve Conflict	4.00	1.10	4.00	3.00
Respects Individual Differences	4.38	.62	4.00	2.00
<b>Critical Thinking Skills</b>	<b>4.25</b>	<b>.55</b>	<b>4.33</b>	<b>2.00</b>
Thinks Critically	4.25	.58	4.00	2.00
Thinks Creatively	3.87	.96	4.00	2.00
Makes Sound Decisions	4.31	.70	4.00	2.00
Solves Problems	4.44	.63	4.50	2.00
Reasoning	4.25	.68	4.00	2.00
Plans and Organizes	4.38	.81	5.00	2.00
<b>Communication Skills</b>	<b>4.16</b>	<b>.58</b>	<b>4.00</b>	<b>1.60</b>
Communicates Verbally	4.06	1.06	4.00	3.00
Listens Actively	4.31	.70	4.00	2.00
Comprehends Written Material	4.13	.62	4.00	2.00
Conveys Information in Writing	3.94	.77	4.00	2.00
Observes Carefully	4.38	.50	4.00	1.00
<b>Information Use Skills</b>	<b>4.09</b>	<b>.62</b>	<b>3.90</b>	<b>2.00</b>
Locates Information	4.00	.73	4.00	2.00
Organizes Information	4.25	.68	4.00	2.00
Uses Information	4.25	.78	4.00	2.00
Analyzes Information	3.69	.87	4.00	3.00
Communicates Information	4.25	.78	4.00	2.00
<b>Applied Academic Skills</b>	<b>3.83</b>	<b>.65</b>	<b>4.13</b>	<b>2.50</b>
Uses Reading Skills	4.50	.63	5.00	2.00
Used Writing Skills	4.19	.83	4.00	2.00
Uses Mathematical Strategies	3.38	.89	3.00	3.00
Uses Scientific Principles and Procedures	3.25	1.00	3.00	4.00
<b>Resource Management Skills</b>	<b>3.81</b>	<b>.63</b>	<b>3.75</b>	<b>2.25</b>
Manages Time	3.63	.89	3.50	3.00
Manages Money	3.94	.77	4.00	2.00
Manages Materials	4.06	.68	4.00	2.00
Manages Personnel	3.63	.96	4.00	3.00

Employability Skills and Skill Areas	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>IQR</i>
<b>Systems Thinking Skills</b>	<b>3.50</b>	<b>.74</b>	<b>3.50</b>	<b>3.00</b>
Understands and Uses Systems	3.56	.89	3.00	3.00
Monitors Systems	3.50	.82	3.00	3.00
Improves Systems	3.44	.73	3.00	3.00

Note.  $n = 16$ . 1 = No Confidence, 2 = Somewhat Confident, 3 = Moderately Confident, 4 = Very Confident, and 5 = Extremely Confident

### Research Objective Two

The second research objective of this study assessed New Mexico extension agents' perceptions regarding their employability skills in different career stages. A nonparametric Mann-Whitney  $U$  test was used to compare the two groups' means. The results indicated a statistically significant difference in the perceptions of agents in the induction stage (0-7 years of experience) and the non-induction stage (8+ years of experience) in the personal qualities skill area ( $U = 11$ ,  $z = -2.19$ ,  $p = .03$ ).

**Table 6**

*Mann-Whitney U Tests for Extension Agents' Perceptions of Employability Skills by Career Stage*

Constructs	<i>n</i>	<i>M</i>	<i>SD</i>	<i>U</i>	<i>z</i>	<i>p</i>
Induction Stage	7	4.11	.52			
<b>Applied Academic Skills</b>				20.0	-1.28	.20
Non-Induction Stage	9	3.61	.69			
Induction Stage	7	4.38	.71			
<b>Critical Thinking Skills</b>				20.0	-1.23	.25
Non-Induction Stage	9	4.15	.42			
Induction Stage	7	3.96	.88			
<b>Resource Management Skills</b>				27.5	-.43	.66
Non-Induction Stage	9	3.69	.35			
Induction Stage	7	4.25	.77			
<b>Information Use Skills</b>				22.5	-.97	.33
Non-Induction Stage	9	3.96	.48			
Induction Stage	7	4.49	.65			
<b>Communication Skills</b>				15.0	-1.77	.08
Non-Induction Stage	9	3.91	.38			
Induction Stage	7	3.72	1.01			
<b>Systems Thinking Skills</b>				21.5	-1.09	.27
Non-Induction Stage	9	3.33	.44			
Induction Stage	7	4.29	1.11			
<b>Technology Skills</b>				24.0	-.86	.39
Non-Induction Stage	9	4.33	.50			
Induction Stage	7	4.72	.48			
<b>Personal Qualities</b>				11.0	-2.19	.03*
Non-Induction Stage	9	4.10	.44			
Induction Stage	7	4.46	.75			
<b>Interpersonal Skills</b>				23.0	-.92	.36
Non-Induction Stage	9	4.16	.59			

Note.  $\alpha = .05$ .

## Conclusions, Recommendations, and Implications

The first research objective for this study aimed to describe the self-perceived employability skills of New Mexico 4-H extension agents. The results suggested that 4-H extension agents in New Mexico felt *moderately confident* to *very confident* in their employability skills. The skills that extension agents ranked the highest in this study included integrity, working independently, working with others, and reading. These results are positive, considering that Lakai et al. (2014) determined that being a subject matter expert was the most important skill area for an extension agent, encompassing reading and disseminating agricultural information. Furthermore, Lakai et al. (2014) suggested that human relations was the second most important skill area, which is related to integrity, working independently, and working with others.

The skills ranked the lowest by extension agents included modifying systems, managing time and personnel resources, and applying math and science. These results are concerning, considering New Mexico's extension services goal is to help youth "develop leadership and management skills, positive self-esteem, effective communication skills, a solid sense of personal responsibility and the ability to make sound decisions" (New Mexico State University, 2024, para. 1). This goal will likely require managing extensive resources, integrating technology to reach a broader audience, and evaluating and modifying existing systems to increase scope and efficacy. Additionally, Halbritter et al. (2021) found many of these skills to be critical to the success of an extension agent. Hall and Broyles (2016) determined that agents felt the least prepared to develop, recruit, train, and manage volunteers, the main personnel responsible for executing youth 4-H activities. Lakai et al. (2014) suggested that agents struggled with time management, which aligns with the findings of this study. Lakai et al. (2014) also found that extension agents perceived their abilities to be moderate to high in managing conflict, listening skills, managing time, identifying opportunities for professional development, critical thinking, and communicating effectively. This finding aligns with this study, which found that New Mexico extension agents felt *moderately confident* to *very confident* in many of these same skill areas. These skills are crucial in ensuring that extension agents lay a solid foundation for youth development. Movahedi and Nagel (2012) identified writing, individual communication, internet/computer skills, and responsibility as the most important skills for extension agents, which align with the lowest-rated employability skills in this study.

The second research objective assessed the effects of career stage on New Mexico 4-H extension agents' perceptions of their employability skills. The results suggested that induction stage agents perceived that their skills were significantly higher than their non-induction stage colleagues in the personal qualities area, but were statistically the same in all other skill areas. These differences in the perceptions of extension agents in different career stages could be due to inconsistencies in how they perceive their skills, even if their perceptions of their skills deviate from reality, which is addressed in the limitations of this study. If induction or non-induction stage agents overestimate or underestimate their abilities, it could skew the data and result in statistical error. This finding is notable, considering that these skills are essential for long-term success as an extension agent (Halbritter et al., 2021; Hall & Broyles, 2016; Lakai et al., 2014; Movahedi & Nagel, 2012), yet long-term agents reported lower abilities in these areas. This could be akin to the phenomenon of employers reporting students exiting secondary and post-secondary education do not possess the employability skills to be successful in an entry-level position (Cavanaugh et al., 2015; Institute of Student Employers, 2018; Robinson & Garton, 2008) but that students feel they are prepared for the workforce (Garton & Robinson, 2006; Norris et al., 2019; Parrella et al., 2024).

## Recommendation for Future Practice and Research

The results of this study suggest that agents feel *moderately confident* to *very confident* in their abilities in most employability skill areas. This is a positive result considering the importance of the agents' employability skills to an effective 4-H organization and its youth development mission. Based on these results, we recommend providing agents with professional development and strategies for modifying

systems, managing time and personnel resources, and applying mathematical and scientific principles. Utilizing instructional technology could benefit student engagement and student learning if implemented effectively. Additionally, professional development on interpreting scientific agricultural reports could enhance content knowledge and improve lesson development. Furthermore, implementing strategies to manage resources effectively and modifying learning systems could improve the effectiveness of 4-H's youth development mission.

The results of this study provide support for additional qualitative and quantitative scholarly inquiry. A qualitative study examining the employability skills of induction and non-induction stage extension agents could explain why agents with less career experience rated their abilities in some areas higher than their more experienced colleagues. Furthermore, a quantitative analysis assessing the employability skills of agents in other geographic areas would provide more insight into this area.

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