A PODCAST ETHNOGRAPHY: EXPLORING COVID-19'S EFFECT ON THE SCIENTIFIC ENTERPRISE

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Abstract

COVID-19 has directly impacted the scientific enterprise and higher education. During times of high stress or disaster, adaptability and resiliency directly impact an individual's mental health. There is a lack of research about the experiences of agricultural and natural resource scientists and students during the pandemic. The purpose of the study was to explore the impact of COVID-19 on agricultural and natural resource scientists, graduate students, and the scientific enterprise at a land grant university. Using a podcast ethnographic approach to analyze a COVID-19 focused series of the [Streaming Science] podcast, this study found the pandemic halted many scientists' research projects, required instructors to engage with their students online, increased time spent with family, and created an added awareness of student wellbeing and mental health.

Keywords

The COVID-19 pandemic has impacted universities, researchers, and the scientific enterprise (Daniel, 2020; Myers et al., 2020; Toquero, 2020). Education systems across the globe have faced various challenges as a result of the COVID-19 pandemic including supporting students in volatile times, transitioning courses to online formats, and adapting learning spaces to account for social distancing (Daniel, 2020; Pokhrel & Chhetri, 2021). Scientists with children, female-researchers, and those whose research depend on a lab environment experienced extra pressure from the pandemic (Myers et al., 2020). From 2020-2022, there was a large amount of research focused on the impacts of COVID-19 on the workplace, universities, and students, but a limited amount focused on agricultural and natural resource scientists specifically.

Previous research identified various struggles for higher education professionals during the pandemic including a lack of reliable technology and internet connection, the abrupt change in time management and distractions, and a lack of training or preparedness to move to remote work and teaching (Arora & Srinivasan, 2020; Kaushik & Guleria, 2020). Employees worked from home (WFH) and balanced their usual work responsibilities with added family responsibilities including caring for elderly family members or children within their home (Kaushik & Guleria, 2020). Other research on the impact of the pandemic described the effects on classroom organization and delivery methods due to social distancing (Pokhrel & Chhetri, 2021). Amongst the challenges presented by COVID-19 and WFH, researchers also identified positive outcomes. Many universities used the pandemic as an opportunity to expand their offerings to include more online courses, degree programs, open and distance learning options, or some purchased new online learning software (Jena, 2020; Toquero, 2020)

The conceptual framework that guided the following study included aspects of adaptability, resiliency and mental health. Previous research found public health emergencies can affect not only the physical health of individuals and communities, but also their emotional well-being (Pfefferbaum & North, 2020). Adaptability is essential in maintaining good mental wellbeing and responding efficiently to change and uncertainty (Calarco, 2006; Reupert, 2020). Adaptability has been linked with more positive reactions and outcomes during the COVID-19 pandemic (Besser et al., 2022). Implementing creative adaptability during the pandemic has been shown to positively relate to resilient coping and mental wellbeing (Orkibi, 2021). Previous research suggests that if

participants were able to adapt their mindset to view their circumstances during COVID-19 as opportunities, they were more likely to feel more meaningfulness in their experiences and more instances of growth and connection (Zion et al., 2022).

Purpose and Questions

The purpose of the study was to explore the impact of COVID-19 on agricultural and natural resource scientists, graduate students, and the scientific enterprise at a land grant university. The following research questions guided the study:

RQ1) How did COVID-19 impact podcast interviewees' teaching, research, and Extension-related work?
RQ2) How did podcast participants navigate the pandemic in their personal lives?
RQ3) What barriers and opportunities did podcast interviewees face during the pandemic?
RQ4) In what ways did podcast participants showcase adaptability in their work and personal lives to COVID-19?

Methods

Digital or online ethnography is a qualitative methodology that encompasses the study of online experiences and communication via a variety of formats and channels such as social media, video, audio, blogs, and more (Pink et al., 2016; Varis, 2016). Within the methodology, researchers view the internet as a cultural context that weaves together online and offline lives, and ethnographic methods such as field observations and interviews can be applied to examine phenomena (Hine, 2015). As podcasts have grown in popularity since the early 2000s as an online communication tool (Edison Research & Triton Digital, 2020), researchers have recently outlined an emergent podcast ethnography method that includes three steps (Lundström & Lundström, 2020): explore (describe the research site), engage (listen to a defined set of podcast tracks), and examine (studying the purpose, development process, and content/themes of the podcast).

We explored the Streaming Science spring 2021 podcast series titled *State of the Scientific Enterprise During COVID-19*. Streaming Science is an online science communication platform housed and facilitated at the University of Florida in partnership with faculty and students in the Department of Agricultural Education and Communication. Since 2016, students in the third author's courses at two land grant universities have developed a total of 79 podcasts with 3,222 downloads. Students, a graduate teaching assistant (first author), and faculty member (third author) in a science communication course titled Podcasting to Increase Science Literacy interviewed scientists, Extension experts, and graduate students throughout the University of Florida Institute of Food and Agricultural Sciences and produced 17 podcasts between 11 to 40 minutes in length focused on the COVID-19 science impacts theme. Podcast interviewees included eight scientists, three Extensionists, and six graduate students. The podcast series was originally streamed on SoundCloud and moved to the BuzzSprout streaming service to increase output to podcast platforms such as Spotify and Apple Podcasts.

In the engage step, we listened to and reflected upon the content, discussion, information, and other qualities of the podcast. We listened in a variety of settings including our homes, cars, offices, and outdoor settings. Before listening to the podcast data, we agreed upon a codebook aligned with our research questions for noting timecodes and concepts from each podcast interview. The codebook included a column with interview categories about research, Extension, teaching, personal life, barriers, opportunities, adaptability, resilience, and other notes. In additional columns, we noted the timecodes and specific interview observations related to the categories and research questions. Finally, we collaboratively compared and contrasted our empirical field notes and code sheets, collapsed codes into categories, and categories into themes to address our initial research questions.

Results and Conclusions

COVID-19 changed how instructors and students engaged, slowed the pace of research, and moved some Extension programs to online formats (RQ1).

Podcast interviewees served in teaching and graduate teaching assistant roles and described a variety of efforts to adjust course formats to fully online and hybrid. While changes in teaching practices and delivery appeared to be manageable, some interviewees described difficulties engaging students in online formats. A graduate teaching assistant in agricultural and natural resources communication described her teaching approach during COVID-19, "I think just being really honest, really flexible, just trying to meet students where they were. Like if they couldn't come to office hours, try to make special arrangements, because things were just different."

Several individuals mentioned various concerns for their students' personal lives and academic experiences. An assistant professor said, "I worry about my grad student and loneliness being an issue for them."

Some graduate students had to delay graduation due to changes in research timelines. Meanwhile, one graduate student in fisheries said his dissertation work was not impacted because he had already conducted surveys and was fortunate to be in the data analysis stage. Interviewees working in Extension described moving programming to online formats and helping farmers and ranchers at a distance, instead of their usual face-to-face visits. One Extensionist at a citrus research center described that the lack of opportunities for in-person communication with university scientists also slowed down their ability to deliver scientific information to growers and public audiences.

Scientists described closing labs and re-opening them with social distancing modifications. They also discussed how COVID-19 slowed down data collection in the field, analysis in the lab, and communication for collaboration across grant projects. Though many communities have disaster response plans in place, many found COVID-19 to be an extenuating circumstance they were not prepared for: "It's been interesting to see, how do we normally respond to our emergency situations, and yet, do it with COVID in mind. Because one of the reasons you practice shelter deployments or evacuations, or whatever it is you're going to practice for an emergency situation, you do that so that in the heat of the moment you fall back on what you know and are comfortable with, but we don't know and we aren't comfortable with COVID yet."

COVID-19 increased the amount of time that University faculty and staff spent at home with their families and emphasized the importance of mental health and work-life balance (RQ2).

Along with the changes in educational content delivery, educators also adapted their interactions with students. An associate professor stated:

> [The pandemic] definitely changed how I engaged with my students and immediately in March, as soon as it looked like things were shutting down, I was like, get where you need to be, do what you need to do, you know you have my support, we're in something here - so take care of yourselves… I think a big focus has turned to mental health with my students, trying to, you know, through Zoom, which is tough, but trying to size them up and figure out, are you okay? Are you getting what you need?

Several scientists mentioned the challenges of working from home with young children while isolated from family and without childcare options. An assistant professor said: "Dealing with the pandemic with a young child has been really difficult." They went on to describe the added struggle of having no familial support close by, "The other way it affected me personally is isolation from family. All of our family is very far away, and we have not been able to travel and it's coming up on two years since I've seen my in laws."

An associate professor also mentioned some unexpected positive opportunities that arose as a result of COVID-19 shutdowns: "We had a really nice time as a family for those six months that my husband and I were working part-time, and the kids were home. You know, it was hard, he was a slob, but we really pulled us together as a team." A professor also noted that "Research is important, your health, your mental and your family, are more important, and that's what we're going to focus on right now. You know, it's a tough time for everyone, and we need to acknowledge that and support each other."

Another associate professor shared they were able to begin new traditions with their family during the pandemic, "We've had some very nice experiences exploring the outdoors together and just bonding. We had never done a family movie night before, so we started a family movie night, and it was hilarious, some of the movies we watched together and had pizza, and we are going to keep that tradition for quite a while."

The COVID-19 pandemic resulted in the numerous closures and holds on research spaces and projects (RQ3).

The ambiguity surrounding COVID-19 presented several barriers including the closing of labs for an unknown period of time, loss of research projects, and increased concern for individual and community health. One professor explained how COVID-19 changed not only the operations of their lab but also their ability to conduct and share research:

> It has impacted what we can do on a day-to-day basis and impacted all the travel plans that we had, and it has impacted me professionally because not long after the pandemic stated ramping up, the University of Florida shut down research operations. So, its impacted what we've been able to accomplish from a research perspective.

The subject matter experts also discussed how COVID-19 slowed down data collection in the field, analysis in the lab, and communication for collaboration across grant projects. A food scientist said, "It's had a significant impact on the academic community, and we have to acknowledge that, and all be comfortable talking about it. We're all

grieving what we've lost from the students to the staff to the academic programs."

COVID-19 required individuals to alter rituals and practices in their professional and personals lives to their new environment (RQ4).

Participants transformed many elements of their lives including team dynamics to family interactions. One of the first shifts in adapting to a lifestyle in the pandemic was reevaluating and reprioritizing tasks, roles, and responsibilities. One faculty member shared how they had to critically think about how to allocate their meeting times and reprioritize what projects were most important:

> I think the home personal duties, my advising, and keeping my lab going has taken most of my time, especially early on. I think early on I just realized that most of my time would be more efficiently spent by allowing people to continue working on what they're doing and developing products. If I am doing a couple of hours for every person in my lab every week, then that eats up a lot of the time I have available. I have had to think hard and prioritize on what needed to get done, so I would say that over the past three months I have not been as productive in terms of actual products coming out with my name attached to them, but I have been able to reprioritize and refocus on what I thought was most important and put more energy into one specific area.

Participants adapted to the pandemic through adoption of new online platforms for communication, recreated lab schedules, became more emotionally engaged with students, and developed new methods to continue research. One doctoral student discussed how people had to adapt to being more familiar with online video conferences, "It really pushed everybody to be more comfortable online and be more comfortable collaborating over greater distances."

Another professional change was scientists' ability to share their research more due to decreased cost of attendance and travel to conferences. One associate professor shared, "I have been thrilled that during this pandemic, every single seminar invitation I got, I accepted, because I knew I could do it by Zoom, and I didn't have to fly somewhere. I've been able to attend more conferences and not feel the physical and mental strain because they are virtual."

Conclusions and Recommendations

The COVID-19 pandemic had various lasting effects on universities, the scientific enterprise, and the individuals working within these settings globally. Uncertainty and public health concerns can take large tolls on not only the scientific enterprise, but the emotional and mental wellbeing of the individuals working in it and the public at large. Lasting effects of the pandemic include the transition of courses, academic roles, and schools to fully remote settings. A noteworthy result from this study was the appearance of participants' positive comments immediately following their description of a barrier or challenge presented by COVID-19. This study furthers knowledge first by further exploring podcast ethnography methodology, and second, by adding to the body of literature on COVID-19 experiences.

Future research should consider examining the role of resiliency and positive psychology during the pandemic and in crisis communications. While this research provided a glimpse into the experiences of individuals in academia, the researchers recognize the need for future, longitudinal research that examines the resiliency of these groups. It should be noted that it was difficult for the hosts of the podcasts to prompt the interviewees to discuss their COVID-19 experiences. Future research with these groups could attempt to be held in locations that make the interviewees more comfortable or hold several meetings to build a more open relationship between the interviewer and interviewees.

Works Citation

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