

# Implications of Pandemic Responses for Extension Education and Outreach

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## **Implications of Pandemic Responses for Extension Education and Outreach**

### **Abstract**

*As part of daily tasks of Cooperative Extension, agents handle public issues by offering programming by approved methods to inform the public. Within the context of this study, a mixed-methods approach was established to determine the factors impacting behaviors associated with Clemson Extension, programming efforts, and roles during the COVID-19 pandemic. Understanding the attitudes and perceptions of Extension educators and key stakeholders (i.e., advisory committee members), researchers, faculty, and Extension educators can be better prepared to face future challenging while continuing to meet the public demand. This exploratory, mixed methods inquiry investigated the perceptions of current Clemson Extension agents across South Carolina and Extension advisory committee members related to the ongoing COVID-19 pandemic and Extensions response. To meet the needs of this mixed methods approach, qualitative interviews were conducted with Extension agents and a survey questionnaire was utilized to collect pertinent data from Extension advisory committee members. Through this study, strengths and challenges for South Carolina Cooperative Extension Agents during the COVID-19 pandemic were learned, providing a framework in the event of similar challenges in the future. Adaptability is key moving forward for Extension, as it allows Extension agents to meet the needs in their communities, serve their primary stakeholder groups, and improve overall perceptions of what they offer. Extension professionals should consider the findings as a starting point to evaluate the current state of Extension programming and how to best move forward to address pertinent agricultural issues.*

### **Introduction/Theoretical Framework**

“The pace of innovation in the agriculture-related, health, and human sciences demands that knowledge rapidly reaches the people who depend on it for their livelihoods” (USDA-NIFA, 2021, para. 1). Specifically, the Clemson Cooperative Extension (2021) service aims to “improve the quality of life of all South Carolinians by providing unbiased, research-based information through an array of public outreach programs in youth development; agribusiness; agriculture; food, nutrition and health; and natural resources” (para. 1). The normal day to day operations of Clemson Extension was brought to a halt on March 18<sup>th</sup>, 2020, after the World Health Organization (2020) declared the Novel Coronavirus or COVID-19, a global pandemic on March 11, 2020.

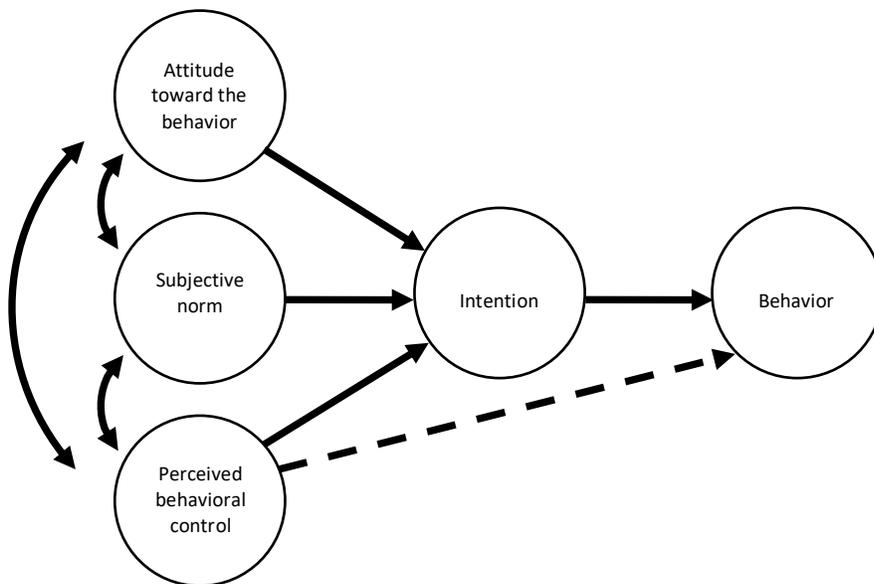
As part of daily tasks of Cooperative Extension, agents handle public issues by offering programming by approved methods to inform the public (Dale & Hahn, 1994; Patton & Blaine, 2001). Most issues originate as private concerns and become public when outside agencies become involved and widespread support or opposition is gained. This is often related to an identifiable problem, whereas others may arise from misinformation or inaccurate perceptions (Patton & Blaine, 2001). These contentious issues often create situations in which public input and education can be keys to solving the problem; however, due to the highly charged nature of such issues, many leaders tend to avoid them (Jolley, 2007; Patton & Blaine, 2001; Rittel & Webber, 1973). Clemson extension has always made it a priority to provide relevant programming to address these public issues.

During today’s societal changes of the COVID 19 Pandemic, agricultural communities have faced challenges. According to the United States Department of Agriculture (USDA) Economic Research Service (ERS) (2021), the total number of cash receipts by commodity has remained steady, with some commodities increasing between the years 2020 and 2021. Animals and animal products increased just under \$8.6 billion, and crops increased just over \$11.8 billion via cash receipts reported by the USDA-ERS (2021). Some of these increases in consumer purchases have come through governmental policies, which increased American agriculture commodity purchases from foreign countries under the US and China trade deal. China will purchase and import \$40 billion dollars’ worth of American agriculture products including meat goods (McCarthy, 2020), others came from a decrease in store availability, though no nationwide shortages have been reported (USDA, 2021). Though the total cash receipts have improved nationally, local agriculture producers face a distinct set of issues. Such issues include a misinformed public, slaughterhouse backups, and a lack of land availability. However, the agricultural cash receipts have yet to be reported for South Carolina according to the USDA-ERS (2021).

Clemson Extension was not alone, as schools, businesses and government agencies across the U.S. adapted to limit in-person contact (CDC, 2020). Extension agents had to cancel some scheduled programming and events and shift what they could to virtual platforms, such as Zoom, which has been identified as easy-to-use and engaging (Robinson & Poling, 2017). With the pandemic catching most off-guard, little account was taken into the perceptions, attitudes, and beliefs of Clemson Extension agents and advisory groups. To frame the evaluation of these concerns, the theory of planned behavior (Ajzen, 1991) was implemented (see Figure 1).

**Figure 1**

*Ajzen’s (1991) Theory of Planned Behavior Model*



The theory of planned behavior (Ajzen, 1991) “provides a useful conceptual framework for dealing with the complexities of human social behavior” (p. 206), as it provides a frame to

outline the predictability of an individual's future plans and behaviors (Ajzen, 1991). The theory of planned behavior has further been implemented (Murphrey et al., 2016) to evaluate one's perceptions and/or intentions related to formal and informal training (i.e., Extension programming). Within the context of this study, a mixed-methods approach was established to determine the factors (i.e., attitude toward the behavior, subjective norms, and perceived behavioral control) impacting behaviors associated with Clemson Extension. Specifically, programming efforts (i.e., attitudes), roles (i.e., norms), issues (i.e., attitude and perceived control), and solutions (i.e., intentions) were addressed to establish best practices learned from the COVID-19 pandemic. Understanding the attitudes and perceptions of Extension educators and key stakeholders (i.e., advisory committee members) allows researchers, faculty, and Extension educators to be better prepared to face future challenges while continuing to meet the current public demand.

### **Purpose and Research Objectives**

During today's societal changes, Clemson Extension has expanded its role to provide education to the public through virtual and other non-contact options. Therefore, this study aimed to determine the perceptions of Clemson Extension agents and the prevalent issues faced within the agriculture community in the South Carolina by interviewing Extension agents and surveying Clemson Extension advisory committee members. Four research questions were developed to guide this study:

1. Describe the current perceptions of Clemson Extension agents amidst the COVID-19 pandemic.
2. Identify the greatest issues facing agriculture in South Carolina according to advisory committee members during the COVID-19 pandemic?
3. Determine current and potential solutions from Clemson Extension to address the issues faced during the COVID-19 pandemic.
4. Create a list of preferred programs and program delivery methods for future Extension programming.

### **Methods**

This exploratory, mixed methods inquiry investigated the perceptions of current Clemson Extension agents across South Carolina ( $N = 154$ ) and Extension advisory committee members ( $N = 64$ ) related to the COVID-19 pandemic and Extensions response. To meet the needs of this mixed methods approach, qualitative interviews were conducted with Extension agents ( $n = 6$ ) and a survey questionnaire was utilized to collect pertinent data from Extension advisory committee members.

#### **Qualitative Inquiry Procedures**

As with most qualitative inquiries, this study sought to provide rich information from the Extension agents as they adapt with the changing dynamics of the pandemic. A purposive sampling strategy was implemented to reach data saturation amongst the variety of agents across the state. This sampling method included soliciting participation from agents from all five regions and 10 program teams, resulting in interviews with six agents representing five program

teams and all five regions spanning 15 counties, as some agents work in multiple counties. For proper tracking of data, each participating agent was provided a pseudo name that is outlined in Table 1.

**Table 1**

*Clemson Extension Agents Who Participated in the Study (n = 6)*

Pseudo Name	Sex	Region	Program Team
Shawn	Male	Region 4	Horticulture
Abigail	Female	Region 1	4-H Youth Development
Violet	Female	Region 5	Livestock & Forages
Leonard	Male	Region 3	Forestry & Wildlife
Keith	Male	Region 4	Agronomic Crops
Taylor	Male	Region 2	Horticulture

To address the overarching research objective of the qualitative inquiry, a flexible interview protocol was established spanning four topic areas, including: 1) Accessibility and program impacts; 2) Responding in a time of crisis; 3) Remote instruction and distance education; and 4) Economic and communication concerns early in the COVID-19 pandemic. Each topic area included probing questions to help facilitate conversation, helping to uncover the specific paradigm being studied. Glesne (2016) identifies the specific paradigm or reality being evaluated within this study as an ontology, as the study aimed to discover and individuals' beliefs associated with their current reality, further connecting to the theory base (Ajzen, 1991) as we try to uncover future intentions. The interview protocol was checked for face and content validity (Salkind, 2012) by two faculty members with teaching and research experience in Extension education and research methodology. All six interviews were conducted by an undergraduate student minoring in Extension education following the interview protocol for consistency. Additionally, a fieldwork notebook was compiled by the interviewer to document the interview experiences through observation notes, interview notes, and reflexive thoughts (Glesne, 2016).

The interviews were conducted using Zoom due to the ongoing COVID-19 pandemic and University regulations. The interviews were recorded and transcribed using features embedded in the Zoom platform, which were then compared against one another for accuracy. In addition to the interview recordings and transcriptions, interviewer notes were used for triangulation of data. To further increase the trustworthiness of the study, the research team followed the recommendations of Privitera (2017) to establish credibility, transferability, dependability, and confirmability within the study. Credibility was addressed through coding member checks across the research team to reduce bias (Creswell & Poth, 2018) along with triangulation of data and saturation of emerging categories (Privitera, 2020). To enhance transferability the researchers described the participants (including pseudonyms), detailed the interview and data analysis process, and highlighted the perspectives of the participants. Procedural explanations and data triangulation furthered the dependability of the research (Creswell & Poth, 2018;

Privitera, 2020), and a reflexivity statement was included to describe any inherent biases associated with the phenomenon (Privitera, 2020).

Confirmability refers to the objectivity of the findings and the ability to interpret the narrative of the experience of participants to determine the essence of the phenomena instead of the researcher's bias (Creswell & Poth, 2018; Privitera, 2020). A reflexivity statement describes the researcher's previous understanding of the phenomenon

To analyze the interview transcripts through a qualitative lens, this study implemented the constant comparative method (Glasser & Strauss, 1967), which permits the data to speak for itself, allowing themes to emerge. The first round of coding used open-coding sources, allowing themes to emerge through the process (Creswell & Poth, 2018). Axial coding was followed for second-round coding, where the relationships between open codes resulted in overarching categories (Creswell & Poth, 2018; Glasser & Strauss, 1967). Round three of coding was selective coding, where the researchers determined the core variables from the qualitative interviews.

The purposive sampling provides a limiting factor as only six Clemson Extension agents were interviewed for the purpose of this study. Therefore, the findings of this study are limited to the views of the participants and not necessarily that of all agents in the state, but the findings of the study can be used to inform practice, guide future research, and potentially offer state-wide implementations based on needs. The research team recommends caution when looking to generalize the data, although the data has transferable qualities if the readers deem the population and situations identified as germane to their inquiry.

Within a qualitative inquiry, Palaganas et al. (2017) recommends for researchers to acknowledge any inherent bias and reveal their identity to offer reflexivity. The research team consisted of two faculty members in agricultural education at Clemson, a current Extension educator, and an undergraduate student pursuing a minor in extension education. The faculty members have more than 30 years of experience combined in agricultural and extension education. We recognize our bias toward Extension because of our faculty roles and have attempted to harness that bias through a consistent interview protocol, interviewer, and extensive field notes.

## **Survey Research Procedures**

This non-experimental descriptive survey research component aimed to reach Clemson Extension advisory committee members ( $N = 64$ ) in Abbeville, Anderson, Greenville, Oconee, and Pickens counties in South Carolina. The counties selected to participate in the survey were selected for their vast differences, including suburban, rural agriculture/homesteads, small towns, and large cities. The populations of the participating counties were Greenville - 507,003; Anderson - 198,064; Pickens - 124,029; Oconee - 77,528, and Abbeville - 24,627 (United States Census Bureau, 2021).

The questions addressed in this study were designed to assess how the Clemson Cooperative Extension Service adapted during the COVID 19 pandemic. Survey questions were divided into three categories, 1) Agricultural issues, 2) Extension programming, and 3) Participant

demographics. The agricultural issues category elicited open ended responses to determine the greatest issues facing agriculture and what Clemson Extension is and can do to help the issues. The second category aimed to determine the preferred program delivery methods and primary program teams of interest. The researcher-developed survey was reviewed for face and content validity by Agricultural Education faculty and Clemson Extension professionals.

Of the 64 advisory members who received the survey via email, 27 responded, resulting in a 42.2% response rate. Participants were 55.6% male and 44.4% female and ranged in age from 29 to 73 years old, with agricultural involvement varying from pre-production/production agriculture to agricultural consumers (see Table 2) across the five counties. Data was analyzed using SPSS Version 27 to address the proposed research questions.

**Table 2**

*Personal and Professional Demographics of Extension Advisory Committee Members in South Carolina (n = 27).*

Demographics		<i>f</i>	%
Gender	Male	15	55.6
	Female	12	44.4
	Prefer not to respond	0	0.0
Age	21 to 30	1	3.7
	31 to 40	5	18.5
	41 to 50	3	11.1
	51 to 60	8	29.6
	61 to 70	4	14.8
	70 or older	6	22.2
	Did not respond	0	0.0
Current Role in Agriculture	Pre-Production	2	7.4
	Production	14	52.9
	Consumer	10	37.03
	Did not respond	1	3.7

## Findings

### **Research Question 1: Describe the current perceptions of Clemson Extension agents amidst the COVID-19 pandemic.**

The emerging codes, themes, and categories were used to explain the perceptions of Clemson Extension agents related to the ongoing COVID-19 pandemic. Four overarching categories emerged from the findings.

### **Category 1: Extension is Adaptable**

Keith stated, “we’re used to getting things thrown in our lap, everybody in the world or everybody in the country says, you have any questions call your county extension agent,” which reinforced this concept. When considering the COVID-19 pandemic, Keith went on to say, “as far as agronomy agents and a lot of the horticulture agents, we’ve never quit visiting farmers, when they call, we go.” The changes caused by the pandemic looked different across the state, depending on the needs of community, which was encompassed through the thoughts of Extension professionals “adapting every single day and the pandemic just made it a big step, as opposed to little steps. We just had to figure out a way to continue to do what we’re already doing, just in a different format” (Leonard). Other interviews built upon these same lines of thought to demonstrate the overall adaptability of Clemson Extension.

### **Category 2: Need for Training and Resources**

The greatest need indicated across the interviews was specific training and resources to help Extension professionals and constituents navigate the pandemic. Keith simply stated that “everybody’s been putting out fires and handling their own problems ... and I think some help and some guidance with all our delivery programs would be great.” Abigail further identified “a big chunk of people who are probably [her] age and younger and then a couple of older ones who ... are more traditional, who need some help.” The participants identified specific training needs for agents across the state related to Zoom, virtual programming, and mental health of both adults and youth, “because as the times change, new stuff comes up.” Additional resources were also discussed by participants as many Extension professionals “live out in the middle of nowhere and Internet does not come to [their] house” (Shawn), requiring them to work of a limited data hot spot, when the data is gone, they are without internet. Participants also expressed a need for computers “that can handle Zoom,” so they can utilize Zoom features and provide essential programming to constituents. The final resource need is for the community members Extension professionals aim to reach, as many farmers and ranchers struggle to engage using technology, which Leonard explained that “it’s not necessarily that they can’t do it, a lot of them just don’t have the ability. Your rural areas just don’t have computers.”

### **Category 3: Community Perceptions**

Perceptions of the communities Extension professionals serve was expressed by Violet as, “we’ve been at this so long, I wonder about our relevance... I’m still making farm visits, but a lot of people think we’re closed.” Similarly, Taylor struggled “going from what we normally do and being the face of the public and the face of the university to everything [moving] online, was tough. The biggest struggle was getting over the hill of convincing yourself that this is the way it’s going to be and then having to convince clientele that this is the way it’s going to be for a little while.” The change in delivery was difficult for all involved and many are concerned with the impact of the pandemic on the relationship between the Extension professional and the clientele moving forward. Which, Violet expressed as her “greatest concern, is how to bring those people back and have them trust us again and know that we’re still working, we’re still

here and we still deserve to be paid, that sort of thing. I've heard all those things so that's probably what I'm worried about the most."

**Category 4: Reluctancy to New Methods**

Violet explained that "certainly the Zoom capabilities are good, but there's been some reluctance to use them from our older crowd, and, unfortunately most farmers are 65 and older." She went on to express the hardships as "it's been a little bit hard to pull them [older farmers] in and get them to really feel connected. They like our meetings for the information side of it, but also the community feel, and I think you do lose a little bit of that with the virtual sense or virtual realm." In contrast, Taylor found a positive side to the new methods as "we're reaching a lot more people, especially on our side of the team that probably wouldn't normally come to a meeting because they can just jump on a computer now." But he also went on to explain the reluctance as "a majority of our clientele is older, the Zoom thing is tough for them, the technology piece is tough... We picked up a lot of clients... but we probably have some frustrated clients because of it."

**Research Question 2: Identify the greatest issues facing agriculture in South Carolina according to advisory committee members during the COVID-19 pandemic?**

The second research question focused on determining the greatest issue(s) currently facing the agricultural industry in South Carolina. Of the 27 respondents, two primary issues arose, the cost/lack of agricultural inputs and outputs, and the need for local produce and meat products. Table 3 outlines underlying issues that make up those broader categories.

**Table 3**

*Greatest Issues Facing South Carolina Agriculture (n = 27)*

Category	Specific Issues
Cost/Lack of Agricultural Inputs and Outputs	Land, Seed, Feed, Fertilizer, Chemicals, Slaughter Facilities Increased Cost due to Urban Sprawl, Market Fluctuations
Need for Local Produce and Meat products	COVID Restrictions Farmers Market and Open-Air Markets Closed

**Research Question 3: Determine current and potential solutions from Clemson Extension to address the issues during the COVID-19 pandemic.**

The third research question addressed the current and potential solutions Clemson Extension is currently providing or could provide to address issues in agriculture. Table 4 outlines the current solutions being offered, although 14.8% of respondents felt that nothing was currently available. The two current solutions include agricultural education and agricultural land loss prevention. Specifically, agricultural education represents the Making It Grow programming offered through South Carolina Educational Television (SCETV), information provided by the Home Garden Information Center (HGIC), 4-H youth development programming, and Extension programs/education. The second solution to currently assist agriculturalists is the agricultural land loss prevention program focused on agricultural land easements offered through the USDA-NRCS office.

**Table 4**

*Solutions Available for Current Agricultural Issues (n = 27)*

Current Solutions	Specific Program/Offering
Agricultural Education	Making it Grow HGIC 4-H Youth Programming Extension Programs/Education
Agricultural Land Loss Prevention	Agricultural Land Easements-NRCS

In addition to current programs, respondents' ideas for potential solutions were of interest to the research team. Respondents identified two categories of solutions, the first being to publicize Extension programs and services better, so the public have a better understanding of what Extension does and what is being offered. The second solution was an increase in agricultural education, specifically targeting small farms and farming for-profit programs, additionally youth education opportunities, along with specific education programming highlighting the historical importance of agricultural land and keeping that land in agricultural production. Much of this was connected to 56% of respondents identifying COVID-19 as having a specific impact on agriculture in the state. Specifically, one of the greatest concerns was the impact of virtual programming during the COVID-19 pandemic, as many individuals did not have access to virtual programming due to lack of technology or internet. A potential option that was presented was being sure to offer recorded (asynchronous) programming options versus the live (synchronous) options currently available.

**Research Question 4: Create a list of preferred programs and program delivery methods for future Extension programming.**

The final objective aimed to establish the preferred program delivery methods for future extension programming, along with current and future program interests. Table 6 outlines the preferred information delivery method of respondents.

**Table 6***Preferred Information Delivery Method (n = 27)*

Delivery Method	<i>f</i>	%
Email	9	33.3
Office Visits	6	22.2
No Preference	6	22.2
Farm Visits	1	3.7
Phone	1	3.7
Text Updates	1	3.7
Fact Sheets	1	3.7
Postal Mail	1	3.7
Social Media	1	3.7

In addition, 55.6% of participants said they would be willing to participate in future virtual programming if offered, while 22.2% of participants said they would not participate, and the remaining 22.2% were unsure. To further understand programmatic interests, participants were asked to identify which of the Clemson Extension Program teams had provided the most information during the pandemic, Table 7 outlines their responses.

**Table 7***Programmatic Teams Offering the Most Programming During COVID 19*

Program Team	<i>f</i>	%
4-H	7	25.9
Unknown	6	22.2
Forestry and Wildlife	4	14.8
Agricultural Education	3	11.1
Horticulture	3	11.1
Food Systems and Safety	2	7.4
Livestock and Forages	1	3.7
Rural Health and Nutrition	1	3.7

Although 4-H was reported as the program team providing the most programming during the pandemic, participants expressed the most interest in more programming from the forestry and wildlife team (33.3%), followed by the agricultural education and livestock and forages teams, both with 26% of the respondents interested. The agribusiness team (22.2%) and the horticulture team (18.5%) rounded out the top five. The remaining program areas had less than 14% of participants interested.

### **Conclusions, Implications, and Recommendations**

Through this study, strengths and challenges for South Carolina Cooperative Extension Agents during the COVID-19 pandemic were learned, providing a framework in the event of similar challenges in the future. As identified in the category one finding, “Extension is Adaptable,” discussed how agents continued to meet their constituent’s needs, but through use of many creative means. a benefit that will aide Cooperative Extension Agents is the ability to adapt quickly. This ability to adapt would support those aspects in the category two findings which identified a need for training/in-service of Cooperative Extension Agents and their constituents. Category three, “Community Perceptions,” is reflective of the anxiety and uncertainty that was commonly experienced during the pandemic. Shifts in time and locations of workplace during the pandemic created a variety of uninformed interpretations of staff labor and confusion among the clientele base. Category four, “Reluctancy to New Methods” was commonly thought to be a challenge, but during the pandemic, it became widely know that there are gaps in technological competencies. Although Extension agents had negative perceptions about certain components of their ability to provide appropriate education and outreach to constituent groups, their overall intentions were positive leading to actionable behaviors (Ajzen, 1991) that made an impact in their communities and states.

According to the advisory committee members in this study, there are two primary issues (i.e., attitudes; Ajzen, 1991) facing agriculture (i.e., cost or lack of agricultural inputs and outputs and the need for local produce and meat products) in South Carolina. The first issue can be contributed to the availability of land due to urban sprawl as well as all input costs having significantly increased in spring 2021. Additionally, slaughter facilities have been waitlisted for the last year due to high demand for American meat products. The area of concern can be considered together with the first due to slaughterhouses being backed up, local meat producers are unable to get their product finished out and packed for sale. Open air markets and farmers have been under the mercy of local and federal government’s restrictions, which have limited or cancelled all oppourtunities for local produce to be made available (L. Keasler, personal communication, 2021). Although these issues are of concern, Extension has the opportunity to address some of them by providing timely and accurate information to those who need it most. This allows the agents to control what they can through communication, reducing the negative perception and informing stakeholders if the subjective norms (Ajzen, 1991) currently impacting agricultural production.

Extension can work with local producers to ensure that they are in contact with their local and state representatives to be made aware of the issues that American agriculturalists are facing in today’s environment. Extension can also provide more agricultural education to the general consumer to assist our agricultural producers in informing the community what issues they face to maintain their livelihood. Some things cannot be controlled, such as market fluctuations and processing facilities operation. However, agents can make public representatives aware of the issues, asking them to push these issues in front of our elected legislative bodies to enact change through governmental policies. According to Anderson and Salkehatchie counties Cattlemen's Association members and meat producers (personal communication, January 12, 2021), the availability of funds to build more USDA certified handling facilities would increase the speed at

which products can be made available to markets, as well as increase jobs in areas where these facilities are housed. Perhaps, inputs such as fertilizers and herbicides can be regulated by government to avoid price gouging when they are needed the most, making the big companies richer and the hard-working farmers pockets tighter to continue to make a living in production agriculture.

Local fruit and vegetable producers face a slightly different issue in that they are at the mercy of local, state, and federal mandates, only operating at full capacity when they are told it is safe to do so (L. Keasler, personal communication, 2021). Similarly, Extension is subject to these same mercies, although we have seemed to reach a new normal, the findings of this study can be beneficial for Clemson Extension and similar Extension agencies in other states.

The implications support the Theory of Planned Behavior (Ajzen, 1991), as agents recognized that they could adapt to meet the needs of their constituents during time of many unknowns and countless challenges demonstrates how favorable attitudes and intentions result in adaptable behaviors. These behaviors include the awareness of need for additional training and to seek resources to meet needs. Paradoxically, the resistance of many constituents to accept alternative programming methods presented opposing behaviors from the agents, creating additional challenges. Regardless, adaptability is key moving forward for Extension, as it allows Extension agents to meet the needs in their communities, serve their primary stakeholder groups, and improve overall perceptions of what they offer. Although it should be noted that many of the factors impacting Extension during the COVID-19 pandemic were outside of the Extension agents' control, ultimately impacting the perceived behavioral control the agents had on situations (Ajzen, 1991).

Considering recommendations for Extension professionals, a need exists to better publicize programs and services offered from the county offices to increase awareness and community participation. This can be done through local news organizations such as newspapers, radio stations, social media, and news channels. Although the pandemic has provided its share of challenges, the increased availability for virtual programming has some benefits, such as being able to reach a broader audience across the state who previously never participated in Extension programming. Moving forward it is recommended that Extension consider ways to offer programming in-person and virtually to continue to expand the diversity of people being reach for programming. Perhaps, with a collaborative effort Clemson Extension could make a greater impact on the future of agriculture across the state, as agriculture makes an impact on everyone's daily life. Extension professionals should consider the findings as a starting point to evaluate the current state of Extension programming and how to best move forward to address pertinent agricultural issues.

Realizing the conclusions and implications addressed in this study, it is recommended that Cooperative Extension Services consider the following actions:

1. Initiate an assessment of State Cooperative Extension Service staff to develop a comprehensive guide on best management practices in the event of future events of the magnitude experienced from the COVID-19 pandemic;
2. Develop a series of in-service offerings on communications tools for delivery of online programming, provided at different skills levels;
3. Coordinate with agencies that provide professional development in awareness of mental health issues and recommended practices and resources available, and
4. Establish a review team of IT experts for the Cooperative Extension Service that will develop a standard protocol to assure that technologies (laptops, scanners, etc.) needed for online delivery and required Internet access will be available for staff to successfully complete their programming remotely as needed.

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