Effectiveness of Online Program Engagement for 4-H Members during the COVID-19 Pandemic

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Abstract

Since 1902, 4-H Youth Development programs have been implemented by Cooperative Extension Agents or Educators for teaching, influencing, and leading youth to new life skills that can shape and influence their futures through hands-on learning methods. Fast forward to 2020 when 4-H programs shifted to virtual methods during the COVID-19 pandemic. The purpose of this study and the overarching research question was to identify the perceptions of participants and their parent/guardian related to the virtual 4-H programming opportunities available to youth in South Carolina during the COVID-19 pandemic. This qualitative inquiry was undergirded by the need for achievement theory. Focus group interviews of South Carolina 4-H participants revealed two overarching themes, including communication (before and during COVID-19) and impacts on involvement and retention. Overall, the majority of families interviewed for this study were pleased with their 4-H agent and volunteer's impact and levels of communication during and post-COVID-19. State 4-H leaders are not only recommended, but highly encouraged, to establish best practices for virtual 4-H programming.

Introduction

Cooperative Extension Services across the United States serve their respective states by offering unbiased, research-based education to audiences young and old (Monks et al., 2017). Cooperative Extension serves as the essential connection between the land-grant university and the public, requiring extension professionals to localize programs and adapt to the needs of their constituents (Cooper & Graham, 2001). "In the last decade, Cooperative Extension has rapidly diversified its portfolio in many ways to respond to the needs of people in our rapidly changing society, including adapting to online learning environments and 'the cloud'" (Gould et al., 2014, para. 7). One of the most important needs to date was navigating through the COVID-19 pandemic.

Before COVID-19-related closures, 4-H groups and clubs were led by volunteers or 4-H professionals and met in various locations, at varying times to engage, study and practice, or for fellowship and celebration (Burnett et al., 2000). With the COVID-19 pandemic shut down of schools, educators and parents were not prepared to quickly provide hands-on learning activities to complete at home (Loose & Ryan, 2020). Cooperative Extension services nationwide quickly and efficiently created virtual solutions and alternatives to offset the lack of in-person programming (Arnold & Rennekamp, 2020). Cooperative Extension has been challenged to deliver relevant programs with measurable end-results to its audiences (Gould et al., 2014), but how can this be accomplished during a pandemic? The pandemic created unique challenges and obstacles for all 4-H professionals and volunteers. These dedicated adults were required to be intrinsically and extrinsically motivated (Calvert & Fabregas Janeiro, 2020) to overcome said challenges and obstacles. Grégoire (2004) noted dedicated 4-H professionals and volunteers can quickly adjust to changing needs. These quick-thinking professionals and volunteers were put to the test during the pandemic. Non-parental adults, or adults who serve in volunteer leader capacities described by McNeill (2010), helped provide 4-H programming opportunities to youth via virtual platforms and take-home kits once local Extension offices closed due to the pandemic.

These programming opportunities were meant to aid at-home learning with hands-on activities that, in most cases, were aligned with school standards and to promote positive youth development (PYD); Extension professionals had to learn how to integrate new technologies (e.g., "Zoom") to engage their stakeholders and provide purposeful educational opportunities (Eck et al., 2022). COVID-19 impacted PYD, including trauma, isolation, the loss of relationships, daily routines, and social outlets to name a few (Arnold & Rennekamp, 2020). With the knowledge of these impacts, Extension professionals strived to remain "consistent with [the] mission of positive youth development, [as] the 4-H program is uniquely positioned to address and mitigate COVID-19 impacts on youths by focusing on building youth assets and providing supportive contexts" (Arnold & Rennekamp, 2020, para. 10).

It has been recommended that additional research is essential "to gather feedback from parents and members on their perceptions of their own states' programming efforts during the COVID-19 pandemic" (Hood, 2021, p. 15). Therefore, this study aimed to uncover the perceptions of those participating, specifically, 4-H youth and parents/guardians, in virtual 4-H programming opportunities in South Carolina during the COVID-19 pandemic. This study also yields recommended best practices for future virtual programming. In Gordon and Curlee's (2011) book, *The Virtual Project Management Office: Best Practices, Proven Methods,* the authors state, "all organizations must have processes and procedures based on best practices to enhance their chances of success" (p. 109). Several of the best practices recommended revolve around communication with and without Internet access.

Theoretical/Conceptual Framework

McClelland's (1987) need for achievement theory undergirded this study. This theory of motivation (McClelland, 1987) is associated with learning concepts, where needs are learned through coping environments (Pardee, 1990). The theory outlines three motivating factors; the need for achievement, the need for affiliation, and the need for power (Gill et al., 2010). The need for achievement is associated with personality characteristics such as strong goal setting, taking calculated risks, appreciating feedback, and preferring to work alone (McClelland, 1987). On the other hand, the need for affiliation corresponds with someone who wants to be part of the larger group, is often considered a follower, prefers collaboration, and avoids risk (McClelland, 1987). Finally, someone who likes to win, wants to control situations, enjoys competition, and thrives on recognition aligns with the need for power (McClelland, 1987). These motivating factors associated with McClelland's (1987) work stem from the theory of needs established by Maslow in the 1940s.

According to McClelland (1987), the three motivating factors exist inherently regardless of gender, age, or culture, but the dominating factor is often one's life experiences. The need for achievement theory has been implemented in 4-H studies addressing the participation and retention of members (Baney & Jones, 2013; Gill et al., 2010). Based on previous use of the theory, it aligns with this study to explore 4-H member participation and engagement during the COVID-19 pandemic.

Purpose

This study explored if virtual programming during the COVID-19 pandemic provided vital engagement opportunities for 4-H youth. Realizing that Extension professionals received just-in-time training to learn new technologies to overcome communication challenges (Eck et al., 2022), their efforts to provide those engagement opportunities for 4-H members were investigated.

Methods

This exploratory qualitative research study (Price, et. al, 2018) implemented a case study design using focus groups to further evaluate the impact of the COVID-19 pandemic on 4-H youth in South Carolina. This qualitative inquiry was developed based on previous survey research recommending a deeper dive into the perceptions of 4-H youth and families during the COVID-19 pandemic (Hood, 2021). Therefore, the research team constructed a flexible qualitative interview protocol, consisting of a series of seven overarching questions and talking points to discuss with participants to provide deep, rich information related to participant perceptions of the virtual 4-H programing in South Carolina. Focus groups were held during July 2021 online via Zoom.

The interview protocol was evaluated for face and content validity (Salkind, 2012) by three faculty members in agricultural and extension education across two universities who have all completed coursework and previous research in qualitative inquiry. An email invitation was sent to families of youth who participated in virtual 4-H programming during the COVID-19 pandemic in South Carolina and provided a follow-up email address. The sampling frame consisted of 1,669 individuals (adults and youth). Four families, which included four adults and seven children, ($n = 11$) across South Carolina responded to the invitation and were willing to participate in a Zoom focus group interview. These four families represented three of the four regions in South Carolina and had youth enrolled across the three 4-H age brackets (i.e., Cloverbud, Junior, and Senior). Zoom was used to conduct the focus groups, while also allowing for the interviews to be recorded and interview transcriptions to be developed through the platform. Each family was provided a family number to allow proper tracking and triangulation across sources, while also providing anonymity.

After the focus group interviews, the lead researcher reviewed the interview transcripts against the audio/video recording to verify accuracy. The research team then analyzed the data using the constant comparative method (Glasser & Strauss, 1967). The research team used the video recording of each focus group, interview transcripts, and interviewer notes to allow codes, themes, and categories to emerge describing the family's reality (Creswell & Poth, 2018; Glesne, 2016). In addition to multiple descriptions of data, the research team corroborated to develop the emerging themes, following the recommendations of Creswell and Poth (2018) to improve the accuracy of data analysis through coding checks, establishing reliability of the coding process. Specifically, the constant comparative method was implemented, which allows the data, including the participants voice, to speak for itself (Glasser & Strauss, 1967). Three rounds of coding were implemented starting with open-source coding (Creswell & Poth, 2018). The codes from the first round were then analyzed using axial coding, where the relationships of codes were used to establish categories (Creswell & Poth, 2018; Glasser & Strauss, 1967). The final round implemented selective coding, allowing the overarching themes to emerge as core themes and

variables linking back to the conceptual framework established by Gill et al. (2010) which connected to the factors established within McClelland's (1987) motivational needs theory.

Within a qualitative inquiry it is imperative that the research team aim to address the four criteria provided by Privitera (2017) to ensure trustworthiness (i.e., credibility, transferability, dependability, and confirmability). Using interview transcripts, audio/video recordings, and interviewer field notes allowed the true opinions of the 4-H families to be reflected in the study, which addresses credibility (Privitera, 2017). Although this qualitative inquiry was limited to four families, all families participating in virtual 4-H programming during the COVID-19 pandemic in South Carolina had the opportunity to participate and the families who did participate represented different parts of the state, different 4-H age classifications of the youth (i.e., Cloverbud, Junior, and Senior), and participation in the different virtual programs offered, allowing this data to have transferability across the state. Implementing the focus group style interview with a flexible interview protocol and the varying characteristics of participants allows for consistent data collection (Privitera, 2017). Allowing the perspectives of the families to be represented in the findings and not the researchers bias speaks to the confirmability of this study (Privitera, 2017), which was addressed through the established interview protocol, three round coding process, member checks, and interpretation of data sources.

Reflexivity Statement

Palaganas et al. (2017) suggested that researchers acknowledge their inherent bias related to their study and disclose their identity to offer reflexivity. The research team for this study consisted of a graduate student in agricultural education, who was also an active 4-H youth development educator, along with three faculty members in agricultural and extension education at Clemson University and North Carolina State University. The graduate student had worked in Extension for eight years and was completing a degree in agricultural education at Clemson University. The three faculty members have more than 40 years of experience combined in agricultural and extension education. Overall, the research team recognized their bias toward Extension because of their professional roles and felt they addressed the biases through the established procedures and trustworthiness of the study.

Findings

The focus group interviews were analyzed allowing categories to emerge related to the youth and parents' perceptions of the virtual 4-H programming offered during the COVID-19 pandemic. The emerging codes and themes resulted in two overarching categories, including communication and 4-H agent/volunteer leader impact.

Category 1: Communication

The first category to emerge throughout was communication. Communication was then divided into two themes: pre-COVID-19 and during-COVID-19 to represent the participants' perceptions. Family #1 [mom] mentioned they were impressed with the level of communication and the amount of programming offered. They said that it seemed like there were more newsletters sent out and that there was more information within those newsletters compared to before COVID-19. Family #1's mom wrapped up the conversation with, "you guys have done an

off the charts, valiant job with communication when it's just been such a difficult year." Family #2 [the parents] detailed how there has been little to no communication on the county level. "Well, it's been zero communication from the county level, and we have a child serving as a county club officer," said Family #2's mom. She also said, "we just feel very really sad because there are so many possibilities under 4-H that are so incredible, so I feel like not only did we lose, and not just because of the pandemic, we didn't feel like we were part of it anymore." The few details they had about 4-H activities offered during COVID-19-related closures they found on their own through the state social media pages or the state 4-H website.

Family #2 reported no communication from both their local agent and their local club's volunteer leader. The family also commented that they had just recruited a new family to join their local group, so it was especially frustrating that this new family joined and received zero information. This was not an issue prior to COVID-19. Family #3 [mom] complimented the marketing strategies and graphics used for marketing throughout the COVID-19 pandemic. Upon seeing a 'random Facebook ad' for South Carolina 4-H@Home, Family #3's mom signed up to begin receiving the daily emails. Family #3's mom said that her sorority sister was a part of 4-H growing up, so she had heard of 4-H before. She also stated, "all of the advertising led me to contact our local county 4-H agent to get my son signed up." Prior to COVID-19-related closures, Family #3 was not aware of local 4-H programming. Family #4 commented that their 4-H agent does a "good job" of communicating. Family #4's youth were very active in county and statewide projects and held leadership positions locally. Family #4's local 4-H agent was known for publicly advertising 4-H programming through various methods pre- and during-COVID-19. The facial expressions and non-verbal cues demonstrated in the Zoom recordings and documented in the interviewer notes furthered the emotions documented in the comments above. For example, Family #2 was obviously frustrated by the lack of communication, you could clearly see they had higher expectations from previous experiences with 4-H and really wanted the experience to continue to be a positive one for their family and others they recruited.

Category 2: 4-H Agent/Volunteer Leader Impact

The second category from the focus group was 4-H agent/volunteer leader impact. All four families had something to say regarding the leadership within the county where they participated. 4-H agent/volunteer leader impact can further be divided into positive and negative impact themes. Family #1 described the positive impact of their local 4-H agent: "our local agent is so gifted in matching the child with what will both be interesting to them and what will grow them and push them just a little bit at just the right time." Family #1's mom went on to compliment the other local agents the family works with, as well as the state staff. Family #2's parents described the negative impact of their local 4-H agent/volunteer leader regarding an issue with the local organization before COVID-19 closures, but it seemed to be "explained away enough" and that they would let it slide after eventual communication. Family #2's parents also mentioned that they were not "on the same standing as others" because they were not originally from their county, like their local leadership. Family #2 described their local 4-H agent as normally being a good agent, but "they [agent] just did not really step up during the pandemic."

The disappointment and frustrations continued to build from Family #2, but the other families did not let the negative perceptions of one's experience impact their overall perception of the impact of their 4-H agent/volunteer leader. Family #3's mom said due to their participation in 4-

H@Home, they were able to connect with their local agent. She said it was the best thing they could have done because the local agent is "wonderful." Family #3's local agent was complimented on their skills to work with younger children and that they are so welcoming. Family #3's mom stated "[our agent] always provides a plethora of information for any activity and it helps so much since we are a brand new 4-H family." Family #4's 4-H member conveyed they like working with their local agent and that they do a "good job." Family #4's 4-H member also does a lot of projects that aligned with the expertise of the local 4-H agents and the excitement of the common interest was obvious in the videos and noted in the interviewer notes.

Conclusions, Implications, and Recommendations

Based on the focus group participants' interviews, their 4-H agents should be commended for the programming made available during the Covid-19 pandemic, underscoring the fact that Extension professionals and volunteers were able to successfully pivot 4-H programming from predominately in-person to predominately virtual (Arnold & Rennekamp, 2020). "Virtual Programming did not eliminate the need for a local connection - it only highlighted the importance of a local connection who was a broker of education among: (a) networked programs, (b) local audiences, and (c) the land-grant institution" (J. L. Donaldson, personal communication, July 6, 2021).

McClelland's (1987) need for achievement theory was useful for understanding 4-H retention among participating families. This theory warrants additional research, as we do not know the extent to which the needs of youth and families may have changed due to the pandemic and the associated fear and loss. The pandemic created substantial trauma, isolation, and loss of relationships (Arnold & Rennekamp, 2020). 4-H youth development programs may need to respond with discrete programs to promote mental and emotional health.

Family #1's virtual experience and the local 4-H agent's efforts met all three of McClelland's (1987) needs: (1) achievement, (2) affiliation, and (3) power. Family #1's mom reflected on how her older children became stronger leaders in 4-H through the local ambassador program and helped their younger siblings participate through 4-H kits. She [mom] said, "I really appreciated the *Journey to Mars* kit because my [age] year old was able to use it as a leadership opportunity on her resume for our local STEAM club." Unfortunately, due to Family #2's experience, none of McClelland's Needs were met. The family recalled no communication from the local agent or volunteer, which was especially troubling to them since their two children were local club officers. Family #3's experience allowed for two of McClelland's (1987) needs to be met: achievement and affiliation. Because the 4-H member interviewed was very young and brand new to the program, they did not serve in any leadership roles. Family #3's agent made opportunities available for youth to experience all of McClelland's (1987) needs, despite this participating member's young age. Family #4's positive experience allowed for all three of McClelland's needs to be met. Also, because of the opportunities Family #4's local agent provided; McClelland's (1987) needs were easily met.

Regarding communications, families appreciated the more frequent and detailed communication from county programs, as well as the improved marketing efforts. Despite this success, some areas for improvement were noteworthy. One family recalled not knowing if 4-H still existed in

their county or in South Carolina due to the lack of communication. Communication is one of the most important skills within Cooperative Extension, especially 4-H. Ultimately, this related to the need for affiliation and the need for achievement (Gill et al., 2010; McClelland, 1987) for success, as it is essential for 4-H youth to feel connected to the youth organization (i.e., 4-H), the organization leader, and their friends, while perceiving the availability of engagement opportunities. Unfortunately, a lack of communication and limited opportunities (with the agent and programming) to engage hindered some families' perceptions related to their members' ability to be affiliated and obtain a sense of achievement.

Another category from this study was 4-H agent and volunteer impact. Families interviewed were asked about their relationship with the local 4-H agent or volunteer they worked with the most. Families #1, #3 and #4 described a positive relationship and praised their agent. Family #2 stated they have been working with a local volunteer and their 4-H agent and ever since COVID-19 pandemic closures, the impacts have been negative. From this focus group, it was clear that 4-H agents and volunteers can make or break the decision to join or re-enroll in a county program. If the need for affiliation is not met (McClelland, 1987), the retention of 4-H can be negatively impacted, ultimately affecting program quality (Gill et al., 2010). This became evident with the focus group interviews as families were either planning to remain or leave 4-H based on their perception of impact of the agent/volunteer leader.

While it is easy to implicate county 4-H agents for a lack of communications and a lack of programming during COVID-19-related closures, it is imperative to understand the challenges faced by Extension 4-H professionals and volunteers. Israel et al. (2020) described how COVID-19 affected Extension agents with having to manage work-life balance with multiple interruptions that could have affected programming efforts and communication with clientele. Extension agents and volunteers could have been dealing with the virus themselves or caring for an infected family member; caring for an elderly parent, family member, or neighbor; and/or may have needed resources to conduct regular work while quarantined at home. The pandemic took a toll on people in many different ways, but perhaps this was exacerbated with Extension Professionals in South Carolina as they were trying to learn a new platform (i.e., Zoom, Microsoft Teams, Google Meets) that they were not entirely comfortable with while simultaneously engaging with their clientele (Eck et al., 2022).

It should be noted that this study was limited to four families who participated in virtual programing during the pandemic is South Carolina and agreed to attend the focus group interviews for this study. Extension programming, especially youth programming, varied state by state and educator by educator, therefore the findings of this study were restricted to the views of the participating families' experiences. Although limitations existed within the study, the findings, conclusions, and recommendations provided an opportunity for transferable results and best practices for those with similar needs and/or responsibilities within Extension programming. It was the responsibility of the research team to carry out the study based on the intended purpose, but it is up to the reader and potential applier of the results to make a judgement on the transferability of the study (Lincoln & Guba, 1985).

State 4-H leaders are not only recommended, but highly encouraged, to create a best practices list for virtual 4-H programming. Designed by the researchers' reactions to the data and their

personal experiences, Table 1 outlines best practices to guide agents and volunteers in communicating with their clientele. Several of the best practices listed in Table 1 revolve around technology and Internet deficits experienced by many youth and their families (Evans et al., 2021). Gordon and Curlee (2011) remind us that good communication is essential in organizations and it is not productive for people to become quiet. They also state, "often, people ignore issues they shouldn't" (Gordon and Curlee, 2011, p. 137) which can cause a snowball effect of issues building and success within the organization jeopardized. "Organizations can no longer rely on one-way communication methods to interact with stakeholders" (Holthausen et al., 2021, para. 31). Therefore, 4-H programs should be advertised via multiple methods such as online, hardcopy, television, or radio media. A list of best practices may be especially valuable for newly hired 4-H professionals who may or may not have the opportunity to be part of on-boarding procedures.

Table 1

Best Practices for 4-H agents, educators, specialists, and volunteers in Virtual Programming

Best Practice
Establish multiple methods of communication with county participants.
Create a contact list of people on the local, regional, and state level who can provide more information on **virtual** programming.
Advertise programs via online, hardcopy (mail/newspapers), television, or radio media.
Establish if 4-H participants will need to print materials used in virtual program.
Complete midway and end of the activity/program check-ins with the participants.
Offer to schedule (in-person or at-a-distance/Zoom) visits with participants to stay updated on them throughout the program year.

Future research should be explored using more families for interviews to gain a better understanding of 4-H leader impact. It is also recommended that in-person focus groups are held, with the option of virtual meetings via video conference. Based on the interviews conducted, it was evident the parents dominated the conversations as if the parents were vicariously giving accounts for the children. Based on this knowledge, it is recommended that the interviews be split into a conversation with parents only, and a separate conversation with just youth. Additionally, the questions and topics discussed within future research should be expanded to include use of the life skills learned in 4-H among 4-H members.

Overall, three of the four families interviewed for this study were pleased with their 4-H agent and volunteer's impact and levels of communication during and post-COVID-19. There is room for improvement in both categories. 4-H agents and volunteers should continuously work on

ways to improve their communication and teaching styles. These same caring adult leaders should not only think of youth, but also themselves when striving to "make the best better."

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