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## Assessment of social media technical support efforts for Extension Agents

Mary Annabelle Stokes

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Assessment of social media technical support efforts for Extension Agents

By

Mary Annabelle Stokes

Approved by:

Carley Calico Morrison (Major Professor)

Marina D. Denny

Mariah Smith Morgan

Kirk A. Swortzel (Graduate Coordinator)

George M. Hopper (Dean, College of Agriculture and Life Sciences)

A Thesis

Submitted to the Faculty of

Mississippi State University

in Partial Fulfillment of the Requirements

for the Degree of Master of Science

in Agricultural and Extension Education

in the School of Human Sciences

Mississippi State, Mississippi

May 2020

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2020

Name: Mary Annabelle Stokes

Date of Degree: May 1, 2020

Institution: Mississippi State University

Major Field: Agricultural and Extension Education

Major Professor: Carley Calico Morrison

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Candidate for Degree of Master of Science

Extension agents are tasked with disseminating educational content, announcing events, and promoting the outreach efforts of Extension. Social media can be a powerful resource for Extension agents (Skrabut, 2014). Integrating social media into outreach efforts can be an efficient way for agents to meet increasing work demands (Gharis & Hightower, 2017). Still, many Extension agents are not fully integrating social media as a means to communicate with their audiences (Garcia et al., 2018). To address this, Extension communication units are developing social media technical support efforts to increase the agents' social media activity (Garcia et al., 2018, Newbury et al., 2014; Kinsey, 2010.) Social media competency influences a professional's willingness to integrate social media as a function of their employment (Zhu et al., 2018). If communication units wish to provide Extension agents with technical support efforts, such as trainings and professional development opportunities, to assist them with integrating social media as one of their duties, we should assess the influence of these support efforts on their perceived social media competency. The purpose of this study is to describe Mississippi State University Extension agents' perceived social media competency levels and explore the effect that a variety of technical support efforts have on their perceived social media competency.



## DEDICATION

This is dedicated to the many people who strive to carry out the mission of Extension. It is my hope that this work may in some way contribute to the advancement of the Extension system. I am truly grateful that I was a youth who had the opportunity to grow up in my county Extension office.

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## CHAPTER I

### INTRODUCTION

Social media platforms are a versatile medium of communication that have the potential to be a valuable tool for Extension communication and outreach (Newbury et al., 2014).

Extension agents' disseminate educational content, announcing events, and promoting Extension outreach efforts. Social media can be utilized by Extension agents as a medium to disseminate those messages (Skrabut, 2014). A few of the ways Extension can utilize social media is through the promotion of the Extension brand (Lipsman et al., 2012; Kaplan & Haenlein, 2010), the marketing of Extension (Aggrawal et al., 2017), and product diffusion (Aggrawal et al., 2017). By integrating social media into Extension outreach efforts, agents may be able to more efficiently meet increasing work demands (Gharis & Hightower, 2017).

A review of the literature suggests that it is vital to understand social media's current role and uses within the Extension system so the organization can better focus its training efforts for Extension professionals in the future (Newbury et al., 2014; Garcia et al., 2018; Kinsey, 2010). Many barriers hinder Extension educators from effectively adopting social media as an outreach method. Instead, agents remain dependent on existing means of disseminating information (Kinsey, 2010). Several of the primary barriers that hinder the adoption of social media among Extension agents are concerns around control, privacy, and time investment (Newbury et al., 2014). Demographics, including age, gender, and length of time in Extension were also explored to determine any correlation with competencies (Lakai et al., 2012). One of the barriers that

Lakai et al. (2012) found indicated that lack of effective training opportunities enable Extension agents from acquiring and developing their competencies.

To help combat these barriers, Extension communication units across the country have created technical support efforts for social media and technology to help agents with the planning, developing, and disseminating of programmatic and educational information on these platforms (Allen et al., 2014). These social media technical support efforts can range from guidelines highlighting social media best practices to hands-on training (Garcia et al., 2018; Allen et al., 2014). When looking at social media technical support efforts provided by Mississippi State University Extension Service (MSU-ES), as of 2019, there is a social media guideline (Appendix A) and a branding and identity policy packet available for Extension professionals online. Besides the guidelines and policy packet, there have been no official social media professional development opportunities provided to Extension professionals through MSU-ES in the past five years (E. Graves, personal communication, May 9, 2019). Extension recognizes the importance of utilizing social media (Lipsman et al., 2012) and continuous professional development (Lakai et al., 2012), which is why MSU-ES intends to devote resources to provide future social media technical support to Extension professional (E. Graves, personal communication, May 9, 2019). This study will assess social media support efforts with MSU-ES Extension agents and explore the effects of the different delivery methods of technical support efforts.

### **Statement of the Problem**

Even though social media has grown in popularity, many Extension agents are not utilizing it as one of their means to communicate with audiences to their fullest potential (Newbury et al., 2014). To combat this lack of active social media integration, Extension



communication units are creating social media technical support efforts, such as toolkits, in hopes of increasing Extension professionals' social media engagement (Garcia et al., 2018). Therefore, it is essential to determine if Extension agents feel competent in their ability to use social media and if social media technical support efforts have any effect on their social media competency.

### **Purpose of the Study and Research Objectives**

The purpose of this study is to evaluate if social media technical support efforts developed for Extension professionals by the Office of Agricultural Communications (AgComm) at MSU-ES have an effect on Extension agents' self-reported competency levels for social media. The research objectives are

Objective 1: Describe Extension agents' change in self-reported social media competencies before and after treatment.

Objective 2: Examine the relationship between Extension agents' self-reported social media competencies and the following variables: gender, age, years of service, and type of duties.

The results of this study will inform prioritization efforts for future social media competency training.

### **Significance of the Study**

Extension Services across the United States have created several technical support efforts for social media training, but many of these efforts have not explored how effective they are at actually increasing content creation, delivery, and consistency with posting (Garcia et al., 2018). Zhu et al. (2018) report that there is an increasing need to assess social media competencies among professional and educational settings. Social media is heavily integrated as a form of communication in professional settings and serves as an ideal outlet for learning, receiving and

disseminating information (Zhu et al., 2018). It is important to assess social media competency among Extension agents as they play a significant role in MSU-ES's mission to disseminate research-based information.

There is a lack of social media use by Extension professionals from Extension Systems state-to-state (Newbury et al., 2014). Little empirical research has been done to examine this pattern among Extension professionals (Newbury et al., 2014). Newbury et al. (2014) found that many educators are not confident in their ability to use social media platforms because they have not been provided with effective training to demonstrate how to use and best utilize social media platforms. Moreover, Extension agents needed a training method that extensively explained 1) how the platform functioned 2) and how to craft effective and engaging posts (Newbury et al., 2014). This study explored perceived social media competency (SMC) of Extension agents as SMC indicates an individual's intended "readiness to access and utilize social media as a function of their employment" (p. 12). By providing agents with social media technical training, Extension hopes to increase their agents' readiness to use social media as a function of their employment. The purpose of this study is to describe the self-reported SMC levels of Mississippi Extension agents and then explore whether technical training provided by the Office of Agricultural Communications changed agents' perceived competence for using social media.

The significance of this study is pertinent foremost to the MSU-ES Office of Agricultural Communications (AgComm), as they are the primary provider of social media related technical support for Mississippi State University Extension professionals. The results of this study will guide decisions on further developing technical support efforts by AgComm in the future. AgComm may be able to focus on specific initiatives to provide technical support or professional development opportunities for agents of particular demographics based on the results of this

study. Additionally, Extension Services in other states may be able to use the results of this study to guide future research in this topic area.

### **Limitations**

There are several limitations to take into consideration while evaluating the results of this study. The participants in this study are employees of Extension, and their participation in this study was voluntary. This study cannot be generalized outside of the target population of Mississippi State University Extension agents who participated in the study. These findings cannot be generalized to other Extension Systems, as the characteristics of these participants and treatments are unique to MSU-ES. Additionally, this study cannot be generalized to all employees within MSU-ES as it was only inclusive of county Extension agents, and there are many professionals represents in a large portion of Extension employees (Fraenkel et al., 2015). There was also a low response rate ( $X_1 = 7$ ;  $X_2 = 6$ ;  $X_3 = 4$ ) of participants who completed the surveys from the treatment groups. Another limitation of this study is that the treatments only specify best practices generalized to Facebook and are not inclusive of all other social media platforms (Twitter, Instagram, etc.).

Common threats to internal validity for retrospective studies are single-group, historical, maturation, testing, statistical regression, mortality, instrumentation, and social interaction threat (Trochim, 2005). Since retrospective tests were subject to the single-group threat, a control group was used as a comparison to determine if there was a true change in self-reported social media competency. An analysis of covariance to minimized bias in demographic variables by comparing the pretests survey from the treatment groups to the survey from the control group (Fraenkel et al., 2015). Randomization of participants in each group controlled for possible extraneous variables (Fraenkel et al., 2015). Self-reporting from participants is how data is

gathered using the retrospective pretest-posttest design. Thus, results should be deemed an estimated report (O’Leary and Israel, 2013). There is always the potential for recall bias in all retrospective measurements. Recall bias is most likely to occur when there is a significant length of time the participant is allowed to reflect on, and is more likely to appear in measures for attitude than behavioral (Schwartz & Rapkin, 2004). A 30 days treatment interval minimized this effect. Subject bias is also possible, and participants might actively try to improve their knowledge or skill level and want to see improvement (Pratt et al., 2000). With the use of the retrospective pretest model, there is the potential that participants will provide a socially desirable response or a response to make the program look more effective (O’Leary and Israel, 2013). Despite there being several weaknesses contributed to the retrospective pretest-post design, this design controls for response shift bias, which is subject to the traditional pretest-posttest evaluation and time constraint associated with traditional pretest-posttest designs (Nielsen, 2011).

### **Assumptions**

There are a few underlying assumptions for this study. The first assumption was that the participants volunteering to take the survey were being truthful and accurate in their responses to the study’s questionnaire. The second assumption is that Extension agents did not receive any external social media training during the period of the research that would influence the results of their survey. The third assumption is that Extension agents reviewed the treatment materials and instructions, as requested, before completing the survey. The fourth assumption was that nearly all the participants already had a professional Extension associated Facebook pages for their county. Approximately 79 county Extension Facebook pages are registered to MSU-ES as of March of 2019 (E. Graves, personal communication, May 9, 2019). There is an Extension

office located in 81 of Mississippi's 82 counties (Mississippi State University Extension Service, 2019c), meaning approximately 96% of Extension offices in the state of Mississippi are accessible for this study and have a preexisting Facebook page. The fifth assumption is that this study did not lose any participants due to changes in duties and job changes. The final assumption associated with this study is that proper technology was available to Extension agents to participate and complete this study. Alotaibi (2018) did find that MSU-ES agents did feel that they were adequately supplied with the necessary equipment to achieve social media tasks.

### **Definition of Terms**

This section provides definitions of the terms used throughout this study. The following list contains terms and their interpretation based on the literature:

Agricultural communications – agricultural communications is communications developed specifically to focus on the dissemination of agriculture-related information to a variety of audiences and stakeholders. Agriculture communications industry professionals mainly utilize core agricultural journalism skills such as writing, research, photography, and using new technology (Corder & Irlbeck, 2018).

Best practices guideline – the best practices guidelines is a resource produced by Extension for developing the best possible social media presence for Extension. The best practices guideline is a living document that is updated as social media platforms, and the organization's needs evolve (Appendix A).

Competency – competency is a core development area that pertains to a professional's ability to perform their job effectively (Ghimire & Martin, 2011).

County Extension agent – A university employee trained to share a wide variety of science-based and university-approved subject matter at the Extension county offices in Mississippi (Mississippi State University Extension, 2019c). Educational topics include agriculture, natural resources, community development, family and consumer science, and 4-H. Some county Agents may be specially funded through grants to prove the narrowly focused subject matter in the areas of health and nutrition; these agents operate under the same title as county Extension agents (R. Loper, personal communication, October 28, 2019).

Extension professional – Extension professionals is inclusive of Extension educators, agents, specialists, and administrative positions (Scheer et al., 2006).

Extension Services – The Extension Services is a national education system that functions in congruence with land-grant universities (Mississippi State University Extension Service, 2019a). They improve the quality of people’s lives through the dissemination of research-based knowledge concentrated in the areas of social, economic, and environmental well-being of families, communities, and agriculture enterprises (USDA, 2019).

MSU-ES – an abbreviation for Mississippi State University Extension Services.

Office of Agricultural Communications (AgComm) – The Office of Agricultural Communications is a unit within Mississippi State University Extension Services that provides strategic communications leadership, support, and services to educate and increase awareness of MSU-ES brand (Mississippi State University Extension Services, 2019b). Specific services AgComm provides for Extension programs and units are branding, marketing, and advertising; creative communications; educational publishing; graphic design; social media strategy and support; media relations outreach; onsite and studio photography; podcast packaging and development; printing services; radio production; video services; and website creation and updating.

Professional development – professional development is a training opportunity “designed to enhance the competencies, skills, and knowledge of individuals and to enable them to provide better service to their clientele” (Beeler, 1977, p. 38).

Social media competency (SMC) – “Social media competency can be explained as a person’s intention in the sense that it indicates their readiness to access and use social media as a function of their employment” (Alber et al., 2014, p. 12).

Social media – websites and technology that allows users to share content, communicate, and interact online.

Technical knowledge – technical knowledge is a core competency, involving having adequate knowledge or skills to use current technologies within one’s field (Ghimire, 2017), e.g., knowledge of new seeds, breeds, and pesticides to increase productivity on a commercial farm.

Toolkits – “The tool kit contains tips for and lessons on optimally planning and implementing social media best practices for Extension programs” (Garcia et al., 2018, p. 2)

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Overview

For many Americans, social media and digital technologies play a significant role in their everyday life (Allen et al., 2014). Online media platforms have grown to be a medium of communication between individuals, and also a platform for businesses or organizations to boost their clientele engagement and broaden their audience base (Arora et al., 2019). Social media provides a platform that has the potential to allow Extension professionals to connect and engage with their audiences at a distance (Garcia et al., 2018). This chapter provides a review of the literature that offers an overview of Extension's engagement with audiences, social media sites, social media as a tool for Extension, social media technical support efforts, social media barriers for Extension agents, and professional development and competency. This chapter also examines Lewin's (1951) theory of planned change as the study's theoretical framework.

Although we recognize the importance of increasing social media competency (Zhu et al., 2018), we have yet to explore if social media technical support efforts affect social media competency. Many Extension offices are unsure if producing social media technical support efforts are worth the resources devoted by communication units (Newbury et al., 2014). The literature suggests it is essential to understand social media's current role and uses in Extension so the organization can better focus their social media technical support efforts for Extension professionals in the future (Newbury et al., 2014; Garcia et al., 2018). Zhu et al. (2018) state,

“SMC [social media competency] is required in both academic and professional domains in the 21<sup>st</sup> century” (p. 13). Extension professional encompasses both academics and professional domains through the delivery of educational programming and clientele services (USDA, 2019; Diem et al., 2011). It is important to explore which social media technical support efforts produce a change in social media use so resources can be dedicated to these efforts in the future (Newbury et al., 2014).

### **Engagement with Audiences**

Extension Services are a national education system that functions contiguous with land-grant universities (Mississippi State University Extension Service, 2019a). Extension’s foundational goal is to deliver education that changes lives this has remained the same over time, but as the needs of Mississippi’s citizens change MSU-ES has adapted its subject matter and delivery methods (Mississippi State University Extension Service, 2019a). MSU-ES states that its mission is to disseminate research-based programs and information to each county in Mississippi (Mississippi State University Extension Service, 2019c). Diem et al. (2011) claim that historically the Extension System has been a frontrunner in adopting new tools and practices, yet questions remain whether or not Extension is utilizing social media to deliver educational programs, manage content and interact with clientele.

A set of goals outlined for MSU-ES help them fulfill their organization’s mission and strive to achieve a vision for the future. MSU-ES lists the following goals on their website:

- Focus on quality services and programs that are client-driven.
- Instill a future-oriented perspective in staff members, advisors, partners, and clients.
- Be responsive to new or different needs by maintaining flexibility in programming efforts.



- Develop a level of alternative resources to allow for adjustments to changing demands or critical needs.
- Expand efforts to help clients compete in a global economy.
- Foster an environment that will enable staff members and volunteers to achieve their full potential.
- Project a positive image that will broaden public understanding of Extension's mission, goals, programs, and accomplishments. (Mississippi State University Extension Service, 2019a, p. 4).

Aligning with their mission and vision, MSU-ES states that they are utilizing the latest technologies and teaching techniques to serve clients (Mississippi State University Extension Service, 2019a). They deliver research-proven information to their clients “by taking advantage of both face-to-face meetings and all the tools that today’s technology offers.” (Mississippi State University Extension Service, 2019a, p. 2). Extension is often a model for leading the adoption of new tools and practices, particularly in areas of precision agriculture and land management (Diem et al., 2011). Extension is lagging in adopting information technology, such as social media (Diem et al., 2011; Garcia et al., 2018). Staying up to date on technical knowledge or skills plays a vital role for Extension professionals to remain current in their field (Ghimire, 2017). Social media is a technology that Extension agents should be utilizing (Kinsey, 2010).

### **Traditional Communication Methods**

Traditional Extension methodologies for information dissemination by Extension specialists were widely recognized by the 1930s (Eberle & Shroyer, 2000). These traditional communication methods were farm demonstrations, exhibits, farm visits, printed materials, and newspapers and magazines (Rasmussen, 1989). By the mid-1980s computers were becoming a household item, Richardson and Mustian (1988) conducted a study with North Carolina Extension to gauge the preferred methods of information dissemination with their clientele. Even

though the study included modern technologies, agriculturalists still had a strong preference for what Richardson and Mustian (1988) classify as traditional Extension methods for information delivery.

Common traditional methods of Extension communication included newsletters, meetings, farm visits (agent to farmer), telephone calls, field days, and on-farm demonstrations (Richardson & Mustian, 1988). Even with the emergence of digital communication methods at the end of the 20<sup>th</sup> century, many of these technologies were not incorporated into a list of Extension dissemination methods (Eberle & Shrover, 2000). Instead, Eberle and Shrover (2000) point out that these emerging technologies, such as computers, were utilized to simply amplify existing methods of communication. While the latest technologies and teaching techniques continue to evolve, there is a low incorporation of modern communication tools and techniques with Extension information dissemination methods (Singh et al., 2018).

### **Social Media Sites**

It is increasingly challenging to define parameters around what is considered social media. The term ‘media’ includes the reporting platforms of the press, broadcasting, cinema, and technology-based new media (Scannel, 2002). Kent (2010) defines social media as “any interactive communication channel that allows for two-way interaction and feedback” (p. 645). Kaplan and Haenlein (2010) also loosely defined social media as online applications used for the creation and exchange of user-generated content. Based on the definitions used to describe social media by Kent (2010) and Kaplan and Haenlein (2010), social media must have two components, 1) the user must be online or connected to the internet 2), and it must involve some form of communication or exchange of information amongst other users online. A taxonomy was

developed by Kaplan and Haenlein (2010) to classify social media channels based on the context of its application: social-networking sites, blogs and microblogs, and content-sharing sites.

Social-networking sites exist in the form of communities, allowing their users to socialize and engage with other users within the online platform (Dennis et al., 2010). These platforms use personal-information profiles that allow the user to access other profiles within the community, allowing messages and other forms of engagement between users (Kaplan & Haenlein, 2010). Personal-information profiles often include a variety of the following information about users: photos, videos, audio files, and blogs (Kontu, 2015). The largest platform, categorized as social networking sites, is Facebook (Kontu, 2015). Facebook has the potential to attract users to the creator's postings (Kinsey, 2010). Extension educators may be able to utilize Facebook "to communicate information regarding upcoming events, celebrations, informational pieces, and publications" (Kinsey, 2010, p. 2). However, educators should also acknowledge that digital platforms have transformed the way that some people like to receive information (Diem et al., 2011).

Zhu (2014) claims that "the new digital technology has changed the way people seek information." In a study involving the seeking and sharing of scholarly information among academic professionals, Zhu (2014) found that the majority of respondents used blogs to gather information. Blogs or 'weblogs' are one of the earliest forms of social media (Kaplan & Haenlein, 2010). Blogs are a method of sharing commentary and descriptions of events or subjects (Kinsey, 2010), and blog users and content varies greatly. Blog users or 'bloggers' range from casual users to professionals in specific subject areas (Kinsey, 2010). Content for blogs can vary from personal journal-like entry logs to opinion pieces on particular subject areas (Kaplan & Haenlein, 2010). One of the distinctions between blogs and social networking sites, is that

blogs do not necessarily require registration or crafting a profile to find resources or access information (Kontu, 2015). Institutional blogs have become increasingly popular in academia because individuals can easily be directed to these sites (Zhu, 2014).

One of the largest platforms utilized for blogs and microblogging is Twitter (Kontu, 2015). Zhu (2014) also found that there was a significant increase in Twitter being used by researchers to share their work. Microblogging is similar to blogging, as it allows users to give updates on their personal life. The main distinction from tradition blogs is that microblog content is usually smaller in size (Kontu, 2015), lessened to short descriptive sentences and images or videos (Singth et al., 2008).

Instagram's story sharing feature has an increasing presence for microbloggers as well. The video blog or vlog is another form of blogging that allows users to share personal updates or opinions on specific content via a video recording of themselves. A popular platform for vlogging is YouTube. Extension professionals have the potential to provide consumers with reliable research-based information through the use of blogs (Kinsey, 2010). Despite Twitter and other blogging platforms being increasingly popular for sharing information among academics, Zhu (2014) reports that the majority of professionals have not adopted other social media platforms used for social networking and content sharing outside of blogging to share their research work.

Content-sharing sites are sites used to exchange online content between users (Kaplan & Haelein, 2010). Different media content used for content-sharing includes photos (e.g., Instagram, Pinterest, Snapchat, etc.) and videos (e.g., YouTube, TikTok, Instagram, etc.) (Kietzmann et al., 2011). Similar to blogs, content-sharing sites do not necessarily require users to make personal profiles; if they do, they usually require minimal information (Kontu, 2015).

Zhu (2014) speculates that the gap between seeking and sharing on various social media platforms may be because platforms like Twitter and Facebook are mostly interactive and require the user to create an account, develop a profile, and engage with others. These platforms require the user to invest time and effort in maintaining and connecting networks with colleagues and growing their followers (Zhu, 2014). In reference to time and effort content-sharing sites consume for professional purposes, Zhu states (2014) “Many academics may find this distracting and wasting time.” (p. 711). YouTube is among the largest content-sharing site, along with Pinterest and Instagram (Kontu, 2015). Kinsey (2010) indicated that YouTube could be potentially useful for Extension professionals to disseminate educational messages, videos, and news clips to online audiences.

Kaplan and Haenlein’s (2010) taxonomy describes social-networking sites, blogs, and content-sharing sites. Many of the social media platforms within these communication channels are multifunctional, and features continue to expand. Bruguera et al. (2019) bring up the point that there are other digital products with social networking features in their functionalities (e.g., Spotify, Venmo, etc.), which makes it increasingly difficult to define which platforms should be categorized as social media. Regardless, it is apparent that Extension professionals can expand outreach efforts through the use of online networking tools (Kinsey, 2010). Kinsey (2010) suggest that Extension professionals should consider a variety of outreach methods and utilize the ones that have the most comprehensive outreach based on their time availability to produce educational content.

Despite Twitter being increasingly popular for sharing information among academics, Zhu (2014) reports that the majority of professionals had not adopted other social media platforms to share their research work. Zhu (2014) speculates one of the reasons for lack of

adoption could be due to there not being a reward system in place to encourage the use of social media,

This study found that the vast majority of respondents have not yet adopted social media tools to share their research work. This is largely because contribution of scholarly work on social media has not been recognized by academic reward system. (Zhu, 2014, p. 710)

This recommendation was also made by Alotaibi (2018) after conducting a study investigating barriers that influenced Extension employees' attitudes toward social media use. Alotaibi (2018) recommended that Extension administration at MSU-ES should design a reward system for Extension professionals that are utilizing social media. A lack of incentive may also be a possible barrier for Extension agents (Alotaibi, 2018).

### **Social Media as a Tool for Extension**

There are many different communication channels Extension professionals can utilize to engage with audiences and disseminate information. While interpersonal communication has historically been one of the main ways of distributing educational content through Extension, face-to-face teaching is not the only option for Extension education delivery (Allen et al., 2014). Social media is a growing and increasingly popular platform and can be an alternative tool for agents to engage with audiences and interact with clientele (Garcia et al., 2018). Research finds that there are several social networking sites and content mediums that have the potential to be a viable tool for Extension professionals use (Kinsley, 2010; Cornelisse et al., 2011).

Diem et al. (2011) stated Extension systems as a whole should pay attention to technology uses, trends, and demographic changes as they are reshaping non-formal education. Online users now have expectations for receiving timely information and want more learning opportunities to be available online (Diem et al., 2011). Extension professionals can increase

their potential involvement with educational programmatic efforts by maximizing target audience reach and engagement (Garcia et al., 2018). Diem et al. (2011) want Extension professionals to strive to use methods that reach younger generations who might benefit from the services Extension offers and to ultimately gain their support in continuing to grow Extension's outreach efforts. MSU-ES should be utilizing social media to communicate with younger and more diverse audiences.

Extension professionals should be utilizing blogs, podcasts, Facebook, and YouTube to disseminate information (Kinsley, 2010; Cornelisse et al., 2011). However, Extension specialists and agents in Mississippi were most likely to prefer the use of Facebook and Twitter platforms (Alotaibi, 2018). Findings from a study by Garcia et al. (2018) found that Extension professionals can benefit from using social media, but their approach must be purposeful and well-thought-out. Despite social media's popularity and relatively low cost, Extension professionals may not be fully utilizing social media as a method to distribute research-based information (Newbury et al., 2014).

Kinsley (2010) supports the idea that there is a need for Extension professionals to devote social media technical support efforts on successfully engaging with their target clientele on social media platforms. Allen et al. (2014) state "recognizing the opportunities that technology and social media, in particular, offer for reaching the public with information, Extension professionals must find ways to use technology formally and informally in their educational programming" (p. 2). Despite social media being a free platform to promote Extension programs, connect with audiences, and distribute information to the masses (Kinsley, 2010), many barriers have been found that hinder social media use or effective use by Extension agents (Alotaibi, 2018; Newbury et al., 2014).

## Social Media Barriers for Extension Agents

Alotaibi (2018) reports MSU-ES professionals generally have a positive attitude toward social media, yet their actual use of social media is low. According to Alotaibi (2018) the five most common social media use barriers expressed from MSU-ES professionals are 1) the lack of time to prepare and update content for social media, 2) the lack of essential knowledge and skills for the effective use of social media, 3) the inability to identify the composition and demographics of Extension Service clients, 4) the lack of interest to use social media, 5) and the lack of interest from clients to use social media. Previous studies of other Extension systems have indicated social media technical support efforts and time management are significant barriers and limitations to Extension professionals adopting online tools (Kinsley, 2010; Newbury et al., 2014).

Newbury et al. (2014) explored Extension professionals' perceived barriers to social media use. Some perceived risks Newbury et al. (2014) found were "control, time, money, and access to the Internet and access to training in how to use social media" (p. 3). Barriers that may lead to the low adoption rates of social media can also reduce the chances of Extension employees utilizing social media effectively (Newbury et al., 2014). However, Mississippi State Extension professionals did not indicate money was a constraint to their social media use (Alotaibi, 2018). Perhaps this is because Extension professionals in Mississippi feel they are adequately supplied with the necessary equipment to complete social media tasks (Alotaibi, 2018).

Newbury et al. (2014) found one of the most commonly perceived barriers to using social media was concern over their ability to regulate their presence on social media. Agents showed concern about whether the content they posted properly represented the organization, whether



they would be held liable for content posted by other individuals, and privacy (Newbury et al., 2014). Attitudes are an important characteristic of whether or not Extension professionals will utilize social media (Allen et al., 2014). Allen et al. (2014) explored a training strategy that helped participants maintain Extension's image while delivering information to clientele online. "Participants were allowed to voice their concerns and learn from each other about safeguards and successes" (Allen et al., 2014, p. 5). Alotaibi (2018) found that MSU-ES agents to have a high self-efficacy for using the Facebook platform.

Many studies have explored demographic characteristics such as gender, age, years in the profession, and primary duties when exploring motivational factors and barriers to the use of social media (Alotaibi, 2018; Manca & Ranieri, 2016; Loper, 2016). Gender tended to have a minor influence on professional social media use when compared to other variables, and there was no significant association found for gender predicting Facebook or blog use (Manca & Ranieri, 2016), but there are some slight differences in regard to user preferences. It has been reported that women tend to use Facebook more than men (McAndrew & Jeong, 2012). This may be because men tend to place less perceived value on Facebook than women (Heinz et al., 2013). For the Facebook platform, Manca and Ranieri (2016) found that men's motives for using Facebook professionally were to grow their network, gain visibility, and promote initiatives related to their profession, while women motives were community-orientated. Women in the academic profession were more likely to adopt platforms for microblogging or blogging (Zhu, 2014). Furthermore, when exploring differences within gender, it is also important to consider other variables, including individual factors that may be a contributing factor to usage and motivation (Zhu, 2014; Manca & Ranieri, 2016).

Age is a likely demographic characteristic that may affect technology use and social media information (Holt et al., 2013). Substantial evidence supports the idea that younger people are more likely to frequent social media sites and engage in a larger breath of websites than older age groups (Holt et al., 2013; Olson et al., 2011). This phenomenon may be in large part because the younger generation has been using and familiarizing themselves with the internet for a greater span of their life than compared to older generations (Olson et al., 2011). Manca and Ranieri (2016) found that age was significantly associated with the use of Facebook, concluding that the younger age people tended to use Facebook progressively more for professional uses than older people.

Li and Luximon (2018) found that older males did not have as positive an attitude toward using mobile technology, many of these participants reported growing frustrated with the technology because they perceived it as being complicated and easy to damage. This idea is also supported by Olson et al. (2011) study that found that older adults were more likely to have barriers for technical usability. Modern devices, such as tablets, computers, and phones, were often a barrier for older people's use (Olson et al., 2011). In addition to this, older adults that had computers were limited in their knowledge of technology that they used less frequently (Olson et al., 2011). Moreover, except for email, older computer users had minimal experience with systems and software. If the frequency of use is an important factor to influence the older generation's technical technology knowledge, this may support the recommendation made by Kinsey (2010), suggesting that Extension educators experiment with social media.

Alotaibi (2018) found that there was no statistically significant relationship between MSU-ES Extension agents' gender, age, years in the profession, and current title and their attitude toward using social media. Furthermore, Manca and Ranieri (2016) found that academic

title was not relevant in determining motivations for professional social media use. These demographics will be further explored in this study to expose any relationship with social media competency.

### **Social Media Technical Support Efforts**

Alotaibi (2018) found Extension personnel utilized social media to disseminate information to clients, distribute announcements about events and programs, generate interests in programs, share different files with clients, and enhance interaction with clients in Mississippi. Moreover, the research suggest that MSU-ES continue to grow organizational support that encourages agents to utilize different social media platforms (Alotaibi, 2018). To do so, Alotaibi (2018) recommends MSU-ES provide more training opportunities, workshops, seminars, and meetings about using social media for professional purposes.

Extension communication units across the country have been developing social media technical support efforts to meet the need of their Extension professionals. Tool kits are a method of support effort that promotes communication with target clientele for Extension programs and services (Garcia et al., 2018). Garcia et al. (2018) stated that tool kits contain “tips for and lessons on optimally planning and implementing social media best practices for Extension programs” (p.2). Tool kits provide a set of guidelines that provide examples, templates, and strategies on the best ways to utilize social media for Extension, the guidelines are unique to each states communication unit within Extension Systems (Garcia et al., 2018). Another method of practical training is virtual training provided to Extension professionals (Allen et al., 2014). Allen et al. (2014) provided a 90-minute webinar that focused on Twitter and Facebook use and provided instruction on creating accounts, evaluating outreach and shortening URLs. This webinar training resulted in a reported increase the Extension professionals’ social media skill,

but a lack of knowledge on how those who participated in the training utilized those skills (Allen et al., 2014). This study will compare three different technical support efforts for social media. It will incorporate social media guidelines, a series of videos, and a live video webinar produced by MSU-ES AgComm.

Kinsey (2010) asserts that social media is a technology that Extension educators should be provided training and encouraged to try out. Extension educators and outreach professionals can increase the purposefulness of their posts by taking advantage of toolkits for best practices (Garcia et al., 2018). MSU-ES currently has one social media training resources available for Extension professionals along with Extension’s branding guideline (E. Graves, personal communication, May 9, 2019). Social Media Guidelines for the MSU Extension Services (Appendix A) is the current set of guidelines available for Extension employees to access their university accounts (E. Graves, personal communication, May 9, 2019). The protocols specified by the guideline aligns with MSU-ES branding and identity guidelines. The current social media guideline is approximately four pages in length, containing a section about managing and creating social media accounts, best practices for social media, and general guidance. The guideline emphasizes that MSU-ES has a specific protocol when it comes to social networking, video posts, and blogging.

### **Professional Development and Competency**

Beeler (1977) describes professional development as training “designed to enhance the competencies, skills, and knowledge of individuals and to enable them to provide better service to their clientele” (p. 38). Extension Service delivers professional development to their Extension professionals through structured education or continual learning processes, which enables professionals to remain current in their field and competently meet the anticipated needs of their

clientele and organization (Mincemoyer & Kelsey, 1999; Sims, 1998). Professional development for Extension professionals is a pillar to meeting the Extension Services mission to deliver new technology, programming, and services to people to improve their lives (Ghimire & Martin, 2011). Ghimire and Martin (2011) state the importance of professional development for staying up-to-date on technology practices,

Staff development is critically important to help professionals stay on the cutting edge of the delivery process, so continuous learning and updates of knowledge related to both “product” and “process” are essential. Product refers to the technologies needed by the clientele and process refers to the soft skills required by the staff to deliver these technologies to the target audience. (Ghimire & Martin, 2011, p. 13)

Competencies of Extension agents play a huge role in the effectiveness of Extension programs, especially in rapidly advancing areas for Extension systems (Lakai et al., 2012). Social media is an indispensable facet of digital technologies in this era (Bruguera et al., 2019). Using Collin et al.’s (2012) framework for the continuous professional development (CPD) (see figure 2.1), the professionals facing the evolution of digital era “need to continuously stay update their professional knowledge and skills to meet the challenges of the digital era” (Bruguera et al., 2019, p. 1).

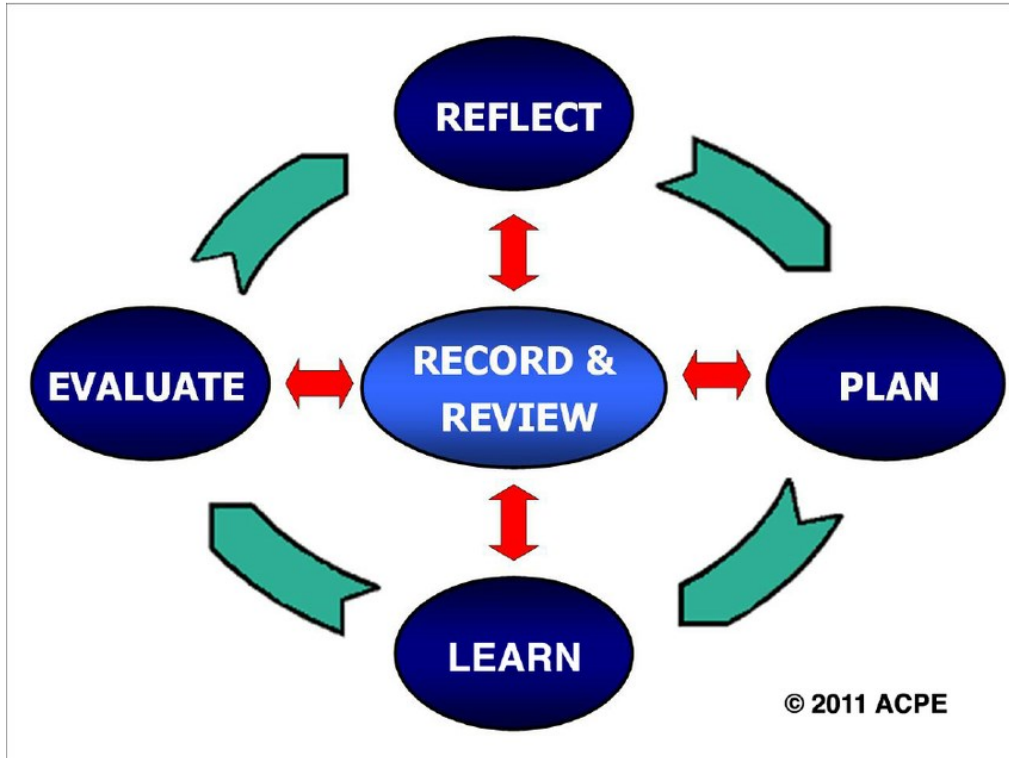


Figure 2.1 Continuous Professional Development Model

### Social Media Competency

Social media competency has a strong influence on a professional's willingness to integrate social media as a function of their employment (Zhu et al., 2018). There is a reported need for social media competencies among employees in professional and educational settings (Zhu et al., 2018). Zhu et al. (2018) developed an instrument to gauge social media competency levels among college students. Zhu et al. (2018) recommend that this instrument be used as a needs assessment tool for examining social media competency levels and then using that information to design, develop, and implement appropriate support efforts to improve the quality and standards of the participants' social media usage.

Zhu et al. (2018) state, “SMC requires social media users to be self-aware of one’s actions and thereby contribute on social media only when possessing sufficient knowledge in relation to a subject area (and of others’ perceptions) before generating content” (p. 4). This instrument contains four aspects, or “dimensions,” as described by Zhu et al. (2018); technical usability (TU), content interpretation (CI), content generation (CG), and anticipatory reflection (AR). TU defines the participant’s ability to “operate with social media environments” (Zhu et al., 2018, p. 4), this would outline the participant’s basic ability to access and use social media. CI defines the participant’s ability to “filter through content and extract the appropriate meanings from a great deal of information.” (Zhu et al., 2018, p. 4). This implies that a person would be able to filter a great amount of content on social media and then extract an appropriate meaning, rather than absorbing all the information presented to them by other users (Zhu et al., 2018). CG is the “ability to communicate with others through various formats” (Zhu et al., 2018, p. 5). Zhu et al. (2018) continue by describing content generation as the ability to communicate, convey beliefs, and negotiate with others in a way that appropriate for an online audience. For instance, many communities only exist online, content generation gauges that user’s ability to self-actualize citizenship to that community (Rheingold, 2008). AR is the ability for the user to perceive the potential results of their actions before generating content (Zhu et al., 2018).

Newbury et al. (2014) claim that many educators are not confident in their ability to use social media platforms because they have not been provided with adequate training to demonstrate how to use and best utilize social media platforms. Extension agents specially requested that they needed a training method that extensively explained how the platform functions (Newbury et al., 2014), which aligns with the dimensions of technical usability and content generation. Extension agents also wanted training on how to craft an effective and

engaging post (Newbury et al., 2014), aligning with the dimension of content generation. As Zhu et al. (2018) stated, SMC first requires the users to be self-aware of one's actions before generating content.

### **Theoretical Framework**

The Change Management Model (Lewin, 1951) was used to guide this research. This framework outlines the three main stages of implementing change within a system. This framework determined if the social media technical support efforts provided for Extension agents guided a change in attitude.

### **Theory of Planned Change**

Kurt Lewin (1951) developed a three-step model for implementing change within a system (figure 2.2). Lewin (1951) illustrates behavior as a balance of forces working in opposite directions, and he used these behaviors to explain his model for planned change. To facilitate change, the change agent must push others in an anticipated direction, and then by restraining resisting forces, the change becomes delayed (Lewin, 1951). Change agents must guide behavior or attitude change through the three main steps used in this model (Lewin, 1951). This theory has been utilized in various occupations that deliver best practices; Lewin's (1951) planned change model is ideal for services that continually need to change in order to maintain the most current practices (Mitchell, 2013).



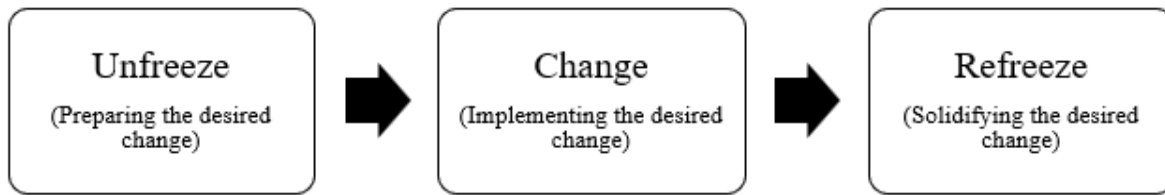


Figure 2.2 Change Management Model

Kritsonis (2005) explains the first step to change human behavior or attitude is to “unfreeze the existing situation or status quo” (p. 2) of the system. When unfreezing occurs, disequilibrium will affect the status quo in the system, causing a need for adjustment (Roussel, 2006). Unfreezing is brought into motion through increasing driving forces that are capable of redirecting the undesired behavior or attitude away from the existing status quo (Lewin, 1951). Unfreezing is also accomplished by addressing those who are restraining forces and hinder change from disrupting the existing situation (Lewin, 1951).

The process of changing behavior or attitude continues into the movement step (Kritsonis, 2005). During this step, the targeted system will move toward the desired state of equilibrium (Lewin, 1951). There are three actions the change agent can utilize to support this step: acknowledging the negatives of the prior status quo, collaboration to work toward the new goal, and establishing models to implement the change (Lewin, 1951).

In the final step of Lewin’s (1951) planned change model, the system must undergo refreezing (Lewin, 1951). This third step must take place after the desired change has been executed and ensures the system does not revert to the undesired status quo (Roussel, 2006; Lewin, 1951). During this step, there will be new values and traditions integrated into the

community (Kritsonis, 2005). Refreezing is a necessary final step to stabilize the driving force and restraining forces in the system to set the newest equilibrium (Lewin, 1951).

Aligning this first step of the Change Management Model (1951), Kinsey (2010) recommends determining the perceived value of social media's outreach capacity of Extension professionals that are currently using social media. Attitudes are an important characteristic of whether or not Extension professionals will utilize social media (Allen et al., 2014). The Change Management Model (1951) can be utilized to modify attitudes about social media use. Allen et al. (2014) implemented a training technique that began with an open conversation about attitudes and opinions on the use of social media, allowing participants to voice their concerns about safeguards and successes. This training technique can align with the first step of Lewin's (1951) planned change model (see figure 2.3). Unfreezing can begin with an open identification of restraining forces and the existing status quo of Extension's current social media status (Kritsonis, 2005).

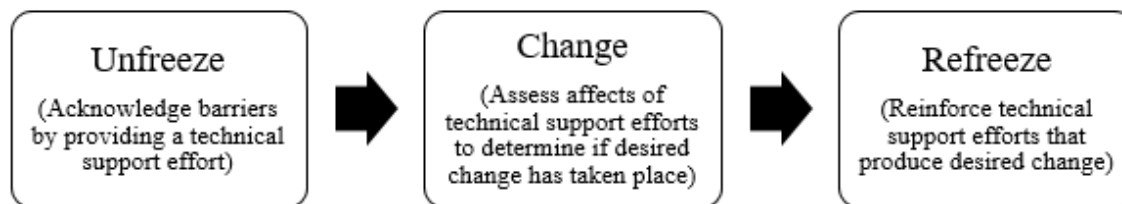


Figure 2.3 Technical Support Efforts Management Model

### Summary

This review of literature examined Extension’s engagement with audiences, social media as a tool for Extension, social media technical support efforts, social media barriers for Extension agents, professional development and competency, social media support efforts, and social media training resources. The Change Management Model (1951) guided the research for this study, assists with change and continuous delivery of best practices (Roussel, 2006). This a useful model to use when assessing the best practices for providing social media technical support efforts to Extension agents. The accumulation of scholarly literature revealed Extension professionals are not utilizing social media practices to their fullest potential, despite social media’s growing popularity. The literature also suggests Extension systems as a whole should pay attention to technology uses, trends, and demographic changes as they are reshaping non-formal education (Diem et al., 2011). If Extension systems wish to continue to grow support for their services, Diem et al. (2011) suggest they should put more energy into reaching future generations who could benefit from Extension’s many services.

Social media has become a standard form of receiving information, especially for younger generations. The need for Extension professionals to utilize social media is evident, indicating social media is an important tool for engagement with audiences and disseminate information. Social media has the potential for Extension professionals to access a free platform to promote Extension, maintain constant interaction with their audiences, and disseminate information to a broader range of clientele over other methods traditional channels of communication (Kinsley, 2010). Planned change theory has been previously used to implement change among organizations and groups and can be used to implement change related to this study, such as improving Extension professionals' social media use. Based on Alotaibi's (2018) findings, the facilitation of future social media technical support efforts should focus on providing Extension professionals with time management skills for updating content, skills for using social media effectively, composition and demographics of clients, and increasing interests for both the Extension professional and client. Although we recognize the importance of developing social media training, little evaluation has been done to determine whether or not social media technical support efforts produced by the MSU-ES Ag Comm. unit have an effective output with changing social media use for Extension professionals.

## CHAPTER III

### METHODOLOGY

This study investigated social media competency levels of Extension agents at Mississippi State University. This study also explored whether technical support efforts, provided by Extension's communication department, has an effect on agents' social media competency. This chapter provides an outline of the research design, the study's population, instrumentation procedures, data collection procedures, and data analysis. The purpose of this study was to determine Extension agents' social media competency levels. The research objectives are:

1. Describe the Extension agents' change in self-reported social media competencies before and after treatment.
2. Examine the relationship between Extension agents' self-reported social media competencies and the following variables: gender, age, years serving Extension, and type of duties.

The results of this study will inform prioritization efforts for future social media competency training in the areas of technical usability (TU), content interpretation (CI), content generation (CG), and anticipatory reflection (AR) as described by Zhu et al. (2018).

#### **Research Design**

This study employed a retrospective pretest-posttest design (see figure 3.1), as described by Campbell and Stanley (1963). This design allows for the participants to reflect on a specific pretest period during the time of the posttest (O'Leary and Israel, 2013). During the posttest,

participants asked to rate the same list of survey items, reflecting on two time frames: “now” and “then” (before treatment and after treatment) (Little et al., 2019, p. 1) (see Table 3.1). O’Leary and Israel (2013) recommend the use of retrospective pretest design when measuring knowledge perceptions and when there is a limited timeframe. By participating in a treatment or intervention retrospectively, participants are “actively aware” of their previous attitudes, and thus they are more capable of reflecting their prior attitudes when compared to their current attitudes (Little et al., 2019).

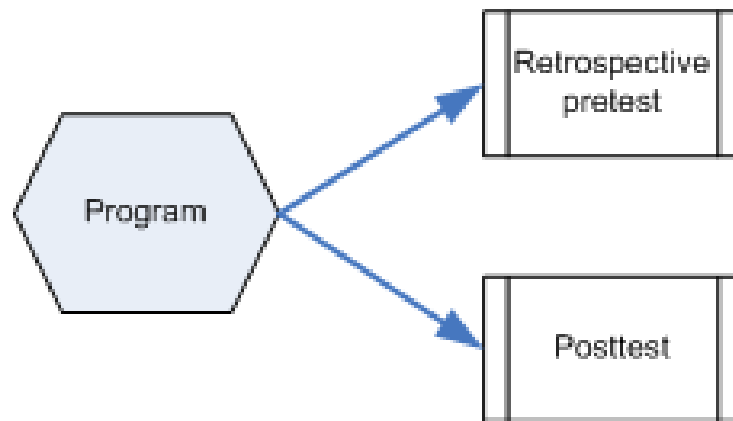


Figure 3.1 Retrospective Pretest-Posttest Design

Little et al. (2019) describes the retrospective pretest as the “traditional gold standard” for evaluating programs or interventions effect. Traditional pretest-posttest designs are susceptible to response-shift bias after participants partake in a program; participants are suspect to potentially skew pretest reports due to limited pre-intervention knowledge (O’Leary & Israel, 2013). The retrospective pretest has been deemed as an accurate assessment measure for the participants’ perception of change due to the intervention because each set of questions use the same frame of reference and participants can easily determine their functional baseline (Allen & Nimon, 2007).

Based on Campbell and Stanley's (1963) explanation of retrospective pretest-posttest design, this experimental design was deemed most appropriate for this study.

Table 3.1 Retrospective Pretest-Posttest Design

Treatment Group	Treatment	Retrospective Pretest	Posttest
1	X <sub>1</sub>	O <sub>1</sub>	O <sub>2</sub>
2	X <sub>2</sub>	O <sub>1</sub>	O <sub>2</sub>
3	X <sub>3</sub>	O <sub>1</sub>	O <sub>2</sub>
4	-	-	O <sub>2</sub>

Note: O = Survey  
X = Treatment

### Population and Sampling

The population for this study was county Extension agents employed through Mississippi State University's Extension Service. The population for this study was 157 county Extension agents ( $N = 157$ ). It is important to note that for the purpose of this study, all employees classified as a MSU-ES county Extension agent were included regardless of their funding source or primary responsibility. Primary responsibilities for the Extension agents fell under agriculture and natural resources (ANR), family and consumer science (FCS), 4-H, and community resource development (CRD). This study also included county agents for community wellness planners and AIM for Change (Advancing, Inspiring, and Motivating for Community Health through Extension) agents.

The Director of Mississippi State University Extension, Dr. Gary Jackson, granted the researcher approval to conduct this study with Extension professionals. The researcher also sought approval from the Head of the Office of Agricultural Communications, Ms. Elizabeth North, to use and develop resources for this study. The researcher received a list of the Extension agents' emails and NetID numbers from Dr. Randy Loper, Head of the Extension Center for

Technical Outreach. The list of NetID numbers were randomized using a true randomness generator and divided into the four treatment groups. Each agent's email is connected to a NetID, granted them access to a learning management system called Canvas.

### **Treatment Groups**

Three groups received treatment and one control group. The social media support effort provided to each treatment group varied. The population of county Extension agents ( $N = 157$ ) was randomly assigned to one of the three treatment groups or the control group (Fraenkel et al., 2015). Each treatment group was provided with a training that covered the following topic areas: an explanation of why Extension offices should use social media, using Facebook events, using groups features, using Facebook live, posting videos, posting pictures, updating profile pictures, updating cover photos, using ads, and examples of posts using best practices.

### **Guidelines Treatment Group**

This treatment group ( $X_1 = 39$ ) was provided an up-to-date best practices guideline (See Appendix B) on Canvas. This two page guideline contains the prominent points for best practices for using social media in compliance with MSU-ES branding and identify policies. The guideline provided a brief overview of the importance of social media use to promote the Extension brand and how to locate a social media request form in Workzone for new accounts. The best practices guidelines cover the following topics: representing Extension accounts, post frequency, accessing accounts, post content, Facebook events, sharing links to websites, responding to accounts, using Extension logos, cover photos, interacting with media, using hashtags, promoting non-Extension affiliated accounts, respectful communication, identifying minors, and photo release forms. After 30 days, a survey was published to Canvas for this treatment group.



### **Video Series Treatment Group**

This treatment group ( $X_2 = 39$ ) was given access to a series of online videos. There were 18 videos split into two modules – best practices videos and tutorial videos. The module for the best practices videos contained a series of videos covering the following topics areas: an introduction to social media best practices, an overview of social media best practices, posting, Facebook events, Facebook groups, Facebook live, Facebook videos, good examples from Facebook, and a Facebook page checklist. The videos in the best practices module were approximately three minutes or less in length. The module with tutorial videos contained a series of technical tutorials on how to step-by-step use the following functions on Facebook: upload links, upload pictures, upload photo albums, edit posts, schedule posts, edit scheduled posts, upload videos, delete posts, and create events. The videos in the tutorial module were approximately 30 seconds to 60 seconds in length. After 30 days, a survey was published to Canvas for the video series treatment group.

### **Webinar Treatment Group**

The final treatment group ( $X_3 = 39$ ) was provide with an online live webinar that lasted for approximately 21 minutes (Appendix C). The webinar was designed to replicate a face-to-face professional development training. The social media special for MSU-ES presented the webinar and ended with an open question forum. Participants received instruction on their Canvas main page that the live webinar was scheduled for November 14, which was 10 days after the participants were given access to the Canvas course. The webinar covered the following topics: introduction, purpose, accessing the best practices guidelines, an overview of Workzone, an overview of best practices, social media and minors. The webinar was recorded and made

available for the participants to review on Canvas immediately after the initial live training. After 30 days, a survey was published to Canvas for this treatment group.

### **Control Group**

The participants ( $X_4 = 40$ ) in the control group did not receive treatment or social media training of any kind during the time of this study. The control group was allowed to access their survey immediately from the Canvas home page.

### **Instrumentation Procedures**

Data were collected through a link made available through Canvas and a questionnaire sent via email directly to participants in each group. The questionnaire used in this study was a modified 28-question survey adapted from a social media competency (SMC) instrument created by Zhu et al. (2018). Zhu et al. (2018) developed the Social Media Competency Scale for College Students (SMCS-CS) by assessing other SMC instruments and keeping content that were identifiable with the four predetermined dimensions: technical usability (TU), content interpretation (CI), content generation (CG), and anticipatory reflection (AR). Zhu et al. (2018) then removed items that were not cross-disciplinary in the context of college students.

There were four dimensions to the SMC that indicate social media competency

- The first section is technical usability (TU), which is the user's ability to operate within social media environments,
- The second section is content interpretation (CI), which is the user's ability to filter content and extract an appropriate meaning,
- The third section is content generation (CG), which is the user's ability to communicate, convey, beliefs, and meaningful negotiates with others,
- The final section is anticipatory reflection (AR), which is the user's ability to be self-aware of one's actions and others' perceptions before generating content Zhu et al., 2018, p. 4).

Zhu et al. (2018) conducted an exploratory and confirmatory factor analyses and found the instrument had no signs of deficiency in its validity or reliability when measuring social media competency. Cronbach alpha was run to determine reliability and findings exceed the acceptable Cronbach's alpha level of .70 for scale development, indicating internal consistency (Zhu et al., 2018). Zhu (2018) found "the subscale coefficient values for each dimension were as follows: .92 for TU, .94 for CI, .95 for CG, and .95 for AR." (p. 12).

Just as Zhu et al. (2018) had removed items from the instrument that were not cross-disciplinary in the context of higher education, items that were not cross-disciplinary to Extension professionals were removed before the instrument was employed for this study. Items were also modified to fit the context of professional Facebook use in conjunction with MSU-ES. The instrument was reviewed by a panel of experts in agricultural communication and Extension education related fields also checked for face and content validity of the instrument.

### **Data Collection Procedures**

For this study, an online questionnaire was used for data collection due to the study's population being scattered across the state of Mississippi (Sue & Ritter, 2012). Extension agents have access to the Internet at their places of employment, and each employee of MSU-ES is provided with a professional email (Millar & Dillman, 2011). The researcher was given a list of Extension agent's emails and NetID number. Each agent was randomly assigned to one of the four groups. Each county Extension agent has a NetID number which allows them to access university services, including Canvas (Mississippi State University Information Technology Services, 2019). As of 2019, Mississippi State University used the learning management system Canvas by Instructure for instructions to deliver online courses to students through the university. A total of four Canvas courses were created for this study; a treatment was made

available on each Canvas course. Approval was granted by the Mississippi State University Institutional Review Board to conduct this study on August 30, 2019 (Appendix D).

An invitation to participate in a Canvas was sent to agents on November 4, 2019. Agents that accepted the invitation to participate in the Canvas course were then allowed to access the treatment they have been assigned on Canvas. Each Canvas course had instructions available on the main page that provided the participant with a description of the treatment available to them and informing them that there would a survey published to Canvas after 30 days. The control group received instructions to take the survey which was immediately available to their Canvas course.

Four separate surveys were created for each treatment group and administered through Qualtrics. After 30 days, a questionnaire was made available to all participants in the study. A consent form was included at the beginning of the questionnaires (see Appendix E), this form informed participants of the study's purpose, their voluntary participation, and the researcher's contact information. Participants had an option to select if they consented to participate in this study if they chose not to consent, the survey was structured to route them to the end of the questionnaire.

Due to a lack of participation in completing the survey, participants from each group were then emailed a link that routed them directly to the Qualtrics survey. Monroe and Adams (2012) recommend that an Extension administrator contact participants with a reminder questionnaire after two weeks and again after four weeks. Extension professionals were given access to the questionnaire after 30 days (December 4, 2019); two weeks later, an Extension administer email participants the questionnaire (December 13, 2019). Monroe and Adams'

(2012) method was slightly modified due to university holidays. A final questionnaire was sent to participants after four weeks (January 1, 2020).

### **Analysis**

The Statistical Package for the Social Sciences (SPSS) version 26 was used to perform all statistical analyses in this study. Before analysis, the researcher filtered the data set after downloading the data file from Qualtrics, removing incomplete datasets and datasets of participants who did not give consent to participate in the study. After which descriptive statistics, such as frequencies and percentages, were used to summarize data of demographic characteristics.

Objective one was to describe Extension agents' change in self-reported social media competencies as determined by questions answered on the surveys based on the pretests and the posttests. Paired *t*-tests are frequently used to compare before-and-after observations of the subjects (Shier, 2004). Means and standard deviations were calculated to determine the overall pretest and posttest scores for social media competency. A paired *t*-test was used to compare the pretest and the posttest means of each treatment group. To further investigate statistical significance, means and standard deviations were then calculated for each of the four constructs (technical usability, content interpretation, content generation, and anticipatory reflection) for the pretest and posttest of the treatment group. The four groups have one independent variable (i.e., perceived social media competency), because of this it is suggested that a one-way analysis of variance (ANOVA) tests was used to determine whether there were any statistically significant differences between the means of treatment groups and the control group (Mackenzie, 2018). The posttest means from the three treatment groups were then compared to each other using a

one-way ANOVA, and the posttest means from the three treatment groups were then compared to the mean from the control groups using a one-way ANOVA.

Objective two was to examine the relationship between Extension agents' self-reported social media competencies and the following variables: gender, age, years serving Extension, and type of duties. A multiple linear regression analysis was run using the forced entry method to describe the relationships of the overall mean (independent variable) and the dependent variables (gender, age, years serving Extension, and type of duties). The strength of relationships was reported by using Davis (1971) coefficient conventions:  $r = .00$  to  $.09$  is negligible,  $r = .10$  to  $.29$  is low,  $r = .30$  to  $.49$  is moderate,  $r = .50$  to  $.69$  is substantial, and  $r = .70$  to  $1.00$  is very strong. Cohen (1988) describes the effect size of the correlation coefficient  $r$  classified as  $r = .10$  is small,  $r = .30$  is medium, or  $r = .50$  is large. An alpha value of less than  $.05$  was considered statistically significant for all analyses.

## CHAPTER IV

### RESULTS AND FINDINGS

This study's purpose was to investigate social media competency levels of Extension agents. This study explored whether technical training, provided by Extension's communication department has an effect on agents' social media competency. This chapter involves two sections, and these sections address the two objectives that guided this study. The first objective was to describe Extension agents' change in self-reported social media competencies before and after treatment. The second objective was to examine the relationship between Extension agents' self-reported social media competencies and the following variables: gender, age, years serving Extension, and type of duties. The results of this study will inform prioritization efforts for future social media competency training in the areas of technical usability (TU), content interpretation (CI), content generation (CG), and anticipatory reflection (AR) as described by Zhu et al. (2018).

#### **Demographics**

In total, there were 34 participants ( $n = 34$ ) who completed took part in the study (Table 4.1). Of the participants, 15 were male (44.1%), and 19 were female (55.9%). Only one participant identified being between the age of 18-24 (2.9%), 10 participants identified as being between the ages of 25-34 (29.4%), ten participants identified being between the ages 35-44 (29.4%), eight participants identified being between the ages of 45-54 (23.5%), four participants

identified as being between the ages of 55-64 (11.8%), and only one participant identified as being 65 or older (2.9%).

Due to a low frequency of participants who identified as serving in a given year, years were grouped into years of serving by intervals of five years. Eleven participants identified as serving as an Extension agent for five or fewer years (32.4%). Nine participants identified as serving as an Extension agent for six to 10 years (26.4%). Eight participants identified as serving as an Extension agent for 11 to 15 years (23.5%). Two participants identified as serving as an Extension agent for 16 to 20 years (5.9%). Four participants identified as serving as an Extension agent for 21 or more years (11.8%).

Two participants identified as an Extension agent with Community Wellness (5.9%). Only one participant identified as being an Extension agent with AIM for Change (2.9%). Seventeen participants identified as being Extension agents with primarily ANR duties (50%). Eight participants identified as being Extension agents with primarily FCS duties (18.6%). Five participants identified as being Extension agents with primarily 4-H duties (14.7%). Only one participant identified as being an Extension agent with primarily CRD duties (2.9%)



Table 4.1 Overall Demographics of Participants ( $n = 34$ )

Variable	Category	<i>f</i>	%
Gender	Male	15	44.1
	Female	19	55.9
Age Group	18-24	1	2.9
	25-34	10	29.4
	35-44	10	29.4
	45-54	8	23.5
	55-64	4	11.8
	65+	1	2.9
Years serving Extension	5 or fewer	11	32.4
	6-10	9	26.4
	11-15	8	23.5
	16-20	2	5.9
	21+	4	11.8
Type of Extension	Community Wellness Agent	2	5.9
	Aim for Change Agent	1	2.9
	ANR	17	50
	FCS	8	23.5
	4-H	5	14.7
	CRD	1	2.9

Note: “-” indicates missing data.

The guidelines treatment group ( $N = 39$ ) had seven participants complete both the training and the survey ( $n = 7$ ), 28.6% were male ( $n = 2$ ) and 71.4% were female ( $n = 5$ ) and all participants were 35 years of age or older (Table 4.2). Of the participants in guidelines treatment group, two participants (28.6%) self-identified as having served as an Extension agent for six to 10 years, three participants (42.9%) self-identified as having served as an Extension agent for 11-15 years, and two participants (28.6%) self-identified as having served as an Extension agent for 21 or more years. Only one participant (14.3%) identified as having primary duties as a Community Wellness agent, three participants (42.9%) identified as having primary duties as an ANR agent, two participants (28.6%) identified as having primary duties as a FCS agent, and only one (14.3%) participant identified as having primary duties as a 4-H agent. No participants

from the guidelines treatment group identified as being an AIM for Change agent or having primary duties as a CRD agent (Table 4.2).

Table 4.2 Demographics of Participants in Guidelines Treatment Group ( $n = 7$ )

Variable	Category	<i>f</i>	%
Gender	Male	2	28.6
	Female	5	71.4
Age Group	18-24	-	-
	25-34	-	-
	35-44	2	28.6
	45-54	3	42.9
	55-64	1	14.3
	65+	1	14.3
Years serving Extension	1 or fewer	-	-
	6-10	2	28.6
	11-15	3	42.9
	16-20	-	-
	21+	2	28.6
Type of Extension	Community Wellness Agent	1	14.3
	Aim for Change Agent	-	-
	ANR	3	42.9
	FCS	2	28.6
	4-H	1	14.3
	CRD	-	-

Note: “-” indicates missing data.

The video series treatment group ( $N = 39$ ) had six participants complete both the training and the survey ( $n = 6$ ), 50% were male ( $n = 3$ ) and 50% were female ( $n = 3$ ) (Table 4.3). Three participants (50%) self-reported being between the ages of 25-34, two participants (33.3%) self-reported being between the ages of 35-44, and only one participant (16.7%) self-reported being between the ages of 45-54. No participants from the video series treatment group self-reported being younger than 25 or older than 55. Of the participants in the video series treatment group, two participants (33.3%) self-identified as having served as an Extension agent for one year or less, two participants (33.3%) self-identified as having served as an Extension agent for 6-10

years, one participant (16.7%) self-identified as having served as an Extension agent for 11-15 years, and one participant (16.7%) self-identified as having served as an extension agent for 16-20 years. No participants identified as having served from Extension for 21 years or more. Three participants (50%) identified as having primary duties as ANR agents and three participants (50%) identified as having primary duties as a 4-H agent. No participants from the video series treatment group identified as being a Community Wellness Agent, AIM for Change agent or having primary duties as a or FCS or CRD agent (Table 4.3).

Table 4.3 Demographics of Participants in Video Series Treatment Group ( $n = 6$ )

Variable	Category	<i>f</i>	%
Gender	Male	3	50
	Female	3	50
Age Group	18-24	-	-
	25-34	3	50
	35-44	2	33.3
	45-54	1	16.7
	55-64	-	-
	65+	-	-
Years serving Extension	1 or fewer	2	33.3
	6-10	2	33.3
	11-15	1	16.7
	16-20	1	16.7
	21+	-	-
Type of Extension	Community Wellness Agent	-	-
	Aim for Change Agent	-	-
	ANR	3	50
	FCS	-	-
	4-H	3	50
	CRD	-	-

Note: “-” indicates missing data.

The webinar treatment group ( $N = 39$ ) only had four participants who completed the training and the survey ( $n = 4$ ), 25% were male ( $n = 1$ ) and 75% were female ( $n = 3$ ) (Table 4.4).

One participant (25%) self-reported being between the ages of 35-44, two participants (50%)

self-reported being between the ages of 45-54, and only one participant (25%) self-reported being between the ages of 55-64. No participants from the webinar treatment group self-reported being younger than 35 or older than 64. Of the participants in webinar treatment group, one participant (25.5%) reported as having served as an Extension agent for one year or less, one participant (25%) self-identified as having served as an Extension agent for 6-10 years, one participant (25%) self-identified as having served as an Extension agent for 16-20 years, and one participant (16.7%) self-identified as having served as an Extension agent for 21 years or more. No participants identified as having served as an Extension agent for 11-15 years. One participant (25%) identified as having primary duties as an ANR agents, one participant (25%) identified as primary duties as a FCS agent, one participant (25%) identified as primary duties as a 4-H agent, and one participant (25%) identified as having primary duties with CRD. No participants from the webinar treatment group identified as having duties with Community Wellness Agent and AIM for Change (Table 4.4).

Table 4.4 Demographics of Participants in Webinar Treatment Group ( $n = 4$ )

Variable	Category	<i>f</i>	%
Gender	Male	1	25
	Female	3	75
Age Group	18-24	-	-
	25-34	-	-
	35-44	1	25
	45-54	2	50
	55-64	1	25
	65+	-	-
Years serving Extension	1 or fewer	1	25
	6-10	1	25
	11-15	-	-
	16-20	1	25
	21+	1	25
Type of Extension	Community Wellness Agent	-	-
	Aim for Change Agent	-	-
	ANR	1	25
	FCS	1	25
	4-H	1	25
	CRD	1	25

Note: “-” indicates missing data.

Of the Extension agents assigned to the control group ( $N = 40$ ) there were 17 who completed the survey ( $n = 17$ ), 52.9% were male ( $n = 9$ ) and 47.1% were female ( $n = 8$ ) (Table 4.5). One participant (5.9%) self-reported being between the ages of 18-24, seven participants (41.2%) self-reported being between the ages of 25-34, five participants (29.4%) self-reported being between the ages of 35-44, two participants (11.8%) self-reported being between the ages of 45-54, and two participants (11.8%) self-reported being between the ages of 55-64. No participants from the control group self-reported being 65 years of age or older. Of the participants in the control group, eight participants (47%) reported as having served as an Extension agent for one year or less, four participants (23.5%) self-identified as having served as an Extension agent for 6-10 years, four participants (23.5%) self-identified as having served as

an Extension agent for 11-15 years, and one participant (5.9%) self-identified as having served as an Extension agent for 21 years or more. No participants identified as having served as an Extension agent for 16-20 years. One participant (5.9%) identified as having primary duties as a Community Wellness agent, one participant (5.9%) identified as primary duties as an AIM for Change agent, 10 participants (58.8%) identified as primary duties as an ANR agent, and five participants (29.4%) identified as having primary duties with FCS. No participants from the control group identified as having duties with 4-H or CRD (Table 4.5).

Table 4.5 Demographics of Participants in Control ( $n = 17$ )

Variable	Category	<i>f</i>	%
Gender	Male	9	52.9
	Female	8	47.1
Age Group	18-24	1	5.9
	25-34	7	41.2
	35-44	5	29.4
	45-54	2	11.8
	55-64	2	11.8
	65+	-	-
Years serving Extension	1 or fewer	8	47
	6-10	4	23.5
	11-15	4	23.5
	16-20	-	-
	21+	1	5.9
Type of Extension	Community Wellness Agent	1	5.9
	Aim for Change Agent	1	5.9
	ANR	10	58.8
	FCS	5	29.4
	4-H	-	-
	CRD	-	-

Note: “-” indicates missing data.

## Objective One

*Describe Extension agents' change in self-reported social media competencies.*

There were seven participants ( $n = 7$ ) who completed the survey in the guidelines treatment group. Based on the pretest scores of the social media competency survey, the guidelines treatment group had a moderate to high perceived competency for social media ( $M = 4.02$ ,  $SD = .82$ ). The guidelines treatment group participant's mean on the pretest ranged from "2.76" to "4.86." Guidelines treatment group (treatment group 1) received a treatment of the best practices guideline. Based on the posttest scores, the guidelines treatment group had a high perceived competency for social media ( $M = 4.37$ ,  $SD = .48$ ). Participant's mean on the posttest ranged from "3.43" to "4.90." There was a reported .32 increase ( $MD = .32$ ) between the pretest and posttest from the guidelines treatment group. Overall, the participants of the guidelines treatment group ( $n = 7$ ) had an increase in their perceived SMC levels; there was a statistically significant difference in the pretest score for perceived SMC ( $M = 4.05$ ,  $SD = .78$ ) and the posttest score for perceived SMC ( $M = 4.37$ ,  $SD = .48$ );  $t(6) = -2.48$ ,  $p = 0.049$  (Table 4.6).

There were six participants ( $n = 6$ ) who completed the survey in the video series treatment group. Based on the pretest scores of the social media competency survey, video series treatment group had a high perceived competency for social media ( $M = 4.60$ ,  $SD = .52$ ). Video series treatment group participant's mean on the pretest ranged from "3.85" to "4.90." Video series treatment group (treatment group 2) received a treatment of a series of videos. Based on the posttest scores, video series treatment group had a high perceived competency for social media ( $M = 4.57$ ,  $SD = .46$ ). Participant's mean on the posttest ranged from "3.90" to "5.00." There was a reported decrease ( $MD = -.04$ ) between the pretest and posttest from video series

treatment group. Overall, the participants of the video series treatment group ( $n = 6$ ) had a decrease in their perceived SMC levels after receiving the treatment ( $MD = -.04$ ); there was no statistically significant difference in the pretest score for perceived SMC ( $M = 4.60, SD = .52$ ) and the posttest score for perceived SMC ( $M = 4.57, SD = .46$ );  $t(5) = .10, p = 0.93$  (Table 4.6).

There were four participants ( $n = 4$ ) who completed the survey in the webinar treatment group. Based on the pretest scores of the social media competency survey, the webinar treatment group had a high perceived competency for social media ( $M = 4.24, SD = .28$ ). The webinar treatment group participant's mean on the pretest ranged from "3.97" to "4.52." The webinar treatment group (treatment group 3) received a treatment of a live webinar. Based on the posttest scores, webinar treatment group had a moderate perceived competency for social media ( $M = 3.99, SD = .68$ ). Participant's mean on the posttest ranged from "3.00" to "4.52." There was a reported decrease ( $MD = -.25$ ) between the pretest and posttest from webinar treatment group. Overall, the participants of the webinar treatment group ( $n = 4$ ) had a decrease in their perceived SMC levels; there was no statistically significant difference in the pretest score for perceived SMC ( $M = 4.24, SD = .28$ ) and the posttest score for perceived SMC ( $M = 3.99, SD = .68$ );  $t(3) = .62, p = 0.58$  (Table 4.6).

Table 4.6 Overall Means and Standard Deviations of Treatment Groups

Treatment Groups	<i>n</i>	Pretest		Posttest		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Guidelines	7	4.02	.82	4.37	.48	-2.46	6	.049*
Video series	6	4.60	.52	4.57	.46	.10	5	.93
Webinar	4	4.24	.28	3.99	.68	.62	3	.58

Note: Responses based on a 5-point rating scale with 5 = strongly agree and 1 = strongly disagree. \* $p < .05$ .



There were 17 participants ( $n = 17$ ) who completed the survey for the control group. Based on the scores of the social media competency survey, the control group had a moderate to high perceived competency for social media ( $M = 4.25$ ,  $SD = .60$ ) (Table 4.11). The control groups mean ranged from “3.14” to “4.93.” The control did not receive treatment or a posttest (Table 4.7).

Table 4.7 Means and Standard Deviations Overall Score of Control Group

Group	$n$	$M$	$SD$
Control Group	17	4.25	.60

Note: Responses based on a 5-point rating scale with 5 = strongly agree and 1 = strongly disagree.

### Constructs Findings

Each construct for the guidelines treatment group was further investigated. The construct for technical usability (TU) combined questions one through five of the survey (Appendix E). Participants’ perceptions of their TU indicated that their scores closely aligned between the “neither agree or disagree” and “somewhat agree” categories ( $M = 3.87$ ,  $SD = 1.176$ ) (Table 4.8). The mean from the pretest TU construct ranged from “2.00” to “5.00.” Posttest analysis of the TU contrast indicated that participants scores closely aligned between the “somewhat agree” to “strongly agree” categories ( $M = 4.49$ ,  $SD = 0.52$ ). The mean from the posttest construct of TU ranged from “3.80” to “5.00.” There was a reported .62 increase ( $MD = .62$ ) between the pretest and posttest for the contrast of TU in group 1. Overall, for the TU construct for the guidelines treatment group ( $n = 7$ ) there was an increase in their perceived SMC levels; there was no statistically significant difference in the pretest score for the TU construct ( $M = 3.87$ ,  $SD =$

1.176) and the posttest score for the TU construct ( $M = 4.49, SD = .52$ );  $t(6) = -2.41, p = 0.053$  (Table 4.8).

The construct for content interpretation (CI) combined questions six through 12 of the survey. Participants' perceptions of their CI indicated that their scores closely aligned between the "somewhat agree" categories ( $M = 4.11, SD = 0.94$ ) (Table 4.8). The mean from the pretest CI constructs range from "2.25" to "5.00." Posttest analysis of the CI contrast indicated that participants' scores closely aligned between the "somewhat agree" to "strongly agree" categories ( $M = 4.59, SD = 0.51$ ). The mean from the posttest construct of CI ranged from "3.80" to "5.00." There was a reported .48 increase ( $MD = .48$ ) between the pretest and posttest for the contrast of CI in group 1. Overall, for the CI construct for the guidelines treatment group ( $n = 7$ ) there was an increase in their perceived SMC levels; there was a statistically significant difference in the pretest score for the CI construct ( $M = 4.11, SD = 0.94$ ) and the posttest score for the CI construct ( $M = 4.59, SD = .51$ );  $t(6) = -2.68, p = 0.036$  (Table 4.8).

The construct for content generation (CG) combined questions 13 through 19 of the survey. Participants pretest perceptions of their CG indicated that their scores closely aligned between the "neither agree or disagree" and "somewhat agree" categories ( $M = 3.82, SD = 0.87$ ) (Table 4.8). The mean from the pretest CI construct range from "2.71" to "5.00." Posttest analysis of the CG contrast indicated that participants scores closely aligned to the "somewhat agree" category ( $M = 4.12, SD = 0.75$ ). The mean from the posttest construct of CG ranged from "2.57" to "4.71." There was a reported .30 increase ( $MD = .30$ ) between the pretest and posttest for the contrast of CG in group 1. While that was an overall increase in perception, it should be noted that some participant's mean in the construct of CG slightly decreased. Overall, for the CG

construct for the guidelines treatment group ( $n = 7$ ) there was an increase in their perceived SMC levels; there was no statistically significant difference in the pretest score for the CG construct ( $M = 3.82, SD = 0.87$ ) and the posttest score for the CG construct ( $M = 4.12, SD = .75$ );  $t(6) = -1.27, p = 0.036$  (Table 4.8).

The construct for anticipatory reflection (AR) combined questions 20 through 28 of the survey. Participants pretest perceptions of their AR indicated that their scores closely aligned with the “somewhat agree” category ( $M = 4.27, SD = 0.50$ ) (Table 4.8). The mean from the pretest AR construct range from “3.56” to “5.00.” Posttest analysis of the AR contrast indicated that participants scores closely aligned to the “somewhat agree” category ( $M = 4.30, SD = 0.42$ ). The mean from the posttest construct of AR ranged from “3.78” to “5.00.” There was a reported .03 increase ( $MD = .03$ ) between the pretest and posttest for the contrast of AR in group 1. Overall, for the AR construct for the guidelines treatment group ( $n = 7$ ) there was an increase in their perceived SMC levels; there was a statistically significant difference in the pretest score for the AR construct ( $M = 4.27, SD = 0.50$ ) and the posttest score for the CI construct ( $M = 4.30, SD = .42$ );  $t(6) = -.58, p = 0.58$  (Table 4.8).

Table 4.8 Means and Standard Deviations of Paired Samples for Guidelines Treatment Group

Constructs	<i>n</i>	Pretest		Posttest		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Technical usability (TU)	7	3.87	1.18	4.49	0.52	-2.41	6	0.053
Content interpretation (CI)	7	4.11	0.94	4.59	0.51	-2.68	6	0.036*
Content generation (CG)	7	3.82	0.87	4.12	0.75	-1.27	6	0.25
Anticipatory reflection (AR)	7	4.27	0.50	4.30	0.42	-.58	6	0.58

Note: Responses based on a 5-point rating scale with 5 = strongly agree and 1 = strongly disagree. \* $p < .05$ .

Each construct for the video series treatment group was further investigated. The construct for technical usability (TU) combined questions one through five of the survey. Participants perceptions of their TU indicated that their scores closely aligned between the “somewhat agree” and “strongly agree” categories ( $M = 4.60$ ,  $SD = 0.52$ ) (Table 4.9). The mean from the pretest TU construct ranged from “3.60” to “5.00.” Posttest analysis of the TU contrast indicated that participants scores closely aligned between the “somewhat agree” to “strongly agree” categories ( $M = 4.57$ ,  $SD = 0.46$ ). The mean from the posttest construct of TU ranged from “4.00” to “5.00.” There was a reported .03 decrease ( $MD = .03$ ) between the pretest and posttest for the contrast of TU in video series treatment group. It should be noted that some participant’s mean in the construct of TU slightly decreased. Overall, for the TU construct for the video series treatment group ( $n = 6$ ) there was a decrease in their perceived SMC levels; there was no statistically significant difference in the pretest score for the TU construct ( $M = 4.60$ ,  $SD = 0.52$ ) and the posttest score for the TU construct ( $M = 4.57$ ,  $SD = .46$ );  $t(5) = .10$ ,  $p = 0.93$  (Table 4.9).

The construct for content interpretation (CI) combined questions six through 12 of the survey. Participants pretest perceptions of their CI indicated that their scores closely aligned between the “somewhat agree” and “strongly agree” categories ( $M = 4.46$ ,  $SD = 0.64$ ) (Table 4.9). The mean from the pretest CI construct range from “3.50” to “5.00.” Posttest analysis of the CI contrast indicated that participants scores closely aligned between the “somewhat agree” to “strongly agree” categories ( $M = 4.62$ ,  $SD = 0.49$ ). The mean from the posttest construct of CI ranged from “4.00” to “5.00.” There was a reported .16 increase ( $MD = .16$ ) between the pretest and posttest for the contrast of CI in the video series treatment group. Overall, for the CI

construct for the video series treatment group ( $n = 6$ ) there was a decrease in their perceived SMC levels; there was no statistically significant difference in the pretest score for the CI construct ( $M = 4.46$ ,  $SD = 0.64$ ) and the posttest score for the CI construct ( $M = 4.62$ ,  $SD = .49$ );  $t(5) = -.40$ ,  $p = 0.71$  (Table 4.9).

The construct for content generation (CG) combined questions 13 through 19 of the survey. Participants pretest perceptions of their CG indicated that their scores closely aligned between the “somewhat agree” and “strongly agree” categories ( $M = 4.48$ ,  $SD = 0.48$ ) (Table 4.9). The mean from the pretest CG construct range from “3.86” to “5.00.” Posttest analysis of the CG contrast indicated that participants scores closely aligned to the “somewhat agree” category ( $M = 4.60$ ,  $SD = 0.58$ ). The mean from the posttest construct of CG ranged from “3.71” to “5.00.” There was a reported .12 increase ( $MD = .12$ ) between the pretest and posttest for the contrast of CG in video series treatment group. While that was an overall increase in perception, it should be noted that some participant’s mean in the construct of CG slightly decreased. Overall, for the CG construct for the video series treatment group ( $n = 6$ ) there was a decrease in their perceived SMC levels; there was no statistically significant difference in the pretest score for the CG construct ( $M = 4.48$ ,  $SD = 0.48$ ) and the posttest score for the CG construct ( $M = 4.60$ ,  $SD = .58$ );  $t(5) = -.31$ ,  $p = 0.77$  (Table 4.9).

The construct for anticipatory reflection (AR) combined questions 20 through 28 of the survey. Participants pretest perceptions of their AR indicated that their scores closely aligned between the “somewhat agree” and “strongly agree” categories ( $M = 4.56$ ,  $SD = 0.31$ ) (Table 4.9). The mean from the pretest AR constructs range from “4.11” to “5.00.” Posttest analysis of the AR contrast indicated that participants scores closely aligned between the “somewhat agree”

and “strongly agree” categories ( $M = 4.48, SD = 0.57$ ). The mean from the posttest construct of AR ranged from “3.67” to “5.00.” There was a reported .08 decrease ( $MD = .08$ ) between the pretest and posttest for the contrast of AR in the video series treatment group. Overall, for the AR construct for the video series treatment group ( $n = 6$ ) there was a decrease in their perceived SMC levels; there was no statistically significant difference in the pretest score for the AR construct ( $M = 4.56, SD = 0.31$ ) and the posttest score for the AR construct ( $M = 4.48, SD = .57$ );  $t(5) = .26, p = 0.81$  (Table 4.9).

Table 4.9 Means and Standard Deviations of Paired Samples for Video Series Treatment Group

Constructs	<i>n</i>	Pretest		Posttest		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Technical usability (TU)	6	4.60	0.52	4.57	0.46	.10	5	0.93
Content interpretation (CI)	6	4.46	0.64	4.62	0.49	-.40	5	0.71
Content generation (CG)	6	4.48	0.48	4.60	0.58	-.31	5	0.77
Anticipatory reflection (AR)	6	4.56	0.31	4.48	0.57	.26	5	0.81

Note: Responses based on a 5-point rating scale with 5 = strongly agree and 1 = strongly disagree.

Each construct for the webinar treatment group was further investigated. The construct for technical usability (TU) combined questions one through five of the survey. Participants perceptions of their TU indicated that their scores closely aligned between the “somewhat agree” and “strongly agree” categories ( $M = 4.40, SD = 0.63$ ) (Table 4.10). The mean from the pretest TU construct ranged from “3.60” to “5.00.” Posttest analysis of the TU contrast indicated that participants scores closely aligned with the “somewhat agree” category ( $M = 4.05, SD = 0.61$ ). The mean from the posttest construct of TU ranged from “3.00” to “4.80.” There was a reported .35 decrease ( $MD = .35$ ) between the pretest and posttest for the contrast of TU in the webinar

treatment group. It should be noted that some participant's mean in the construct of TU slightly decreased. Overall, for the TU construct for the webinar treatment group ( $n = 4$ ), there was a decrease in their perceived SMC levels; there was no statistically significant difference in the pretest score for the TU construct ( $M = 4.40, SD = 0.63$ ) and the posttest score for the TU construct ( $M = 4.05, SD = .61$ );  $t(3) = .61, p = 0.58$  (Table 4.10).

The construct for content interpretation (CI) combined questions six through 12 of the survey. Participants pretest perceptions of their CI indicated that their scores closely aligned between the “somewhat agree” and “strongly agree” categories ( $M = 4.40, SD = 0.36$ ) (Table 4.10). The mean from the pretest CI construct range from “4.00” to “4.83.” Posttest analysis of the CI contrast indicated that participants scores closely aligned with the “somewhat agree” category ( $M = 4.15, SD = 0.85$ ). The mean from the posttest construct of CI ranged from “3.00” to “4.83.” There was a reported .25 decrease ( $MD = .25$ ) between the pretest and posttest for the contrast of CI in webinar treatment group. Overall, for the CI construct for the webinar treatment group ( $n = 4$ ) there was a decrease in their perceived SMC levels; there was no statistically significant difference in the pretest score for the CI construct ( $M = 4.40, SD = 0.36$ ) and the posttest score for the CI construct ( $M = 4.15, SD = .85$ );  $t(3) = .58, p = 0.60$  (Table 4.10).

The construct for content generation (CG) combined questions 13 through 19 of the survey. Participants pretest perceptions of their CG indicated that their scores closely aligned between the “somewhat disagree” and “neither agree or disagree” categories ( $M = 3.82, SD = 0.27$ ) (Table 4.10). The mean from the pretest CG construct ranges from “3.43” to “4.00.” Posttest analysis of the CG contrast indicated that participants scores closely aligned between the “somewhat disagree” and “neither agree or disagree” categories ( $M = 3.68, SD = 0.47$ ). The

mean from the posttest construct of CG ranged from “3.00” to “4.00.” There was a reported .14 decrease ( $MD = .14$ ) between the pretest and posttest for the contrast of CG in webinar treatment group. It should be noted that some participant’s mean in the construct of CG slightly decreased. Overall, for the CG construct for the webinar treatment group ( $n = 4$ ) there was a decrease in their perceived SMC levels; there was no statistically significant difference in the pretest score for the CG construct ( $M = 3.82, SD = 0.27$ ) and the posttest score for the CG construct ( $M = 3.68, SD = .47$ );  $t(3) = .58, p = 0.60$  (Table 4.10).

The construct for anticipatory reflection (AR) combined questions 20 through 28 of the survey. Participants pretest perceptions of their AR indicated that their scores closely aligned between the “somewhat agree” and “strongly agree” categories ( $M = 4.33, SD = 0.37$ ) (Table 4.10). The mean from the pretest AR construct range from “3.78” to “4.56.” Posttest analysis of the AR contrast indicated that participants scores closely aligned with the “somewhat agree” category ( $M = 4.06, SD = 0.72$ ). The mean from the posttest construct of AR ranged from “3.00” to “4.56.” There was a reported .27 decrease ( $MD = .27$ ) between the pretest and posttest for the contrast of AR in webinar treatment group. Overall, for the AR construct for the webinar treatment group ( $n = 4$ ) there was a decrease in their perceived SMC levels; there was no statistically significant difference in the pretest score for the AR construct ( $M = 4.33, SD = 0.37$ ) and the posttest score for the AR construct ( $M = 4.06, SD = .72$ );  $t(3) = .63, p = 0.57$  (Table 4.10).



Table 4.10 Means and Standard Deviations of Paired Samples for Webinar Treatment Group

Constructs	<i>n</i>	Pretest		Posttest		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Technical usability (TU)	4	4.40	0.63	4.05	0.75	.61	3	0.58
Content interpretation (CI)	4	4.40	0.36	4.15	0.85	.58	3	0.60
Content generation (CG)	4	3.82	0.27	3.68	0.47	.58	3	0.60
Anticipatory reflection (AR)	4	4.33	0.37	4.06	0.72	.63	3	0.57

Note: Responses based on a 5-point rating scale with 5 = strongly agree and 1 = strongly disagree.

Each construct for the control group was further investigated. The construct for technical usability (TU) combined questions one through five of the survey. Participants perceptions of their TU indicated that their scores closely aligned between the “somewhat agree” and “strongly agree” categories ( $M = 4.38$ ,  $SD = 0.75$ ) (Table 4.11). The mean from the TU construct ranged from “2.80” to “5.00.” The construct for content interpretation (CI) combined questions six through 12 of the survey. Participants pretest perceptions of their CI indicated that their scores closely aligned between the “somewhat agree” and “strongly agree” categories ( $M = 4.32$ ,  $SD = 0.65$ ) (Table 4.11). The mean from the pretest CI construct range from “2.88” to “5.00.” The construct for content generation (CG) combined questions 13 through 19 of the survey. Participants pretest perceptions of their CG indicated that their scores closely aligned with the “somewhat agree” category ( $M = 4.08$ ,  $SD = 0.96$ ) (Table 4.11). The mean from the pretest CG construct range from “1.67” to “5.00.” The construct for anticipatory reflection (AR) combined questions 20 through 28 of the survey. Participants pretest perceptions of their AR indicated that their scores closely aligned with the “somewhat agree” category ( $M = 4.22$ ,  $SD = 0.48$ ) (Table 4.11). The mean from the pretest AR construct range from “3.22” to “5.00.” Since the alpha value was greater than .05, the AR construct was not considered statistically significant.

Table 4.11 Means and Standard Deviations of Constructs from Control Group

Constructs	<i>n</i>	<i>M</i>	<i>SD</i>
Technical usability (TU)	17	4.38	.75
Content interpretation (CI)	17	4.32	.65
Content generation (CG)	17	4.08	.96
Anticipatory reflection (AR)	17	4.23	.48

Note: Responses based on a 5-point rating scale with 5 = strongly agree and 1 = strongly disagree.

### Comparison of Treatment Groups

A one-way ANOVA was conducted to compare the effects of each treatment to the three groups (guidelines, videos, and webinar) on the participants' perceived overall social media competency levels. An analysis of variance showed that the effect of the type of treatment on the social media competency level did not yield any statistical significances,  $F(2,14) = 1.40$ ,  $p = .278$  (Table 4.12). Since the alpha value was greater than .05, the ANOVA was not considered statistically significant.

Table 4.12 One-way ANOVA between treatment groups

Dependent Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	.83	2	.41	1.40	.28
Within Groups	4.11	14	.30		

\* $p < .05$ .

### Treatment Effects versus Control Groups

A one-way ANOVA was conducted to compare the effect of each treatment group's (guidelines, videos, and webinar) posttest scores and the control group's scores on the participant's competency levels. An analysis of variance showed that the effect of each group on the social media competency level did not yield any statistical significances,  $F(2,14) = 1.32$ ,  $p =$

.298 (Table 4.13). Since the alpha value was greater than .05, the ANOVA was not considered statistically significant.

Table 4.13 One-way ANOVA between treatment groups and control group

Dependent Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	.79	2	.40	1.32	.30
Within Groups	4.16	14	.30		

\* $p < .05$ .

## Objective Two

### Regression

Objective two was to examine the relationship between Extension agents' self-reported social media competencies and the following variables: gender, age, years serving Extension, and type of duties. A multiple linear regression was calculated to predict competency based on the participants' demographics: gender, age, years serving Extension, and type of agent. Gender, age groups, and type of agent were dummy coded variables. The results of the overall model found  $F(4,12) = 2.07$ ,  $p < .49$ ,  $R = .639$ ,  $R^2 = .41$ ,  $\text{adj. } R^2 = .21$  (Table 4.15). This model explained 41% of the variance in Extension agents perceived social media competency level. All variables in the model were not statistically significant (Table 4.14).

Table 4.14 Regression for all variables

	Variable	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
		B	Std. Error	$\beta$		
1	(Constant)	5.249	.619		8.485	.000
	Gender	.071	.268	.063	.267	.794
	Age	-.220	.141	-.443	-1.558	.145
	Years Serving Extension	-.021	.022	-.275	-.956	.358
	Type of Agent	.009	.105	.021	.089	.931

Note: Dependent Variable: Overall Mean of Posttest for Treatment Groups.

\*  $p < 0.05$ .

Table 4.15 Model Summary for all variables

R	R <sup>2</sup>	Adj. R <sup>2</sup>	Std. Error of the Estimate
.639 <sup>a</sup>	.409	.212	.493

Note: Predictors: (Constant), Age, gender, years serving Extension, type of agent

When the variable age was removed from the regression, there was a reported  $R^2 = .24$  and adjusted  $R^2 = .12$ . This model explained that age contributed to 24% of perceived social media competency levels among Extension agents. There was a positive correlation between the variables age and years serving as an Extension agent,  $r = 0.62$ ,  $n = 17$ ,  $p = .004$  (Table 4.16). When the variables age and years serving as an Extension agent were removed from the multiple linear regression, there was a reported  $R^2 = .004$  and the adjusted  $R^2 = -.14$ . When the variables age and years serving as an Extension agent were removed from the multiple linear regression, the variable gender ( $\beta = -.078$ ) and type of Extension agent had negligible weight ( $\beta = .004$ ) on social media competency.

Table 4.16 Correlation Matrix

Measure	1	2	3	4	5
1. Overall Mean	1.00	-.533	-.012	-.066	-.602
2. Gender	-.066	.215	.302	1.00	.173
3. Age	-6.02	.620	.034	.173	1.00
4. Years serving Extension	-.533	1.00	.135	.215	.620
5. Type of agent	-.012	.135	1.00	.302	.034

Note: Responses based on a 5-point rating scale with 5 = strongly agree and 1 = strongly disagree. \* $p < .05$ .

### Summary

The guidelines treatment group was the only treatment group who indicated any statistical significance between perceived social media competency levels on the pretest and the posttest ( $p = 0.049$ ). Upon further investigation of the guidelines treatment group, the construct CI ( $p = 0.03$ ) was the only constructs that yielded statistical significance. For each of the treatment group, there was a change in the pretest and posttest mean. However, for the video series treatment and webinar treatment group, the change indicated for negative in several of the constructs. There was no statistical difference indicated when comparing the treatment group to another and when comparing the treatment groups to the control group. There was a correlation found between age and perceived social media competency, indicating that as participants' ages, their perceived social media competency decreased. Due to the small sample size for each of the treatment groups, this study was subject to low statistical power, so it is unlikely that the statistically significant findings reflect a true effect. As a result of this, any statistically significant findings yield from this study should be approached with caution.

## CHAPTER V

### DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

This study's purpose was to investigate social media competency levels of Extension agents and explore whether technical support efforts provided by Extension's AgComm affects agents' perceived social media competency levels. The specific research objectives addressed by this study were:

1. Describe Extension agents' change in self-reported social media competencies before and after treatment.
2. Examine the relationship between Extension agents' self-reported social media competencies and the following variables: gender, age, years serving Extension, and type of duties.

The social media technical support efforts used from this study led to the formulation of multiple conclusions about the impact and effect of providing social media support efforts to Extension agents. It is necessary first to address the exploratory nature of this study, and the limitations that accompany a study of this kind. The participants in this study are employees of Extension, and their participation in this study was voluntary. This study cannot be generalized outside of the target population of MSU Extension agents who participated in the study (Fraenkel et al., 2015). Moreover, these findings cannot be generalized to other Extension systems, as the characteristics of these participants and treatments are unique to MSU-ES.

Additionally, this study was not inclusive of all MSU-ES professionals, which makes up in a large portion of Extension employees. A limitation of this study was the low response rate of completed the surveys from the treatment groups. Another limitation of this study is that the

treatments only specify best practices for Facebook and are not inclusive of all other social media platforms (Twitter, Instagram, etc.). Data was gathered through self-reporting from participants using the retrospective pretest-posttest design. Thus results should be deemed an estimated report (O'Leary & Israel, 2013). Subject bias is also possible participants are actively trying to improve their knowledge or skill level and want to see improvement (Pratt et al., 2000). With the use of the retrospective pretest model, there is the potential that participants will provide a socially desirable response or a response to make the program look more effective (O'Leary & Israel, 2013). A possible limitation to this study is that the researcher did not provide an incentive for participation, and this may have resulted in a low response rate.

The social media technical support efforts, developed by the social media specialist for MSU-ES, provided opportunities for the participants to engage in materials that support the constructs of social media competency (technical usability, content interpretation, content generation, and anticipatory reflection). It is important to note that while the content of each technical training efforts closely aligns with each other, some treatments may be more in-depth in specific constructs. Due to scheduling conflicts, the webinar treatment group did not receive the live webinar until November 14, 2019, 10 days after the other groups were given access to their technical support efforts.

### **Objective One**

*Describe Extension agents' change in self-reported social media competencies before and after treatment.*

Despite Alotaibi's (2018) recommendation to provide MSU-ES Extension professionals with more training opportunities, the three technical support efforts explored in this study did not reveal a significant increase in overall perceived social media competency. Despite this, we

found that Extension agents perceived social media competency was overall mostly moderate to moderately high. While the guidelines treatment did yield a positive change from pretest to posttest, there was a negative change from pretest to posts found in the video series treatment group and webinar treatment group. There was also no significant difference found in the video series treatment group or the webinar treatment group.

Only one treatment group (guidelines treatment group) yielded a statistically significant result ( $p = 0.049$ ). Of that treatment group, CI ( $p = 0.03$ ) was the only statistically significant construct. While Newbury et al. (2014) found that Extension educators specifically requested support in the areas of technical usability, content generation, and anticipatory reflections, this study did not find that the technical support efforts significantly changed perceived social media competency in these constructs.

## **Objective Two**

*Examine the relationship between Extension agents' self-reported social media competencies and the following variables: gender, age, years serving Extension, and type of duties.*

Due to the small sample size, we cannot assume that the data set accurately represents all of MSU-ES county Extension agents. Regardless, there was still no statistical significance found between the groups and the demographic variables. However, the results of this study did indicate that there was a correlation between age and perceived social media competency. Interestingly, the guidelines treatment group was comprised of agents who were all ages 35 or older, perhaps this had an influence on their technical usability (TU) constructs as indicated by Olsten et al. (2011). Olson et al. (2011) found that older adults were more likely to experience barriers in the area of technical usability. This finding coincides with Holt et al. (2013) and Olson et al. (2011) claim that younger demographics are likely to influence social media use.



## Discussion and Conclusion

This study identified MSU-ES agents' perceived social media competency levels for using the platform of Facebook. The current study utilizes Lewin's (1951) Change Management Model. This model emphasizes three steps to implement change: unfreeze, change, and refreeze. Due to the limited time frame of this study, this study was only able to focus of the first two steps of the Change Management Model (1951). The unfreeze step began by acknowledging the barriers that prevent agents from adequately implementing social media practices, by providing Extension agents with a social media technical support effort it should unfreeze and change the status quo. The change should have occurred when they were provided the technical support effort. However, based on the results of the posttest treatment group, only one group yielded a positive change. The first two steps (unfreeze and change) should be revisited and modified before continuing to step three, where the final change will be sustained. Alotaibi (2018) indicated that a lack of incentive for using social media may be a possible barrier to social media use. When considering ways to better implement change in the future, the researcher recommends that an incentive or reward system be explored as a way to indict administrative support to reinforce the change process for correctly implementing social media practices.

From the demographics, the population of the study had a few more females (55.9%) than males (44.1%). There was no indication that gender played a significant influence on the participants' perceived social media competency. This supports the claim made by Manca and Ranieri (2016) that gender often had a minor influence on social use when compared to other variables. The participants' age varied, but the majority of the participants were between the ages of 35 to 54 years old. There was no statistical significance found for the variable of age. However, it was found that the variable for age ( $R^2 = 0.24$ ) was most likely to contribute to social

media competencies. The findings from this study support several claims that age is most likely demographic to affect or influence social media use (Holt et al., 2013; Olson et al., 2011; Manca & Ranieri, 2016).

The variable of years served as an Extension agent show no statistical significance for social media competency level. This study did find a correlation between the ages of participants and years serving as an Extension agent; this may be due to the fact that the longer an Extension agent is in the profession the older they become. Regardless, years serving Extension yield no statistical significance supporting the findings from Alotaibi's (2018) study pertaining to social media barriers for Extension agents. This study found that half of the participants (50%) had primary duties as an ANR agents. However, their title yielded no statistical significance for social media competency, affirming Manca and Ranieri's (2016) statement that title was often irrelevant to social media use. While age was most likely to influence social media competency, no demographic characteristics for MSU-ES agents yielded any statistical significance for this study, which complements Alotaibi's (2018) findings that MSU-ES Extension agents' gender, age, years in the professional and title were not likely to yield statistical significance in regards to their attitude toward social media use.

Of the social media technical support efforts, the best practices guideline was the treatment group who yielded a statistically significant difference ( $p = 0.049$ ). The guidelines treatment group was the only treatment group who reported a positive mean change. The constructs of content interpretation was the only within this group who had a statistically significant difference. This may be because the guideline treatment was designed to mimic the tool kits created by Garcia et al. (2018). The toolkits were created to promote communication with target clientele by providing the reviewer with examples, templates, and strategies for

utilizing social media (Garcia et al., 2018). The topic areas covered by the guideline (see Guidelines Treatment Group, p. 31) closely align with the construct of content interpretation. It may be that more emphasis needs to be put into items that support technical usability, content generation, and anticipatory reflections for guidelines in the future.

Interestingly, the videos series treatment group and the webinar treatment group did not yield any statistical significance, and both of these groups also produced a negative change, indicating that they were less effective than the guidelines treatment group. While Alotaibi (2018) did recommend providing Extension agents with training opportunities, the findings of this study do not support that video series or webinars are practical efforts for increasing social media competency levels. The findings from this study also refute the recommendation from Allen et al. (2014) to use a webinar for social media training for Facebook.

A retrospective pretest-posttest design was employed to try to minimize the effects of response-shift bias, as recommended by Nielsen (2011). Even so, there was still a negative mean found between the pretest and the posttest of the video series treatment group and the webinar treatment group. Perhaps this phenomenon is due to the retrospective nature of the survey. Participants may have realized they were not as competent as they initially thought. This finding refutes Pratt et al. (2000) claim to subject bias because participants did not actively try to improve their knowledge or skill level to show improvement. It also is evident that participants did not actively try to make the program look more effective, as O'Leary and Israel (2013) warned of this potential effect when using the retrospective pretest-posttest design. It is recommended by Howard et al. (1979) to add the retrospective pretest to traditional pretest-posttest design to better detect and manage response shift bias.

## Recommendations

### Recommendations for Research

This study had several limitations in scope, the first being that the population was limited to MSU-ES agents, and the second being that the instrument only assessed social media competency for Facebook. There is a large population of Extension professionals that were not included in the scope of this study that may benefit from social media technical support efforts. Due to the limited resources and time constraints, materials for this study focused specifically on the functionality and best practices of Facebook. Alotaibi (2018) found that MSU-ES agents prefer to use Facebook and Twitter. Many Extension professionals may benefit from technical support efforts on other platforms. This researcher recommends replicating this study in a broader scope that is inclusive of all Extension professionals. Specifically, Twitter and other blogging platforms should be explored since Extension agents and professionals tend to prefer them (Alotaibi, 2018; Manca & Ranieri, 2016).

In addition to limited scope, conclusions drawn from this study cannot be generalized due to the small sample size, and findings from this study should be approached with caution. This study is subject to low statistical power, and it is unlikely that any statistically significant finding will reflect a true effect. Also, findings from this study should not be generalized due to the threat of non-response bias (O'Leary & Israel, 2013). Instead, the findings and conclusion should be used to lend guidance for future research within this topic area.

Several changes could be made to improve data collection and research methods to ensure an improved study in the future. Other methods of collecting data could be modified and improved to investigate MSU-ES agents' social media competency further. Since data was self-reported using the retrospective pretest-posttest design, the results of this study should only be

viewed as an estimated report (O’Leary & Israel, 2013). Time constraints for collecting data was a limitation of this study. If time constraints were not a factor, the researcher recommends using the retrospective pretest-posttest (RPP) design for repeated-measures research analysis model as described by Little et al. (2019). The RPP analysis model would incorporate a series of five sets of responses over three given time periods (Little et al., 2019). This would involve administering a pretest, then administering a retrospective pretest and posttest after six months, and then administering the retrospective pretest and posttest again after another period of six months.

This study should be replicated with a more extended timeframe so that the design can be modified to incorporate a pre-test, retrospective pretest, posttest, and delay posttest to better control for validity. The instrument modified for this study should be further developed using the Borich (1980) needs assessment model to incorporate questions further to assess the Extension agents’ perceived level of importance of social media use. The data provided by participants can be weighted and then ranked, and then educational needs can be prioritized (Borich, 1980). Other theoretical frameworks should be explored in future studies.

Although the Change Management Model (1951) illustrates how to implement change, perhaps with the high perceived competence and limited time constraints, this theory could be revisited in a study with a broader scope. Additional theories could be explored in order to determine MSU-ES could be explored in order to determine a needs assessment for social media training efforts. Suggestions for future study include incorporating a series of questions that assess the participants’ perceived level of importance. By comparing a survey with the perceived level of importance with the survey containing the perceived level of competency a discrepancy score each competency can be determined (Garton and Chung, 1997). For future studies, the SMC-CS instrument should be further developed using the Borich (1980) needs assessment

model to incorporate questions further to assess the Extension agents' perceived level of importance of social media use. The data provided by participants can be weighted and then ranked, and then educational needs can be prioritized (Borich, 1980).

### **Recommendations for Practice**

Based on the findings from this study, the following recommendations are suggested for MSU-ES with respect to providing technical support efforts for agents in the future. Current Extension social media guidelines should be updated to reflect the ones included in this study. The guidelines should also be further revised to be more inclusive of items that support content generation and anticipatory reflection. The video guidelines could proceed to the refreeze phases of the Change Management Model (1951), here agents should be supported as they continue their social media practices. Administrators should encourage them to continue to review the guidelines and give positive reinforcement when agents follow the guidelines. The video series and webinar treatments should be further explored before they are encouraged to be implemented as a social media technical support effort.

This researcher does not recommend using Canvas for live webinar technical supports as it had no participation during the live portion, and participants only engaged with this treatment after it was recorded and uploaded to Canvas. There should be a further emphasis placed on exploring Canvas as a medium for providing technical support efforts and professional development opportunities to Extension agents. In this time, the researcher does not recommend using Canvas as a platform to provide technical support efforts to agents, as there was a low acceptance rate of the population that participated in the Canvas treatments. Canvas was introduced to Mississippi State University in 2019, because this study may have been the first time that MSU-ES agents used the learning management system. Therefore, lack of participation

might be contributed to discomfort with an unfamiliar technology. If Canvas is used in the future, the researcher recommends that administration further explain the function of Canvas to agents. The surveys should be available immediately or directly through Canvas as there was a higher response rate on participants who had immediate access to the survey, as reflected in the control group.

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APPENDIX A  
SOCIAL MEDIA GUIDELINES



# Social Media Guidelines for the MSU Extension Service



Social media is an innovative and powerful tool for interacting with Extension's many audiences. It is a great fit for Extension because it allows our organization to provide education, create communities of interest, build relationships, and engage with others in our communities. Extension encourages personnel to use social media as a way to promote the Extension brand and everything we have to offer. We have created these guidelines as a resource for developing each Extension expert's professional social media presence. By using these best practices, Extension as a whole can present a consistent and positive brand online, and make Extension's research and impact more evident to both internal and external audiences. Contacting MSU Extension Service social media strategist Ellen Graves (e.graves@msstate.edu) is always encouraged.

**These guidelines are a living document that will continue to be updated as social media and our organization's needs evolve.**

## Registering and Managing Your Social Media Accounts

All Extension social media accounts should be registered with the Office of Agricultural Communications. We ask you to register your account with Ag Communications for information

and continuity purposes only. We will not be managing your account. It is simply a way to get an accurate representation of Extension's presence on social media. It will also allow Extension's social media strategist to help you with any issues or questions about your accounts. And finally, we want to make sure that, if the person who created your account graduates, retires, or changes jobs, Extension will always have access to the account. To register an existing social media account, fill out the Existing Social Media Account Registration Request form located on the Extension employee intranet (<http://intranet.msucare.com/forms.htm>).

Please DO NOT create a new social media account before filling out the New Social Media Account Request form located on the Extension employee intranet. After it is approved, Extension's social media strategist will collaborate with you to create the new account.

Counties should follow Extension's brand policy on social media. For example, a Facebook page for the Extension office in Bulldog County should be named "Bulldog County Extension Office," NOT "Bulldog County Extension Service." In some instances, a social media platform might limit your naming options because of space. If you are unsure about what to do, contact Extension's social media strategist.

## Best Practices for Using Social Media

### DO:

- Post to your social media accounts daily or, at the least, weekly.
- At least two Extension personnel members should have access to social media accounts that represent a unit or program. This will help prevent forgotten passwords and guarantee access if someone retires, leaves, etc.
- The official hashtag for the MSU Extension Service is #MSUext. Its use is encouraged on Twitter and Instagram especially.
- Always fill out the bio section on Facebook pages, Twitter, and Instagram with an accurate description for yourself, your office, or your program.
- Answer people's questions promptly and adequately. Account holders must monitor social media accounts for such questions.
- Vary your posts to keep followers interested. Post newsy updates, share links to other web-based resources, include photos or videos, ask questions, or request input or feedback. Post information that ties to issues current in other media, such as news or weather reports.
- If anyone posts something profane or inappropriate to your page, delete it without comment.
- Write content specifically for the forum where you'll be posting it.
- When you share a web link, write a brief description of it in your post, along with the link. This way, you are telling your followers why you've chosen it for them and why you believe it's relevant to them.
- As a user of social media, pay attention to messages that generate good responses and lively discussions on the pages and accounts you like to visit. Use those posts as models for constructing your own.

- Use official Extension profile photos, cover photos, etc., for your professional social media accounts. Follow the established guidelines for their use.
- Posts should include information that is as complete and accurate as possible and that is valuable to followers/readers.
- Keep your posts friendly and engaging, just like your face-to-face interactions. This is your opportunity to put a human face on our agency in the social media space.
- If a member of the news media contacts you because of something you posted, respond promptly and courteously. Many media professionals are monitoring social media for leads on stories, and this could be a great way for you to build relationships and visibility in the mass media, too. If you need guidance on handling a media request, contact Agricultural Communications.

### DON'T:

- When identifying a minor in a photo, use only his or her first name in the caption to protect the minor's privacy.
- Don't post or tag a photo of a minor unless he or she has a signed photo release form on file that allows Extension to use his or her photo for promotional purposes.
- Don't re-post or retweet negative/inappropriate comments, even to point out their errors! Doing so just spreads the negativity further, and may even make it seem to have originated with you. If someone repeatedly posts inappropriate content, block that person using the features available in that medium.
- Please do not automatically post your Twitter feed to your Facebook page.
- Do not engage in arguments or vent frustrations when you are using social media



professionally. Communicate respectfully and positively with your contacts.

- Don't use overly technical or bureaucratic-sounding language.

### General Guidance

1. For the purposes of these guidelines, social media is defined as any online medium that provides for user interaction, discussion, and commenting (such as social networks, blogging, micro-blogging).
2. Agricultural Communications is responsible for overseeing the coordination of all social media activity for Extension and its units. Extension agency-level social media accounts will be created and managed by the Office of Agricultural Communications.
3. Social media accounts associated with the Extension Service should not be used to promote products, causes, or political candidates.
4. When your social media activity is observable by end-users, stakeholders, and/or other professional audiences, your behavior should represent you well and reflect positively on Extension. When using social media personally, do not incorporate Extension's name into your username (NOT "Extensiondude" or "MSUESSmurfette"), and do not assert that you are speaking for Extension.
5. You should conduct yourself online as you would in public. Extension's credibility in the social media world, just as in the real world, depends upon *your* credibility.
6. Web services, including all communications between electronic devices over a network that are not a feature of the social media accounts listed elsewhere in this document, and web hosting will be managed by the Extension Center for Technology Outreach (CTO).

7. Do not use a third-party service provider for web services or hosting unless it is coordinated through CTO.

### Social Networking (e.g., Facebook, Twitter, Instagram)

- When employees create or request accounts for Extension programs, units, or subject-matter areas on Facebook, *Pages are strongly recommended, instead of Groups or People*. Setting up a Facebook Profile or Person page for an organization violates Facebook's Terms of Service.
- Profile pictures for use on social media accounts will be created and managed by Agricultural Communications and provided to accounts as needed.
- Naming conventions and options will be provided by Agricultural Communications to ensure continuity for the Extension brand.

### Content Approval:

- Account holders and managers should monitor comments, replies, and discussions and follow proper protocol related to issues that arise. Inappropriate comments on posts should be deleted immediately. Contact Extension's social media strategist for help if you have any questions.
- Units and/or programs are encouraged to create their own content with quality photos of Extension programs, activities, and/or information. The Extension website ([www.msucares.com](http://www.msucares.com)) is also a great place to find research-based information to post.
- Ag Communications is always a resource that can be used for creating social media content that is specific to your unit or program. Please contact Extension's social media strategist to communicate any ideas regarding content for social media accounts.

### *Video posting services (e.g., YouTube)*

- Ag Communications will create and manage the official Extension presence on these services.
- When posting locally produced video for official Extension educational or marketing purposes, these videos should be placed on the MSU Extension Service channel to improve accessibility through Extension's web presence.
- Replies, comments, and discussions on the MSU Extension Service channel will be approved by Ag Communications before posting, while program, unit, or subject-matter personnel will handle these for accounts created for them. It is the responsibility of the account holder to closely monitor commenting and follow proper protocol for dealing with issues that may arise. *It is strongly advised that, unless dedicated time is established to carefully monitor commenting, the feature be disabled.*
- For Extension state-level blogs (such as for the Extension director or for Extension as a whole), content will be developed, organized, and posted by Ag Communications, in coordination with other faculty and staff.
- Requests for specific content for the Extension blog(s) will be sent to Ag Communications.
- In some instances, when a blog is part of a larger campaign for an educational program or initiative, these accounts may also be managed by Ag Communications, in collaboration with other faculty and staff.
- Content for department- or unit-level or subject-matter-related blogs will be the responsibility of the program, unit, or individual subject-matter personnel.
- To set up a new blog, contact the Extension Center for Technology Outreach. Extension subject-matter blogs can be found at <http://blogs.msucare.com>.
- Ag Communications will periodically monitor all blogs for brand compliance and quality assurance.

### *Blogging*

**Employees who have established blogs or other communication forums on third-party-hosted sites should work with CTO to convert such applications to an appropriate Extension site.**

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#### **Publication 2867 (POD-07-17)**

This document was revised and approved for use in Mississippi by Elizabeth Gregory North, Head, and Ellen Graves, Social Media Strategist, Agricultural Communications, Mississippi State University Extension Service. Some of this information was originally created by Elizabeth Gregory North, Max Malloy, and Travis Ward, AgriLife Communications, Texas AgriLife Extension Service; reviewed and updated September 20, 2010; based on the Texas Engineering Extension Service Standard Administrative Procedures document TEEEX 61.99.99-10, approved July 14, 2009.



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Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. GARY B. JACKSON, Director

APPENDIX B  
SOCIAL MEDIA BEST PRACTICES GUIDELINES

# Mississippi State University Extension Social Media Guidelines



Extension encourages personnel to use social media as a way to promote the Extension brand and everything we have to offer. Social media allows our organization to:

- ▶ provide education
- ▶ create communities of interest
- ▶ build relationships
- ▶ engage clients
- ▶ raise brand awareness

We have created these guidelines as a resource for developing the best possible social media presence for Extension. By using these best practices, Extension as a whole can present a consistent and positive brand online, and make Extension's impact more evident to both internal and external audiences.

**These guidelines are a living document that will continue to be updated as social media and our organization's needs evolve. If you have questions that are not answered by these guidelines, please contact MSU Extension social media strategist Ellen Graves.**

## Social Media Request Form

Please DO NOT create a new social media account that represents Extension before filling out the Social Media Request form available on Workzone:

<https://msues.sharedwork.com/requests>

Once the request is approved, Extension's social media strategist will collaborate with you to create the new account.

Similarly, all social media requests you might have (a new cover photo, a tutorial, etc.) should be submitted through the Social Media Request form available on Workzone:

<https://msues.sharedwork.com/requests>

## Best Practices for Using Social Media

- ▶ These best practices pertain to social media accounts that represent Extension (such as county Extension offices, county 4-H groups, and Extension programs). Also, keep these best practices in mind for your personal social media accounts that publicly identify you as an Extension employee.
- ▶ Post to your social media accounts daily or, at the least, weekly.
- ▶ At least two Extension employees should have access to social media accounts. This will help prevent forgotten passwords and guarantee access if someone retires, leaves, or otherwise no longer has access.
- ▶ Use photos, videos, and livestreams in your posts. Text-only posts tend not to receive as much engagement as posts that include photos and video.
- ▶ Use the Facebook events feature to promote Extension events.

- ▶ When you share a link to a website, always include a caption with a description telling your followers why you've chosen it for them and why you believe it's relevant to them.
- ▶ Answer people's questions promptly and adequately. Account holders must monitor social media accounts for such questions.
- ▶ Use the official Extension profile pictures created for Facebook, Twitter, and Instagram.
- ▶ Cover photos should include pictures that best represent your office, program, or unit.
- ▶ Keep your posts friendly and engaging, just like your face-to-face interactions.
- ▶ If a member of the news media contacts you because of something you posted, respond





promptly and courteously. If you need guidance on handling a media request, contact Agricultural Communications.

▶ Use the correct hashtags in your social media posts.

- #MSUext
- #MS4H
- #mscroops

- ▶ Social media accounts associated with Extension should not be used to promote commercial products, causes, political candidates, or political views.
- ▶ Do not engage in arguments or vent frustrations when you are using social media professionally. Communicate respectfully and positively with your contacts. If a situation arises that you need help with, contact Agricultural Communications.

- ▶ When identifying minors in photos, use only their first name in the caption to protect their privacy.
- ▶ Don't post or tag a photo of 4-H'ers unless they have signed photo release forms on file that allow Extension to use their photos for promotional purposes.
- ▶ If you want to create a post that includes a minor who is not a 4-H'er, request permission from the adult/guardian with the child. You might also consider taking a picture or video that does not include any identifying features of the minor.
- ▶ If you need a photo release form, you can find it on the Extension Intranet under Forms. After it is completed and signed, keep it on file in your office.

### MSU Office of Agricultural Communications

- ▶ Agricultural Communications is responsible for overseeing the coordination of all social media activity for Extension and its units and programs.
- ▶ Agricultural Communications will provide naming conventions and options to ensure appropriate use of the Extension brand.
- ▶ Agricultural Communications will create and manage profile pictures for use on social media accounts.
- ▶ Agricultural Communications is responsible for social media coverage of statewide/regional MSU Extension events. Of course, other Extension personnel should feel free to post about these events, as well. You might see your post re-shared on Extension's main accounts!
- ▶ If you are hosting or participating in a major event, like National 4-H Congress, a national or regional Extension meeting, or a big state event, you might have the opportunity to do a takeover of one of the state-level accounts for Extension or 4-H to post coverage of that event. If you are interested in doing a takeover, contact MSU Extension social media strategist Ellen Graves.

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This document was revised and approved for use in Mississippi by Elizabeth Gregory North, Head, and Ellen Graves, Social Media Strategist, Agricultural Communications, Mississippi State University Extension Service. Some of this information was originally created by Elizabeth Gregory North, Max Malloy, and Travis Ward, AgriLife Communications, Texas AgriLife Extension Service; reviewed and updated September 20, 2010; based on the Texas Engineering Extension Service Standard Administrative Procedures document TEEEX 61.99.99.99-10, approved July 14, 2009.



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APPENDIX C  
LIVE WEBINAR TRAINING

# Facebook Pages

ELLEN GRAVES  
SOCIAL MEDIA STRATEGIST  
MSU EXTENSION

## Why should Extension offices use Facebook?

- ▶ It's the 21<sup>st</sup> century.
- ▶ Our current clients and future clients EXPECT us to be on social media.
- ▶ Bring awareness of Extension to new audiences.
- ▶ Recruit more people to come to events.
- ▶ Connect with legislators and stakeholders.
- ▶ App options make it easy.
- ▶ It's our job to communicate with the public.

## Facebook: What you need to be doing...

- ▶ Post AT LEAST two times a week.
- ▶ Facebook events
- ▶ Use groups feature.
- ▶ Facebook Live
- ▶ Videos
- ▶ Pictures
- ▶ Correct profile picture
- ▶ Updated cover photo
- ▶ ADS? (Contact Ag Comm.)
- ▶ Check Insights.

## Post AT LEAST two times a week

- ▶ You can schedule posts. (recommend)
- ▶ Agents can take turns.
- ▶ Best time of day to post: 8 a.m., 12 p.m., 8 p.m.



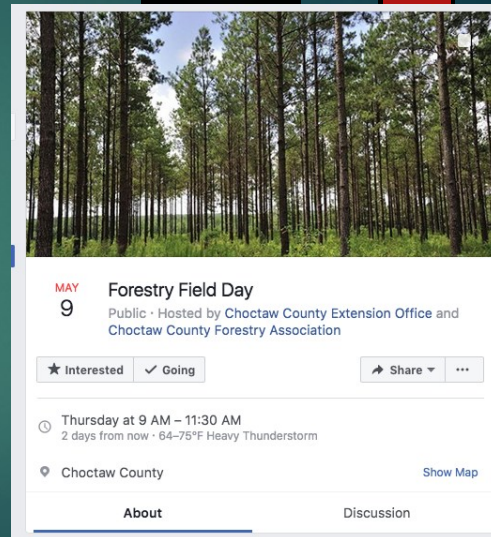
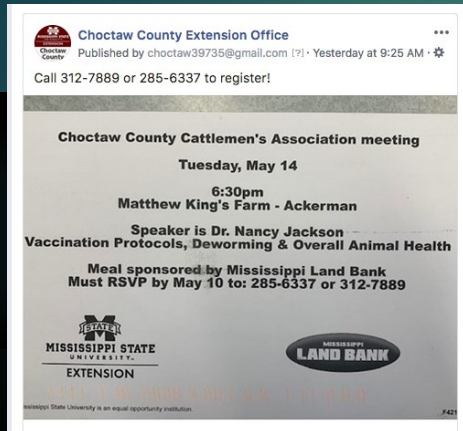
## Facebook Events

- ▶ Every event your Extension office hosts should be listed as a Facebook event on your office's Facebook page.
- ▶ Why?
  - ▶ When someone visits your Facebook page, they need to know every event that is potentially available to them.
  - ▶ Facebook events allow people to click "interested" or "going."
  - ▶ This does two things: 1. Facebook automatically reminds people of the event. 2. Facebook's algorithm will sometimes show event to that person's friends thus creating more interest.

## Facebook Events

- ▶ Quality event feature photo.
- ▶ Correct description.
- ▶ Correct dates/location/time.
- ▶ Provide updates within event.

## Facebook Events



## Facebook Groups

- ▶ Facebook pages can create their own groups.
- ▶ What does this mean?
  - ▶ Your Extension office/county 4-H Facebook pages can create groups that will be listed under your page.
  - ▶ For example...Choctaw County 4-H Facebook page could create groups for each of its 4-H clubs.
  - ▶ For example...Extension office Facebook pages could create groups for MHV clubs, MG, programs, etc.

\*Groups allow for closed/public communication under an "Extension umbrella."

## Facebook Live

- ▶ Facebook and people love FB Lives.
- ▶ It's an authentic way to connect with your audience.
- ▶ Your face.
- ▶ Audio must be good. (Microphone options.)
- ▶ Shorter is better. 3 minutes or less.
- ▶ Great way to meet your audience where they are.

## Facebook Live

- ▶ Ideas
  - ▶ In the kitchen
  - ▶ In the field
  - ▶ Monday Minute
  - ▶ Thoughtful Thursdays
  - ▶ Tips and Tricks

## Facebook Live

### ▶ Tips

- ▶ Give FB Live a short description.
- ▶ Hold phone selfie style or if someone else is recording they should be closer rather than farther away.
- ▶ Don't be stressed. Just be relaxed like you are talking to a friend.
- ▶ Keep it short. Around 3 minutes or less.
- ▶ Remember to look for comments during/after FB Live to answer.
- ▶ Speak loud enough.

## Videos

- ▶ Not comfortable with FB Live, you can do some of the same ideas for normal, pre-recorded videos.
- ▶ Make is audio is good. (Microphone options.)
- ▶ Give people a glimpse, "behind the scenes" of events, field days, etc.
- ▶ Client willing to be on camera? Ask them what they learned at the Extension program they attended!

## Pictures

- ▶ **Make it second nature to take pictures at every Extension function.**
- ▶ Face pictures are better than five pics of a crowd.

## Cover photo/Profile picture

- ▶ Need a new cover photo? Request one to be designed by Ag Comm.
- ▶ Profile picture. Make sure it's always the newest version.



# GOOD EXAMPLES

**Wayne County Extension Office** added 2 new photos.  
Published by Jessica Sibley · 7 hrs · 🌱

Dr. Jason Barrett visited our county today. Dr. Barrett and Ms Jessica Sibley collected water samples for private well owners and producers. If you would like find out how to get your well tested give our office a call!



**Lowndes County Extension Office**  
Published by Reid Nevins · 1 · April 20 at 8:44 PM · 🌱

This hard working group of Master Gardeners in Lowndes County had another successful plant sale after last weekend's sale was cut short due to weather. Thank you to everyone that contributed plants and time to make this yearly event so successful and thank you to all of the customers for supporting this wonderful group and the numerous projects & events the funds from this sale supports.



# GOOD EXAMPLES

**Winston County Extension Office**  
Published by Jim McAdory · 1 · May 3 at 12:23 PM · 🌱

Got the opportunity to hang out with one of the state's finest high school football coaches this morning talking turf , coach Tyrone Shorter. Louisville is really blessed to have Coach Shorter, not just for his high level of coaching talent, but mainly his great influence on our young men of the community.





## Spring Fling Plant Swap

Thursday, May 2 • Choctaw County Chamber of Commerce

---

**MAY 2** **Spring Fling and Plant Swap**  
Public · Hosted by Choctaw County Extension Office

★ Interested   ✓ Going   ⋮

🕒 Thursday, May 2, 2019 at 9 AM – 11:30 AM  
5 days ago

📍 Choctaw County Chamber of Commerce  
55 E Quinn St, Ackerman, Mississippi 39735   [Show Map](#)

**About**   Discussion

# GOOD EXAMPLES

**Kemper County Extension Office**  
Published by mjjones@ext.msstate.edu [?] · May 3 at 3:54 PM · 🌐

Seniors at Kemper Academy completed the KEYS to the Community program. The program concluded with a tour of the courthouse on yesterday, and a certificate ceremony this afternoon. Beverly Knox, Project Coordinator for Mississippi Tobacco Free Coalition conducted a secondhand smoke presentation. Extension Agent, Malikah Jones, who taught the the 7 week class, presented certificates.



**Calhoun County Extension Office**  
Published by Trent Barnett [?] · April 2 · 🌐

Dr. Bill Burdine and Trent Barnett worked with Calhoun County Grower Mr. Tony Morgan today to plant our on farm yield plot. We planted 13 corn hybrids for this years corn plot.



# GOOD EXAMPLES

**Kemper County Extension Office**  
Published by mjjones@ext.msstate.edu [?] · May 3 at 3:54 PM · 🌐

Seniors at Kemper Academy completed the KEYS to the Community program. The program concluded with a tour of the courthouse on yesterday, and a certificate ceremony this afternoon. Beverly Knox, Project Coordinator for Mississippi Tobacco Free Coalition conducted a secondhand smoke presentation. Extension Agent, Malikah Jones, who taught the the 7 week class, presented certificates.



**Calhoun County Extension Office**  
Published by Trent Barnett [?] · April 2 · 🌐

Dr. Bill Burdine and Trent Barnett worked with Calhoun County Grower Mr. Tony Morgan today to plant our on farm yield plot. We planted 13 corn hybrids for this years corn plot.

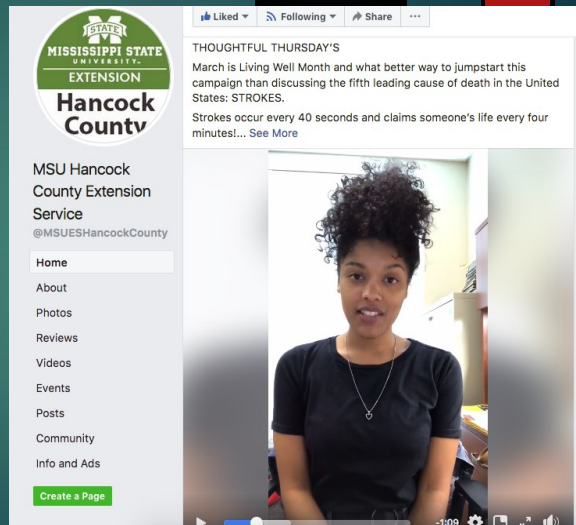
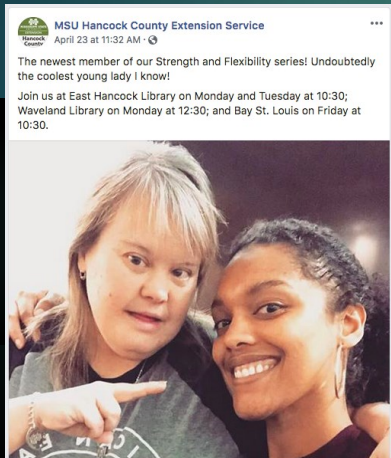




# GOOD EXAMPLES

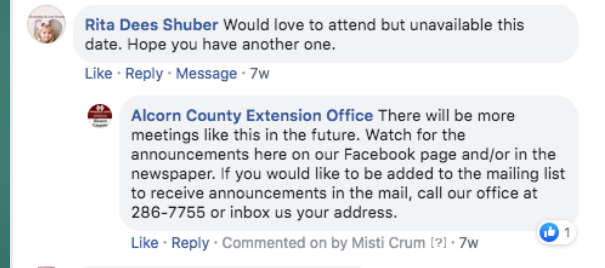
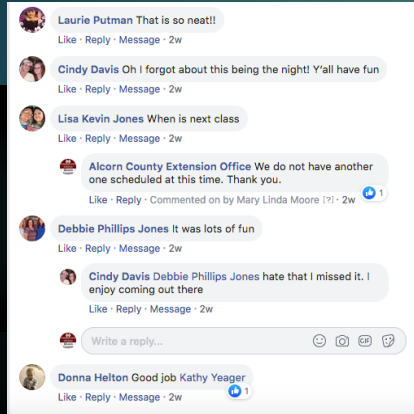


# GOOD EXAMPLES





## GOOD EXAMPLES



## Facebook Page Checklist

- ▶ Ask yourself:
  - ▶ Does my office have a Facebook page?
  - ▶ Who are the admins?
  - ▶ Is the profile picture updated?
  - ▶ Is the cover photo current?
  - ▶ Does the cover photo include Extension agents in it?
  - ▶ Is the name correct?
  - ▶ Is the contact info correct?
  - ▶ How often do I post?
  - ▶ Do I see pictures?
  - ▶ Do I see videos?
- ▶ Do I see pictures/videos that include Extension agents?
- ▶ Is there a good representation of the different subject areas Extension offers?
- ▶ Do our posts include diversity?
- ▶ Do I see events listed?
- ▶ Have I answered messages?
- ▶ Have I answered questions in the comments?
- ▶ Have I checked Insights?

APPENDIX D  
IRB APPROVAL

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**Protocol Title:** Assessment of Social Media Training Efforts for Extension Agents

**Protocol Status:** APPROVED

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**\*\*\* Personnel Information \*\*\***

If you are a student, and this study is for your thesis or dissertation, you cannot be listed as the Principal Investigator. Your advisor must be listed in this section. If this is your research, list your name in the "Student Researcher" section. All other investigators (including committee members and other student researchers) associated with the study are to be listed in the "Other Investigators" section. If you have researchers who are not affiliated with MSU that will be working on this project - or who serve on your committee- they cannot be added to this page. You will need to complete, sign, and attach the two forms labeled Unaffiliated Investigator Agreement and Unaffiliated Investigator Agreement Request Form, along with a copy of that person's current IRB training in the Attachments section. These forms are located on your home page in myProtocol under Information Resources.

Starred items indicate required fields whenever that section is completed.

**Principal Investigator (Faculty or Staff Members Only)**

An "Investigator" as an individual who conducts a research study. If the study is conducted by a team of individuals, the Investigator is the responsible leader of the team. As principal investigator, it is your responsibility to ensure that all individuals conducting procedures described herein are adequately trained prior to involving human participants.

<b>Name of Principal Investigator*</b>	<b>Degree (PhD/MS/BS/etc.)</b>	<b>Title</b>
Carley Morrison	PhD	Assistant Professor
<b>Email*</b>	<b>Phone</b>	<b>Fax</b>
cpc215@msstate.edu	662-325-5851	
<b>Department</b>	<b>Check the MSU Status that applies to this study*</b>	<b>Campus Mailstop</b>
School of Human Sciences - (012100)	<input checked="" type="checkbox"/> <b>Faculty</b>	
	<input type="checkbox"/> <b>Staff</b>	
	<input type="checkbox"/> <b>MSU Student</b>	

ALL research personnel are required to complete Human Subject Research training prior to engaging in any research-related activities.

**Other Investigator(s)**

Name of Other Investigator	Degree (MD/PhD/BSN/etc.)	Title	Research Department	Type of Investigator
Marina Denny	PhD	Assistant Professor	School of Human Sciences - (012100)	Co-Investigator
Mariah Morgan	PhD	Assistant Extension Professor	Extension Center for Tech Outreach - (011400)	Co-Investigator

--

**Student Researcher**

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Name of Student Researcher	Degree (MD/PhD/BSN/etc.)	Title	Research Department
Mary Stokes	BS	Graduate Assistant	School of Human Sciences

**Administrative Contact - This section is NOT required for most studies (e.g., Project Coordinators or Business Managers needing access to the study).**

Name of Administrative Contact, Project Director, or Coordinator	Degree (PhD/MS/BS/etc.)	Title
Email*	Phone	Fax
Department	Check the MSU Status that applies to this study*	Campus Mailstop
	Faculty	
	Staff	
	Student	
	Other	

**\*\*\* Participant Checklist \*\*\***

**Participant Checklist**

Select All That Apply :

Adults with cognitive impairments

Children under 18: Note: Exempt Category 2 is restricted to only observations of public behavior when the investigator(s) do not participate in the activities being observed. Research involving survey or interview procedures to minors is not eligible for exempt review under Category 2. See MSU OP 01.29 Minor Protection regarding your responsibilities when minors are participating in your research. (<http://www.policies.msstate.edu/policypdfs/0129.pdf>)

Fetuses/neonates

X MSU employees

MSU students

Non-English speaking people (Please be aware of translation requirements as noted on question 5g on the Participant Population, Part 2 section)

Persons incompetent to give consent (e.g., dementia, comatose, have legal guardians)

Prisoners

Public officials/candidates for public office

Substance Abusers

Other (Identify your participants):



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\*\*\* Study Location \*\*\*

**Study Location**

Select All That Apply

MSU Site

Other University/College - Please also check "Other" and provide the name(s) of the participating entities in the box. (Include the letter(s) of permission in the Attachments Section).

School/School District - Please also check "Other" and provide the name(s) of the participating entities in the box. (Include letters of permission from both the Principal and District Superintendent from each location in the Attachments Section).

X Other (please specify)

Online

Has this protocol been submitted to or approved by any external Institutional Review Board?

N

Is this a multi-site project? (Multi-site means it is a study that uses the same protocol to conduct human subjects research at more than one site with researchers from each of those locations- essentially a collaboration. If you are proposing to conduct research at multiple locations, but the research is not being carried out by external researchers at those locations, that does not constitute a multi-site study.)

N

If this is a multi-site project, will MSU serve as the lead institution?

N/A

-----

\*\*\* General Checklist \*\*\*

**General Checklist**

Select All That Apply :

Academic Major Requirement (Provide the course requirements list in the Attachments Section).

Class / Directed Individual Study / Senior Design Project (Provide the syllabus in the Attachments Section).

Data Use Agreements / Memorandums of Understanding/Agreement (MOU/MOA), etc. (Provide a copy in the Attachments Section).

Developmental Approval Only

Dissertation Project (Provide the signed committee request form in the Attachments Section).

Honors College Research Project (Provide a statement from faculty advisor that the research is for the honors program).

Human blood, cells, tissues, or body fluids (Institutional BioSafety) (Provide a copy of the IBC approval in the Attachments Section).

Interview

Investigational Device (a medical device, which is the subject of a clinical study designed to evaluate the effectiveness and/or safety of the device).

Medical Records or Protected Health Information (PHI) will be viewed, created, accessed, used, or disclosed. DO NOT SELECT ANY OF THE OPTIONS BELOW. DESCRIBE THE BEST OPTION IN THE PROCEDURES SECTION (3.A.) WITHIN THE APPLICATION.

Activities Preparatory to Research

HIPAA Authorization

Limited Data Set and Data Use Agreement

Use and Disclosure of Decedents PHI without Authorization

Waiver or Alteration of Authorization

X Questionnaire/Survey

X Thesis (Provide the signed committee approval sheet in the Attachments Section).

Unaffiliated Approval Request Form; Unaffiliated Investigator Agreement (UIA); Proof of IRB Training for UIA (Provide associated documents in Attachments Section).

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Other (e.g. International Research, Use of Animals, Educational Records, Observational Studies).

-----  
**\*\*\* Funding \*\*\***

- X NONE--This project does not have any funding. If you want to add Funding for the study, please uncheck "NONE." Note: If the study is providing monetary incentives, the funding source must be identified.

**Funding**

Add external and internal grant funding source(s) below: Federal Government, Other Gov. (i.e., State, local), Foundation or Other.

Funding for this study was reviewed by the Office of Sponsored Projects (OSP)

-----  
**\*\*\* Application Type Checklist \*\*\***

Please note as you proceed through the application, if an item is "grayed" out, it is not required.

- Not Human Subjects Research  
X Exempt - When requesting "Developmental Approval" select this category and complete the application as much as possible.  
Expedited/Full Board

-----  
**\*\*\* Exempt Paragraphs(s) \*\*\***

There are eight categories of research activities involving human subjects that may be Exempt from the requirements of the Federal Policy for the Protection of Human Subjects (45 CFR 46). Select from the following applicable categories to determine if your research is Exempt from Expedited or Full Committee review. If your research qualifies under one or more of the Exempt categories, proceed with the following application. If not, complete the Expedited or Full Review application.

NOTE: The Exempt categories below do not apply to research involving prisoners.

Select one or more of the following paragraphs applicable to your project:

1. EDUCATIONAL PRACTICES: Research conducted in established or commonly accepted educational settings, involving normal educational practices that are not likely to adversely impact student's opportunity to learn required educational content of the assessment of educators who provide instruction. This includes most:
  - i. Research on regular and special education instructional strategies; OR
  - ii. Research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

Note: This category does not apply to use of school records of identifiable students or interviewing instructors about specific students.



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- X 2. **EDUCATIONAL TESTS (COGNITIVE, DIAGNOSTIC, APTITUDE, ACHIEVEMENT), SURVEY PROCEDURES, INTERVIEW PROCEDURES, OR OBSERVATION OF PUBLIC BEHAVIOR:** Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
- X i. The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to subjects;
  - ii. Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or
  - iii. The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by 46.111(a)(7).

Research involving surveys or interviews with children or observation of public behavior when investigators interact with children does not qualify under Category 2. Workplace meetings and activities, as well as classroom activities, are not considered "public behavior".

3. **BENIGN BEHAVIORAL INTERVENTIONS:** (i) Research involving benign behavioral interventions in conjunction with the collection of information from an adult subject through verbal or written responses (including data entry) or audiovisual recording if the subject prospectively agrees to the intervention and information collection and at least one of the following criteria is met:
- i. (A) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;
  - ii. (B) Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; OR
  - iii. (C) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by 46.111(a)(7).

For the purpose of this provision, benign behavioral interventions are brief in duration, harmless, painless, not physically invasive, not likely to have a significant adverse lasting impact on the subjects, and the investigator has no reason to think the subjects will find the interventions offensive or embarrassing. Provided all such criteria are met, examples of such benign behavioral interventions would include having the subjects play an online game, having them solve puzzles under various noise conditions, or having them decide how to allocate a nominal amount of received cash between themselves and someone else.

If the research involves deceiving the subjects regarding the nature or purposes of the research, this exemption is not applicable unless the subject authorizes the deception through a prospective agreement to participate in research in circumstances in which the subject is informed that he or she will be unaware of or misled regarding the nature or purposes of the research.

4. **EXISTING DATA:** Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:
- i. The identifiable private information or identifiable biospecimens are publicly available;
  - ii. The information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;
  - iii. The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); OR
  - iv. The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 522a., and, if applicable, the information used in the research was

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collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq.

5. RESEARCH AND DEMONSTRATION PROJECTS CONDUCTED OR SUPPORTED BY FEDERAL DEPARTMENT OR AGENCY HEADS: Research and demonstration projects that are conducted or supported by a Federal department or agency, or otherwise subject to the approval of department or agency heads (or the approval of the heads of bureaus or other subordinate agencies that have been delegated authority to conduct the research and demonstration projects), and that are designed to study, evaluate, improve, or otherwise examine public benefit or service programs, including procedures for obtaining benefits or services under those programs, possible changes in or alternatives to those programs or procedures, or possible changes in methods or levels of payment for benefits or services under those programs. Such projects include, but are not limited to, internal studies by Federal employees, and studies under contracts or consulting arrangements, cooperative agreements, or grants. Exempt projects also include waivers of otherwise mandatory requirements using authorities such as sections 1115 and 1115A of the Social Security Act, as amended.
- i. Each Federal department or agency conducting or supporting the research and demonstration projects must establish, on a publicly accessible Federal Web site or in such other manner as the department or agency head may determine, a list of the research and demonstration projects that the Federal department or agency conducts or supports under this provision. The research or demonstration project must be published on this list prior to commencing the research involving human subjects.
6. TASTE AND FOOD QUALITY EVALUATION AND CONSUMER ACCEPTANCE STUDIES: This research is exempt, IF:
- i. wholesome foods without additives are consumed; OR
  - ii. a food is consumed that contains a food ingredient at or below the level and for a use found to be safe by the Food and Drug Administration (FDA) or approved by the Environmental Protection Agency (EPA) or the Food Safety and Inspection Service (FSIS) of the US Department of Agriculture (USDA); OR
  - iii. a food is consumed that contains an agricultural chemical or environmental contaminant at or below the level found to be safe by the FDA or approved by the EPA or the FSIS of the USDA.
7. DO NOT CHECK- MSU DOES NOT USE CATEGORY 7.STORAGE OR MAINTENANCE OF INFORMATION FOR SECONDARY RESEARCH FOR WHICH BROAD CONSENT IS REQUIRED: The protocol is eligible for exemption if:
- i. It involves storage or maintenance of identifiable private information or identifiable biospecimens for secondary research use; AND
  - ii. All the identifiable information or identifiable biospecimens that are to be stored and/or maintained for secondary research have been or will be collected for another primary purpose; AND
  - iii. Broad consent for the storage or maintenance of their identifiable information or identifiable biospecimens for secondary research use will be obtained from ALL subjects; AND
  - iv. The protocol does not include any activities that do not qualify for exemption; AND
  - v. The protocol is not for an FDA regulated clinical investigation; AND
  - vi. The IRB conducts a Limited IRB Review and makes the determinations required by 45 CFR 46.111(a)(8)
8. DO NOT CHECK- MSU DOES NOT USE CATEGORY 8.SECONDARY RESEARCH FOR WHICH BROAD CONSENT IS REQUIRED: Research involving the use of identifiable private information or identifiable biospecimens for secondary research use is eligible for exemption, if the following criteria are met:
- i. Broad consent for the storage, maintenance, and secondary research use of the identifiable private information or identifiable biospecimens was obtained in accordance with 45 CFR 46.116(a)(1) through (4), (a)(6), and (d); AND
  - ii. Documentation of informed consent or waiver of documentation of consent was obtained in accordance with 45 CFR 46.117; AND
  - iii. An IRB conducts a Limited IRB review and makes the determination required by 45 CFR 46.111(a)(7) and makes the determination that the research to be conducted is within the scope of the broad consent referenced in paragraph (d)(8)(i) of this section; AND
  - iv. The investigator does not include returning individual research results to subjects as part of the study plan. This provision does not prevent an investigator from abiding by any legal requirements to return individual research results.

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\*\*\* Summary, Purpose, Procedures \*\*\*



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**Title**

Assessment of Social Media Training Efforts for Extension Agents

**1. Summary**

- a) Provide a brief summary of the scope of work of this project, using non-technical terms that would be understood by a non-scientific reader. This summary should be no more than 200 words.

The study will evaluate Extension agents competencies after participating in social media training.

**2. Purpose**

- a) Describe the purpose, intention, or motive for conducting the proposed project. List your research questions or hypothesis to be examined.

The purpose of this study is to evaluate social media support efforts developed for Extension professionals by the Agricultural Communications services at Mississippi State University Extension Services. This study will determine which social media training is best suits Extension professionals. The results of this study may modify future social media support training efforts.

Although we recognize the importance of increasing social media support efforts, we have yet to determine which technical training efforts are most likely to increase social media competency for Extension professionals. Many different training efforts exist and communication services must determine which training are worth devoting time and resources for their development. If Mississippi State University Extension Services is to continue to create social media trainings it is important for them to evaluate which trainings best suit their professionals.

**3. Procedures**

- a) Provide a step-by-step description of what the participants will be asked to do (e.g. interventions/interactions with participants, data collection, photographing, audio and video recording), including follow up procedures. In the Attachments Section, provide questionnaires, test instruments, interview questions etc.

Participants that consent to the study will be asked to participate in a social media training. Participants will be allowed to access either an online publication, a series of videos, or participate in an online webinar through Canvas. Participants selected for the online publication or video training may view the resources as many times as possible over a 30 day period. Participants selected to participate in the online webinar will be asked to engage in the webinar when it is live, they may also be able to review the webinar on Canvas during the 30 day period.

After approximately 30 days have passed, participants will be sent a retrospective survey about the training they received.

A retrospective questionnaire will allow participants to self-report their competency with using social media. Briefly describe demographic information about themselves including age, ethnicity, gender, major, and expected career area. Then they are asked to rate their perceived level of confidence communicating in 28 different scenarios based on a 5-point scale (Strongly disagree = 1; Disagree = 2; are Neutral = 3; Agree = 4; Strongly agree = 5).

- b) What are the total number of test sessions and the total time commitment that participants are being asked to take part in for the study?

Participants are asked to review a social media training, this will take at most 35 minutes. However, participants may review the training as many times as they wish in 30 days. After 30 days participants will be asked to answer a survey that will take approximately 15 minutes to complete.

- i) Do any of the instruments you plan to use require permission from the source? If so, list them here and provide a statement of permission in the Attachments Section.

The researcher was granted permission from Harrison Yang to use the instrument Social Media Competence Scale for College Students (SMCS-CS).

- c) If you are using Existing Data/Specimens, check all that apply. If you are not using Existing Data/Specimens, please check "N/A".

- i. The research involves data from publicly available sources
- ii. That data will be recorded by the investigator in such a manner that participants cannot be identified
- iii. Any link to identifying information has been destroyed

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X iv. N/A

\*\*\* Recruitment and Compensation \*\*\*

6. Recruitment Process:

- a) Describe the step-by-step procedures for identifying and recruiting potential research participants or requesting pre-existing data/materials. Identify who will contact prospective participants and how. For Exempt studies: recruitment documents are NOT required. However, the process must be described here.

County agents for Mississippi State University will be asked to participate in the study. Mississippi State University has a complete email list of county agents. County agents will be sent an email from their regional supervisor. The email will contain information about the study and a consent form.

- b) Planned Participant Identification Methods:

X N/A	Living conditions (e.g., nursing home residents)
Circumstance (e.g. homelessness)	Organization mailing lists
Class participants	Referrals (e.g., snowball)
Face-to-face Interactions	Student Subject Pool(s) / SONA
Other (please specify):	<input type="text"/>

- c) Planned Recruitment Materials:

N/A	Media (e.g., newspaper / radio / television ads)
Brochures / Flyers / Posters / Table Tents	Site permission requests
X Email / verbal scripts	Social Media / website postings
Letters to prospective participants	SONA listing
Other (please specify):	<input type="text"/>

7. Compensation:

- a) Will participants receive compensation? N  
Total amount (in dollars or equivalent)

- b) Type of Compensation:

Cash	Raffles
Check	Reimbursement
Credit (e.g., course)	Voucher
Gift card / certificate See MSU Card Guidelines (http://www.procurement.msstate.edu/)	Other (please specify)
	<input type="text"/>

- c) Describe how and when participants will be paid, and whether payment will be prorated. Input N/A if not applicable.

- d) For raffles include the number of prizes, nature and value of each prize. Input N/A if not applicable.

- e) For extra course credit, provide the alternative offering for those who wish not to participate in the study. (Provide statement of

-----  
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permission from instructors of record for classes being recruited in the Attachments Section). Input N/A if not applicable.

f) Will participants be required to pay for any study related procedures or products?

i. If yes, explain:

g) Who is responsible for costs incurred due to injury/harm? Input N/A if not applicable.

-----  
\*\*\* Additional Procedures \*\*\*

4. Additional Procedures: DO NOT CUT AND PASTE YOUR THESIS OR DISSERTATION. Each question in this section is limited to 250 words.

a. Describe the intention for the use of the data collected (e.g., publication, presentation, report to Sponsor, etc.).

Data collected will be report to Mississippi State University's Extension Agriculture Communications services.

b. Alternative Procedures: If applicable, describe any alternatives to participating in the research. (e.g., standard of care treatment, etc.). Any standard treatment that is being withheld must be disclosed. This information must be included in the consent form.

Treatments may vary in length, depth of content, and convenience. One treatment group will receive basic information for social media best practices to review at convenience, one treatment group will receive short tutorial videos to watch at convenience, and one treatment group will be asked to participate in an online webinar at a specific date. One group will receive no treatment, serving as the control group. In the consent form participants will be informed that they may or may not receive a social media training.

c. Will participants be followed after their active participation is complete? N

If yes, explain why and describe how:

d. Will participants have access to the study procedure after completing the study? N

If yes, explain why and describe how:

e. Do any of the following apply.

i. Will participants be audio recorded? N

ii. Will participants be videotaped? N

iii. Will participants be photographed? N

If yes to i, ii or iii, explain the collection process and use in the context of this research of such media:

If any of these methods are used for Expedited or Full Board studies, they must be described within the consent document.

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\*\*\* Participant Population Part 1 \*\*\*

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5. Participant Population, Part 1

a) How many participants do you intend to enroll and/or how many participant records (for existing data) do you intend to access?

i. At all sites N/A

# of participants

# of records

b) Inclusion and Exclusion Criteria (e.g., salient characteristics of participants such as age range, gender, diagnosis, institutional affiliation etc.).

i. Identify inclusion criteria.

ii. Identify exclusion criteria.

c) What is the rationale for studying the requested group(s) of participants?

d) Will prospective participants be in a subordinate position to or otherwise vulnerable to coercion or undue influence of anyone involved in the study (e.g., students in an investigator's class or employees supervised by one of the researchers)? If so, explain how participants will be protected from coercion and undue influence. N/A

e) For international research, explain your knowledge of local community attitudes and cultural norms necessary to carry out the research including expectations of privacy (e.g. differences with U.S. culture). N/A

-----

\*\*\* Participant Population Part 2 \*\*\*

5. Participant Population Part 2

f) Will bilingual or multilingual participants be recruited?

g) Will non-English speaking participants be recruited? If yes, copies of all recruitment, consent/assent, parental permission, and other materials must be attached in English and in their native language(s) for review. A copy of the translator's credentials must be included in the Attachments section- they must be certified or have proof of cultural competency education/training. N

If yes, state language(s) spoken (other than English):

h) Will participants be less than 18 years of age? N

-----

\*\*\* Risks \*\*\*



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**8. Risks**

US Department of Health & Human Services (HHS) Regulations define a subject at risk as follows: "...any individual who may be exposed to the possibility of injury, including physical, psychological, or social injury, as a consequence of participation as a subject in any research, development, or related activity which departs from the application of those accepted methods necessary to meet his needs, or which increases the ordinary risks of daily life, including the recognized risks inherent in a chosen occupation or field of service."

a) PI's evaluation of the overall level of Risk. (Please check one: minimal or minimal.)

- Minimal (everyday living)
- More than Minimal (greater than everyday living)

b) Describe all known risks or discomforts associated with study procedures whether physical, psychological, social, employability, or insurability (e.g., pain, stress, invasion of privacy, breach of confidentiality).

There are few known risks or discomfort associated with this study. It is possible that county agents may be concerned with remaining anonymous. It is possible that county agents may be concerned with time consumption of the study.

c) Describe how you plan to minimize potential risks (e.g., referral to psychological counseling resources).

In order to minimize the risk of participant identification, participants will not be asked to put their any names or any identifiers on their survey. All surveys will be taken through Qualtrics. Randomized responses will be selected through Qualtrics, so participants may remain anonymous.

Should participants feel uncomfortable with the survey material, they may choose to opt out of the study at any time, with no consequences. Incomplete surveys will be removed from the study.

d) Describe any deception of participants. Mark N/A if not applicable.

e) Is there a plan to monitor study data for participant safety?

If yes, discuss how the data will be monitored.

\*\*\* Benefits \*\*\*

**9. Benefits**

a) Discuss any potential benefits that would justify involvement of participants in this study.

i. Direct benefits to participants (if applicable)

ii. Indirect benefits to society

\*\*\* Confidentiality Procedures \*\*\*

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**10. Confidentiality Procedures**

Which of the following types of data will you work with? Check all that apply.

- X **Identifiable** Information is considered to be identifiable when it can be linked to specific individuals by the investigator(s) either directly or indirectly through coding systems, or when characteristics of the information obtained are such that by their nature a reasonably knowledgeable person or investigator could ascertain the identities of individuals. Therefore, even though a dataset may have been stripped of direct identifiers (names, addresses, student ID numbers, etc.), it may still be possible to identify an individual through a combination of other characteristics (e.g., age, gender, ethnicity, and place of employment).

**Anonymous** Data are anonymous if no one, not even the researcher, can connect the data to the person who provided it—no identifying information is collected from the individual. Investigators must be aware, however, that even if no direct identifiers (name, address, student ID, etc.) are collected, identification of a participant may be possible from unique individual characteristics (indirect identifiers). For example, a participant who is a member of a certain ethnic group or who was studied because of distinctive personal accomplishments or medical history might be identifiable from even a large data pool.

- X **De-identified** If the dataset has been stripped of all identifying information and there is no way that it could be linked back to the participants from whom it was originally collected (through a key to a coding system or by any other means). Note: This also applies if the source of the data is identifiable but the data collected is not.

**Coded** This refers to data that have been stripped of all direct participant identifiers, but in this case each record has its own study ID or code, which is linked to identifiable information such as name or medical record number. The linking file must be separate from the coded data set. This linking file may be held by someone on the study team (e.g. the PI) or it could be held by someone outside of the study team (e.g. researcher at another institution). A coded data set may include limited identifiers under HIPAA. Of note, the code itself may not contain identifiers such as participant initials or medical record number.

- a) If information obtained from the study will be provided to any other person or group (other than the research team), identify (a) under what circumstances would the information be released; (b) to whom will the information be given; (c) how will the information be delivered; and (d) what information will be provided. N/A

The information obtained from this study will be reported to Mississippi State University Extension Services. The data from this study will be used for Agricultural Communication services to develop new training materials. Extension Services will only be provided with accumulative data from each treatment group, they will not be provided any identified information.

- b) Explain how you will protect participants' privacy. Note: Privacy means respecting a participant's right to be free from unauthorized or unreasonable intrusion, including control over the extent, timing and circumstances of obtaining personal information from or about them. For example, based on their privacy interest's people want to control:

- The time and place where they give information.
- The nature of the information they give.
- The nature of the experiences that are given to them.
- Who receives and can use the information.

**Keep this definition in mind as you respond to how you will protect participants' privacy.**

The participants will complete the consent forms online. Participants will be providing information about their perceived competence for using social media. The participants are not forced to answer the questions on the survey. Only completed surveys will be used for data analysis for each treatment. Surveys will be distributed through a password protected account on Qualtrics. The randomized function in Qualtrics will be used to keep participants anonymous. Data will be entered onto the student researchers password protected computer in her locked office Lloyd Ricks Watson 172. The surveys will not have identifiable information.

- c) If you plan to use existing data, records or specimens, what is the source of the data/records/specimens, and how will you access them? NOTE: "Existing" means data or specimens collected either prior to the IRB application submission or other research that is ongoing. It includes data or specimens collected for research and non-research activities.

N/A

- d) How will access to the signed consent documents be limited to the research team and where will they be stored? Please specify building name, room number, or address.

N/A



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- e) How will access to collected data be limited to the research team? Where will it be stored, and how long will it be retained? Please specify building name, room number, or address. (Note: We do not recommend using cloud storage for long-term storage purposes. Ex: Dropbox, Google Docs, etc).

Data will be entered onto the student researchers password protected computer in her locked office Lloyd Ricks Watson 172. Only the PI and student researcher will have access to the data.

- f) If the data is coded, explain how access to coded data will be limited to the research team. Where will it be stored, and how long will it be retained? Please specify building name, room number, or address.

N/A

- g) What direct (name, NetID etc.) or indirect (demographics sufficient to identify individuals participants) identifiers will be collected? What purpose do the identifiers serve?

Randomize in Qualtrics will be used when participants take the survey.

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**\*\*\* Consent and Parental Permission Information \*\*\***

**11. Consent and Parental Permission Information if applicable**

11a only applies to Exempt applications

- a) Please describe the procedures for how participants will be informed (1) that the project involves research, (2) the procedures associated with the study, (3) the contact information for the researcher and (4) a statement that their participation is voluntary. At minimum, these 4 elements must be included in the consent information provided to participants.

Participants will be informed about the study and their voluntary participation through an email. The email states the purpose of the study, the treatment the participant may receive, and the type of questions the participant may anticipate on their survey. The email will contain the researcher's contact information and the PI's contact information, along with a contact number for Mississippi State University Institutional Review Board Office. Participants must indicate they have read and understand the terms of the study and willingness to participate in the study before they may continue with the study.

Note: For Exempt studies, a formal consent document is not required to be reviewed by the HRPP/IRB. If you wish to include a copy of your consent, please attach it in the Attachments section. Please attach consent information below for non-Exempt studies.

-----

**\*\*\* Assent Information \*\*\***

**12. Assent Information**

(Complete if applicable)

Assent Document: A form or script of the information that will be conveyed to the child about the study. In general, researcher must obtain the affirmative agreement of children ages seven years and older for their participation. Assent forms should be written at a level understandable to the child. If the study includes a broad age range of children, more than one assent form may be needed (i.e., an assent form suitable for a 17 year old is not usually suitable for a 7 year old child).

Assent Waiver: No child assent will be sought at all. This means that the IRB is asked to waive the requirement for child assent. Among other circumstances, this option is appropriate when the capability of the child to understand the research is too limited or when the research holds out a prospect of direct benefits that is important to the health or well-being of the child.

All minors must provide an affirmative consent to participate by signing a simplified assent form, unless the Investigator(s) provides evidence to the IRB that the minor subjects are not capable of assenting because of age, maturity, psychological state, or other factors.

Provide assent process background information, in the space below, for each Assent Form, Alteration Form, Cover Letter or Verbal Script,

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and/or request for Waiver of Documentation of Consent.

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**\*\*\* HIPAA \*\*\***

13. Health Insurance Portability and Accountability Act (HIPAA)

**If you are using PHI and this page is not active you must return to the General Checklist and check the box regarding the use of PHI in this research.**

The HIPAA Privacy Rule establishes the right of an individual to authorize a covered entity, such as health plan, health care clearinghouse or health care provider, to use and disclose his/her Protected Health Information (PHI) for research purposes.

The Privacy Rule defines the elements of individual information that comprise PHI and establishes the conditions under which PHI may be used or disclosed by covered entities for research purposes. It also includes provisions to allow an individual's PHI to be disclosed or used in research without the person's authorization (i.e., IRB Waiver of HIPAA Requirement Authorization).

Protected Health Information (PHI) is health information with one or more of the following identifiers. For more information see: [http://privacyruleandresearch.nih.gov/clin\\_research.asp](http://privacyruleandresearch.nih.gov/clin_research.asp) or consult HIPAA Privacy Rule for Research.

Research which involves the use of de-identified data is exempt from HIPAA requirements. In order to be de-identified data. NONE of the participant identifiers listed below can be collected, used, reviewed, recoded, accessed or disclosed.

Review the following list and indicate if any of the information will be collected from any medical records for the purpose of this research project.

1. Names
2. Social Security Numbers
3. Telephone Numbers
4. All geographic subdivisions smaller than a state, including street address, city, county, precinct, zip code, and their equivalent geocodes, except for the initial three digits of a zip code, if according to the current publicly available data from the Bureau of the Census;
  - i. The geographic unit formed by combining all zip codes with the same three initial digits contains more than 20,000 people; and
  - ii. The initial three digits of a zip code for all such geographic units containing 20,000 or fewer people is changed to 000.
5. All elements of dates (except year) for dates directly related to an individual, including birth date, admission date, discharge date, date of death; and all wages over 89 and all elements of dates (including year) indicative of such age, except that such ages and elements may be aggregated into a single category of age 90 or older.
6. Fax Numbers
7. Electronic Mail Addresses
8. Medical Record Numbers
  - You must attach a data collection sheet identifying the data points being collected from the MRN
9. Health Plan Beneficiary Numbers
10. Account Numbers
11. Certificate/License Numbers
12. Vehicle Identifiers and Serial Numbers, including License Plate Numbers
13. Device Identifiers and Serial Numbers
14. Web Universal Resource Locations (URLs)

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15. Internet Protocol (IP) Address Numbers  
 16. Biometric Identifiers, including Finger and Voice Prints  
 17. Full Face Photographic Images and any Comparable Images  
 18. Any other unique identifying number, character, or code (note this does not mean the unique code assigned by the Investigator(s) to code the research data)

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**\*\*\* Drugs and Devices \*\*\***

14. Drugs and Devices

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**\*\*\* Potential Conflict of Interest \*\*\***

15. Potential Conflict of Interest

For definitions related to the following questions, please refer to our HRPP Operating Manual.

Financial Conflict of Interest: Please check Yes or No for each item below.

- a) Does this research project involve any intellectual property for which you or a member of your immediate family or other Research Personnel is an inventor or author?  
 b) Is the research project sponsored by an entity with which you or a member of your immediate family member or other Research Personnel have or expect to acquire an ownership/equity interest or other interest in?  
 c) Is this research project sponsored by an entity with which you or a member of your immediate family or other Research Personnel receive compensation of any amount including, but not limited to, salary, honoraria, paid authorship, consultant fees, royalties, travel or other income?  
 d) Is this research project sponsored by an entity with which you or a member of your immediate family or other Research Personnel serve on the Board of Directors or a corporate advisory board, hold an executive position, or serve as an employee, whether paid or unpaid?  
 e) In the previous 12 months, did you or a member of your immediate family or other Research Personnel received any money, gifts, or other in-kind compensation from a competitor of the sponsor's product or service, an investment or law firm evaluating/litigating this sector (e.g. expert witness), or a source with an ownership or proprietary interest in the product/service being tested?  
 f) Do you or other Research Personnel hire or supervise any employee (including students) for the sponsor whom you hire or supervise at MSU?

Institutional Conflict of Interest: Please check Yes or No for each item below.

- g) Does this research project involve any intellectual property invented at MSU which as been licensed to an outside sponsor by the MSU Research Technology Corporation?  
 h) To the best of your knowledge, has the sponsor made or have plans to make any donation, educational grant, or gifts of money and/or equipment to MSU?

If you checked Yes to any statement (a-h) above, please identify the research team member(s) below and provide details concerning the potential conflict of interest.

By submitting this form, you are attesting that you have read the MSU HRPP Operations Manual policy on Conflict of Interest and agree to abide by its terms. You will update this disclosure form when new or changes in conflict of interest arise, and that you will comply with any conflict management plan required by the Institutional Review Board (IRB) to manage, reduce, or eliminate any actual or potential conflict of interest for the duration of the research.



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\*\*\* Attachments \*\*\*

16. Attachments

Attach relevant documents here. These could include:

- Collaborating Investigator's IRB approval and approved documents
- Conflict of Interest information
- Individual Investigator Request and Agreement Forms
- Debriefing Script
- HIPAA Authorization Form from HIPAA-covered entity
- Interview/Focus Group Questions
- Letters of Agreement/Cooperation from organizations who will help with recruitment
- Questionnaires
- Approvals from other MSU regulatory committees (IACUC, IBC or Radiation) approval material
- Recruitment Material (e.g., flyers, email text, verbal scripts)
- Sponsor's Protocol; Surveys
- Parental / guardian permission forms
- Other files associated with the protocol (all documents must be submitted in PDF form).

Please be sure to attach all documents associated with your protocol. Failure to attach the files associated with the protocol may result in this protocol being returned to you for completion prior to being reviewed.

Select from list	Attachment Name	Attached Date	Submitted Date
Questionnaire/Survey	Consent Form and Questionnaire	08/19/2019	08/20/2019
Letter of Agreement/Cooperation	Instrument Permission_Yang	08/19/2019	08/20/2019
Other	Committee Approval Form	08/20/2019	08/20/2019

\*\*\* Assurances \*\*\*

**Assurances: Principal Investigator Assurance Statement Note: All Principal Investigator boxes must be selected. The advisor box must be selected, only if this protocol is for student research.**

I understand Mississippi State University's policies and procedures pertaining to research involving human participants and I agree: <ol 1. To comply with all HRPP policies, decisions, conditions and requirements; 2. To accept responsibility for the scientific and ethical conduct of this research study; 3. To obtain prior approval from the HRPP before amending or altering the research protocol or implementing changes in the approved consent/assent documents; 4. To report to the HRPP in accordance with federal, sponsor, university and HRPP policies, any adverse event(s) and/or unanticipated problem(s) involving risks to participants; 5. To complete continuation, modification, and closure forms on time and to collaborate with IRB monitoring of studies for quality improvement or cause; 6. To notify the Office of Sponsored Programs (OSP) and/or the HRPP (when applicable) of the development of any financial interest not already disclosed; 7. To ensure that individuals listed as study personnel have received the mandatory human research protections education; 8. To ensure that individuals listed as study personnel possess the necessary experience for conducting research activities in the role described for this research study; 9. To not begin this research until final approval or determination of exemption has been received.</ol

X By checking this box as Principal Investigator: <ol certify that I have reviewed this application, including attachments and that all information contained herein is accurate to the best of my knowledge; I assure that adequate resources (investigator time, equipment, and space) are available; I understand that I am fully

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responsible for the execution and management of this study; and I am responsible for the performance of all qualified personnel listed in this protocol including their adherence to all the applicable policies and regulations. </o>Note: The submission of falsified information may be reported to the appropriate entities per the MSU Operations Manual.

- X **FOR ALL STUDENT RESEARCH: Advisor's Assurance Statement:** (this section only needs to be completed if this submission is for student research (i.e. honors, thesis or dissertation). By checking this box as the Advisor: I certify that I have reviewed this research protocol and I assume full responsibility for defining, explaining, exemplifying, and requiring adherence to the highest standards of conduct and ethical values. I attest: <o1. to the scientific merit of this study and that the research design is sufficient to yield the expected results; 2. to the competency of the investigator(s) to conduct the project; 3. that facilities, equipment, and personnel are adequate to conduct the research; 4. that continued guidance will be provided as appropriate, and the study will be closed before student graduation. </o>Note: The submission of falsified information may be reported to the appropriate entities per the MSU Operations Manual.

For non-Exempt protocols, as the Principal Investigator, I also agree: To submit the Protocol Violation form to report protocol deviations/unanticipated problems etc. that occur during the course of the protocol.

By checking this box the Principal Investigator has read and agrees to abide by the above obligations.

"maroon"Please click "Check for Completeness" to your left to continue to the next step. If the protocol is complete and ready for submission, please click "Submit Form" to your left to submit your protocol for IRB Review.

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\*\*\* Event History \*\*\*

Event History

Date	Status	View Attachments	Letters
02/27/2019	NEW FORM CREATED		
08/20/2019	NEW FORM SUBMITTED - Application type switched to EXPEDITED from EXEMPT	Y	
08/20/2019	NEW FORM PANEL ASSIGNED		
08/20/2019	NEW FORM REVIEWER(S) ASSIGNED		
08/28/2019	NEW FORM SUBMITTED (CYCLE 1) - Application type switched to EXEMPT from EXPEDITED	Y	
08/30/2019	NEW FORM APPROVED	Y	Y

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08/30/2019 CLOSED

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\*\*\* Comments \*\*\*

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Comment Title	Section Name	Comment/Response	Response Necessary
<b>NEW : 08/20/2019</b>			
Cycle : 1			
1	General Checklist	<p>Thank you for submitting this protocol for HRPP review. Below are a few comments and questions that need to be clarified before you can resubmit it to our office to continue the review process. Please be sure to address each area within the relevant section in the protocol before going to "Check for Completeness". On this comments page, you can simply reply and say that area has been addressed in the protocol, or address any questions and clarifications, and then resubmit. If you have any questions or need clarification on what we are looking for, please feel free to contact our office.</p> <p>Since participants will be sent a survey about the training that they will received, please check the "Questionnaire/Survey" box on the General Checklist page.</p> <p>"Questionnaire/Survey" box was checked in the General Checklist page.</p>	Y
2	Application Type Checklist	<p>You have selected Expedited/Full Board for this study. This study does not meet the requirements for an expedited review. Please go back to the application type checklist and mark Exempt. When you mark Exempt, some of the items you marked earlier will be grayed out and no longer available, this is normal.</p> <p>Application was changed from Expedited/Full Board to Exempt and completed.</p>	Y



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3	Summary, Purpose, Procedures	<p>You have described the purpose of this study. However, do you have research questions or a hypothesis to be examined or is this just an evaluation study? Please Advise.</p> <p>Purpose was changed to include that the study was created for evaluation. The following statement was added to the purpose section.</p> <p>"Although we recognize the importance of increasing social media support efforts, we have yet to determine which technical training efforts are most likely to increase social media competency for Extension professionals. Many different training efforts exist and communication services must determine which training are worth devoting time and resources for their development. If Mississippi State University Extension Services is to continue to create social media trainings it is important for them to evaluate which trainings best suit their professionals. "</p>	Y
4	Confidentiality Procedures	<p>You have checked Coded. Qualtrics can collect IP addresses if one doesn't select Anonymize Responses. This can keep information from being Anonymous. Please check Identifiable and de-identified instead.</p> <p>Under 6.b. Do you mean Extension Agents instead of students? By completing consent forms, you mean giving consent through the survey? Survey is misspelled here.</p> <p>Coded was changed to Identifiable and de-identified. Comment for 6.b. was also addressed.</p>	Y
Additional Response by Mary Stokes			



APPENDIX E

SURVEY

## **Assessment of Social Media Training Efforts for Extension Agents**

Dear Extension professionals,

My name is Annabelle Stokes, and I am a graduate student in Agricultural and Extension Education at Mississippi State University. I am completing a research project titled, “Assessment of Social Media Training Efforts for Extension Agents.” I have received permission from Elizabeth North, Head of Ag Communications, to conduct this study.

The purpose of this study is to assess what social media training efforts are most effective at training Extension employees. The results of this study will be shared with Dr. Jackson in hopes of improving the use of social media within Extension programs in Mississippi.

The survey will take approximately 15 minutes to complete. If you agree to participate in the study, there may be a follow up email containing an invitation to take part in social media training. The participants will be randomly assigned to one of the following trainings: a best practices guideline, a series of best practices videos, or a best practices webinar. You have 30 days to review the training materials, then a follow up survey will be emailed to you. Please know that your participation in this study is completely voluntary and if you feel uncomfortable in any way, you may skip questions or end the survey at any time.

If you have any questions about this survey, you can contact Annabelle Stokes (662) 325-5862 or [mas1169@msstate.edu](mailto:mas1169@msstate.edu) or my advisor, Dr. Carley Morrison, at (662) 325-0749 or [carley.c.morrison@msstate.edu](mailto:carley.c.morrison@msstate.edu). If you have questions about your rights or welfare as a research participant, please contact the Mississippi State University Institutional Review Board Office at (662) 325-3294. Please indicate below if you would like to proceed to the survey.

### **Informed Consent**

- Yes, I have read and understand the terms of the study. I will participate in the study.
- No, I do not wish to participate in the study.

*Skip To: End of Survey If = No, I do not wish to participate in the study.*

What is your gender?

- Male
- Female
- I do not wish to identify

What is your age?

- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65+ years old
- I do not wish to identify

How many years have you been serving as an Extension agent?

- 1 or fewer
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25+

What type of Extension agent are you?

- Community Wellness Planner
- AIM for Change Agent
- Extension Agent – primarily ANR responsibility
- Extension Agent - primarily FCS responsibility
- Extension Agent - primarily 4-H responsibility
- Extension Agent - primarily CRD responsibility

Strongly disagree	Disagree	Neural	Agree	Strongly agree	BEFORE participating in training
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1. I can create and manage my personal profile in social media environments.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2. I can use the hardware necessary to create social media contents.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3. I can use the software necessary to create social media contents.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4. I can use basic social media operating tools.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	5. I know how to use social media search tools to gather information.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6. I am aware of potential information in social media.
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	7. I can notice inappropriate content in social media.

8. I can understand and interpret social media contents from the political, economic and social perspectives.
9. I can analyze the potential effects of social media contents on individuals.
10. I can compare news and information across different social media environments
11. I can evaluate the accuracy and validity of social media messages.
12. I can evaluate and consider social media's legal and ethical principles (copyright, human rights, privacy, etc.).
13. I can develop original, visual and textual social media content.
14. I can influence others' opinions when I participate in social media activities.

15. I can make contributions to social media by reviewing current events from different perspectives.
16. I can collaborate and communicate with different social media users.
17. I can build a social networking identity that is consistent with my real personal characteristics.
18. I can have discussions and make comments to inform or guide people in the social media environment.
19. I can design and deliver social media contents that reflect critical thinking of certain matters.
20. I would not attack others when I comment or post on social media.
21. I would use expletives to emphasize what I write in social media.
22. I would participate in a discussion on social media only

when I have knowledge of the subject area.

23. I would raise different opinions in social media discussions only when I am convinced that my arguments are correct

24. I would post comments in social media only when I am convinced that my views are correct.

25. I would consider the possible consequences before using social media to write something.

26. I would consider whether my comments will affect others' thoughts and emotions.

27. I would think about whether other people might appreciate my contribution and comments in social media.

28. I would consider how other people might perceive my

contribution before I write  
something in social media.

AFTER participating in training	Strongly disagree	Disagree	Neural	Agree	Strongly agree
1. I can create and manage my personal profile in social media environments.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I can use the hardware necessary to create social media contents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I can use the software necessary to create social media contents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I can use basic social media operating tools.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I know how to use social media search tools to gather information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I am aware of potential information in social media.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I can notice inappropriate content in social media.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I can understand and interpret social media contents from the political, economic and social perspectives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I can analyze the potential effects of social media contents on individuals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



- |   |                       |                       |                       |                       |                       |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 10. I can compare news and information across different social media environments                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. I can evaluate the accuracy and validity of social media messages.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. I can evaluate and consider social media's legal and ethical principles (copyright, human rights, privacy, etc.). | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. I can develop original, visual and textual social media content.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. I can influence others' opinions when I participate in social media activities.                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15. I can make contributions to social media by reviewing current events from different perspectives.                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. I can collaborate and communicate with different social media users.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17. I can build a social networking identity that is consistent with my real personal characteristics.                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18. I can have discussions and make comments to inform or guide people in the social media environment.               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19. I can design and deliver social media contents that reflect critical thinking of certain matters.                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. I would not attack others when I comment or post on social media.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

21. I would use expletives to emphasize what I write in social media.
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28. I would consider how other people might perceive my contribution before I write something in social media.