Extension's Role in Rural Stress:
An Evaluation of Extension Agents' Perceptions of Rural Stress in Georgia

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Abstract
This was a qualitative, exploratory study examining the use of a word cloud activity with Extension agents to promote dialogue around the sensitive topic of farmer/rural stress to understand their community needs. With an increasing amount of health-related issues in rural America and abroad, particularly mental health and rural stress, the use of a word cloud activity helped identify individual regional needs through a visual thematic qualitative analysis. Through a constant comparative analysis, regional and state-wide themes were deduced to begin creating programming opportunities to address community needs in Georgia, the U.S., and the world. The identified themes indicated a need for support, resources and education in rural areas regarding farmer and rural stress.

Introduction

With agriculture being the largest industry in Georgia, its 159 counties rely heavily on the resources and information provided by the states' Extension services ("Our Programs," n.d.). The Cooperative Extension System exists to offer community outreach and a variety of educational programs within each state. These programs often focus on local agriculture, community development, natural resources and management, and youth development ("Our Programs," n.d.). Extension educators within collegiate or academic departments are often responsible for developing needs assessments and providing research-based support within their communities (Franz & Townson, 2008). Over the last decade, one of the community needs in rural areas has become mental health and stress, where increased pharmaceutical addiction and suicide rates have become more prevalent ("Drug overdose in rural America", 2017; "Suicide in rural America", 2018).

The United States Census Bureau defines rural areas as "all territory, persons, and housing units not defined as urban" (Ratcliffe, Burd, Holder, & Fields, 2016, p. 2). In 2010, this defined area accounted for approximately 19.3% of the population in the U.S.; however, despite their large populations, urban areas only encompass approximately 3% of the country's land (Ratcliffe et al., 2016). Although stress may typically be associated with busy and hectic lives in urban cities, rural environments can undergo significant stresses often overlooked by urban dwellers (Lovelace, 2004). According to Lovelace (2004), stress is defined as "emotional or physical strain that disrupts the normal equilibrium of life" (p.121). Recently, the Centers for Disease Control and Prevention (2017) announced that rural Americans are less likely than urban Americans to adopt healthier behaviors and practices capable of reducing the development of chronic diseases. Americans living within rural communities are significantly more likely to die from five of the leading causes of death, (heart disease, cancer, unintentional injuries, chronic lower respiratory disease, and stroke), when compared to people living in more urban areas ("Leading causes of death in rural America," 2017). With approximately 46 million individuals living in these rural areas, this level of social disparity is observable, but often overlooked ("Leading causes of death in rural America," 2017). Additionally, rural Americans are more susceptible to medical conditions such as high blood pressure and obesity, have higher suicide rates, higher rates of poverty, less access to healthcare, and are less likely to have health insurance ("Leading causes of death in rural America," 2017). With the social, geographic, and health disparities between rural and urban areas, an ever-pressing need exists to develop a discursive space focused on rural stress.

Literature Review/Conceptual Framework

Although more farm households continually have to seek work outside of the farm for a greater source of income, farmers are incredibly tied to their occupation despite the ever-changing stressors influencing their quality of life (Bogue & Phelan, 2005). An individual's "quality of life" can be defined as the individual's perception and belief about one's ongoing life experiences including their familial, social, economic, personal and work related success (Bogue & Phelan, 2005). Internationally, farmers experience stressors such as the physicality of their work, lack of time, uncertainty of the market, agricultural regulations, physical isolation, financial stress, family conflicts, uncertainty in succession of their farms, and the unpredictable nature of farming including

weather, equipment breakdowns, and difficulty using new technology (Lunner Kolstrup et al., 2013; Truchot & Andela, 2018). Stressors in the farming community can also include living in small, tight-knit rural communities lacking privacy and additional stress and exhaustion can lead to accidents (Naik, 2017). Farmers have a unique fusion between their work and life relationship compared to other occupations. By working and living in isolated areas and having little time away from work, farmers have little separation between work and their home life (Gregoire, 2002). A farmer's location and commodity choices, such as livestock, can add other stresses. For example, dairy farmers worldwide have stressors such as diseases related to livestock, taxes on their production, and negative attitudes toward their practices (Lunner Kolstrup et al., 2013)

These contextual stressors are further compounded by the lack of aid and highlight the need for improved mental health outreach to better assist the agricultural community, while overcoming the barriers associated with mental healthcare (Gregoire, 2002). For example, when seeking assistance for issues related to mental health, male farmers experience barriers like distance to appointments, lack of financial access for help, and stigma associated with mental health and treatment or help-seeking behaviors (Roy, Tremblay, & Robertson, 2014). The various occupational, social, and geographic disparities between rural and urban populations have created an ever-pressing need to develop a discursive space focused on rural stress and identifying programmatic needs of the community to address this issue. As increasing levels of rural stressors rise in the world's rural communities, Extension agents have the unique ability to help identify the needs of the community and work with researchers to develop resources and programs addressing

the most pressing issues of their communities (Lunner Kolstrup et al., 2013). This study examined Extension agents' perceptions of rural stress within their community in Georgia. This study was developed to better discern Extension agents' needs in addressing the rising concern of rural stress within their communities, while being sensitive to the complexities surrounding rural/farm stress and mental health.

Stigma

In some communities, there is a stigma associated with mental health and seeking mental health assistance. Research has demonstrated that sometimes within the farming community, the idea of the masculine farmer as tough and self-reliant can conflict with individuals seeking help for mental health issues, which can be construed as a sign of weakness (Naik, 2017). Education, and especially educating young people, in rural areas can help destigmatize mental health and seeking mental health help (Gregoire, 2002). Research has recommended for both governmental and non-governmental organizations to assist with mental health education, awareness, and the stigma associated with mental health and seeking help for mental health (Gregoire, 2002).

Research in studies from New Zealand and Australia recommended preventative programming, online initiatives, events, workshops, and publications to encourage a discussion about mental health in the agricultural industry (Naik, 2017). Mental health programming can assist in opening the conversation and breaking the taboo about mental health in the communities (Naik, 2017). The presence of mental health programs and education can assist with an increase in the ability to recognize the signs of mental health issues (El-Amin, Lieder, Anderson, Satorius, &

Knudson, 2019). These programmatic initiatives require community support and trust, given the sensitive and personal nature of mental health.

Farmers are more likely to seek services from people and organizations they trust for health-related information (Kilpatrick, Willis, Johns, & Peek, 2012). Local industry organizations can utilize their social capital and serve as an entry point for access to promote health information because they have established trust within their working relationships with farmers (Kilpatrick et al., 2012). Mental health programs need to be preventative and continue to be outside of traditional medical facilities to help with health in rural and farming communities (Roy et al., 2014). The inclusion of community member volunteers can help with small group counseling sessions and encourage participants to feel more open to expressing their concerns due to their familiarity and living in the same rural community (Thompson & McCubbin, 1987).

A farmer's family and other social support systems can help the farmers' deal with stressors they face (Anderson et al., 2012; Fraser, Judd, Humphreys, Frager, & Henderson, 2005). Other close relationships, such as friendships, can help farmers and serve as a coping device to deal with stress (Roy et al., 2014). For example, role models were found to play an important role in helping address male farmers' distress and promoting help-seeking behavior for mental health (Roy et al., 2014). Additionally, finding trusted relationships where farmers seek out confidants in their community, beyond their immediate farming peers, has shown to be important (Roy et al., 2014). Overall, mental health services need to be made more accessible to farmers in a trusted environment with trusted people (Polain, Berry, & Hoskin, 2011).

Rural Healthcare

In addition to the individual and contextual challenges associated with rural environments, there are also systemic challenges associated with the rural healthcare system. For example, rural healthcare workers have stressors related to being overbooked with clients, working in multiple locations, a lack of support in staffing due to a high-turnover rate, and frustrations with technology (Hasbrouck & Waddimba, 2017). Research has suggested that healthcare organizations should invest in programming and mentoring to help healthcare workers maintain their health to care for patients, cope with stress, and deal with the stigma of someone receiving help (Hasbrouck & Waddimba, 2017). Research has found that mental health promotion might be better disseminated through other non-governmental networks since most farmers visit their physicians only to deal with obvious physical issues (Gregoire, 2012).

Previous research demonstrates mental health services need to be made more accessible, especially to farmers who work closely on their land or who lack mobility (Polain et al., 2011). Researchers found farmers feel physicians need to understand their culture better to treat them best and understand the risks involved with the integrated relationship between career and lifestyle choices (Anderson et al., 2012). Nevertheless, there has been an observable trend to increase mental health literacy and programming in both rural and urban settings; however, there remains a gap in curriculum catered specifically to rural areas and the nuanced challenges associated within them (El-Amin et al., 2019).

Role of Extension

During the economic crisis in the 1980s, local Extension agents faced many community members dealing with

substantial financial loss, changes in their social structure and network, and uncertainty in the future (Molgaard, 1997). People turned to Extension for support because they were viewed as a valued source of information, and people in rural areas trusted their agents during these challenging times (Molgaard, 1997). Programs were set up through the Cooperative Extension Service to develop plans to help farm families come up with strategies to cope and identify stressors through the use of counselors, both professional or peer-trained, to help farm families deal with emotional and physical stress (Thompson & McCubbin, 1987).

In the past, Extension agents have shown to be vital to connecting and engaging the farming community with the health care professional community (Guin et al., 2012). Extension provides access to education that can promote health education, while decreasing the health disparities in rural communities (Fitch, Donato, & Strawder, 2013). Extension agents can serve as change agents in a community and with the assistance of volunteers, can help with health education (Wang, 1974). A change agent is a person from a change agency or an organization who communicates desired change to others (Rogers, 2003). Training designed to improve the capacity of knowledge for Extension agents to identify and deal with mental health issues can result in agents feeling more comfortable dealing with community members who indicate signs of mental health issues, including farmers (Hossain, Gorman, Eley, & Coutts, 2010). In some communities, county Extension agents are trained similarly to community health workers and are ingrained in the local culture (Fitch et al., 2013). Individuals working in healthcare, might then be able to connect with county Extension agents to create a community-based partnership and help give more robust

healthcare access to rural areas (Fitch et al., 2013).

Starting a Conversation

A community-based participatory model can help address sensitive topics related to mental health topics in a community through a culturally appropriate lens (Zanjani & Rowles, 2012). Zanjani and Rowles' (2012) research highlighted the impact of Extension agents creating programs to help address sensitive mental health topics. For example, when Extension agents attempted to increase mental health understanding and acceptance in their community by reframing the topic as "mental healthiness" the community responded positively and were more open and responsive. Problems within a community can be addressed and solved by the very same community through community-based participatory programming, education, and awareness campaigns (Zanjani & Rowles, 2012).

Shared conversations with representatives from organizations in the healthcare field can help better direct the needs in a community, provide a type of member check with local concerns, and help evaluate the satisfaction of programming (Moulton, Miller, Offutt, & Gibbens, 2007). Moulton et al. (2007) found even in a small community, having an open discussion with healthcare professionals and representatives of health-related organizations, new relationships and networks were formed to help address the populations' health concerns. Other forms of mental health conversation include outreach through social media, which can be instrumental reaching some farmers as many individuals use the Internet for networking both socially and professionally (Brigance, Mas, Sanchez, & Handal, 2018).

A gap exists in research related to mental health prevention and treatment

programming through university Extension in the United States. A large portion of the existing literature base is associated with Australia and New Zealand research associated farmer mental health programming reacting to climate change stressors (Brew, Inder, Allen, Thomas, & Kelly, 2016) and major climatic disasters such as drought (Fuller et al., 2007; Hanigan, Schirmer, & Niyonsenga, 2018; Hossain et al, 2010). Additionally, studies examined India's agrarian crisis from a national economic crisis in the agricultural industry; however, this research did not specifically focus on issues associated with mental health (Merriott, 2016). There has been a call in the literature for more studies to understand mental health in farmers and farming communities (Gregoire, 2002). Additional studies are needed to evaluate how farmers' resilience positively affects their mental health and can be translated to other populations (Berry, Hogan, Owen, Rickwood, & Frager, 2011; Fraser et al., 2005). Research within agricultural communities related to mental health would provide a foundation for future programming, both within the context of Extension as well as outside of the Extension domain (Gregoire, 2002). The issue of rural stress is not unique to one country, but one that pervades across borders and oceans.

Purpose & Objectives

The purpose of this study was to identify Extension agent insights and perceptions regarding rural stress in the state of Georgia. Specifically, this study sought to address the following research objectives:

RO1: Identify the common themes related to Georgia Extension agents' perceptions of rural and mental stress.

RO2: Identify Georgia Extension agent's common themes rural and mental stress by individual state districts.

RO3: Identify Georgia Extension agents' common themes of rural and mental stress for the entire state of Georgia.

Methodology

This study employed both constructionism and constructivism as epistemological perspectives, where language is used to make sense of reality through constructing interpersonal knowledge as constructivism or socially with others as constructionism (Vallo Castelló, 2016). The methodology of social constructionism and constructivism share the basic components of epistemological assumption that reality is not shown to an individual, but reached through an active process of construction (Vallo Castelló, 2016). Constructionism supports how individuals create meaning collectively (Crotty, 2003). Meaning is embedded and is a socio-cultural process, specific to each person and the context when constructing knowledge (Lock & Strong, 2010). A constructionist perspective was utilized during data analysis when each researcher took the knowledge they personally constructed from each word cloud and shared it with each other through constant comparative analysis.

Constructivist epistemology has various interpretations across research fields and literature, and predominantly is associated with pedagogy. Constructivism supports an individual or subject plays an active role in the creation of knowledge (Becerra & Castorina, 2018). Constructivism looks at how individuals construct much of what they learn and understand, as well as highlights how social interaction and context

affect one's personal learning (Schunk, 2012). In the context of this study, constructivism allowed the researchers to find personal interpretation of the data when analyzing it.

Research Design

For this qualitative, exploratory study, 281 of the 312 Extension agents across Georgia, from all 159 counties, came together at four district meetings to collaborate, during a 45-minute session, on Extension's role in providing resources on farmer and rural stress within their communities. The state is divided into four geographical districts by the county delivery system; Northeast, Northwest, Southeast, and Southwest (University of Georgia: Extension). The Extension agents of each of the four geographically distinct regions were each called to district meetings to expound upon their perceived role Extension should have on farmer and rural stress within their communities. At each of the four district meetings, all Extension agents were instructed to write the first five words that came to mind when asked the following prompt; "What do I believe is Georgia Extension's role in providing resources for farmer/rural stress in my community?" Once all agents had written their representative words, they were asked to form small groups of 4-5 individuals and discuss their words and identify key themes within their group. After the group discussions, agents were instructed to compile these keywords/themes into a word cloud representing the farmer/rural stress prompt. After being given a brief overview, explaining that word clouds are a visual representation of words and ideas, displaying prominence and hierarchy of words through color, size, and scale, the groups of agents were asked to create a word cloud from their group's identified words related to farmer/rural stress and Extension's role. Agents were

given large pieces of paper and a variety of colored markers to help them visually depict their group's words.

Word clouds, originally called tag clouds, are a process of distilling down the most common words and phrases used to draw attention to key elements around the issue (Heimerl, Lohmann, Lange, & Ertl, 2014). According to DePaolo and Wilkinson (2014), word clouds are a way of compiling text data into graph form through the use of various font sizes, structures, and colors on the depicted words to assess an individual or group's knowledge on a subject. This form of surveying can be used to identify themes or trends based on an individual's understanding. Word clouds are useful tools to use when trying to analyze data because they can be used as a starting point for reflection and assessment (DePaolo & Wilkinson, 2014). Agents were instructed to utilize writing techniques such as boldness, size, color, and arrangement of words to stress the importance of each word/theme. Agents were instructed to include all words from each of the group's members within their word clouds. At the end of the four district meetings, the word clouds were collected and organized by district to be analyzed and recorded.

Each district's word clouds were coded individually and compiled on a master list by two researchers. The two researchers who coded the word clouds were not present at the time of the activity or for the collection of the word clouds. No personal identity markers were used on the word clouds to maintain participant anonymity. This enabled the researchers to code the word clouds without bias and maintain the integrity of this qualitative study as well as practice peer debriefing to maintain trustworthiness in the study. Using a modified version of Glaser's (1965) constant comparative method, the researchers analyzed each districts' word clouds based

on size, prominence, and themes. Words and themes were extracted from the word clouds and compiled into the master list organized by their importance relative to their size. The words and themes were categorized as "big, medium, small, and tiny" for each district. Overall themes were determined for each district and for the entire state using qualitative thematic analyses that are visually represented in models.

Limitations

Several limitations exist to this study and need to be considered before applying the findings to future research and application. First, the definition of "farmer/rural stress" was never explicitly described to the Extension agents in the prompt given. The lack of a formal definition could have resulted in ambiguity throughout the construction of the various word clouds. Although the researchers sought to gain an understanding of what "farmer/rural stress" meant for each region, the different agents could have interpreted rural stress to be anything from physical strain to farmer suicide, resulting in drastic differences in interpretation. Second, word clouds have to be assessed manually, and with only the words provided to interpret meaning, there were no context or situational cues that accompany the word clouds. This results in a purely literal analysis of the words within each word cloud.

Results

The following results discuss the themes related to Extension agents' perceptions of farmer and rural stress by the use of the word cloud activity (RO1) and categorized into their individual state districts (RO2).

Northwest District: Communication

The most prominent need expressed by the 79 agents for this region was the need for better communication around farmer/rural stress. This was seen as the researchers analyzed this district's word cloud activity and repeatedly came across key words such as "conversations," "focus groups," and "identifying and meeting needs." Whether it was relaying resources from experts in an effective manner or communicating concerns, this region's agents indicated the best way to address farmer/rural stress within their community was through improving communication between the experts and locals. From this overarching need for greater communication around rural stress, two key trends began to emerge in the need for more connectivity to communication channels as well as rising concerns around this topic. This district's need for more links to communication channels was determined through the use of words/phrases such as "connect," "link," and "help access." The concerns predominantly stemmed from communication and focused on personal/communal health and well-being as well as familial stability. This was depicted through the agents' use of words such as "relationship building," "mentoring," and "knowing the signs." Through the increased need for more links toward better communication, this district indicated that more connectivity and collaboration from experts in this topic would result in better communication around this rural topic. Words/phrases such as "relationship building," "connect," and "conversations" were noted consistently to support this regional theme (Figure 2), but these connections to communication resources needed to be from an "expert" source to focus on "assessment."
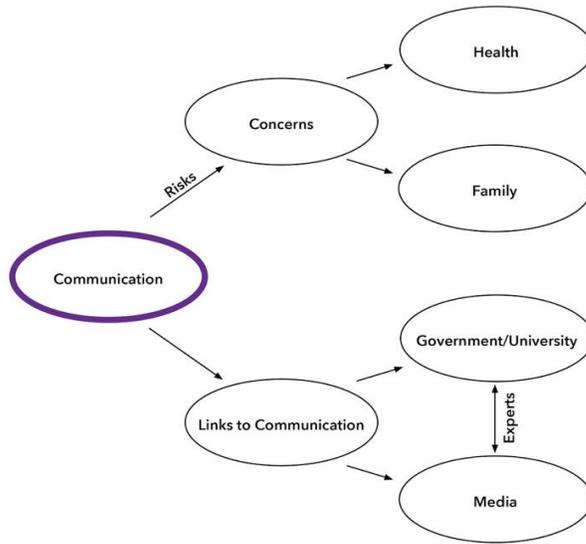
Figure 1. Northwest District Themes.

Northeast District: Collaborate

The primary theme from the 63 Northeast region agents was collaboration. Through agents' use of words such as "comfortable," "trust," "help," and "non-judgmental," the researchers established this region's need for collaboration. This theme could be seen through the subcategory of support, which was supported by the word "support". The theme of "support" could ultimately be broken down into positive support and supportive resources that promoted further education on farmer/rural stress. "Supportive environments," "positivity," and "safe" were used repeatedly to demonstrate the importance of "safe spaces" and the positive supportive environments that were mentioned within this region. However, these supportive environments could not be possible without improving the community's resources through support such as "programming," "publications," and "relief" which ultimately focused on improving education around rural stress.
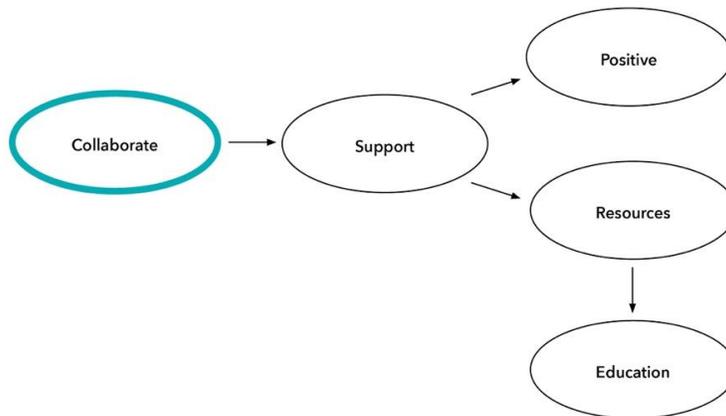

Figure 2. Northeast District Themes.

Southeast District: Resources

For the 69 agents in this region, resource availability was the ultimate theme within this region encompassing both personal and community needs. This theme became evident after realizing the district's need for more personal and communal resources focused on filling in the community's knowledge gaps around farmer/rural stress. The need for these personal and communal resources was depicted through "encouragement," "family programs," "community resources," and "training." Within both the personal and community focused resources, it became evident this particular district needs further guidance on the topic of rural stress from people this district labeled as "specialists" and "facilitators." Ultimately, words such as "collaboration," "community involvement," and "direction" all showed a need for resource aid, but this region emphasized the need for "community involvement" and "family resources" as well to better understand farmer/rural stress (Figure 3). These needs were addressed by words that fit within several smaller subcategories such as the community's gap in knowledge, need for outsider support, and risk awareness. The community's gap in knowledge on rural stress, as well as their need for outside support, was evident through words such as "help," "resources," "referral," and "communication." This community also stressed the need to recognize any legal risks around farmer/rural stress through words such as "untrained," "insurance," "cost," and "technical resources."

Figure 3. Southeast District Themes.

Southwest District: Trust vs. Liability

From the Southwest region's 70 agents, themes of conflict between the need for trustworthy resources and viewing farmer/rural stress as something to be wary of emerged through words such as "liability," "proceed with caution," "trust," and "relationships". The trust theme was predominately supported by words such as "safe space" and "approachable," but it was also seen to have emotional and relational context through words such as "compassion" and "dependable." The liability portion of this regional theme stems from phrases such as "serious issue" and "referral." Although these words were not in the majority, there was a methodical context within this region that suggested farmer/rural stress was not a topic the local people feel prepared to handle on their own. Words such as "1:1 consult" and "experts" were used repeatedly to illustrate the need for outsider help as they sought out ways to act/solve rural stress issues (Figure 4). However, the region did elicit a need for intentionality through personal interactions

and relationships built on trust through words such as "compassion," "empathy," "intentional," and "friendly/understanding."
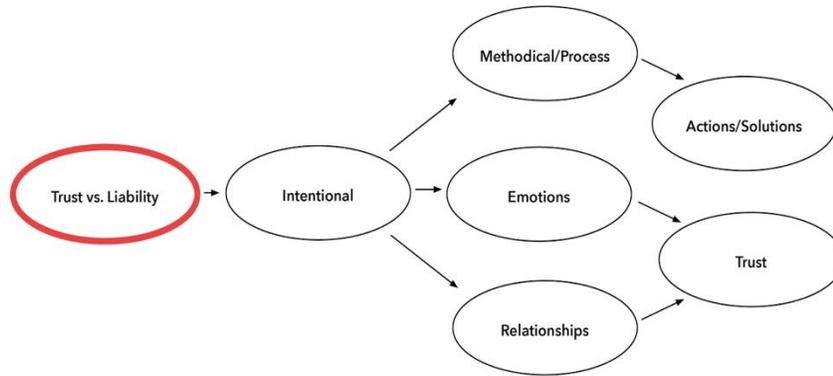

Figure 4. Southwest District Themes.

Overall District Themes

To address the third research objective (RO3) of this study, all of the word clouds themes of Extension's role in addressing farmer/rural stress were compiled and analyzed for the entire state of Georgia. Upon the analysis of each district's word clouds, several distinct key themes arose, as well as several overarching and cross-district themes. The most common theme shared by all four regions was the need for further education and support focused on farmer and rural stress within the communities. This need was depicted by examining the driving words behind the four individual themes as well as the continuous representation of "education" and "support" throughout the four districts' word clouds. There was some regional overlap between the four districts and the root words for several of the districts' themes. One commonality between the Northeast and Northwest regions, aside from increased education and support, was the shared the goal of improving their community's livelihoods by implementing more resources around farmer and rural stress. This was illustrated across both districts by words such as "livelihood" and "empowerment through training." Between the Northwest and Southwest regions an emphasis on the need for more awareness for farmer/rural stress was prominent, but the two districts differed in how to gain more knowledge. Both northern regions, along with the southeastern region, shared the common concern of needing more professional help in the area of farmer/rural stress; however, the two southern regions, as well as the northwestern region, specified the need for a more proactive approach to farmer and rural stress.
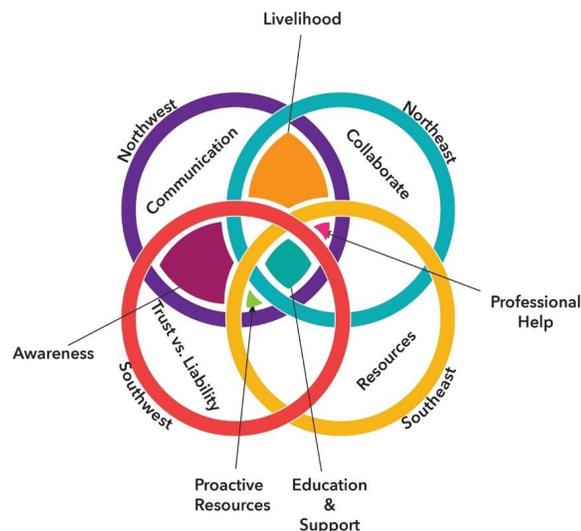
Figure 5. Georgia Themes.

Discussion & Conclusions

The individual districts themes revealed each district in the state of Georgia had a different theme represented by a word. The Northwest district's theme primarily focused on a greater need for communication around the topic of rural stress. The key theme depicted in the Northeast district was collaboration. This focused on the need for greater support and further resources for the community. In the Southeast district, the primary theme that arose was the need for greater resources focused on both communal and personal assistance with farmer/rural stress. For the Southwest district, researchers determined the primary theme for this region was the conflict between community trust versus the liability associated with farmer/rural stress. To address the second research objective, each district's themes were analyzed and compiled into a model to illustrate the overarching themes (Figure 5). The primary themes for the entire state were increased education and support around farmer/rural stress.

The results from this study suggest a word cloud activity provided a platform for Extension agents to collectively express their concerns and identified opportunities on issues related to farmer and rural stress within the context of Cooperative Extension resources. Word cloud activities can be utilized as a method for county Extension agents to discuss the sensitive topic of farmer and rural stress in the county's community in a manner to encourage open dialogue through shared word graphics. The international implications of using a word cloud activity as a conversation starter does present some opportunities and challenges. Some opportunities involve the flexibility in method--as it requires little resources and can be practiced in various contexts and settings. Additional opportunities include the qualitative data collected using a word cloud approach could serve to assist in geo-referencing, demonstrating the commonalities and differences in communities to visually represent regions and environments (Li & Zhou, 2017). Similar to the Li and Zhou (2017) study, this visual reference could be used to cross-reference other data using maps including weather history, areas of populations, and other health and agricultural concerns.

Some challenges of the use of word cloud activities surrounding mental health include the social stigma in the discussion of mental health issues, which may not be

culturally appropriate in various international settings. The World Health Organization ([WHO], 2018) identified social stigmas as a major challenge in educating mental health issues, including preventing suicides. In environments where mental health is stigmatized, the adaptation of word cloud activities might involve changing the prompt or reframing the discussion topic given to participants, similar to the study by Zanjani & Rowles (2012). This adaptation could serve as an initial needs assessment activity for a community or act as a conversation starter to improve health literacy from the community members and extension. Though, word clouds may not work in all contexts, the WHO (2018) acknowledges health literacy needs to improve for people become more aware of mental health issues as well as learn to identify the signs of dangerous mental health activities to further aid prevention.

Recommendations

Research has demonstrated the use of visual communication methods can encourage participants to voice their knowledge of experiences while discussing sensitive topics of study (Cohenmiller, 2018). The results of this study indicated each of the four districts in the same state had common needs but differed in how they wanted assistance. The use of a word cloud activity can help identify the particular needs of a geographic area and provide insight into the most preferred method of programmatic implementation. Future programming can use these identified specific needs in a particular region instead of a one-size-fits-all or a statewide approach to programming for mental health, farmer stress, and rural stress. The results from this study suggest a word cloud activity provided a platform for Extension agents to collectively express their concerns and

identified opportunities on issues related to farmer and rural stress within the context of Cooperative Extension resources. For Extension agents to provide a productive work environment and a healthy community, Extension agents need additional resources through education and support to address the critical issues that occur in rural areas including depression and increased suicide rates (Hossain et al., 2010). The themes of education and support that emerged from this study suggest Extension can begin to progress in building mental health programming and services accessible to Extension agents, employees, and community members. In 2018, an estimated 28% of the world's population was officially employed in the agricultural sector (World Bank, 2018), which makes rural/farmer stress a critical area of focus across populations. While this topic has not been studied extensively, it is an issue that pervades rural areas, regardless of state, country, or continent.

This needs assessment focused primarily on what regional Extension agents indicated their community needs were regarding aid for farmer/rural stress. To fully utilize these findings, strategic programmatic efforts should be developed and implemented, specific to each of the identified needs of the state and districts. Further research should focus on the implications of stress within each of the districts in order to determine the most effective resource channels for delivering the developed programmatic information for each region. Additionally, after implementing strategic programming, research should look at how and if those programs could apply in other areas and context to help fortify resources and communities in rural areas globally. With the increasing societal pressures, changing economic influences, and ever-present relationship with Mother Nature, farmers

and rural communities worldwide deserve to be connected to the best resources available to ensure a healthy mental wellbeing for generations to come, and Extension can serve as a conduit in those relationships.

References

Anderson, B. T., Johnson, G. J., Wheat, J. R., Wofford, A. S., Wiggins, O. S., & Downey, L. H. (2012). Farmers' concerns: A qualitative assessment to plan rural medical education. *The Journal of Rural Health, 28*(2)*,* 115-121. doi:10.1111/j.1748-0361.2011.00366.x

Becerra, G. & Castorina, J. A. (2018). Towards a dialogue among constructivist research programs. *Constructivist Foundations: An Interdisciplinary Journal, 13*(2), 191-198. Retrieved from https://constructivist.info/13/2/191.becerra.pdf

Berry, H. L., Hogan, A., Owen, J., Rickwood, D., & Frager, L. (2011). Climate change and farmers' mental health: Risks and responses. *Asia-Pacific Journal of Public Health, 23*(2), 1195-1325. doi:10.1177/1010539510392556

Bogue, P. & Phelan, J. (2005). Exploring the quality of life of farm families in Ireland: Implications for Extension. *Journal of International Agricultural Extension and Education, 12*(3), 79-90. Retrieved from https://www.aiaee.org/index.php/vol-123-fall-05/311-exploring-the-quality-of-life-of-farm-families-in-ireland-implications-for-extension

Brew, B., Inder, K., Allen, J., Thomas, M., & Kelly, B. (2016). The health and wellbeing of Australian farmers: A longitudinal cohort study. *Public Health, 16*(988). doi:10.1186/s12889-016-3664-y

Brigance, C., Mas, F. S., Sanchez, V., & Handal, A. J. (2018). Mental health and the organic farmer: Psychosocial and contextual factors. *Continuing Education, 66*(12), 606-616. doi:10.1177/2165079918783211

Centers for Disease Control and Prevention. (2017a). *Drug overdose in rural America.* Retrieved from https://www.cdc.gov/ruralhealth/drug-overdose/index.html

Centers for Disease Control and Prevention. (2017b). *Leading causes of death in rural America.* Retrieved from https://www.cdc.gov/ruralhealth/cause-of-death.html

Centers for Disease Control and Prevention. (2018). *Suicide in rural America.* Retrieved from https://www.cdc.gov/ruralhealth/Suicide.html

CohenMiller, A. S. (2018). Visual arts as a tool for phenomenology. *Qualitative Social Research, 19*(1), 266-287. doi:10.17169/fqs-19.12912

Crotty, M. (2003). *The foundations of social science research: Meaning and perspective in the research process.* Thousand Oaks, CA: Sage Publications.

DePaolo, C. & Wilkinson, K. (2014). Get your head into the clouds: Using word clouds for analyzing qualitative assessment data. *TechTrends, 58*(3), 38–44. doi:10.1007/s11528-014-0750-9

El-Amin, T., Anderson, B. L., Leider, J. P., Sartorius, J., & Knudson, A. (2018). Enhancing mental health literacy in rural America: Growth of mental health first aid program in rural communities in the United States from 2008-2016. *Journal of Rural Mental Health, 42*(1), 20-31. doi: 10.1037/rmh0000088

Fitch, D., Donato, L., & Strawder, P. (2013). Extending the university into the community to address healthcare disparities. *West Virginia Medical Journal, 109*(4), 72-75. Retrieved from http://link.galegroup.com/apps/doc/A339117972/AONE?u=uga&side=AONE&xid=f9e3c273

Franz, N. K. & Townson, L. (2008). The nature of complex organizations: The case of Cooperative Extension. *New Directions for Evaluation, 2008*(120), 5-14. doi:10.1002/ev.272

Fraser, C. E., Judd, S. F., Humphreys, J. S., Frager, L. J., & Henderson, A. (2005). Farming and mental health problems and mental illness. *International Journal of Social Psychiatry, 51*(4), 340-349. doi:10.1177/0020764005060844

Fuller, J., Kelly, B., Sartore, G., Frager, L., Tonna, A., Pollard, G., & Hazell, T. (2007). Use of social network analysis to describe service links for farmers' mental health. *Australian Journal of Rural Health, 15,* 99-106. doi:10.1111/j.1440-1584.2007.00861.x

Glaser, B. G. (1965). The constant comparative analysis of qualitative data. *Social Problems, 12*(4), 436-445. doi:10.2307/798843

Guin, S. M., Wheat, J. R., Allinder, R. S., Fanucchi, G. J., Wiggins, O. S., & Johnson, G. J. (2012). Participatory research and service-learning among farmers, health professional students, and experts: An agromedicine approach to farm safety and health. *Journal of Agromedicine, 17*(1)*,* 22-29. doi:10.1080/1059924X.2012.627319

Hanigan, I. C., Schirmer, J., & Niyonsenga, T. (2018). Drought and distress in Southeastern Australia. *EcoHealth, 15*(3), 642-655. doi:10.1007/s10393-018-1339-0

Hasbrouck, M. A. & Waddimba, A. C. (2017). The work-related stressors and coping strategies of group-employed rural health care practitioners: A qualitative study. *American Journal of Industrial Medicine, 60,* 867-878. doi:10.1002/ajim.22753

Hossain, D., Gorman, D., Eley, R., & Coutts, J. (2010). Advisory and Extension agents in supporting farmers in rural Queensland. *Rural and Remote Health, 10*(1593). Retrieved from http://apps.webofknowledge.com

Kilpatrick, S. Willis, K., Johns, S., & Peek, K. (2012). Supporting farmer and fisher health and wellbeing in 'difficult times': Communities of place and industry associations. *Rural Society, 22*(1), 31-44. doi:10.5172/rsj.2012.22.1.31

Li, D. & Zhou, X. (2017). "Leave your footprints in my words"- A georeferenced word-could approach. *Environmental and Planning, 49*(3), 489-492. doi:10.1177/0308518X16662273

Lock, A. & Strong, T. (2010). *Social constructionism: Sources and stirrings in theory and practice.* Cambridge, UK: Cambridge University Press.

Lovelace, O. (2004). Stress in rural America. *Journal of Agromedicine, 9*(2), 121–127. Retrieved from http://proxy-remote.galib.uga.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=mnh&AN=19785211&site=eds-live

Lunner Kolstrup, C., Kallioniemi, M., Lundqvist, P., Kymäläinen, H. R., Stallones, L., & Brumby, S.

(2013). International perspectives on psychosocial working conditions, mental health, and stress of dairy farm operators. *Journal of Agromedicine, 18*(3), 244-255. doi:10.1080/1059924X.2013.796903

Molgaard, V. K. (1997). The Extension service as key mechanism for research and services delivery for prevention of mental health disorders in rural areas. *American Journal of Community Psychology, 25*(4), 515-544. Retrieved from http://ejournals.ebsco.com. proxy-remote.galib.uga.edu/direct.asp?ArticleID=47C89F170 F602768C3DF

Naik, A. (2017). In search of farmer well-being. *International Journal of Agricultural Management, 6*(1), 1-3. doi:10.5836/ijam/2017-06-01

Polain, J. D., Berry, H. L., & Hoskin, J. O. (2011). Rapid change, climate adversity and the next 'big dry': Older farmers' mental health. *The Australian Journal of Rural Health, 19*, 239-243. doi:10.1111.j.1440-1584.2011.01219x

Ratcliffe, M., Burd, C., Holder, K., & Fields, A. (2016). Defining rural at the U.S. Census Bureau. *United States Census Bureau.* Retrieved from https://www2.census.gov/geo/pdfs/reference/ua/Defining_Rural.pdf

Rogers, E. (2003). *Diffusion of innovations*. (5th ed.). New York, NY: Free Press.

Roy, P., Tremblay, G., & Robertson, S. (2014). Help-seeking among male farmers: Connecting masculinities and mental health. *Socioligia Ruralis, 54*(4), 460-476. doi:10.1111/sonu.12045

Schunk, D.A. (2012). *Learning theories: An educational perspective*. Boston, MA: Pearson Education, Inc.

Thompson, E. L. & McCubbin, H. I. (1987). Farm families in crisis: An overview of resources. *Resource Review Essay, 36*(4), 461-467. doi:10.2307/584501

Truchot, D. & Andela, M. (2018). Burnout and hopelessness among farmers: The farmers stressors inventory. *Social Psychiatry and Psychiatric Epidemiology, 53,* 859-867. http://doi.org/10.1007/s00127-018-1528-8

University of Georgia Extension. (n.d). *Our programs.* Retrieved from http://Extension.uga.edu/about/our-programs.html

Vallo Castelló, B. (2016). Bridging constructivism and social constructionism: The journey from narrative to dialogical approaches towards synchrony. *Journal of Psychotherapy Integration, 26*(2), 129-143. doi: 10.1037/int000025

Wang, V. L. (1974). Using Cooperative Extension programs for health education. *American Journal of Public Health, 64*(2), 107-111. doi:10.2105/AJPH.64.2.107

World Health Organization. (2018). *Suicide.* Retrieved from http://www.who.int/en/newsroom/fact-sheets/detail/suicide

World Bank. (2018). *Data: Employment in agriculture.* Retrieved from https://data.worldbank.org

Zanjani, F. & Rowles, G. D. (2012). "We don't want to talk about that" Overcoming barriers to rural aging research and interventions on sensitive topics. *Journal of Rural Studies, 28*, 398-405. doi:10.1016/j.jrurstud.2012.03.005