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Facebook in County 4-H Extension Programs in Arkansas: Is it Effective for Communication?

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Facebook in County 4-H Extension Programs in Arkansas: Is it Effective for Communication?

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by

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Abstract

As social media rises in popularity, agents with 4-H responsibilities have the opportunity to implement social media platforms in their communication outreach. The purpose of this study was to identify how agents with 4-H responsibilities in Arkansas use Facebook for communication purposes and their perceptions of its effectiveness. This information helps provide understanding of the effects of Facebook on county 4-H programs in Arkansas and assists agents in determining how to implement or better utilize Facebook in their county programs. The study had three research objectives: 1) describe the usage of Facebook by agents in Arkansas with at least a 25% 4-H responsibility, 2) describe the perceptions of Facebook by agents in Arkansas with at least a 25% 4-H responsibility, and 3) determine if a relationship existed between identified demographics of agents in Arkansas with at least a 25% 4-H responsibility and their usage and perceptions of Facebook. The results of this study found agents are using Facebook for communication purposes in their county program and view it as effective. Agents use Facebook for 0-5 hours per week and post 0-3 times a week. The most popular Facebook tool among agents was Facebook Pages and the most popular post type was posts with graphics. Agents began increasing their usage of Facebook after the COVID-19 pandemic in March 2020 to reach their target audience of 4-H parents and guardians in a timely and effective manner. Agents view Facebook as a more effective form of communication than other identified forms (i.e. emails and newsletters) and view Facebook as effective for increasing involvement at 4-H events. A one-way ANOVA found there was a statistically significant difference in mean Facebook usage as a result of agent percentage of appointment ($F_{(2, 40)}$ = [6.94], p=0.0026) and a statistically significant difference in mean perceptions of Facebook as a result of appointment percentage ($F_{(2, 40)}$ = [3.61], p=0.0362).

Dedication

To my parents, Marc and Terri Burden, sister, Jayme Burden, and husband, Colton Padgett, thank you for your never-ending support and love. I would not have been able to accomplish this milestone without your encouragement. Mom and Dad, thank you for raising me to believe I can do whatever I set my mind to and doing everything in your power to help me chase my dreams. From attending every 4-H event and ballgame to the encouraging words and extended hand -- you have always been there for me. I would not be the person I am today without your guidance, and I am blessed to call you my parents. Jayme, thank you for being a sounding board and always willing to check my grammar. You are the best sister I could have asked for. Colton, thank you for reminding me there is no such thing as perfect timing and never letting me lose sight of my dreams. I wouldn't want to do this life without you.

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Chapter 1: Introduction

Need for the Study

The prevalence of social media in society is rising. From education to the medical industry, social media has become integrated as a tool to reach and communicate with target audiences. One factor which propelled the integration of social media was the effects of the Global Coronavirus Pandemic of 2020 (Nguyen et al., 2020). As a result of the pandemic, people across the globe began to complete tasks virtually, changing everyday communication and task completion (Wong et al., 2021). Students attended classes online, parents worked from home, and even doctors met patients via video conferencing. In extension, agents updated audiences by posting online and held training sessions for leaders and members via video conferencing. As we began to see the integration of social media platforms across all sectors, the need to learn how to use them effectively to communicate with audiences became a priority (Nguyen et al., 2020). With social distancing guidelines in place and limited opportunities for interaction, social media had an increased use of 61% during the beginning of the pandemic (Fullerton, 2021). According to a survey by Nguyen et al. (2020), approximately 35% of respondents said they increased social media usage after the pandemic. Our increased reliance on social media as a result of the pandemic is predicted to stay at a high, remaining higher than social media use before the pandemic (Molla, 2021).

4-H is a youth development program with the goal of empowering young people through learning by doing (National 4-H Council, 2018). Currently, 133,000 active members are in the Arkansas 4-H program, ranging from ages five to 19 (About 4-H, n.d.). Members are recruited through methods ranging from word-of-mouth to tangible recruitment items such as booklets and flyers containing program information. A study by Wingenbach et al. (2000) explored which marketing methods and messages were most effective in influencing youth in West Virginia to

join 4-H. A questionnaire using a four-point scale to rate 25 statements was sent to 400 active 4-H members ages 13-18, and usable questionnaires were returned by 175 of the respondents. The results stated respondents rated receiving information electronically and through word-of-mouth as the most influential for recruitment purposes (Wingenbach et al., 2000). The results also found messages centered around camps, friendships, and having fun were more effective than messaging on fairs and projects (Wingenbach et al., 2000).

As social media rises in popularity, agents with 4-H responsibilities have the opportunity to implement social media platforms to reach their target audiences. Gharis et al. (2014) explored how extension agents used social media in outreach, how it could be integrated, and the opportunities and challenges extension agents encountered when implementing social media in their communications plan. The findings indicated that by incorporating social media platforms, extension agents were able to provide reliable, up-to-date information to a wider audience (Gharis et al., 2014).

In a study by Bowen et al. (2013), researchers used a quantitative design to determine the diffusion of social media among county 4-H programs in Tennessee. When extension agents were asked whether or not they utilized social media for their county program, 84% of participants reported using it to promote their program or interact with their audience (Bowen et al., 2013). Out of the responses given, 47.5% of participants found the use of social media for 4-H purposes to be slightly important to moderately important, and 51% found it to be very important to extremely important (Bowen et al., 2013).

In a case study at Western Virginia University, Quinn (2021) found Facebook was the most commonly used platform by Virginia extension agents. According to Smith & Anderson (2018) with the Pew Research Center, a reported 68% of U.S. adults use Facebook, making it the most popular of the social media platforms. Not only is Facebook the most popular, but it also

exhibits a high level of usage by U.S. adults, as 74% of Facebook users reported they accessed Facebook on a daily basis and 51% accessed the app several times a day (Smith & Anderson, 2018). With the exception of those 65 and older, Facebook is used by a majority of Americans across a wide range of demographic groups while other platforms appeal more strongly to certain subsets of the population. An example of this would be Instagram being more popular among young adults.

While Facebook allowed agents in Western Virginia to target their audience, the agents found their audience was primarily 4-H parents and families (Quinn, 2021). This was important to note as the age range of 4-H members is five to 19, and reaching the younger half of these members would need to go through the parents. Each parent has their own opinion on how old their child should be before they can have a social media profile, but Facebook and Instagram require users to be age 13 or older (Diwanji, 2021). With this data in mind, we can logically conclude agents' primary target audience when utilizing Facebook for communication should be 4-H parents and families.

In a study on the implications and retention of 4-H members, the researchers found one of the four main reasons members stayed in the program was because of parent involvement. Parents were identified as the gatekeepers to their children as they ultimately control their child's schedule, transportation, and opportunities for involvement (Defore et al., 2011). The study found members who continued with the program responded to having a parent who was involved with and supportive of the program (Defore et al., 2011). Another study by Gill et al. (2010) suggested positive parent involvement in 4-H programs is vital for successful experiences of members. The study highlighted parents' roles as volunteers, their influences on enrollment and participation, and the encouragement and assistance they provide for 4-H project completion (Gill et al., 2010).

Overview of Literature

The literature review consists of background information on the 4-H program, an overview of Facebook, and social media's role in marketing, recruitment, and communication concepts. The conceptual framework includes a discussion of the history of the 4-H program, the history of Facebook and its uses, and the use of Facebook in extension as found in previous research. The diffusion of innovation theory and technology acceptance model were used to establish the theoretical frameworks of this study.

Statement of the Problem

With the rise in social media usage and Facebook leading the way in mass usage, agents with 4-H responsibilities in Arkansas are attempting to use Facebook to communicate with their audience and want to know how to use Facebook most effectively. Many agents are responsible for other roles within their extension program and do not have time for trial and error. Agents want to reach their audience in a timely and effective manner without the guesswork. For this study, effectiveness will be defined as the ability to reach the target audience and increase involvement in 4-H activities. Understanding the best methods of utilizing Facebook to reach their audience will allow agents with 4-H responsibilities in Arkansas to increase participation and build stronger county programs.

Purpose of the Study

This study aimed to determine how agents with 4-H responsibilities in Arkansas utilize Facebook for communication purposes in their county program and their perceptions of its effectiveness. This study also aimed to determine if selected agent demographics impact agent Facebook usage or perceptions. The results of this study will help to determine which Facebook methods agents with 4-H responsibilities in Arkansas view as effective and allow others to adopt and implement these methods to improve communications in their county 4-H programs.

Research Objectives

This study will answer the following quantitative research questions:

1. Describe the usage of Facebook by agents in AR, with at least 25% 4-H responsibility.

2. Describe the perceptions of Facebook by agents in AR, with at least 25% 4-H responsibility.

3. Determine if a relationship exists between demographics of agents in AR, with at least 25% 4-H responsibility, and their usage and perceptions of Facebook.

Limitations

The limitations of this study include its generalizability. This study was designed specifically for county 4-H programs in Arkansas and, therefore, would not be generalizable to other organizations or professions. The results of this study would only be generalizable to similar state 4-H programs. Also, this study would not be generalizable for other social media platforms as it is explicitly designed to assess Facebook and its communication features. Another limitation of this study could be the response rate. This study used an electronic questionnaire that was sent to the target populations via email. The researcher is an Arkansas 4-H Alumnus with a background in utilizing Facebook for communication purposes. As a result, the researcher could have an unintentional bias. Last, this study focuses on agents with 4-H responsibilities and their perceptions of Facebook as an effective form of communication; it does not assess the perceptions of 4-H parents and members.

Assumptions

The following assumptions existed in this study:

1. Those who participated in the interviews provided honest answers.

2. The instrument used to collect agents with 4-H responsibilities perceptions of Facebook as an effective form of communication was a reliable and valid form of measurement.

3. Agents with 4-H responsibilities provided honest answers to survey questions regarding whether their view Facebook as an effective source for communication in their county program.

4. Agents with 4-H responsibilities read each question carefully and spent appropriate time considering survey responses.

5. Agents with 4-H responsibilities did not allow personal biases or beliefs to affect their responses to the questionnaire.

6. Agents with 4-H responsibilities have a Facebook profile and have knowledge and experience with the platform.

7. Agents with 4-H responsibilities in Arkansas want to learn the best ways to use Facebook to communicate with 4-H families.

8. All emails provided by the Arkansas 4-H District Offices to contact agents were current and functioning.

9. Agents with 4-H responsibilities who completed the survey at the conference did not complete the survey a second time when contacted via email.

Key Terms

4-H - delivered by Cooperative Extension, 4-H is a community of more than 100 public universities across the nation which provides experiences where young people learn by doing (National 4-H Council, 2018).

4-H Event - the intentional learning experiences of 4-H youth, volunteers and professionals. The primary types of 4-H events are: educational, informational, and competitive. (4-H Events, n.d.)

4-H Member - youth between the ages of 5 and 19 who are actively enrolled in the 4-H program (About 4-H, n.d.).

Arkansas 4-H - the premier youth development program conducted by the University of Arkansas System, Division of Agriculture, Cooperative Extension Service. 4-H is designed to prepare young people to step up to the challenges in their communities and provide youth with the skills to lead for a lifetime. (About 4-H, n.d.).

Facebook - an online, social networking site allowing users to communicate and share information founded by Mark Zuckerberg in 2004 (McFadden, 2020).

Facebook Events - let you organize and respond to gatherings in the real world with people on Facebook. (Events: Facebook help center, n.d.)

Facebook Group - a public or private listing where users can connect, learn and share with people who have similar interests. (Groups: Facebook help center, n.d.)

Facebook Insights - analytics dashboard that provides page administrators with information about the Page's performance, like demographic data about the audience and how people are responding to posts (Insights: Facebook help center, n.d.).

Facebook Messenger - an instant messenger service which lets users text, video call, and connect with others (Messenger, n.d.).

Facebook Page - Pages are for organizations, businesses, and public figures to broadcast information in an official, public manner to people who choose to connect with them by either liking or following the Page (Pages: Facebook help center, n.d.).

Reach - the number of people who saw any content from your Facebook Page or about your Page (Insights: Facebook help center, n.d.).

Reactions - an extension of the Like Button to give people more ways to share their reaction to a post in a quick and easy way. The collection of Reactions includes Like, Love, Care, Haha, Wow, Sad and Angry (Reactions, n.d.).

<center>**Chapter 2: Review of Literature**</center>

Introduction

      The rise of social networking platforms has led to the development and adoption of social media as a form of extension communication. The use of social media as a method of communication by extension agents has been previously researched, but no research has been conducted to look at the effectiveness of Facebook in county 4-H programs in Arkansas. The conceptual frameworks of this study consist of an overview of the 4-H program, the history of Facebook, and the use of Facebook in extension. The theoretical framework consists of an overview of the diffusion of innovation theory and technology acceptance model.

Conceptual Framework

The 4-H Program

      The beginning of the 4-H program is credited to A.B. Graham, who started an after-school experimental club that would come to be known as the boys' and girls' clubs. Graham encouraged youth in Ohio to learn practical life skills through hands-on activities. The clubs became so successful they received interest from the state's land-grant school, Ohio State University. With the help of the university, similar clubs were established all across the state (Krymowski, 2021).

      News of the success of these clubs spread, increasing the demand for agricultural education and influencing the development of the National 4-H and FFA programs (Uricchio et al., 2013). Influences from the boy's and girl's clubs on 4-H can be found in their approach of learning by doing and developing youth as individuals. Another influence can be seen in the use of the 4-H record book. Just as members of the boy's and girl's clubs were taught to keep a record of their projects, 4-H members today must complete a record book each year to track the changes in their projects (Uricchio et al., 2013).

While the boy's and girl's clubs influenced the creation of the 4-H program, the passage

of the Smith-Lever Act in 1914 established the Cooperative Extension Service as a part of the

United States Department of Agriculture. The success of the boys' and girls' clubs justified the

need for funding for youth programs. It was apparent the best way to disseminate new

information to farmers was through working with their children. 4-H clubs soon became a top

resource for extension agents to disseminate information to the community on agriculture, home

economics, and other related fields (National 4-H Council, n.d.).

The 4-H program today has expanded to serve youth beyond agriculture by offering

project areas ranging from technology to civic engagement for youth in rural, urban, and

suburban communities across the nation (National 4-H Council, n.d.). The Arkansas 4-H

program offers 50 different project areas for youth to choose from in civic engagement, healthy

living, agriculture and science, technology, engineering, and mathematics (4-H Projects &

Record Books, n.d.). These opportunities not only help 4-H members but our nation as well.

Today's 4-H members are tackling the top issues and challenges of the century, including

childhood obesity and global warming (National 4-H Council, n.d.).

Facebook History

Facebook was founded by Mark Zuckerberg in 2004 and rose in popularity overnight

(McFadden, 2020). Today Facebook remains the most popular social media platform for over a

decade, with 68% of U.S. adults having a Facebook profile (Smith & Anderson, 2018). Users are

able to connect with others by sharing posts in the form of writing, photos or videos and

interacting with other user's posts. Users can now react to a post as an extension of the "like"

button, where they can express how they feel about the post's content. Reaction options include

Like, Love, Haha, Wow, Sad and Angry. Other forms of engagement on a post include

comments and shares. Sharing a post allows a user to share a post from a different user to their timeline and with friends.

Facebook also offers a range of options within the platform. Messenger is a private messaging tool with Facebook where users can exchange messages directly with other users. Groups are public or private listings where members with similar interests can join and communicate. A Facebook page is a public profile specifically for public figures, businesses, brands, organizations, and nonprofits to connect with their fans or customers. Facebook events allow users to create a digital page for an event hosted online or in person and share reminders and details for the event with others.

To decide what content is shown to users, Facebook uses an algorithm every time a user opens Facebook to determine which content is most valuable to the user. The algorithm uses a four-step process to assign each post a relevance score, which is how meaningful Facebook thinks the user will find a post, and orders posts in the user's feed by the scores (Meta, n.d.). Facebook looks at an inventory of posts shared by the friends of the users and the pages the user follows, who posted it and the time it was posted, how likely the user is to engage with the post, and how interested users will be in the post (Meta, n.d.).

To stay relevant with an audience using Facebook's algorithm, Constant Contact (2022) states the optimal amount of posts is between three to seven times per week. According to Adobe Express (2022), posting to Facebook one to two times per weekday and once over the weekend is a solid strategy as it establishes a regular presence in followers' feeds. While post frequency is a piece of the puzzle to satisfying Facebook's algorithm, quality posts with in-depth, personal content will win against mundane, high-volume promotional content (Adobe Express, 2022). Posts should contain relevant content that is valuable to the audience and should never be posted simply for the sake of posting (Constant Contact, 2022).

The Use of Social Media in Extension

Society has shifted from traditional methods of communication to social media, leaving extension agents with the decision of how to disseminate information (Deim et al., 2011). An article by Gharis et al. (2014) found incorporating social media platforms into their communication plan allowed extension agents to provide reliable information to their audience in a timely manner. According to the National 4-H Council (2011), the purpose of social media in the 4-H program is to cultivate an active community of current and future 4-H'ers in a safe online environment. By utilizing social media, the 4-H program hopes to gain engagement through three types of measurable activity: participation, advocacy, and contribution (National 4-H Council, 2011).

Social media is the term for a collection of communication tools or apps that serve different purposes based on the user's goal and target audience. A wide variety of social media platforms are available today, and most are free to use and easy to access and operate. The creation and wide usage of social media platforms has created a unique opportunity for extension agents to complete job tasks and interact with their audience (Cornelisse et al., 2011). Most social media platforms use a form of measurement to capture how a post is performing, allowing users to analyze what days, times, and content is receiving the most engagement. Comparing how a message performs on different platforms will enable agents to see which platform is most successful and redirect messages for future use (Cornelisse et al., 2011). Social media is unique from traditional forms of communication as it not only allows you to promote your business, but it also allows you to interact and respond to comments in real time. The opportunity to communicate allows for relationships to develop (Cornelisse et al., 2011). For 4-H, the opportunity to build relationships with members and their parents is crucial in a successful program. Members want to be recognized and feel valued, while their parents want to trust their

child is involved in a reputable organization. The opportunity to create and build relationships with members and their parents allows both needs to be met. The stronger the relationships, the stronger the 4-H program. Social media not only allows extension agents to build relationships with existing members but allows them to reach new audiences who previously may not have known about 4-H and form connections (Cornelisse et al., 2011).

Benefits and Barriers of Using Social Media in Extension. A study by Newbury et al. (2014) used a mixed methods approach to identify the barriers and benefits of utilizing social media in extension. The authors interviewed Wisconsin and New York extension agents and gathered data by surveying New York State extension educators. The findings of the interview portion of the study suggested agents were reluctant to adopt social media in extension because of perceived risks identified as control, time, money, access to the internet, and access to social media training (Newbury et al., 2014). While agents felt pressured to utilize social media, findings showed pressure for usage was identified as a barrier and an opportunity (Newbury et al., 2014). Respondents who viewed social media as an opportunity identified using social media as a way to reach new audiences using a new method of communication. Those who viewed it as a risk associated using social media under pressure with succumbing to peer pressure and following a trend without a plan (Newbury et al., 2014).

The main benefits of utilizing social media identified were the speed of communication, the ability to connect and directly interact with an audience, how public and accessible social media was, and the ability to use social media for public relations tactics such as promoting media coverage and contacting stakeholders (Newbury et al., 2014). Agent respondents recognized social media as an additional form of communication that complemented previous forms of outreach as opposed to replacing them (Newbury et al., 2014). The agents recognized use of social media allowed them to interact with their audience in real time. Other agents

identified social media as an online method of disseminating information to their audience by word of mouth (Newbury et al., 2014). Respondents were asked about the perceived risks and benefits of social media use in extension. The top four risks were identified as poor use of time, professional privacy, personal privacy, and the publicness of the medium (Newbury et al., 2014). The study found respondents perceived most variables to be benefits, except for "being a good use of time," which was only identified as a benefit fifty percent of the time, as seen in Figure 1 (Newbury et al., 2014).

Figure 1

Perceived Benefits of Using Social Media
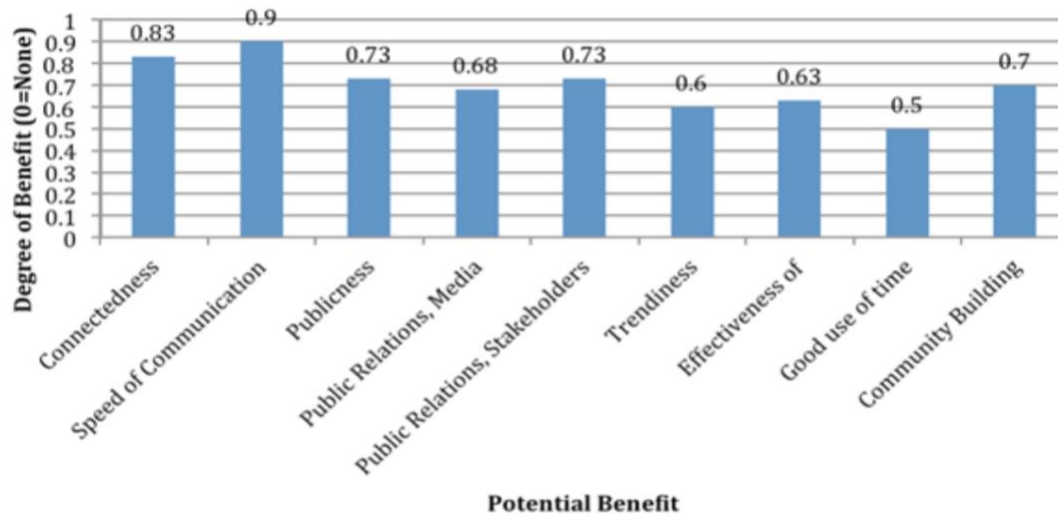
Note. From "Over the Hurdles: Barriers to Social Media Use in Extension Offices," by E. Newbury, L. Humphreys, & L. Guess, 2014, *The Journal of Extension*, 52(5), p.7 (https://tigerprints.clemson.edu/joe/vol52/ iss5/14).

The authors suggested to overcome the barriers and risks identified, trainings on how to use social media safely should be used to address the problem areas identified. In addition to trainings, the authors suggested demonstrating how other extension offices effectively use social media could help diffuse the barriers by others who have not integrated social media into their program. According to the study, respondents not only were weary of using social media

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platforms but were also unsure of how to begin or what information they should be sharing (Newbury et al., 2014).

The Need for Trainings. The findings of the study conducted by Newbury et al. (2014) support the need for social media training among extension agents. Extension agents know their audience uses social media but do not know how to begin implementing social media in their outreach plan (Newbury et al., 2014). Social media trainings should educate extension agents on which platforms should be used for varying information, how to operate and use the platforms in a positive way, how to view and measure engagement on each social media platform used to determine post effectiveness, how to protect oneself and others using privacy settings on social media, and what tools agents can use to optimize their time on social media such as Facebook's schedule planner to schedule posts sharing. To be effective, these trainings should address the barriers identified by agents and demonstrate how other extension programs use social media effectively (Newbury et al., 2014).

The Use of Facebook in Extension. A research study by Quinn (2021) found Facebook was the most commonly used platform by Virginia extension agents, and their primary audience was 4-H parents and families. Another study found that 4-H programs were utilizing Facebook to share information about their program using photographs, links to news stories, and contact information to encourage involvement (Alotaibi, 2018). Utilizing Facebook as a part of an extension program's outreach plan increases their potential to build relationships and establish networks with their audience (Mains et al., 2013). According to a study by Ellison et al. (2007), connections made through Facebook supported relationships and connections offline. With the growing number of Facebook users, extension agents should find Facebook successful in communicating information such as upcoming events, educational pieces, marketing messages, and publications with their audience (Kinsey, 2010). Using Facebook in a county 4-H program

allows extension agents to update followers daily on opportunities such as new programs or volunteer opportunities, relevant need-to-know information, and any exciting news, such as how a team placed at a competition. Facebook's option to engage with a post through a comment or "reaction," an extension of the "like" button, allows followers to interact with extension agents. They can comment with questions or additional information they might have to add.

Extension agents who utilize Facebook as an active component of their outreach plan increase the impact of their programming efforts (Mains et al., 2013). Facebook is not to replace other in-person outreach methods but to be an additional form of outreach to help build relationships with the target audience. As a free social media platform, Facebook provides agents an inexpensive way to connect with new and old audiences in a relevant, accessible, and timely manner (Mains et al., 2013).

Theoretical Framework

Diffusion of Innovation

The Diffusion of Innovation theory, proposed by Everett Rogers in 1961, explains the rate at which a population adopts new innovations. For a new idea to be diffused among a population, it must be communicated through the proper channels over a period of time among the members of the population (Rogers, 2003). Not all members of a population will adopt an innovation at the same time. Instead, they can be classified into separate categories by the amount of time it takes them to adopt an innovation. These categories are innovators, early adopters, early majority, late majority and laggards. Rogers explains the rate at which an innovation will be adopted by the population is determined by five attributes; relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003).

Adopter Categories. Rogers (2003) identified five adopter categories to describe the stages in which a population adopts an innovation. Innovators comprise 2.5% of the population

and are described as "eager to try new ideas" (Rogers, 2003, p. 249). Innovators are the first of the population to venture out and try an innovation, despite what the possible outcomes might be. They are risk-takers and do not fear the uncertainty of the innovation. According to Rogers (2003), early adopters are a more integrated part of the population, making up 13.5 % of the population. Early adopters often hold leadership roles and their opinions are valued by their peers. It is the responsibility of the early adopters to adopt the new idea and reduce the uncertainty of it to diffuse it among the rest of the population. The early majority make up 34% of the population and do not lead in adopting an innovation; instead, they assess the pros and cons before committing to adoption (Rogers, 2003). The late majority comprisse another 34% of the population and are skeptical and cautious about trying an innovation, only adopting it after most of the population has already done so (Rogers, 2003). Almost all uncertainty must be removed before they will be confident in their decision to adopt. Making up 16% of the population, as depicted in Figure 2, laggards are the last to adopt a new idea as they often refuse change. By the time laggards adopt an innovation, the innovators may have already moved onto the next innovation (Rogers, 2003).

Figure 2

Adopter Categorization on the Basis of Innovativeness

Note. From "Diffusion of Innovations (3rd ed.)," by E.M. Rogers, 2003, p.247 (https://teddykw2.files.wordpress.com/2012/07/everett-m-rogers-diffusion-of-innovations.pdf).
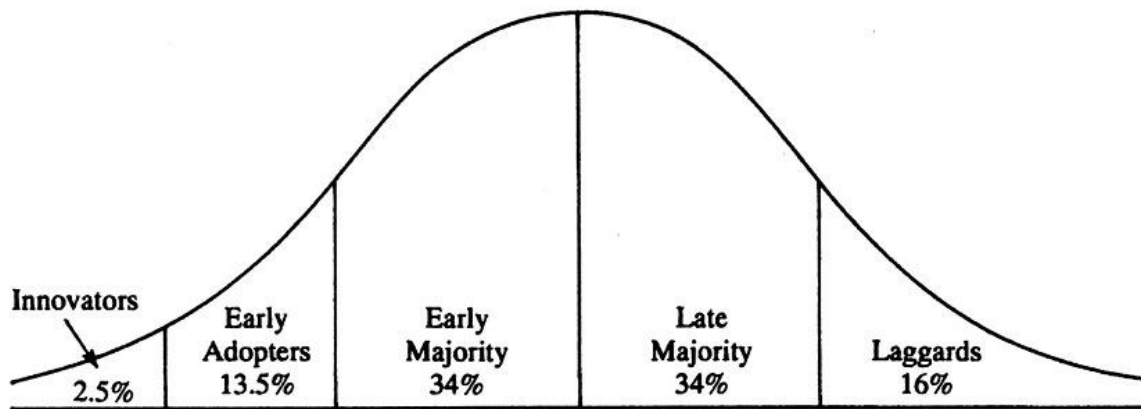
Innovation Characteristics. To positively influence the rate of adoption, an innovation must possess five characteristics. The first is relative advantage, meaning the new idea must be better than the idea it replaces (Rogers, 2003). The latter half of the adopter categories believe in what works. If there is any risk or uncertainty an innovation will not be better than the current method, they will not adopt it. We can apply the concept of relative advantage to explain why Facebook should be adopted in county 4-H programs, as it is a quicker way to communicate than traditional methods such as mail.

The following characteristic, compatibility, is when an innovation is perceived to be consistent with the values, past experiences, and needs of potential adopters (Rogers, 2003). The more compatible an innovation seems to the adopter, the less uncertain they will feel and the more likely they will adopt. If a member of the county 4-H program has experience using Facebook and needs to obtain information quickly, then the use of Facebook in county 4-H programs would be compatible with the adopter's needs.

Complexity is defined by Rogers (2003) as the degree to which an innovation is perceived as relatively difficult to understand and use. The more complex an innovation appears to be, the more hesitant adopters become. Adopters want to know they have the ability to use the innovation. As county 4-H programs begin to implement Facebook as a form of communication, the more they can provide resources for any adopter who may need extra assistance in operating the platform.

Trialability is what it sounds like – adopters want to know they can experiment with the innovation on a trial basis before committing to adoption. If an innovation can be used on a trial, the less uncertain it will appear to adopters (Rogers, 2003). County agents can experiment with using Facebook to communicate information before fully adopting it as their communication source with members and their families.

Observability is the degree to which the results of an innovation are visible to others and influence the rate of adoption (Rogers, 2003). This is best illustrated by the adopter categories in which the early majority looks to the early adopters to observe their experiences with the innovation. When a county 4-H program begins to see results in terms of engagement or involvement by utilizing Facebook as a form of communication, other county programs will be able to observe this success and adopt the innovation.

The Innovation-Decision Process. As defined by Rogers (2003), the innovation-decision process is the stages an individual goes through and their choices when deciding whether to adopt an innovation. The stages of this process are knowledge, persuasion, decision, implementation, and confirmation (Rogers, 2003). This process starts with an individual's exposure to an innovation and their understanding of the innovation's purpose and functions. This is where the individual first becomes acquainted with the innovation and will learn the needed information to form an opinion.

In the next stage of the process, persuasion, the individual will either form a positive or negative opinion on the innovation. During this stage, an individual is influenced by feelings rather than facts as they interpret the information learned in the knowledge stage and a perception is formed (Rogers, 2003). Perceptions of the innovation's relative advantage, compatibility, and complexity are formed in this stage (Rogers, 2003). In this stage, agents with 4-H responsibilities would mentally weigh the pros and cons of utilizing Facebook and compare it with methods already in use to decide if implementation would be worth it. As the results of an innovation are often unknown, in this stage, individuals will seek opinions from their peers to see if their initial attitude is justified (Rogers, 2003).

Following the establishment of their opinion, the individual will then decide to adopt or reject the innovation. Rejection is deciding not to adopt, while adoption is defined by Rogers (2003) as the "decision to make full use of an innovation as the best course of action available" (p. 172). According to Rogers (2003), most individuals want to try the innovation free of risk before committing to adoption and will not adopt without a trial to determine its usefulness for their needs. As Facebook is a free platform, agents have the opportunity to try Facebook and can delete their account or page at any point. Reducing the uncertainty surrounding an innovation with trials most often increases the rate of adoption (Rogers, 2003). In a study by Rogers (2003), a trial by an individual can sometimes be substituted by a peer's experience during a trial or by a demonstration performed by an opinion leader. Although there are ways to influence adoption, rejection can occur at any moment and take two separate forms (Rogers, 2003). Active rejection is when the individual considers adopting the innovation and may even participate in a trial but ultimately decides against adoption. Passive rejection is when the individual never even considered adoption. An example of this can be seen in today's world of extension as there are

two types of agents -- those who are open to change and those who are reluctant to believe social media can benefit their needs (Diem et al., 2011).

Prior to implementing the innovation, the decision process is mainly a mental game but becomes physical with the operation of the innovation (Rogers, 2003). Implementation begins once the innovation is being used, and although adoption was reached, the process does not end here as the potential to reject the innovation still exists (Rogers, 2003). As the individual begins to operate the innovation, they might encounter factors that were not previously considered or technical issues. In this stage, the individual actively seeks information on how to use the innovation properly and to its fullest potential until they can use it in day-to-day operations (Rogers, 2003). During adoption and implementation, the individual may modify an innovation to best fit their needs. Rogers (2003) termed this re-invention as he defined as "the degree to which an innovation is changed or modified by a user in the process of its adoption and implementation" (p. 175). Continuing with the example of Facebook as an innovation, agents initially adopted the social platform to disseminate information to members and their parents. However, the use of Facebook in extension has moved beyond simply sharing information. It has become integral for agents to gain insights and knowledge and communicate directly with their audience in real-time (Schachtschneider, 2016). Agents now have the ability to share polls, create events, and send and receive private messages with members. The insights dashboard can help agents understand how people engage with their Facebook page, view metrics about the page's performance, learn which posts have the most engagement, and see when their audience is on Facebook (Insights: Facebook help center, n.d.). With each new feature Facebook releases, the opportunity for re-invention becomes limitless. The ability to re-invent decreases discontinuance by allowing for customization to fit the varying circumstance of the individuals or organization (Rogers, 2003).

The last stage of the innovation-decision process is the confirmation stage. During this stage, the individual reaches a dissonance as a result of their initial decision to either adopt or reject the innovation and have the opportunity to change their decision. If the individual is ever persuaded they should not have adopted the innovation, they can change their mind to reject the innovation for an indefinite period of time after adoption (Rogers, 2003). Also, if an individual feels discomfort as a result of their initial decision to reject the innovation, they can choose to adopt during the confirmation stage, as shown in Figure 3 (Rogers, 2003).

Figure 3

A Model of Stages in the Innovation-Decision Process
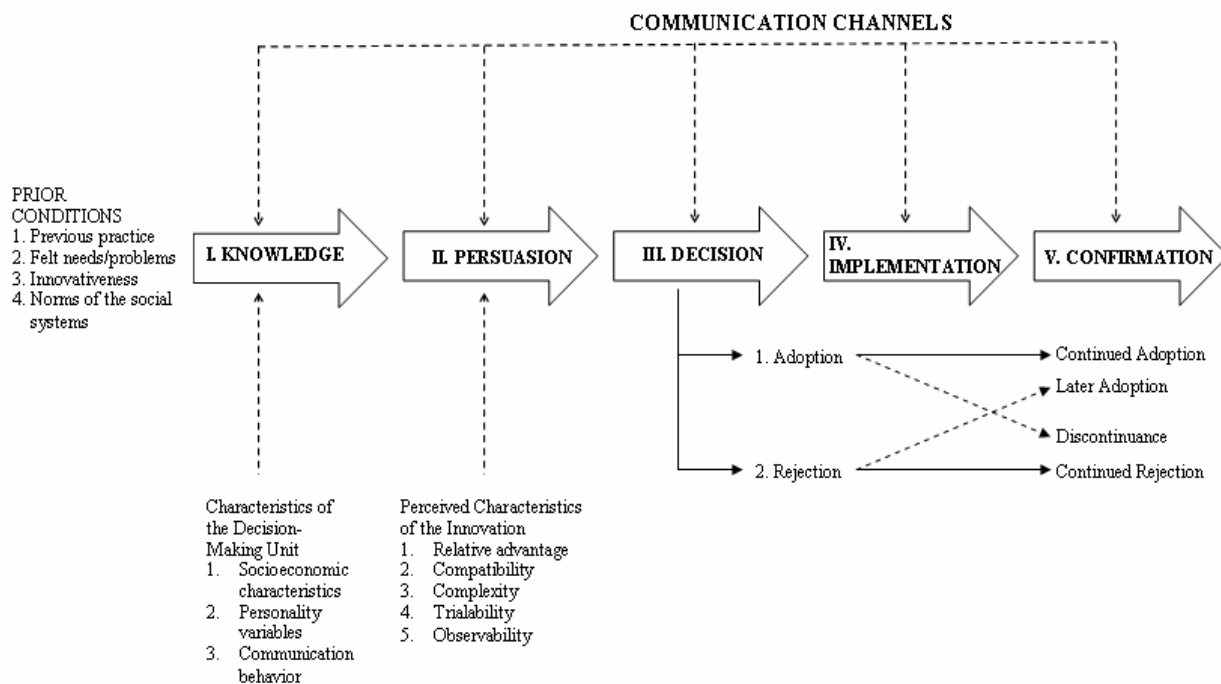
Note. From "Diffusion of Innovations (3rd ed.)," by E.M. Rogers, 2003, p.165 (https://teddykw2.files.wordpress.com/2012/07/everett-m-rogers-diffusion-of-innovations.pdf).

Technology Acceptance Model (TAM)

The technology acceptance model can be used in relation to the diffusion of innovation theory as it identifies factors that will either encourage or hinder user adoption of a new technology. This model was developed by Fred Davis in 1989 to explain why users were unwilling to adopt and use available systems. According to Davis (1989), the perceived usefulness and perceived ease of use by the user will determine their acceptance of a new technology. Perceived usefulness is defined as the extent to which a user believes an application will help them to perform their job better (Davis, 1989). Perceived ease of use is the degree to which a person believes using the application would be free of effort (Davis, 1989). By these definitions, Davis theorized users would adopt the model if they believed the technology would help them and be easy to use. If the technology is either unbeneficial but easy to operate or beneficial yet hard to use, it will not be adopted by users. A technology that is beneficial and easy to use is more likely to be accepted by users as illustrated in Figure 4 (Davis, 1989).

Figure 4

Technology Acceptance Model
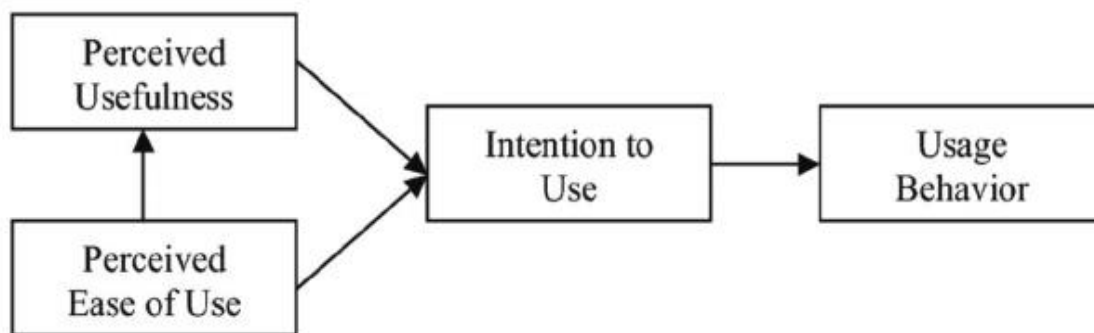
Note. Adapted from "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," by F.D. Davis, 1989. (https://doi.org/10.2307/249008).

The perceived ease of use aligns with the definition of the complexity characteristic of the diffusion of innovation theory, as pointed out by Davis (1989). This correlation supports the use of the technology acceptance model as a theoretical framework for this study. By utilizing this model, this study will be able to identify the perceived usefulness and ease of use of Facebook as a form of communication by agents with 4-H responsibilities.

Chapter Summary

The Diffusion of Innovation Theory and the Technology Acceptance Model provides a sound theoretical framework on which to base this study. Both concepts can be used to determine the adoption rate of Facebook as a communication method by agents with 4-H responsibilities in Arkansas. The Diffusion of Innovation will help determine the rate of adoption, while the Technology Acceptance model will help identify factors affecting the adoption rate.

Chapter 3: Methodology

Restatement of Problem

With the use of social media and the prevalence of Facebook on the rise, county agents with 4-H responsibilities in Arkansas have the opportunity to use or improve their use of Facebook to communicate with their audience. Knowing the most effective methods of using Facebook to reach their audience will allow agents with 4-H responsibilities in Arkansas to increase participation and build a stronger county program without the time-consuming guesswork of which method to use. This study defines effectiveness as the ability to reach the target audience and increase involvement in 4-H activities. The primary audience has been identified as parents and families of 4-H members based on Quinn (2021).

Restatement of the Purpose of the Study

This study will identify how agents with 4-H responsibilities in Arkansas actively use Facebook for communication purposes in their county program and their perceptions of its effectiveness. For this study, effectiveness will be defined as the ability to reach the target audience and increase involvement in 4-H activities. The results of this study inform which Facebook methods agents view as effective, allowing agents with 4-H responsibilities in Arkansas to adopt and implement these methods or modify their current Facebook strategies to improve communication efforts in their county programs.

Restatement of the Research Objectives

This study will answer the following quantitative research questions:

1. Describe the usage of Facebook by agents in AR, with at least 25% 4-H responsibility.

2. Describe the perceptions of Facebook by agents in AR, with at least 25% 4-H responsibility.

3. Determine if a relationship exists between demographics of agents in AR, with at least 25% 4-H responsibility, and their usage and perceptions of Facebook.

Reflexivity Statement

While every attempt to limit bias was made, it is important to note the researcher of this study might unintentionally present bias to this study as she was heavily involved in 4-H and served as an Arkansas 4-H State Officer in 2016. The researcher also has a professional background as a digital marketing specialist and uses social media platforms to communicate with target audiences.

Design of the Study

This study uses quantitative methods to address the identified research objectives. Interviews with six individuals related to, but not in, the population were used to build a quantitative instrument using Qualtrics. These individuals included two former county 4-H agents in Arkansas, a county 4-H agent in Oklahoma, a former employee at the Arkansas 4-H state office, and two current Arkansas 4-H State office employees. The researcher used these interviews as a point of reference to design an electronic quantitative questionnaire in Qualtrics. The questionnaire was used for the quantitative portion of this study to identify how many agents with 4-H responsibilities in Arkansas use Facebook for communication purposes as well as any correlation between this usage and their geographical location, age, percentage of appointment, or amount of time spent working as a county agent.

Institutional Review Board

As a mandatory requirement under the University of Arkansas policies and federal regulations, research involving human subjects must be submitted, reviewed and approved by the Institutional Review Board (IRB) before research completion. Adhering to this policy, this study was submitted for approval under protocol #2211434984. Specific minor revisions were required

by the University of Arkansas IRB (Appendix A) and the study proposal was edited per the stated revisions and resubmitted for approval. After resubmission, protocol #2211434984 was approved as exempt by Ro Windwalker (Appendix B).

Subjects

The wording "agents with 4-H responsibilities" was selected to avoid discrepancy and to widen the target population as few agents in Arkansas have a 100% 4-H appointment. For the purpose of this study, the target population was identified as agents in Arkansas with a 25% or more 4-H appointment. The researcher obtained a list of names and emails of all current agents in Arkansas with their percentage of 4-H responsibilities from the three district offices: Delta, Ouachita, and Ozark. According to the lists, the population of this study consisted of 102 active agents with a 25% or more 4-H appointment in Arkansas in 2022. This population was selected as agents with 4-H responsibilities are the primary source of information for 4-H parents and families. Agents with 4-H responsibilities disseminate information to 4-H parents and families regarding involvement and volunteer opportunities, reminders and deadlines, and more. Agents decide how information is shared based on availability, preference, time, and knowledge (Wilmoth, 2020).

Instrumentation

The instrument (Appendix C) developed by the researcher for the interviews was guided by the research objectives of this study and the conceptual and theoretical frameworks identified in chapter two. The instrument was reviewed by a panel of communication and 4-H experts. Six interviewees who were related to but not in the population were identified and contacted by the researcher via email and asked to participate in the interview portion of this study. These individuals included two former county 4-H agents in Arkansas, a county 4-H agent in Oklahoma, a former employee at the Arkansas 4-H state office, and two current Arkansas 4-H

State office employees. Each interview was held via Zoom and was recorded for quality purposes. Interview questions focused on if and how extension agents use Facebook in their county program and whether they viewed Facebook as an effective form of communication. Interviewees had the opportunity to share their thoughts on utilizing Facebook in a county 4-H program and their perspectives on its effectiveness in reaching a target audience.

The answers from the interview portion of this study were used to design an electronic questionnaire for the quantitative portion of this study. The questionnaire was designed on Qualtrics and questions were assigned to research objectives. After the instrument had been reviewed by a panel of communication and 4-H experts, the researcher used a list obtained from the three district offices to identify agents with less than a 25% appointment to pilot test the questionnaire.

Agents with less than a 25% appointment were randomly selected and asked to pilot test the questionnaire and provide feedback on its format and their comprehension of the questions. The agents were contacted via email and sent a PDF version of the questionnaire for review. Agents were asked only to participate in the pilot test if they had a 25% or less 4-H appointment. The researcher emailed 37 agents and received feedback from 12 agents. The following changes were made as a result of the pilot test: District names were added in place of numbers 1-3, the date March 2020 was added to questions regarding COVID-19 as a point of reference, a "not applicable" response option was added to COVID-19 questions for agents who were not employed until after the pandemic, an "other" option was added to the question regarding target audience, a question asking what other forms of communications agents use was added, and a question asking if agents if they feel Facebook is more effective than the previously identified methods was added.

Procedures for Data Collection

The questionnaire was presented to agents with 4-H responsibilities during a

conference on December 6-8, 2022. Agents were encouraged to participate in the study, but

informed participation was not required. Agents were verbally informed of the study during

workshops and roundtable event, and a flyer with a QR code (Appendix E) to the survey was

placed around the conference center and at the registration table. After the conference, only 29

responses had been received, of which 25 were useable for analysis. Following Dillman, the

researcher decided to send an initial email on December 16, 2022, to agents with a 25% or higher

4-H appointment as identified by the list from the district offices and sent reminder emails on

January 4, 2023, and January 11, 2023. All attempts to obtain data from agents with a 25% or

higher appointment were taken. The researcher obtained an additional 31 responses for a total of

60 responses. Incomplete responses and responses from agents with less than a 25% 4-H

appointment were excluded from analysis, leaving a total of 44 responses for analysis and a

response rate of 43%.

Data Analysis Procedures

Research objectives one and two utilized descriptive analyses and reported frequencies

and percentages for each response to all corresponding questions. Research objective three used

a one-way ANOVA to determine if a statistically significant relationship existed between

selected demographic variables and agents' usage and perceptions of Facebook. The chosen

variables included appointment percentage, age range, years served as an agent in Arkansas and

4-H district. Upon completion of the quantitative section of this study, responses were reviewed

to determine their percentage of completion and incomplete data was excluded. Data was

analyzed on February 27, 2023, using SAS version 9.4.

Chapter 4: **Findings and Results**

Results Overview

As social media rises in popularity and with Facebook leading the way, agents with 4-H responsibilities have the opportunity to use Facebook in their communication efforts. Understanding which Facebook methods agents with 4-H responsibilities are using and agents' perceptions of their effectiveness will allow agents to implement or increase their use of these methods to improve communication efforts in their county programs.

This study aimed to determine how agents with 4-H responsibilities in Arkansas use Facebook for communication purposes in their county program and their perceptions of Facebook's effectiveness.

This study is guided by the following quantitative research questions:

1. Describe the usage of Facebook by agents in AR, with at least 25% 4-H responsibility.

2. Describe the perceptions of Facebook by agents in AR, with at least 25% 4-H responsibility.

3. Determine if a relationship exists between demographics of agents in AR, with at least 25% 4-H responsibility, and their usage and perceptions of Facebook.

This chapter is a summary of the results and the research objectives identified in this study. The procedure for data collection consisted of an electronic survey created on Qualtrics and presented at an in-person conference. After the conference, the researcher decided to follow Dillman and emailed a link to the questionnaire to agents with a 25% or higher 4-H appointment in an attempt to receive more responses. Two follow-up emails were sent over the course of a month resulting in 44 responses for data analysis and a response rate of 43%. Data analysis results related to the identified research objectives are presented and discussed, followed by a summary of the results to provide an overview of the results of the study.

Summary of the Study

      This study examined agents with 4-H responsibilities Facebook usage and their perceptions of its effectiveness. The study explored the different methods and Facebook tools available to agents and their perceptions of its effectiveness individually and compared to other forms of communication. This study explored if a relationship existed between selected demographics of agents with 4-H responsibilities in Arkansas and their Facebook usage. This study is significant because it will provide agents with insights into how other agents in the state use Facebook and what methods are seen as effective for communication in county 4-H programs. This will allow agents to implement or increase their usage of effective methods, saving them time and from trial and error.

      The population consisted of 181 agents with 4-H responsibilities in Arkansas. Agents with less than a 25% appointment were excluded from the sample, leaving a total of 102 agents. During an in-person conference held December 6-8, 2022, agents were asked to complete a quantitative survey via Qualtrics. After the conference, a total of 29 responses were collected. However, only 25 responses were from agents with a 25% or more 4-H appointment. In an attempt to obtain more responses, the researcher followed Dillman and sent an introductory email with a link to the survey and two follow-up emails over the course of a month to agents with a 25% or higher 4-H appointment. An additional 31 responses were received, giving a total of 60 responses. Incomplete responses and responses from agents with less than a 25% appointment were excluded from the data for a total of 44 responses and a response rate of 43%.

Data Collection

      Human subject research allows respondents to skip survey questions. By allowing respondents in this study to skip questions, some questions from this survey received fewer than 44 responses. The researcher has identified the number of responses for each of these questions.

Demographics

A sample (*n*=44) was collected from agents with a 25% or higher 4-H appointment in Arkansas. In the sample, 38 (86.4%) of respondents identified as female and six (13.6%) identified as male, with 43 (97.7%) identifying as White and one (2.3%) identifying as American Indian or Alaska Native. All 44 (100%) respondents identified as Non-Hispanic.

Agents were then asked to select one of five age ranges, with the highest percentage of respondents falling in the 35-44 age range (Table 1).

Table 1

Age of Respondents with 25% or Higher 4-H Appointment

Age	*f*	%
Under 25	4	9.1
25-34	13	29.5
35-44	14	31.8
45-54	9	20.5
55+	4	9.1

Note: *n*=44

Agents with a 25% or higher 4-H appointment were asked how many years they have served as an agent with 4-H responsibilities in Arkansas. As shown in Table 2, nearly half (*n*=20, 45.5%) of respondents had zero to five years of service.

Table 2

Years of Service as an Agent with 4-H Responsibilities in Arkansas

Years	f	%
0-5	20	45.5
5-10	11	25.0
10-15	5	11.4
15-20	5	11.4
20-25	3	6.8

Note: *n=44*

Next, agents were asked to select their 4-H District. Of the 44 respondents in the sample, 13 (29.5%) of respondents served in the Delta District, 16 (36.4%) served in the Ouachita District, and 15 (34.1%) served in the Ozark District.

As previously stated, agents with less than a 25% appointment were excluded from this study, leaving agents with a 25% or higher 4-H appointment to be included in the sample. For research purposes, agents were asked to identify their percentage of 4-H appointment, as presented in Table 3.

Table 3

Percentage of 4-H Appointment

Appointment	f	%
25-49%	17	38.6
50-74%	7	15.9
75-100%	20	45.5

Note: *n=44*

RO1: Describe the usage of Facebook by agents in AR, with at least 25% 4-H responsibility

Agents were asked if they currently use Facebook in their county 4-H program. Of the 44 responses, 43 (97.7%) respondents answered yes and one (2.3%) answered no. The respondent who answered no was asked what barriers prevented them from using Facebook for communication purposes in their county 4-H program and asked to select all that apply. The response options included internet availability, lack of training, lack of interest, time, and other. The respondent selected other and was asked to describe their reason. The respondent provided valuable insight, identifying their current county did not utilize Facebook often as there was little 4-H program, and they were building up the county's program. The respondent was then shown to the end of the survey as they could not have accurately answered the following questions regarding Facebook use.

After the respondent was shown to the end of the survey, 43 respondents continued the survey after answering yes to actively using Facebook for communication purposes in their county 4-H program. Respondents were asked how often they used Facebook for communication purposes in their county 4-H program to which 4.7% (*n*=2) answered rarely, 14.0% (*n*=6) answered sometimes, 53.4% (*n*=23) answered very often, and 27.9% (*n*=12) answered always.

Agents were asked to estimate how many hours per week they used Facebook for communication purposes in their county program. Nearly two-thirds (*n*=27, 62.8%) of respondents answered zero to five hours per week, as shown in Table 4.

Table 4

Facebook Usage by Hours per Week

Hours	f	%
0-5	27	62.8
6-10	14	32.6
11-15	2	4.7

Note: *n*=43

Agents with a 25% or higher 4-H appointment were asked to estimate how many Facebook posts they post per week. Over two-thirds (*n*=29, 67.4%) of respondents selected 0-3 posts per week, as shown in Table 5. Only three (6.9%) respondents share seven or more posts per week.

Table 5

Facebook Usage by Posts per Week

# of Posts	f	%
0-3	29	67.4
4-6	11	25.6
7-9	1	2.3
10-12	1	2.3
13+	1	2.3

Note: *n*=43

Agents with a 25% or higher 4-H appointment were asked to identify who they view as their target audience when they use Facebook for communication purposes in the county 4-H program. This question received a total of 43 responses, to which 41 (95.3%) respondents answered 4-H parents and guardians, one (2.3%) answered 4-H members and one (2.3%)

answered other. Agents were asked if they use Facebook to reach potential new members, to which 93.0% (*n=40*) of respondents selected yes and 7.0% (*n=3*) selected no.

To determine if the Covid-19 pandemic affected Facebook usage among agents with a 25% or more 4-H appointment, agents were asked how their use of Facebook for communication purposes changed after the Covid-19 pandemic shutdown in March 2020. Out of the 43 responses, one (2.3%) felt their use of Facebook somewhat decreased, 10 (23.3%) felt there was no change, 16 (37.2%) felt it somewhat increased, and 16 (37.2%) felt it drastically increased. Zero respondents felt their use of Facebook had significantly decreased.

Agents were asked to identify the number of hours per week they estimated they used Facebook for communication purposes in their 4-H programs before and after the Covid-19 pandemic shutdown in March 2020 using two back-to-back questions. As shown in Table 6, there was an increase in usage of Facebook during the 6-10 hour and 11-15 hour intervals and a decrease in the 0-5 hour interval after the pandemic.

Table 6

Changes in Hours of Facebook Usage as a Result of Covid-19

Hours	Before* *f*	After** *f*
0-5	24	15
6-10	5	14
11-15	2	6

Note: **n=31*, ***n=35*

Agents with a 25% or higher 4-H appointment were asked whether they did or did not use the listed Facebook tools in their county 4-H program using a dichotomous, yes-or-no scale. The most popular tool among respondents (*n=40, 93.0%*) was Facebook Pages with the least popular among respondents (*n=8, 18.6%*) being the Schedule Planner, as shown in Table 7.

Table 7

Facebook Tool Usage

Facebook Tool	*Yes*	%	*No*	%
Facebook Pages	40	93.0	3	7.0
Facebook Messenger	35	81.4	8	18.6
Facebook Groups	34	79.1	9	20.9
Facebook Insights	33	76.7	10	23.3
Facebook Events	17	39.5	26	60.5
Schedule Planner	8	18.6	35	81.4

Note: *n=43*

Using a dichotomous, yes-or-no scale, agents with a 25% or higher 4-H appointment were asked to select the post types they use to reach their target audience. The most popular post type used by agents was posts with graphics, with 100% (*n=43*) of respondents saying they utilize this post type (Table 8).

Table 8

Post Type Usage

Post Type	*Yes*	%	*No*	%
Post with Graphic	43	100.0	0	0.0
Text Only	29	67.4	14	32.6
Videos	25	58.1	18	41.9
Stories	7	16.3	36	83.7
Reels	4	9.3	39	90.7

Note: *n=43*

RO2: Describe the perceptions of Facebook by agents in AR, with at least 25% 4-H responsibility

Agents were asked a series of questions regarding their perceptions of Facebook usage in their county 4-H program. Agents were first asked to identify any other forms of communication they used to reach their target audience (Table 9).

Table 9

Other Forms of Communication Used

Form of communication	*Yes*	%	*No*	%
Emails	38	90.5	4	9.5
Newsletters	32	76.2	10	23.8
Phone Calls	32	76.2	10	23.8
Text	31	73.8	11	26.2
Mail*	19	46.3	22	53.7
Remind	11	26.2	31	73.8
GroupMe	8	19.0	34	81.0

Note: *n=42, *n=41*

After identifying other forms of communication used in their county program, agents were asked if they felt the use of Facebook in their county program was more effective than the methods they previously identified. Of the 38 responses received for this question, 63.2% (*n=24*) of agents responded yes and 36.8% (*n=14*) responded no.

Agents were asked a series of questions regarding their perceptions of the effectiveness of the use of Facebook in their county program. Agents were asked how likely they would be to agree the use of Facebook was effective for communication purposes in their county program. Nearly 80% (*n=35*) of respondents were somewhat likely to extremely likely to agree the use of Facebook was effective. For reliability, agents were asked how likely they would be to agree the

use of Facebook was not effective for communication purposes in their county program. In comparison, 72% (*n*=31) were somewhat unlikely or extremely unlikely to agree the use of Facebook was not effective (Table 10). Agents were asked how likely they would be to agree the use of Facebook in their county 4-H program has increased involvement at 4-H events. As shown in Table 10, approximately 75% (*n*=32) of respondents were somewhat likely or extremely likely to agree the use of Facebook increased involvement at 4-H events. To test for reliability, agents were asked how likely they would agree the use of Facebook in their county 4-H program has decreased involvement at 4-H events. Approximately 93% (*n*=40) were somewhat unlikely or extremely unlikely to agree the use of Facebook decreased involvement at 4-H events.

Table 10

Likert-type Scale Responses

Statement	Extremely unlikely	Somewhat unlikely	Neither likely or unlikely	Somewhat likely	Extremely likely
"The use of Facebook is effective for communication in my county 4-H program."	0 (0.0%)	4 (9.3%)	4 (9.3%)	25 (58.1%)	10 (23.3%)
"The use of Facebook is not effective for communication in my county 4-H program."	14 (32.6%)	17 (39.5%)	8 (18.6%)	4 (9.3%)	0 (0.0%)
"The use of Facebook for communication purposes in my county 4-H program has increased involvement at 4-H events."	1 (2.3%)	4 (9.3%)	16 (14.0%)	22 (51.2%)	10 (23.3%)
"The use of Facebook for communication purposes in my county 4-H program has decreased involvement at 4-H events."	31 (72.1%)	9 (20.9%)	2 (4.7%)	1 (2.3%)	0 (0.0%)

Note: *n* = 43.

RO3: Determine if a relationship exists between demographics of agents in AR, with at least 25% 4-H responsibility, and their usage and perceptions of Facebook

A one-way ANOVA was used to determine whether a statistically significant relationship exists between agent district, appointment percentage, age range, and experience level with their Facebook usage. The variables of experience and age were collapsed from five categories into three to make the data analysis meaningful. A one-way ANOVA revealed there was a statistically significant difference in mean usage as a result of agent percentage of appointment

(F (2, 40) = [6.94], $p=0.0026$). Tukey's HSD Test for multiple comparisons found the mean

value of usage was significantly different between group 4 (75-100%) and group 3 (50-74%)

(95% C.I. = [0.0312, 1.1069]), and group 4 (75-100%) and group 2 (25-49%) (95% C.I. =

[0.1642, 0.9858]). There was no statistically significant difference between Facebook usage and

agent district ($p=0.3532$), Facebook usage and age range ($p=0.5671$), or Facebook usage and

years of experience ($p=0.4062$).

A one-way ANOVA was used to determine whether a statistically significant relationship

existed between agent district, appointment percentage, age range, and experience level with

their perceptions of Facebook. Once again, the variables of experience and age were collapsed

from five categories into three to make the data analysis meaningful. A one-way ANOVA

revealed there was a statistically significant difference in mean perceptions of Facebook as a

result of appointment percentage (F (2, 40) = [3.61], $p=0.0362$). A Tukey's HSD Test for

multiple comparisons was used and no statistically significant difference between groups was

found. There was no statistically significant difference between perceptions of Facebook and

agent district ($p=0.7009$), perceptions of Facebook and age range ($p=0.2543$), or perceptions of

Facebook and years of experience ($p=0.4295$).

Chapter Summary

This chapter provided a summary of the findings and the results from the data analysis

for each research objective presented. The findings identified how agents with a 25% or higher

4-H appointment use Facebook in their 4-H program, their perceptions of the effectiveness of

Facebook use in their program, and whether a relationship existed between the selected agent

demographics and Facebook usage.

Chapter 5: Conclusions and Recommendations

Results Overview

   This study examined the usage and perceptions of Facebook by agents with at least 25% 4-H responsibility in Arkansas and examined relationships between agents' use of Facebook by selected demographics. This study provided Arkansas 4-H extension insight into agent Facebook usage in county 4-H programs and their perceptions of Facebook. This study consisted of a population of 102 agents with a 25% or higher 4-H responsibility in Arkansas. At the end of the data collection period, a total of 60 responses were collected. Responses from agents with less than a 25% appointment and incomplete responses were excluded from the analysis. This left a total of 44 responses for data analysis with a 43% response rate. The data was analyzed on Monday, February 27, 2023.

Summary of the Findings

   The findings of this study are summarized by its three research objectives. The first identifies the usage of Facebook by agents in Arkansas, with at least a 25% 4-H responsibility. The second explains the perceptions of Facebook by agents in Arkansas, with at least 25% 4-H responsibility. The third determines if a relationship exists between selected demographics of agents in Arkansas, with at least 25% 4-H responsibility, and their usage of Facebook.

Conclusions

RO1: Describe the usage of Facebook by agents in AR, with at least 25% 4-H responsibility

   This research objective aimed to identify if agents used Facebook and, if so, how they utilized it. The data collected from this survey allowed us to conclude agents were using Facebook in their county 4-H programs as all but one respondent answered they used Facebook. In a question gauging how often agents used Facebook in their programs, over 80% (*n*=35) of respondents answered very often and always. Agents were asked to estimate how many hours per

week they used Facebook and the number of posts per week. Based on the results, agents conservatively use Facebook as over 60% (n=27) of respondents only use it for 0-5 hours per week and over 65% (n=29) post 0-3 times per week. According to Constant Contact (2022), businesses and organizations should post on Facebook between three to seven times per week to stay relevant with their audience. Adobe Express (2022) states posting to Facebook one to two times per weekday and once over the weekend is a solid strategy as it establishes the page as a regular presence in followers' feeds without bombarding them. These posts should contain relevant, high-quality content that is valuable to your audience, and agents should never post simply for the sake of posting (Constant Contact, 2022) or to try to satisfy Facebook's algorithm (Adobe Express, 2022).

This conservative use of Facebook by respondents could be a result of a variety of barriers. This is consistent with a study by Wilmoth (2020), who identified common barriers to social media use by Kentucky agents. Barriers identified included limited access to the internet, reliable internet, increased screen time required during the pandemic made social media less appealing, difficulty engaging audiences in a virtual format, personal preference for face-to-face contact, time consumption, lack of knowledge on how to use social media, agents not being comfortable on video, and lack of knowledge with which platform to use for their intended audience.

This study identified how agents use Facebook to reach their target audience and who they identify as their audience. Quinn (2021) found Facebook was the most commonly used platform by Virginia extension agents and their primary audience was 4-H parents and families. The findings of this study are consistent with Quinn's findings as agents identified their target audience as 4-H parents and guardians (n=43, 95.3%). Knowing your audience can help

determine the content and messages you share to foster relationships with your audience (Cornelisse et al., 2011).

Facebook allows extension agents to reach existing members and new potential members who previously may not have known about 4-H and enable them to form connections (Cornelisse et al., 2011). Over 90% (*n*=40) of respondents stated they used Facebook to reach potential new members. As a free social media platform, Facebook provided agents with an inexpensive way to connect with new and old audiences in a relevant, accessible, and timely manner (Mains et al., 2013).

The COVID-19 pandemic shutdown in March 2020 caused many to isolate and remain at home, causing them to look for alternative ways to connect with others. With social distance guidelines, agents had to pivot from traditional of communicating and leading 4-H workshops and programs. Out of the 43 responses, 32 (74.4%) agents felt their use of Facebook either somewhat increased or drastically increased because of the COVID-19 pandemic. Prior to Covid-19, the majority (*n*=24, 77.4%) of respondents stated they used Facebook for 0-5 hours per week while five (16.1%) respondents answered they used it for 6-10 hours per week and only two (6.5%) answered 11-15 hours per week. The need for an alternative way for agents to reach their audience was evident as 15 (42.9%) respondents stated they use Facebook for 0-5 hours per week, 14 (40.0%) answered 6-10 hours per week, and six (17.1%) answered 11-15 hours per week after Covid-19. Agents began increasing their usage of Facebook in an attempt to reach their audience in a timely and effective manner. With society's increased reliance on social media predicted to stay high, agents' use of Facebook is likely to remain higher than before the pandemic (Molla, 2021).

Although Facebook is a single social media platform, there are various ways agents can use Facebook and its many tools available to them. The most popular tool among agents was

Facebook Pages with 93.0% (n=40) of respondents using this tool. The next most popular was

Facebook Messenger (n=35, 81.4%), followed by Facebook Groups (n=34, 79.1%), Facebook

Insights (n=33, 76.7%), Facebook Events (n=17, 39.5%), and Schedule Planner (n=8, 18.6%) as

the least popular tool among respondents. This could be a result of a lack of awareness or

knowledge on how to implement the various tools into their outreach plan (Newbury et al.,

2014). With the availability of the Schedule Planner tool, agents have the opportunity to schedule

posts for future dates and times. Scheduling posts, especially reminders for deadlines or events,

would save agents the time of posting in real-time. Another way agents could diversify their

posts was by sharing a mixed media of content, including text-only posts, posts with graphics,

photos, videos, reels, and stories. The most popular post type among agents were posts with

graphics (n=43, 100.0%), followed by text only posts (n=29, 67.4%), videos (n=25, 58.1%),

stories (n=7, 16.3%), and reels (n=4, 9.3%) as the least popular.

RO2: Describe the perceptions of Facebook by agents in AR, with at least 25% 4-H responsibility

Research objective two aimed to describe the perceptions of Facebook by agents with at

least a 25% 4-H responsibility. The data from this study allowed us to conclude agents viewed

Facebook as an effective method of communication in their county 4-H programs. Over 80%

(n=35) of respondents were somewhat likely to extremely likely to agree the use of Facebook

was effective for communication in their county 4-H program. To gauge agents' perceptions of

the effectiveness of Facebook, agents were asked what other communication methods they use to

reach their target audience. The following methods were listed in order from most popular to

least popular among respondents: Emails (n=38, 90.5%), Newsletters (n=32, 76.2%), Phone

Calls (n=32, 76.2%), Text Messaging (n=31, 73.8%), Mail (n=19, 46.3%), Remind (n=11,

26.2%), and GroupMe (n=8, 19.0%). Based on these methods, it can be determined agents prefer

direct methods of communication when attempting to reach their target audience. Agents were asked if they felt the use of Facebook in their county program was more effective than the other previously identified methods. Out of the 38 responses to this question, 63.2% (n=24) agents answered yes while 36.8% (n=14) answered no. This data aligns with the findings of Newbury et al. (2014), which state agents view social media to be an effective form of communication that complements previous methods as opposed to replacing them.

A study by Alotaibi (2018) found that 4-H programs used Facebook to share contact information to encourage involvement. Nearly 75% (n=32) of respondents were somewhat likely or extremely likely to agree the use of Facebook for communication purposes increased involvement at 4-H events. Over 90% (n=40) of agents were extremely unlikely or somewhat unlikely to agree the use of Facebook decreased involvement at 4-H events. This data allows us to conclude agents view Facebook as effective for increasing involvement at 4-H events.

RO3: Determine if a relationship exists between demographics of agents in AR, with at least 25% 4-H responsibility, and their usage and perceptions of Facebook.

This research objective aimed to understand if a relationship existed between selected agent demographics and their usage and perceptions of Facebook in their county 4-H program. The selected demographics included agent age range, years of experience, Arkansas 4-H district, and appointment percentage. The findings stated agent age range, years of experience, and 4-H district have no effect on agents' usage of Facebook or their perceptions of Facebook. However, a relationship does exist between an agent's percentage of appointment and both their usage and perceptions of Facebook. This is likely a result of agents with smaller 4-H percentages having other duties beyond 4-H and not having as much time to utilize Facebook for their 4-H program. This can be seen as a result of the significant difference between agents with a 75-100% appointment and agents with a 25-49% appointment as well the significant difference between

agents with a 75-100% appointment and agents with a 50-74% appointment. For agents with a 25-49% appointment and agents with a 50-74% appointment, no significant difference existed between percentage of appointment and usage or between percentage of appointment and perceptions of Facebook.

Based on these results, we can see agents of all ages with varying experience levels and geographical locations have adopted Facebook as an innovation and accepted it as a technology model. Agents are using Facebook to their level of comfortability but are not maximizing its potential use. This could be a result of Facebook's perceived ease of use, level of complexity, or other barriers perceived by agents.

Recommendations for Practice

Based on the results of this study, there is support for the need for trainings to teach agents how to utilize Facebook effectively to reach their target audience. Trainings should focus on tools available to agents within Facebook and how to use these tools, such as Insights and Schedule Planner. By doing so, these trainings would positively influence the rate of adoption by demonstrating to agents who fall into the early majority and late majority categories the pros of utilizing Facebook. Learning where to find and interpret Insights and metrics should be covered in these trainings as these will increase Facebook's observability to agents, allowing them to see real-time results of Facebook use and influence their rate of adoption. The ability to track and understand Facebook metrics and schedule posts in advance will help agents to have a higher impact on their audience and be more efficient with their time. These trainings could also utilize the knowledge of agents in the innovators and early-adopter categories by allowing them to share best practices with other agents, helping to reduce the uncertainty and encourage Facebook use among the rest of the population.

To positively influence the adoption rate of Facebook, these trainings should also discuss the relative advantage of using Facebook. Facebook has a relative advantage as the identified audience of 4-H parents and guardians (*n*=43, 95.3%) likely fall into the 68% of U.S. adults who use Facebook (Smith & Anderson, 2018). By using Facebook for communication, agents are able to reach their audience in a relevant and timely manner (Mains et al., 2013). Another relative advantage is Facebook's effectiveness over other forms of communication (i.e. email and newsletters) as 24 (63.2%) of the 38 responses to this question found Facebook to be more effective.

Addressing the perceived complexity of Facebook during these trainings will also impact the rate of adoption. While Facebook can seem complex and overwhelming initially, these trainings should be an in-depth look at how to use it in county 4-H programs to reduce the perceptions of its difficulty. Many agents may not have the time to explore all the features and tools available to them or understand what each one does. By exploring each tool and sharing their potential and applications with agents, these trainings could minimize agents' hesitation of adoption.

Exploring the features in detail will also affect Facebook's perceived ease of use by agents. Perceived usefulness is defined as the extent to which a user believes an application will help them to better perform their job (Davis, 1989). Agents in this study viewed Facebook as an effective method of communication as over 80% (*n*=35) were somewhat likely or extremely likely to agree the use of Facebook was effective for communication in their county 4-H program. Nearly 75% (*n*=32) were somewhat likely or extremely likely to agree the use of Facebook for communication purposes increased involvement at 4-H events. Agents perceive Facebook as useful for communication, but its perceived ease of use could be what hinders its adoption. After these trainings, agents should no longer perceive Facebook as challenging to use

but instead walk away with the knowledge and skills to use Facebook for the benefit of their 4-H program.

Recommendations for Future Research

This study provided a helpful insight into social media usage by agents with 4-H responsibilities in Arkansas and their perspective on its effectiveness for communication purposes. Future research should be conducted using other social media platforms to determine their effectiveness for 4-H purposes. This research could highlight social media platforms such as Instagram and Snapchat. Going a step further, future research could be conducted to determine which social media platform is the most effective for communication efforts in county 4-H programs.

This study specifically looked at the use of Facebook in county 4-H programs by agents with 4-H responsibilities in Arkansas. The option exists to conduct this study on the state level to determine the effectiveness of Facebook in the state 4-H program in Arkansas. While more tedious, the opportunity exists for this study to be conducted nationally to compare Facebook usage in county or state 4-H programs, or both, among different states. This could reveal differences in Facebook usage and perception of effectiveness based on geographical location in the United States.

A clear next step for this study would be to gain the perspective of parents and members on Facebook's effectiveness for communication in their county 4-H program. This would provide valuable insight into how they want to receive information, the types of content they want to see, and the best way to reach them. Future research could to compare the findings of the two studies to determine if how agents use Facebook aligns with how their audience wants to receive information. This would help agents to see where their audience is already engaged and take the guesswork out of the best ways to reach them.

While agents are using Facebook and view it as effective, the majority ($n=27$, 62.8%) of respondents only use it for 0-5 hours per week and over two-thirds ($n=29$, 67.4%) post 0-3 times per week. A qualitative study could be conducted to better understand agents' insights on Facebook usage for their county programs. The study could explore the barriers agents associate with Facebook and determine why agents hesitate to use it more frequently if they view it as effective. This study could explore whether agents might be more inclined to use the platform if they had more time or training on how to use it.

While this study determined if a relationship existed between 4-H district and Facebook usage, the opportunity exists to explore how county characteristics impact Facebook usage. Characteristics could include county size, active members, internet and cell phone access, etc. This research has the potential to identify if the number of active members affects how agents choose to contact them and their willingness to use Facebook. In this study, the agent who answered "no" when asked if they use Facebook in their county 4-H program identified the lack of usage resulted from little to no current program and was working to build up the program.

Chapter Summary

Agents with a 25% or more 4-H appointment in Arkansas utilize Facebook in their county 4-H programs to reach their target audience of 4-H parents and potential new members. Agents view Facebook usage as effective for communication purposes and find it more effective than newsletters, emails, mail, Remind, GroupMe, text messaging, and phone calls. Agents perceive the use of Facebook for communication purposes in their county programs to increase involvement at 4-H events. Appointment percentage was the only demographic factor with a statistically significant effect on agent Facebook usage and perceptions of Facebook. Demographic factors such as age range, 4-H district, or years of experience have no statistically significant effect on agent usage or perceptions of Facebook.

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Appendix

Appendix A:

UNIVERSITY OF
ARKANSAS

To:	Haley Jenay Burden
From:	Chair, Douglas J Adams
	IRB Expedited Review
Date:	11/29/2022
Action:	**Specific Minor Revisions Required**
Action Date:	11/29/2022
Protocol #:	2211434984
Study Title:	Facebook in County 4-H Extension Programs in Arkansas: Is it Effective for Communication?

The IRB Committee that oversees research with human subjects reviewed the above mentioned protocol and determined that specific minor revisions are required. These revisions are noted below. If you agree with all of the committee's revisions, incorporate them in a revised protocol and/or consent form and submit it to the IRB Expedited Review for expeditious review. If you disagree with the committee's recommendations, you may do the following: Please justify to the IRB Expedited Review why the revisions should not be incorporated.

Correspondence Notes:
- The Recruiting Participants section of the protocol Questionnaire tab states that participants will be recruited in person at a workshop; however, an email solicitation was included in the Attachments rather than a verbal script. Please either 1) replace the email solicitation in the Attachments with the verbal script that will be used, or 2) explain in the Recruitment section of the protocol how the email will be used, AND ADD the verbal script to the Attachments for review.
- The consent form is missing the number of questions in the survey. Please fill in that blank.
- The actual survey was not submitted for review. Please upload it into the Attachments.

cc: Jill Rucker, Investigator

Appendix B:

UNIVERSITY OF ARKANSAS

To:	Haley Jenay Burden
From:	Douglas J Adams, Chair IRB Expedited Review
Date:	11/30/2022
Action:	**Exemption Granted**
Action Date:	11/30/2022
Protocol #:	2211434984
Study Title:	Facebook in County 4-H Extension Programs in Arkansas: Is it Effective for Communication?

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or irb@uark.edu.

cc: Jill Rucker, Investigator

Appendix C:

1. How do you communicate with parents and members in your county 4-H program?

2. Do you currently use Facebook for communication purposes in your county 4-H program? (if no, ask interviewee to identify barriers and ways Arkansas 4-H can help remedy identified barriers.)

3. How are you using Facebook for communication purposes in your county 4-H program? Please describe (i.e. schedule planner, Facebook pages, Facebook groups, events, insights, etc.)

4. Who is your target audience? Parents or members?

    a. What Facebook communication methods are you currently using to reach them? (i.e. posts, reels, direct messages, etc.)

5. How would you define if a Facebook post is effective?

6. Using the definition you just described, do you believe Facebook is effective in reaching your target audience?

    a. Do you use insights to make this determination?

7. Do you think using Facebook or using it more would be beneficial for communication purposes in your county 4-H program?

8. How many hours per week would you estimate you spend using Facebook for communication purposes in your 4-H program?

9. Did the Covid-19 pandemic effect your usage of Facebook for communication purposes in your county 4-H program?

10. Is there anything else you would like to share related to the use of Facebook in your county 4-H program?

11. What is your opinion on if Facebook is effective for communication purposes in your county 4-H program? Please describe.

12. Has the use of Facebook for communication purposes in your county 4-H program impacted the level involvement at 4-H events? Please describe.

Appendix D:

Facebook Effectiveness Study

Introduction **Facebook in County 4-H Extension Programs in Arkansas: Is it Effective for Communication?**

The purpose of this study is to determine if the use of Facebook in county 4-H programs in Arkansas is effective for communication. As social media rises in popularity and with Facebook leading the way, county 4-H agents have the opportunity to use Facebook in their communication efforts.

By completing this survey, you are helping the researcher to gain insight into the effectiveness of Facebook for communication purposes in county 4-H programs in Arkansas.

Haley Burden-Padgett, the main researcher of this study, is an Arkansas 4-H alumni pursuing her master's in Agricultural and Extension Education at the University of Arkansas. Haley was an active member of Benton County 4-H, serving in numerous leadership positions on both the county and state level -- including serving as an Arkansas 4-H State Officer in 2015-2016.

Page Break

Who is the principal researcher?
Haley J. Burden-Padgett, a master's student at the University of Arkansas pursuing a master's in Agricultural and Extension Education (AEED).
Email: hjburden@uark.edu

Who are the secondary researcher(s)?
Dr. K. Jill Rucker, a professor of Agricultural Leadership at the University of Arkansas.
Email: kjrucker@uark.edu

What is the purpose of this research study?
The purpose of this study is to research if Facebook is effective for communication purposes in county 4-H programs in Arkansas.

Who will participate in this study?
The participants of this study are county agents with 4-H responsibilities in the state of Arkansas.

What am I being asked to do?
Your participation will require you to complete an online survey.

How long will the study last?
The online survey in its entirety consists of 26 questions, which will take approximately 10 minutes to complete.

Will I receive compensation for my time and inconvenience if I choose to participate in this study?
There is no compensation for this portion of the study.

What are the possible risks or discomforts?
There are no anticipated risks associated with this study; however, there may be some discomfort in your answers regarding your opinions.

What are the possible benefits of this study?
Participants have the potential benefit of increased job performance by learning if the use of Facebook in their county program is effective for communication purposes with 4-H families.

Will I have to pay for anything?
No, there will be no cost associated with your participation.

What are the options if I do not want to be in the study?
If you do not want to be in this study, you may refuse to participate. You may also refuse to participate at any time during the study. You will not be affected in any way if you refuse to participate.

How will my confidentiality be protected?
All information will be kept confidential to the extent allowed by applicable State and Federal law, which require that all records of research with human subjects must be maintained for a minimum of three years past the completion of the study. Your name will be changed in the reports of the study and in any information shared that could reveal your identity. Records of your responses will be kept secure on a password-protected server. Your responses that include identifying information will be automatically separated from the rest of your survey responses so that your name will not be tied directly to any of your other responses.

Will I know the results of the study?
At the conclusion of the study, you will have the right to request feedback about the results. You may contact the principal researcher, Haley Burden-Padgett, or the co-researcher, Dr. K. Jill

Rucker.

What do I do if I have questions about the research study?
You have the right to contact the principal researcher or co-researchers as listed below for any concerns you may have.

Haley J. Burden
Email: hjburden@uark.edu

Dr. K. Jill Rucker
Email: kjrucker@uark.edu

You may also contact the University of Arkansas Research Integrity and Compliance office listed below. If you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Ro Windwalker, CIP
Institutional Review Board Coordinator
Research Integrity and Compliance
University of Arkansas
105 MLKG Building
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I have read the above statement and have been able to ask questions and express concerns, which have been satisfactorily responded to by the investigator. I understand the purpose of the study as well as the potential benefits and risks that are involved. I understand that participation is voluntary. I understand that significant new findings developed during this research will be shared with the participant. My completion of this survey indicates my consent for my responses to be used in this research. By clicking the next button, I know I am agreeing to all of the above.

Page Break

Q1) What percentage of 4-H appointment do you have?

○ 0-24%

○ 25-49%

○ 50-74%

○ 75-100%

End of Block: Purpose of the Study

Start of Block: Demographic Information

Q2) Select your gender:

○ Male

○ Female

○ Non-binary / third gender

○ Prefer not to say

Q3) Select your race:

○ White

○ Black or African American

○ American Indian or Alaska Native

○ Asian

○ Native Hawaiian or Pacific Islander

○ Other

Q4) Select your ethnicity:

○ Hispanic

○ Non-Hispanic

Q5) Select your age range:

○ under 25

○ 25-34

○ 35-44

○ 45-54

○ 55+

Q6) Select the number of years you have spent working as an Agent with 4-H responsibilities in Arkansas:

○ 0-5

○ 5-10

○ 10-15

○ 15-20

○ 20-25

○ 25-30

Q7) Select the Arkansas 4-H District you serve:

○ Delta

○ Ouachita

○ Ozark

Q8) Do you currently use Facebook for communication purposes in your county 4-H program?

○ Yes

○ No

Skip To: Q11 If Q8 = Yes

Display This Question:

If Q8 = No

Q9) What barriers prevent you from using Facebook for communication purposes in your county 4-H program? (select all that apply)

☐ Internet availability

☐ Lack of training

☐ Lack of interest

☐ Time

☐ Other

Q10) If other, please describe:

_____

_____

_____

_____

Skip To: End of Survey If Condition: If other, please describe: Is Empty.

Skip To: End of Survey If Condition: If other, please describe: Is Not Empty.

Q11) How often do you use Facebook for communication purposes in your county 4-H program?

○ Never

○ Rarely

○ Sometimes

○ Very often

○ Always

Q12) How many hours per week would you estimate you use Facebook for communication purposes in your 4-H program?

○ 0-5 hours

○ 6-10 hours

○ 11-15 hours

○ 16-20 hours

○ Over 20 hours per week

Q13) How many Facebook posts would you estimate you post per week?

○ 0-3

○ 4-6

○ 7-9

○ 10-12

○ 13+

Q14) Who is your primary target audience when using Facebook for communication purposes in your county 4-H program?

    ◯ 4-H Parents/Guardians

    ◯ 4-H Members

    ◯ Other

Q15) Do you use Facebook to try to reach potential new members?

    ◯ Yes

    ◯ No

Q16) Do you use any other forms of communication to reach your target audience? (select all that apply)

    ☐ Newsletters

    ☐ Emails

    ☐ Mail

    ☐ Remind

    ☐ GroupMe

    ☐ Text Messaging

    ☐ Phone Calls

    ☐ None of the above

Q17) Do you feel using Facebook is more effective than the other communication methods you identified in the previous question?

○ Yes

○ No

○ N/A

Q18) How likely would you be to agree with this statement: "The use of Facebook is **effective** for communication in my county 4-H program."

○ Extremely unlikely

○ Somewhat unlikely

○ Neither likely nor unlikely

○ Somewhat likely

○ Extremely likely

Q19) How likely would you be to agree with this statement: "The use of Facebook is **not effective** for communication in my county 4-H program."

○ Extremely unlikely

○ Somewhat unlikely

○ Neither likely nor unlikely

○ Somewhat likely

○ Extremely likely

Q20) How likely would you be to agree with this statement: "The use of Facebook for communication purposes in my county 4-H program has **increased** involvement at 4-H events."

○ Extremely unlikely

○ Somewhat unlikely

○ Neither likely nor unlikely

○ Somewhat likely

○ Extremely likely

Q21) How likely would you be to agree with this statement: "The use of Facebook for communication purposes in my county 4-H program has **decreased** involvement at 4-H events."

○ Extremely unlikely

○ Somewhat unlikely

○ Neither likely nor unlikely

○ Somewhat likely

○ Extremely likely

Q22) How did your use of Facebook for communication purposes in your county 4-H program change after the Covid-19 pandemic in March 2020?

○ Significantly decreased

○ Somewhat decreased

○ No change

○ Somewhat increased

○ Drastically increased

Q23) Before the Covid-19 pandemic in March 2020, how many hours per week would you estimate you were using Facebook for communication purposes in your county 4-H program?

○ 0-5 hours

○ 6-10 hours

○ 11-15 hours

○ 16-20 hours

○ Over 20 hours per week

○ N/A

Q24) After the Covid-19 pandemic in March 2020, how many hours per week would you estimate you were using Facebook for communication purposes in your county 4-H program?

○ 0-5 hours

○ 6-10 hours

○ 11-15 hours

○ 16-20 hours

○ Over 20 hours per week

○ N/A

Q25) Select the Facebook tools you use in your county 4-H program.

	Yes	No
Facebook Pages	○	○
Facebook Groups	○	○
Facebook Events	○	○
Facebook Insights	○	○
Facebook Messenger	○	○
Schedule Planner	○	○

Q26) Select the types of posts you use to reach your target audience.

	Yes	No
Text only posts	○	○
Posts with graphics	○	○
Reels	○	○
Videos	○	○
Stories	○	○

End of Block: Facebook

End of Survey

We thank you for your time spent taking this survey.

Your response has been recorded.

Appendix E:

FACEBOOK: IS IT EFFECTIVE FOR COMMUNICATION?

A STUDY TO DETERMINE IF THE USE OF
FACEBOOK IN COUNTY 4-H PROGRAMS
IS EFFECTIVE FOR COMMUNICATION

SCAN THE CODE TO TAKE
A QUICK ONLINE SURVEY

10 MINUTES OR LESS!

BY HALEY BURDEN-PADGETT
ARKANSAS 4-H ALUMNI PURSUING A MASTER'S
IN AGRICULTURAL AND EXTENSION EDUCATION