

Getting the Word Out: Examining Key Trends and Strategies in School-Based Agricultural Education Programs' Communication and Marketing Efforts

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Abstract

If educators do not promote their agricultural education programs, who else will? At the same time, we recognize the time of agricultural educators is extremely limited; if communication and marketing efforts sometimes are not the priority of a program, and key stories and accomplishments may not be shared with stakeholders. The idea of program marketing and communication has not been explored deeply in recent research. The purpose of this study was to examine the communication and marketing strategies of agricultural education programs; 44 educators representing 22 states with an average of 8.93 ($\sigma = 9.10$) years of teaching experience attended the program marketing workshop hosted at the 2024 National FFA Convention participated in the study. Each participant was invited to share about their program's existing marketing efforts, the audiences they engage, and perceived barriers. Data revealed Facebook, Instagram, and in-person events were some of the most frequently used and effective platforms for achieving marketing goals. Programs shared a goal of engaging with parents and supporters, but viewed engagement with students, community members, and administrators to also be very important. Limited time, lack of content, and lack of marketing expertise were cited as the top barriers, with educators indicating a desire for more template-style resources for social media graphics, press releases, or promotional give-away items to assist them in developing engaging program marketing materials. These resources should be developed, and additional research with a larger sample size may reveal additional insights to inform professional development and training opportunities for educators.

Introduction

No two agricultural education programs are identical. Each program offers a unique set of courses, has specialized and unique expertise offered by agricultural educators, and has a diverse set of students who all offer different goals, interests, and perspectives within classroom, experiential learning and leadership development (Croom, 2009; Krieg & Krieg, 2021; Phipps et al., 2008). As a curricular area driven by both content, representing eight unique agriculture, food, and natural resource pathways (Ortiz, 2023), and context, representing the unique intricacies offered by the local community the program finds itself in (Roberts & Ball, 2009), the way a program markets and positions itself within the local area can be highly variable. Likewise, the priorities or demographics of an educator or the existing connections within a community may influence what or how often that program engages in marketing efforts. While marketing remains one of the National Quality Program Standards as outlined by the National Council for Agricultural Education (2016), the time of school-based agricultural educators is extremely limited, and educators must also focus on satisfying six other standards as well. As a result, communication and marketing efforts sometimes are not the priority of a program, and key stories and accomplishments are sometimes never

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shared with stakeholders. Some of these stakeholders can include prospective students, parents, alumni, administrators, local industry representatives, and sponsors who can all assist in helping develop or build an agricultural education program (Phipps et al., 2008). When promotion is prioritized, programs face barriers that influence the frequency or quality of stories to be shared. Some of these key challenges connect to developing consistent or well-branded content, failing to develop marketing objectives, or developing tactics that meet the needs and goals of the effort (McDonald, 1989; McKee, 1994; Pride & Ferrell, 2022). Despite the importance of communication and marketing efforts for retaining and recruiting students (Lawson et al., 2021), and for building program support, there is a current lack of research and resources surrounding this area. Additional research efforts are needed in order to better support school-based agricultural education programs in developing marketing materials that resonate with audiences, including parents, administrators, and sponsors. The purpose of this study was to examine the communication and marketing strategies of agricultural education programs to explore the trends and barriers related to the communication and marketing of school-based agricultural education programs. In doing so, the study sought to utilize the findings to identify key recommendations for tools, resources, and strategies that could assist school-based agricultural education programs in leveraging their stories within their communities.

Literature Review

While the communication and marketing landscape has shifted over recent years (Morgan et al., 2019; Pires et al., 2006; Sheth, 2021), there are some key barriers that have consistently remained as challenges in marketing and communication that prove to hold true today. McDonald (1989) shared ten key marketing barriers that were true over 35 years ago, and some of them are still relevant within the context of this research. To name a couple, he recognized organizational barriers and the inability to prioritize marketing objectives as two critical challenges (McDonald, 1989). Today, agricultural educators still face challenges navigating policies presented by administrators or other school district personnel (Easterly et al., 2023; Joerger, 2003). Some schools are not able to utilize certain platforms or marketing strategies to promote their agricultural education programs, or have limited autonomy in doing so, as they must adhere to specific protocol or district-recognized branding guidelines. Additionally, some educators struggle with what to prioritize in their marketing. The school-based agricultural education model encompasses three key areas: classroom, leadership development and FFA, and experiential learning through supervised agricultural experiences (SAE) (Croom, 2010; Phipps et al., 2008). With these diverse areas offered within agricultural education programs, knowing what to promote, when to promote, and who to target, can pose a significant barrier for agricultural educators (McKee, 1994; Pride & Ferrell, 2022).

One key factor that has been cited as an influencing factor in marketing and communication efforts and engagement is generational differences. Dimock (2019) provides an overview of three key generations: Generation Z (born after 1997), Millennials (born between 1981 and 1996), and Generation X (born between 1965 and 1980). Generation Z is the youngest of the generations, and individuals who are involved as creators or consumers in this generation tend to value authentic media, and are technologically advanced, as they were born after the invention of the Internet (Williams & Page, 2011). These younger audience members most prefer to post and engage with interactive, real-world content and care greatly about social issues (Williams & Page, 2011). On the other hand, Millennials grew up during a time of significant change and have developed into self-reliant and independent consumers who also appreciate engaging with interactive content online. However, Millennials may have some hesitations with how to develop or navigate content, so this generation deeply values having multiple opportunities to engage (Williams & Page, 2011). Lastly, Generation X can be difficult to reach in general, and likely will not want to engage much in many of today's communication and marketing trends or platforms (Williams & Page, 2011). As a result, the age and demographic of the consumer and creator, in this case, agricultural educator, can heavily influence the types of content and frequency of content shared regarding agricultural education program promotion.

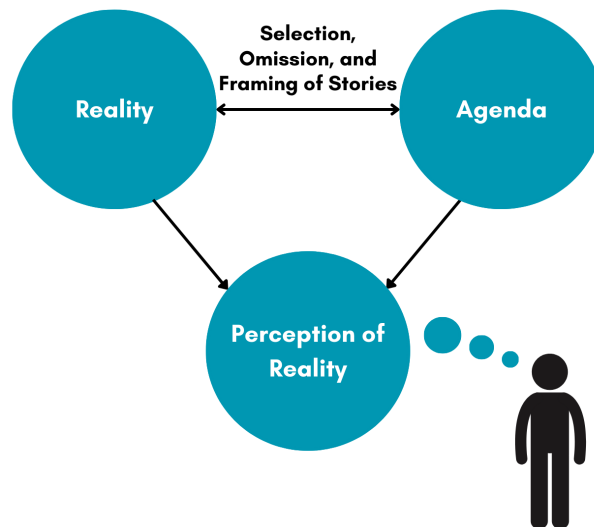
Communication and marketing efforts can be a stressor for creators, regardless of the age or background of the individual or the specific discipline or context. Smith & Smalley (2018) conducted a study with mid-career teachers participating in the National Association for Agricultural Education’s XLR8 professional development program. Their study revealed that among the National Quality Program Standards, the marketing standard was perceived as the fourth-highest stressful standard to implement within their program (Smith & Smalley, 2018). According to the National Council for Agricultural Education (2016), to satisfy the marketing standard, it is necessary that “Key stakeholders are continually asked, involved, recognized and informed about all components of the integrated program” (p. 6). In a time when job stress and burnout is increasing (Smith & Smalley, 2018; Solomonson et al., 2019) and there are over 200 unfilled agricultural education positions nationwide (Smith et al., 2024), additional marketing efforts could assist agricultural educators in finding the support and local resources to assist in meeting program goals, serving as classroom guest speakers, serving as mentors or hosts for student work-based learning or SAE engagements, and coaching career development or leadership development teams. By lessening the load of these educators over time, these additional marketing efforts could prove to be a strong return on investment, and assist in retaining teachers within the profession (Hainline & Smalley, 2023; Lemons et al., 2015; Smith & Smalley, 2018).

Theoretical Framework

McCombs & Shaw’s (1972) agenda-setting theory serves as the theoretical framework that guided the development and analysis of this study. Their theory posits that media messages, and related communication and marketing agendas developed by organizations, can influence an individual’s perception of reality, including the importance or prominence of certain issues. The selection or omission of specific stories (Mambrol, 2017; McCombs & Shaw, 1972), or how they are packaged and delivered (framed) can influence how an individual perceives reality. Those who create and control organizational and media messages at times can be considered gatekeepers, who hold power in determining what is, or is not, being shared with key audiences, or how the information is presented. This in turn influences the audience’s perception of reality. Figure 1 provides a graphical representation of the agenda-setting theory and the relationship between these ideas.

Figure 1

Agenda-Setting Function Theory (Mambrol, 2017)



Agricultural education programs set the agenda of their communication and marketing efforts. While some programs' media efforts may be driven by the efforts of students, a public relations committee, an educator, or perhaps a district administrator or district-wide director of communications, the information, stories, and narratives presented by a program are ultimately shaped by that program. It is to a program's advantage to utilize a variety of communication and marketing techniques to shape the agenda and resonate with as many individuals as possible within their target market (Mambrol, 2017; McCombs & Shaw, 1972; Williams & Page, 2011).

Purpose and Objectives

The purpose of this study was to examine the communication and marketing strategies of agricultural education programs. This purpose was guided by four research objectives:

1. To describe the types of communication and marketing platforms utilized by agricultural education programs.
2. To describe the key audiences agricultural educators engage in their communication and marketing efforts
3. To describe the barriers and perceived needed resources related to agricultural education program communication and marketing.
4. To explain the relationship between demographic factors and an agricultural educator's program social media usage (affinity) or media knowledge.

Methods

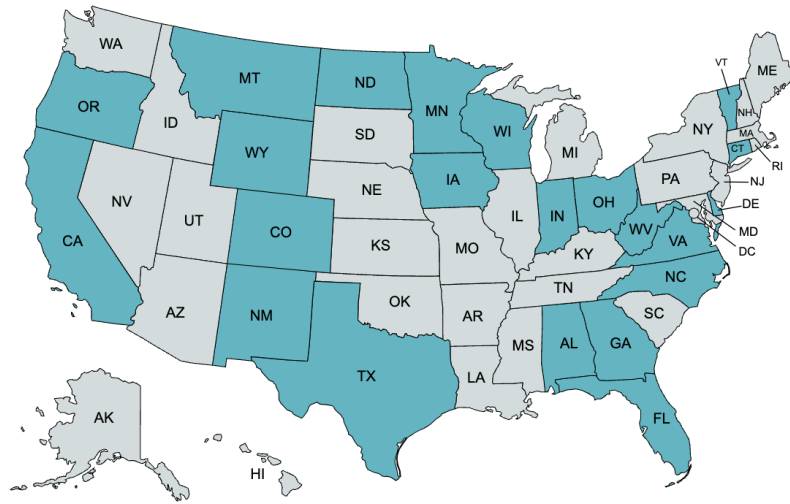
Research Design

Participants

A total of 44 individuals attended a program marketing and communication teacher workshop hosted by the research team at the 2024 National FFA Convention. This specific sample was chosen as these individuals all have interest in the topic area as they were motivated to attend the workshop; we felt their opinions would be most insightful for measuring the objectives of the study rather than having a random sample. Prior to the start of the workshop, each participant was invited to participate in the study, and all participants agreed to participate. With 44 completed questionnaires, a response rate of 100% was achieved. Participants represented 22 states (Figure 2) and reported an average of 8.93 years of teaching experience ($\sigma = 9.10$). Participants represented three generations as described by Dimock (2019); 7 participants (15.9%) represent Generation Z (born after 1997), 29 participants (65.9%) were Millennials (born between 1981 and 1996), and 8 participants (18.2%) represent Generation X (born between 1965 and 1980). Additionally, 12 participants (27.3%) were male while 32 (72.7%) were female.

Figure 2

The 22 States Represented by the 44 Study Participants



Instrumentation

A Qualtrics instrument consisting of several demographic, multiple choice, and Likert-type questions were developed. The questionnaire was reviewed by an expert panel of individuals with agricultural education and agricultural communication background prior to dissemination at the 2024 National FFA Convention (Creswell & Creswell, 2018; Hyrkäs et al., 2003). Reliability was essential in the development of the study, so reviewers were asked to examine both face validity and content validity (Heale & Twycross, 2015; Thyer, 2010). As suggested by Creswell and Creswell (2018), revisions were made based on the guidance and recommendations offered by the expert panel, consisting of content experts and quantitative research experts and communication and marketing efforts. In addition to the expert panel, a small group of teachers also piloted the instrument.

Based on the solicited feedback, some of the questions that appeared on the final instrument that was disseminated to respondents included “How important is effective communication and marketing of your program to students?” and “What resources would be most helpful for you in improving your program’s communication and marketing?” Further, Table 1 provides a sampling of questions asked on the instrument, along with each question’s connection to the theoretical framework that guided the study, agenda-setting function theory (McCombs & Shaw, 1972).

Table 1

Sample Questions and Their Connections to Agenda-Setting Theory (McCombs & Shaw, 1972)

Question	Component of Theory
What are the biggest barriers to your communication and marketing efforts?	Reality
What are the intended outcomes of your communication and marketing efforts? Please select all that apply.	Agenda
Please rate how effective you believe each communication marketing platform is for your program.	Perception of Reality
How important is effective communication and marketing of your program to the community?	Perception of Reality

Data Collection & Authenticity

The IRB-approved questionnaire was administered via Qualtrics and followed the recommendations set forth by Creswell & Creswell (2018), Lavrakas (2008), and Nardi (2014). Since there has not been a lot of research done in the area of agricultural education program communication and marketing, no normed scales from prior instruments were available for us to fully adopt in developing the study, so we sought to create questions that would allow us to explore emerging trends within the scope of the study and guided by the theoretical framework (McCombs & Shaw, 1972). However, the instrument questions were reviewed by an expert panel, pilot tested, and conceptualized based on the agenda-setting theory described in the theoretical framework (McCombs & Shaw, 1972). Participants were not given any form of incentive for their participation; however, they were informed that their responses would assist in the development of tools and resources to assist them in meeting their communication and marketing needs in the future (Lavrakas, 2008).

Data Analysis

Data were analyzed via Qualtrics, Excel, and RStudio. Identifiers such as name and email addresses were isolated from the data prior to the start of data analysis to protect participant identities (Creswell & Creswell, 2018). All interval data were evaluated using descriptive statistics such as mean, median, mode, standard deviations. For ordinal data, correlation coefficients were calculated using the Spearman (1904) method. As supported by Frey (2016), the Spearman (1904) method was selected for data analysis on any of the correlation test items since the data points examined within these tests all utilized ordinal variables. Despite utilizing a convenience sample, correlation was deemed as an appropriate statistical procedure as it is concerned predominantly with the type of data collected and whether the data is classified parametric or non-parametric (de Winter et al., 2016; Frey, 2016). Since this data is ordinal and non-parametric, Spearman (1904) procedures were utilized (de Winter et al., 2016; Frey, 2016). Lastly, one-way ANOVA and t-tests following procedures outlined by Frankfort-Nachmias et al. (2021) were also utilized to test for significant variations in media usage and reported communication strategies between basic demographic groups, specifically age on the basis of generation (Dimock, 2019) and engagement as a former FFA member.

Objective 4 relied on data regarding both social media affinity and media and branding knowledge. To understand educators' base knowledge and prior experiences with social media marketing, this study investigated their experiences using media platforms (affinity) and their knowledge related to agricultural education and FFA branding. To determine social media affinity, we calculated how many of the 5 social media platforms participants reported using for their program's promotion, and this served as a 0-5 scale, therefore being classified as ratio data (Frankfort-Nachmias et al., 2021). This scale essentially was a count of how many of the platforms were utilized; a social media affinity value of 0 would indicate none of the platforms were used, while a social media affinity value of 5 would indicate all 5 platforms were utilized in their marketing efforts. Likewise, to evaluate media and branding knowledge, we calculated how many of the 5 agricultural education branding knowledge questions they answered, also serving as a 0-5 scale and being classified as ratio data (Frankfort-Nachmias et al., 2021). The value received on this media and branding knowledge scale corresponds to the number of knowledge-based questions they answered correctly; a value of 0 would indicate no correct answers, and a value of 5 would indicate 5 correct answers. As an example, in one item, participants were asked to select the correct FFA emblem from a series of options, and in another item, participants were asked to identify if they presently use "agricultural education," "agriculture education" or "vocational education." These items were selected by the researchers and expert review panel because they recognized these as common errors seen on social media pages for agricultural education programs.

Results

Objective 1 explored the types of communication and marketing platforms utilized by agricultural education programs. There were a total of 12 different communication and marketing platforms that were

included on the instrument based on the feedback received from the expert panel. Participants were first asked to indicate their use of the 12 platforms for the purposes of program marketing and communication. While between 0 and 3 participants report using any given platform on a daily basis, the majority of participants who use platforms report using many of the platforms on at least a monthly basis; with Facebook ($n = 40$), Instagram ($n = 35$), and school district media ($n = 27$) being the most frequented on at least a monthly basis among the 44 participants. Table 2 provides a summary of each participant’s frequency using 12 key platforms for the purposes of promoting their agricultural education program. We also aimed to understand the perceived effectiveness of each of these platforms using a scale from 1 to 5; these Likert-type scale data were treated as interval data (Frankfort-Nachmias et al., 2021). Individuals who were unable to report using a platform enough reported “N/A” as their response and it was not included in the calculation of the mean and standard deviation. A summary of this data can be found in Table 3.

Table 2

Frequency of Platform Use to Promote Their Agricultural Education Program

Platform	<i>n</i>	Never	Annually	Monthly	Weekly	Daily
Facebook	44	4	0	16	22	2
Instagram	44	9	1	12	20	3
School district media	44	7	10	12	12	3
In-person events	44	3	18	18	4	1
Promotional items	44	7	21	10	3	3
News publications	44	11	17	11	5	0
Program website	44	30	5	6	3	0
TikTok	44	37	4	0	2	1
Radio	44	34	7	3	0	0
Snapchat	44	38	3	3	0	0
Television	44	41	3	0	0	0
X (Twitter)	44	42	1	1	0	0

Table 3

Perceived Effectiveness of Each Platform Used to Promote the Agricultural Education Program

Platform	<i>n</i>	N/A	EI	SI	NEI	SE	EE	μ	σ
In-person events	41	6	1	0	2	16	16	4.31	0.83
Facebook	43	3	1	1	5	18	15	4.11	0.92
Instagram	42	9	0	2	5	21	5	3.88	0.74
Promotional items	41	8	0	2	7	17	7	3.88	0.82
News publications	40	10	1	3	5	17	4	3.67	0.96
Radio	41	31	0	1	3	6	0	3.50	0.71
School district media	41	5	3	5	6	19	3	3.39	1.10
Television	41	36	0	1	3	0	1	3.20	1.10
Program website	41	24	2	3	6	6	0	2.94	1.03
TikTok	41	34	2	1	1	2	1	2.86	1.57
Snapchat	41	32	3	1	4	1	0	2.33	1.12
X (Twitter)	41	35	2	1	2	1	0	2.33	1.21

Note. Not applicable (N/A); Extremely ineffective (EI) = 1; Somewhat ineffective (SI) = 2; Neither effective or ineffective (NEI) = 3; Somewhat effective (SE) = 4; Extremely effective (EE) = 5

Correlation testing was done between platform use and perceived effectiveness using the Spearman (1904) method. Variables were treated as ordinal data (Frankfort-Nachmias et al., 2021); findings are presented in Table 4. We utilized the individual responses that were reported in aggregate form in Tables 2 and 3 to determine if there was a correlation between use and perceived effectiveness of the platform (de

Winter et al., 2016; Frey, 2016). The strongest correlation between use and perceived effectiveness was found in TikTok ($r = 0.84$), television marketing ($r = 0.75$), radio marketing ($r = 0.68$), and Snapchat ($r = 0.63$).

Table 4

Spearman (1904) Correlation Coefficients Between Platform Use and Perceived Effectiveness

Platform	r
TikTok	0.84
Television	0.75
Radio	0.68
Snapchat	0.63
Program website	0.63
X (Twitter)	0.60
Instagram	0.59
Promotional items	0.58
School district media	0.51
News publications	0.48
In-person events	0.46
Facebook	0.41

Objective 2 aimed to explore the key audiences agricultural educators engage in their program communication and marketing efforts. Participants indicated that they found their efforts to be the most important for informing parents and supporters ($\mu = 4.49$; $\sigma = 0.68$) and the community ($\mu = 4.39$; $\sigma = 0.70$). Interestingly, all participants reported it being important to engage all four of the audiences to some degree, with the majority of participants indicating it is very important or extremely important to engage or target all four of these audiences. A full summary of the interval data can be found in Table 5.

Table 5

Perceived Importance of Audience Engagement in Program Communication and Marketing Efforts

Audience	n	Not Important	Slightly Important	Important	Very Important	Extremely Important	μ	σ
Parents and supporters	41	0	0	4	13	24	4.49	0.68
Community	41	0	0	5	15	21	4.39	0.70
Students	40	0	0	10	11	19	4.23	0.83
Administrators	41	0	2	13	9	17	4.00	0.97

Note. Not important = 1; Slightly important = 2; Important = 3; Very important = 4; Extremely important = 5

While engaging these audiences, a variety of desired outcomes were articulated by respondents. The participating agricultural education teachers were asked to indicate the intended outcomes of their communication and marketing efforts from a list of eight possible outcomes, selecting all of the potential outcomes that applied to their program marketing efforts. Promoting student accomplishments ($n = 39$; $f = 95.1\%$) and raising awareness for the program ($n = 38$; $f = 92.7\%$) were cited as the most desired outcomes for the program communication and marketing efforts. However, many teachers did not view securing partnerships and donors as an intended outcome or goal ($n = 25$; $f = 61.0\%$). A complete summary of the findings can be found in Table 6.

Table 6

Intended Outcomes and Goals of Program Communication and Marketing Efforts (n = 41)

Goal or Outcome	n	f
To promote student accomplishments	39	95.1%
To raise awareness for the program	38	92.7%
To promote upcoming events and activities	35	85.4%
To share FFA competition results	35	85.4%
To promote FFA fundraising efforts	33	80.5%
To highlight classroom experiences	32	78.0%
To showcase student SAE programs	29	70.7%
To secure partnerships and donors	25	61.0%

Objective 3 sought to explore the barriers and perceived needed resources related to agricultural education program communication and marketing. Nearly half ($n = 16; f = 40.0\%$) of agricultural education teachers indicated limited time as the top barrier in executing their program communication and marketing efforts, with several also indicating a lack of knowing what to promote ($n = 7; f = 17.5\%$) and lack of personal experience or comfort using promotional platforms ($n = 6; f = 15.0\%$) as their top barriers. A complete summary of the collected data can be found in Table 7.

Table 7

Perceived Barriers in Program Communication and Marketing Efforts (n = 40)

Barrier	n	f
Limited time	16	40.0%
Unsure of what to promote or market (struggle to find content)	7	17.5%
Lack of experience or comfort using promotional platforms	6	15.0%
Lack of trust in chapter members to design promotional materials	5	12.5%
Administrative requirements or challenges	3	7.5%
Cost	2	5.0%
Other	1	2.5%

Participants were given an opportunity to share about these perceived communication and marketing barriers and identify resources that would be most helpful to them in improving their communication and marketing efforts via a short-answer question toward the end of the instrument. Of the 44 participants, only 18 participants took advantage of this optional text entry opportunity. Among these 18 participants, 12 expressed ideas related to the need for additional templates or “plug and play resources” would be most helpful to them in overcoming the frequently cited barrier of time in their communication and marketing efforts. One participant wrote they would most appreciate “templates or tips for how social media posts should look to be the most effective.” Some additional participants ($n = 3$) expressed the need for additional professional development or training on communication and marketing efforts. One participant said during this training, they would appreciate “suggestions on what to post and how often to post to successfully market the program,” while another indicated a need for having communication and marketing professional development be ongoing or offered over an extended period of time, as they need “more than just a few minutes.”

Objective 4 aimed to explain the relationship between demographic factors and an agricultural educator’s program social media affinity or media knowledge, specifically examining age based on generation (Dimock, 2019) and prior FFA membership as a student. This objective only examined media affinity related to the five social media platforms examined in the study: Facebook, Instagram, Snapchat, TikTok, and Twitter (X). During analysis, these data were treated as ratio data as teachers could have indicated using zero platforms, and up to all five platforms (Frankfort-Nachmias et al., 2021). While assumption tests of the data were conducted to measure homogeneity, the normality assumption was violated as there were fewer than 30 samples in the groups (Frankfort-Nachmias et al., 2021). Despite this, a one-way ANOVA test specific to the generation demographic still revealed there was no statistical significance difference between the three generations and the scores earned on the media knowledge scale ($p = 0.221$). However, a non-parametric t -test was conducted to determine statistical significance concerning media and branding knowledge between the group of past FFA members along with those that were not past FFA members. This non-parametric t -test yielded a statistically significant p -value; $t(44) = 1.68, p = 0.012$, as the resulting p -value is less than $\alpha = 0.05$. This means that there is a statistical difference between those who have previous FFA membership and those who do not have previous FFA membership. More specifically, on average, past FFA members earned higher knowledge scores ($\mu = 4.39; \sigma = 0.70$) than those who were not past FFA members ($\mu = 3.73; \sigma = 0.79$). However, given the small sample size of participants within this research study, this statistically significant p -value should be interpreted with caution and should not be considered as generalizable to the national population of school-based agricultural educators.

Table 8 and Table 9 reveal the average affinity and knowledge for generations and prior FFA membership. Generally speaking, there was an increased social media affinity for Generation Z ($\mu = 2.14; \sigma = 1.07$) and Generation X ($\mu = 2.38; \sigma = 1.06$), but there was an inverse relationship between branding knowledge and age; branding knowledge decreased as age increased. Additionally, participants who were not past FFA members received lower agricultural education and FFA branding and knowledge scores ($\mu = 3.73; \sigma = 0.79$) compared to those who were past FFA members ($\mu = 4.39; \sigma = 0.70$).

Table 8

Media Affinity and Knowledge Scores Based on Generation

Generation	n	Affinity		Knowledge	
		μ	σ	μ	σ
Generation Z	7	2.14	1.07	4.57	0.79
Millennials	29	1.90	0.88	4.24	0.73
Generation X	8	2.38	1.06	3.88	0.83
Total	44	2.02	0.95	4.23	0.77

Note. Generations were defined by Dimock (2019) with these parameters: Generation Z (born after 1997), Millennials (born between 1981 and 1996), and Generation X (born between 1965 and 1980)

Table 9

Media Affinity and Knowledge Scores Based on FFA Membership Status

FFA Membership Status	n	Affinity		Knowledge	
		μ	σ	μ	σ
Past FFA Member	33	1.94	1.00	4.39	0.70
Not a Past FFA Member	11	2.27	0.79	3.73	0.79
Total	44	2.02	0.95	4.23	0.77

In addition to reporting both media affinity and knowledge based on these two demographic factors, statistical analysis was conducted to determine if there was a correlation between media affinity and knowledge. To calculate the correlation coefficient, Spearman's (1904) methodology was followed. When comparing these two variables among all of the study participants ($n = 44$), there was no evidence of a strong statistical correlation found ($r = 0.116$).

Conclusions and Recommendations

Limitations

It is important to acknowledge a few key limitations of the study prior to drawing conclusions. First, this study utilized a convenience sample. While the literature indicates this sampling method is appropriate for the approach of our study (de Winter et al., 2016; Frey, 2016), the findings should still be interpreted with caution as it may not be representative of the total population of agricultural educators. Further, the fact that this is a small sample of educators led to a violation of the normality assumption (Frankfort-Nachmias et al., 2021) while conducting statistical analysis; future research should utilize a larger sample size. Finally, since this is a newer area of research, we were unable to utilize a normed instrument. Questions were developed utilizing the theoretical framework along with the advice of an expert panel. Future work should seek to further refine and develop the instrument, and validate its reliability, so it can be utilized in other research studies related to this emerging line of inquiry.

Conclusions

Objective 1

When analyzing the data collected in this study and connections back to existing literature and the theoretical framework, several conclusions can be made, which then inform the recommendations presented. To start, objective 1 explored the types of communication and marketing platforms utilized by agricultural education programs. Of the 44 participating educators, in-person events ($n = 41$; $f = 93.2\%$), Facebook ($n = 40$; $f = 90.9\%$), promotional items ($n = 37$; $f = 84.1\%$), school district media efforts ($n = 37$; $f = 84.1\%$), and Instagram ($n = 35$; $f = 79.5\%$) were the most frequently utilized platforms. However, there are a couple of platforms that are not as commonly utilized by agricultural education programs for their communication and marketing efforts; these include X (Twitter) ($n = 2$; $f = 4.5\%$), television ($n = 3$; $f = 6.8\%$), and Snapchat ($n = 6$; $f = 13.6\%$). Among those who utilized specific platforms, participants indicated in-person events ($\mu = 4.31$; $\sigma = 0.83$), Facebook ($\mu = 4.11$; $\sigma = 0.92$), Instagram ($\mu = 3.88$; $\sigma = 0.74$), and promotional items ($\mu = 3.88$; $\sigma = 0.82$) to be the most effective marketing and communication platforms. Likewise, two of the three least frequented platforms that were identified by participants also were cited as the least effective platforms, these include X (Twitter) ($\mu = 2.33$; $\sigma = 1.21$) and Snapchat ($\mu = 2.33$; $\sigma = 1.12$). TikTok also received a low effectiveness rating ($\mu = 2.86$; $\sigma = 1.57$). Using the Spearman (1904) correlation calculation method, it was determined that there was a strong correlation between an educator's use of a platform for communication and marketing purposes and its perceived effectiveness. The most strongly correlated values included TikTok ($r = 0.84$), television marketing ($r = 0.75$), radio marketing ($r = 0.68$), and Snapchat ($r = 0.63$). This essentially suggests that the programs utilizing two of the lowest-ranked effectiveness platforms, X (Twitter) and TikTok, believe it is an ineffective platform in reaching their communication and marketing goals. This may be attributed to generational differences (Williams & Page, 2011) but additional research utilizing a larger sample size would be necessary to understand this complexity. On the other hand, Instagram was cited as one of the most effective communication and marketing platforms and also received a moderately-correlated value of ($r = 0.59$), suggesting that educators who use this platform believe it is effective in achieving their communication and marketing goals. The selection and use of a platform connects to the agenda-setting theory posited by McCombs & Shaw (1972), as the program is determining which media entities they choose to engage with, and this influences the audience members they reach (Williams & Page, 2011).

Objective 2

Additionally, objective 2 aimed to explore the key audiences agricultural educators engage in their program communication and marketing efforts. While on average, participants agreed that it was very important to engage all four key audiences (parents and supporters, students, community, and school district administrators), participants believed that engaging parents and supporters was the most critical ($\mu = 4.49$; $\sigma = 0.68$). Across the platforms used, they felt that the overall goal and objective of program marketing and communication should be to highlight student accomplishments ($n = 39$; $f = 95.1\%$) and raise awareness for the program ($n = 38$; $f = 92.7\%$). Further, McCombs & Shaw (1972) assert through the agenda-setting theory that these individuals are all heavily influenced by the stories being shared on the platforms. Interestingly, when considering the three-component model of agricultural education (Croom, 2010; Phipps et al., 2008), consisting of classroom instruction, leadership development through FFA, and experiential learning through a supervised agricultural experience (SAE), participants appeared to have more affinity for utilizing their promotional efforts to promote FFA-related activities. Of the 40 participants, 35 ($f = 85.4\%$) indicated a goal of using communication and marketing platforms to promote FFA competition results, while 33 ($f = 80.5\%$) indicated the goal of these platforms promoting FFA fundraising efforts. On the other hand, 32 ($f = 78.0\%$) respondents indicated their marketing efforts have a goal of highlighting classroom experiences, and only 29 ($f = 70.7\%$) indicated their efforts have a goal of showcasing student SAE programs. As programs move toward the affiliate membership model (Sheehan et al., 2023), it should be noted that enrollment in courses is what will influence a program's FFA membership. It is in an agricultural education program's best interest to consistently promote each of the three elements of the three-component model (Croom, 2010; Phipps et al., 2008) to promote course offerings so that students are able to take advantage of FFA- and SAE-related opportunities.

Objective 3

Objective 3 sought to explore the barriers and perceived needed resources related to agricultural education program communication and marketing among the study's participants. The top-cited barrier among participants is a lack of time to promote and market the agricultural education program, with 16 ($f = 40.0\%$) respondents indicating this as their top barrier. Additionally, agricultural educators' perceived lack of knowing what to share on the various promotional platforms ($n = 7$; $f = 17.5\%$) and their lack of familiarity or experience with the promotional platforms ($n = 6$; $f = 15.0\%$) were also key barriers to their ability to engage in consistent program communication and marketing. The literature supports the notion that communication and marketing efforts do take a lot of time (McKee, 1994; Pride & Ferrell, 2022; Williams & Page, 2011). However, many of the participating educators indicated that the distribution of templates for communication and marketing efforts, such as press release templates and social media graphics, along with some additional professional development experiences, may help them overcome these barriers and be more efficient and intentional in their communication and marketing efforts. As such, relieving these barriers could help programs better understand and reflect on their own program marketing agendas so that they are better able to engage with their target audiences and increase their visibility within the community (McCombs & Shaw, 1972).

Objective 4

Finally, objective 4 aimed to explain the relationship between demographic factors and an agricultural educator's program social media usage (affinity) or media knowledge. The results indicate that when examining media and branding knowledge, there is a statistically-significant relationship between educators who were FFA members and those who were not FFA members ($t(44) = 1.68$, $p = 0.012$). There was also an inverse relationship between media and branding knowledge and age. The younger Generation Z had the highest media and branding knowledge ($\mu = 4.57$; $\sigma = 0.79$), Millennials had an intermediate media and branding knowledge ($\mu = 4.24$; $\sigma = 0.73$), while the older Generation X had the lowest media and branding knowledge, and the greatest score variability among the study participants ($\mu = 3.88$; $\sigma = 0.83$). Interestingly, the older Generation X reported the highest media usage (affinity) ($\mu = 2.38$; $\sigma = 1.06$), closely followed by the younger Generation Z ($\mu = 2.14$; $\sigma = 1.07$). This may indicate that while older

agricultural education teachers may be attempting to encourage their programs to market and promote themselves on multiple social media platforms, they may lack the awareness or branding knowledge to do so in an effective manner; this notion is also supported by other generational research efforts (Dimock, 2019; Williams & Page, 2011). As described by agenda-setting theory (McCombs & Shaw, 1972), it is possible that while these educators may find themselves or their programs present on a variety of social media marketing platforms, their lived experiences or perception of reality may influence the quality or accuracy of content developed or shared on those platforms, therefore influencing the beliefs and attitudes of their followers or subscribers.

Recommendations

Objectives 1 and 2

Several research and professional practice recommendations have been established for both objectives 1 and 2, which pertain to the types of communication and marketing platforms and audiences engaged, respectively. For research recommendations, it would be advisable to conduct additional research investigating the length of time programs have utilized each of the specific communication or marketing platforms, and if they have any personal experience using the platforms for their own personal use or entertainment. The level of experience one has with a platform may influence their perception of the usability and general impact of the platform. Additionally, coupled with the findings from this research, a follow-up qualitative research study investigating how they engage each specific audience within their platforms may have the opportunity to present a compelling picture of program marketing and communication efforts. This research can be conducted through content analysis of submitted media artifacts and interviews with educators and stakeholders at agricultural education programs. Additionally, it is worth noting that not all programs utilize a strategic communication or marketing plan. However, a content analysis of programs who do have one of these plans already developed, or potentially an analysis of other communication and marketing artifacts developed by the program may prove valuable. These content analysis efforts should analyze the types of promotion being done and the frequency of promotional efforts in relation to the three-component model of agricultural education (Croom, 2010; Phipps et al., 2008). A content analysis may reveal trends in how much promotion is occurring in each of these three components that are all said to be important to a quality agricultural education program (National Council for Agricultural Education, 2016).

For professional practice, it is recommended that additional media and communication training and professional development be offered to both pre-service and in-service agricultural education teachers, regardless of their age or previous training backgrounds. This training could be facilitated by National FFA staff and the National FFA regional specialists who have experience with FFA branding and communications. Based on the findings of this study, it is clear that many agricultural educators are apprehensive about their program's communication and marketing efforts partially because of a lack of time, but also a lack of expertise or comfort utilizing different communication and marketing platforms. These communication and marketing training opportunities can provide agricultural educators with exposure on how to be efficient in communication and marketing efforts through helping educators learn how to develop communication and marketing artifacts that resonate with target audiences. Additionally, the findings for the first two objectives revealed many programs rely on only a couple of platforms, which is not advisable (Pride & Ferrell, 2022; Sheth, 2021; Williams & Page, 2011). The additional training experiences could offer educators with additional exposure and confidence in developing content for a variety of platforms and ensure that the reach of the key messages and stories of the agricultural education program are being maximized, and hopefully leveraging a greater additional awareness and community support at the same time.

Objective 3

By understanding the barriers and perceived needed resources related to communication and marketing that were explored within objective 3, we can present several key recommendations. For research recommendations, conducting this study on a larger scale rather than a convenience sample of individuals attending a workshop may reveal some additional relationships and trends. Having a larger sample size that is a stratified random sample will make the findings related to barriers more generalizable. For example, perhaps there is a relationship between the age or generation of an educator, and the barriers they perceive. After conducting statistical analysis, it was determined that sample size for this study was too small to draw any conclusions within these variables. Administering the questionnaire to a larger audience using a stratified random sample approach, and randomly selecting individuals from each state, may prove to be a helpful first step. Additionally, another potential relationship that would be worth exploring is the link between the number of platforms being utilized to promote an agricultural education program and the perceived barriers. Perhaps those who use fewer platforms recognize a higher degree of barriers, which leads to resistance in exploring other platforms to promote and market their program. Again, an attempt to explore this relationship was made during statistical analysis, but the sample size proved to be too small in drawing any generalizable conclusions.

Considering the guiding theory for the study (McCombs & Shaw, 1972), another key research recommendation would be to understand who is developing communication and marketing content for programs—teachers, alumni, school district personnel, stakeholders, students, FFA members, or a combination of these or any other individuals. Who are the gatekeepers (Mambrol, 2017; McCombs & Shaw, 1972)? What information is being shared, and who is crafting and ultimately delivering this information? What biases are present in the promotional content being shared? These questions and more could be addressed through focus groups or interviews with programs. If limited time for communication and marketing efforts is consistently being cited as a critical barrier for content development, perhaps there might be a trend between teachers who are citing this as a barrier and are the ones appointing themselves as the individuals responsible for program marketing and communication.

For professional practice, there are also a number of key recommendations that can be acted on to break down some of the barriers identified that emerged within the study's findings. First, the development of a toolkit of resources with ready-to-use templates for communication and marketing efforts will prove to be a helpful starting point for helping programs become visible and well-promoted within their communities. These toolkits can be developed by National FFA staff or perhaps in collaboration with post-secondary agricultural education and communication programs as a potential partnership and opportunity for undergraduate and graduate students to learn more about communication and marketing. Further, the toolkits can be widely disseminated to educators at state or national agricultural education conferences, or in collaborative online environments such as the Agricultural Education Discussion Lab. The toolkits can consist of social media graphics, templates for program social media and marketing plans, links to National FFA resources such as the brand kit and a folder of current FFA emblems, and much more. Since time and lack of expertise were cited as two of the leading barriers for agricultural educators in their program communication and marketing efforts, this easy-to-use resource can assist programs in leveraging their community awareness and support and hopefully supporting the individuals creating the promotional content for the program.

Many educators also recognized a key barrier of struggling to generate ideas for content. Despite affording students with opportunities in classroom, experiential learning, and leadership development contexts (Croom, 2010; Phipps et al., 2008), it can be difficult to know what is worth promoting, or how to go about sharing key stories or happenings with a program's target audiences. When considering social media specifically, a document containing a list of content ideas with sample captions curated from agricultural education programs with strong social media presence may serve as a good starting point for

programs looking for inspiration on what to share, or how to share. This document may be developed and refined by agricultural educators under the guidance of state or national FFA staff.

To address the barrier of limited time, additional professional development facilitated by National FFA staff or regional specialists should be offered to educators so that they are able to be more confident and comfortable in developing and disseminating communication and marketing materials to promote their agricultural education programs. Professional development efforts should focus on the delivery and design of the materials, but also how to empower stakeholders, specifically students and alumni partners, in developing content and sharing the agricultural education story. Through these efforts, educators can alleviate some of the time they spend creating and disseminating content and empower others to have their voices and communication skills shared.

Objective 4

Finally, objective 4 explained the relationship between demographic factors and an agricultural educator's program social media usage (affinity) or media knowledge. For research recommendations, it is recommended that this study be conducted on a larger scale, and utilizing some additional questions or scales to attempt to evaluate if there are relationships between demographics and media affinity or media knowledge. This study was limited to only participants in the communication and marketing workshop and all the individuals in attendance possessed at least some experience or knowledge of marketing and communication for their program. Utilizing a larger sample size that also consists of participants selected from a stratified random sample (Creswell & Creswell, 2018) may yield different findings that may also be more generalizable on a national scale. The one statistically significant p -value from this objective that connects past FFA membership with media and branding knowledge ($t(44) = 1.68, p = 0.012$) should be interpreted with caution due to the small sample size. Future research should examine if there are relationships between media knowledge or affinity in demographics other than age or FFA membership, including but not limited to, pathway to licensure, years of teaching experience, gender, personal (non-program) media usage or familiarity, and program location (urban, suburban, or rural). Exploring these variables may reveal additional relationships to consider in developing tools and resources for programs to advance their communication and marketing efforts.

For professional practice, it is recommended that pre-service agricultural education programs provide additional, target communication and marketing support for all students, especially those without prior FFA experience. The findings indicate that while non-FFA members received a higher media affinity score ($\mu = 2.27, \sigma = 0.79$) than FFA members ($\mu = 1.94, \sigma = 1.00$), the non-FFA members did receive lower agricultural education and FFA branding and knowledge scores ($\mu = 3.73; \sigma = 0.79$) compared to those who were FFA members ($\mu = 3.73; \sigma = 0.79$). Previous lack of engagement within agricultural education and FFA could reduce overall knowledge of these areas and could influence the quality and accuracy of program marketing and communication efforts. Additional training, development, and resources provided to pre-service agricultural education teachers could increase their confidence and ability to effectively promote their agricultural education programs, and leverage and empower their local communities to support their program's efforts.

Finally, state staff should be made aware of key marketing and communication resources that are available from the National Association of Agricultural Educators (NAAE) and the National FFA Organization and have plans for sharing these resources with their teachers. These resources or professional development can be offered to state staff and members of the National Association of Supervisors of Agricultural Education (NASAE) during their national in-service meetings or conferences. While evaluating the results of the study, we noticed that several workshop attendees did not recognize that both of these entities have free and publicly available marketing and branding guidelines that should be utilized on a local level. This finding is further evidenced through some programs' and even entire state associations' misuse of the official FFA emblem or incorrect use of the official FFA colors on their print

and digital media, or incorrect reference to agricultural education-centered terms, such as the use of “vocational education” or “Future Farmers of America.” While each agricultural education program is unique and individualized, promoting a consistent brand from school to school and state to state using consistent emblems, colors, and key messaging develops a more cohesive platform for promoting and marketing the missions of agricultural education and FFA. State staff can assist in delivering these resources to educators within their state and provide needed guidance and recommendations to agricultural education programs. In addition to state staff, National FFA staff and the National FFA regional specialists can facilitate targeted professional development experiences related to communication and marketing at state agricultural education workshops and events. These training experiences can assist local educators in establishing strong communication and marketing practices within their programs.

General Conclusions

The purpose of this study was to examine the communication and marketing strategies of agricultural education programs. We recognize agricultural education programs can utilize several different communication platforms to promote and share their success stories, and that marketing can be an effective way to engage with individuals of all ages and backgrounds (Williams & Page, 2011) to design and craft a meaningful agenda (McCombs & Shaw, 1972). Marketing platforms used most heavily by the respondents included in-person events, Facebook, and Instagram. However, this study built on previous work which indicated marketing is challenging for educators to prioritize amidst their demanding schedules (Smith & Smalley, 2018). This challenge is further exacerbated due to the current lack of ready-to-use resources for educators to use, along with the lack of professional development and training for educators to learn how to coordinate program communication and marketing efforts. If we wish to assist agricultural educators in overcoming the barriers associated with program marketing and reduce the potential for teacher burnout (Smith & Smalley, 2018), we must develop and distribute communication and marketing resources agricultural educators can utilize to better promote their agricultural education programs. These intentional and strategic communication and marketing efforts have the potential to strengthen local programs, bolster additional programmatic support, and recruit additional stakeholder engagement. Further, unified and consistent branding and marketing from program to program, and state to state, will create a stronger and more cohesive agricultural education and FFA platform to further amplify and leverage agricultural education stories in a professional and positive way.

References

- Creswell, J. D., & Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- Croom, B. (2009, March). The urgency of need. *The Agricultural Education Magazine*, 81(5), 4. https://www.naae.org/naae/document-server/?cfp=/naae/assets/file/public/magazine/volume81/2009_03-04.pdf
- Croom, D. B. (2010). The development of the integrated three-component model of agricultural education. *Journal of Agricultural Education*, 49(1), 110–120. <https://doi.org/10.5032/jae.2008.01110>
- de Winter, J. C., Gosling, S. D., & Potter, J. (2016). Comparing the Pearson and Spearman correlation coefficients across distributions and sample sizes: A tutorial using simulations and empirical data. *Psychological Methods*, 21(3), 273–290. <https://doi.org/10.1037/met0000079>

- Dimock, M. (2019). *Defining generations: Where Millennials end and Generation Z begins*. Pew Research Center. <https://www.pewresearch.org/short-reads/2019/01/17/where-millennials-end-and-generation-z-begins/>
- Easterly, R., Ferand, N., Myers, B., & Galindo, S. (2023). Examining how principals support school-based agricultural education programs. *Journal of Agricultural Education*, 64(2), 162–175. <https://doi.org/10.5032/jae.v64i2.113>
- Frankfort-Nachmias, C., Leon-Guerrero, A., & Davis, G. (2021). *Social statistics for a diverse society (9th Eds.)*. Sage Publications.
- Frey, B. B. (2016). *There's a stat for that! What to do & when to do it*. Sage Publications.
- Hainline, M., & Smalley, S. (2023). Determining the professional development needs of Iowa school-based agricultural education teachers related to program design, leadership, and SAE development. *Journal of Agricultural Education*, 64(1), 1–10. <https://doi.org/10.5032/jae.v64i1.26>
- Heale R. & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-Based Nursing (18)3*, 66–67. <https://doi.org/10.1136/eb-2015-102129>
- Hyrkäs, K., Appelqvist-Schmidlechner, K. & Oksa, L. (2003). Validating an instrument for clinical supervision using an expert panel. *International Journal of Nursing Studies (40)*, 619–25. [https://doi.org/10.1016/S0020-7489\(03\)00036-1](https://doi.org/10.1016/S0020-7489(03)00036-1)
- Joerger, R. (2003). A comparison of the impact of teaching events upon the experience of entry-level agricultural education teachers. *Journal of Career and Technical Education*, 20(1), 51–68. <https://doi.org/10.21061/jcte.v20i1.623>
- Krieg, R. & Krieg J. (2021, November). Perseverance through partnerships. *The Agricultural Education Magazine*, 94(3), 12–14. <https://www.naae.org/naae/document-server/?cfp=naae/assets/file/public/magazine/volume94/2021%2011%20--%20november%20december.pdf>
- Lavrakas, P. J. (2008). *Encyclopedia of survey research methods*. Sage Publications. <https://doi.org/10.4135/9781412963947>
- Lawson, C., Doerfert, D. L., & Filson, C. (2021). State FFA association use of Instagram to promote membership diversity. *Journal of Agricultural Education*, 62(2), 97–118. <https://doi.org/10.5032/jae.2021.02097>
- Lemons, L. L., Brashears, M. T., Burris, S., Meyers, C., & Price, M. A. (2015). Factors contributing to attrition as reported by leavers of secondary agriculture programs. *Journal of Agricultural Education*, 56(4), 17–30. <https://doi.org/10.5032/jae.2015.04017>
- Mambrol, N. (2017). *Agenda setting media theory*. Literary Theory and Criticism. <https://literariness.org/2017/11/26/agenda-setting-media-theory/>
- McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of mass media. *The Public Opinion Quarterly*, 36(2), 176–187. <http://www.jstor.org/stable/2747787>

- McDonald, M. H. B. (1989). Ten barriers to marketing planning. *Journal of Marketing Management*, 5(1), 1–18. <https://doi.org/10.1080/0267257X.1989.9964084>
- McKee, D. (1994). Targeted industry marketing: Strategy and techniques. *Economic Development Review*, 12(2), 4. <https://www.proquest.com/scholarly-journals/targeted-industry-marketing-strategy-techniques/docview/230127923/se-2>
- Morgan, N. A., Whitler, K. A., Feng, H., & Chari, S. (2019). Research in marketing strategy. *Journal of the Academy of Marketing Science*, 47(1), 4–29. <https://doi.org/10.1007/s11747-018-0598-1>
- Nardi, P. M. (2014). *Doing survey research: A guide to quantitative methods* (3rd ed.). Routledge. <https://doi.org/10.4324/9781315635088>
- National Council for Agricultural Education (2016). *National quality program standards for agriculture, food, and natural resource education: A tool for secondary (grades 9-12) programs*. <https://ffa.app.box.com/s/z4iwobguov606xvl4hrb1s2yod3qbt9j>
- Phipps, O., Dyer, B., Lloyd, E. & James, A. (2008). *Handbook on agricultural education in public schools* (6th ed.). Delmar Learning.
- Pires, G.D., Stanton, J., & Rita, P. (2006). The internet, consumer empowerment and marketing strategies. *European Journal of Marketing*, 40(9/10), 936–949. <https://doi.org/10.1108/03090560610680943>
- Pride, W. M., & Ferrell, O. C. (2022). *Marketing foundations* (9th ed.). Cengage.
- Roberts, T. G., & Ball A. L. (2009). Secondary agricultural science as content and context for teaching. *Journal of Agricultural Education*, 50(1), 81–91. <https://doi.org/10.5032/jae.2009.01081>
- Sheehan, C. Z., Rada, L., Greiman, B., & Livstrom, I. C. (2023). Benefits, barriers, and implementation strategies experienced by teachers adopting FFA affiliation membership: A case study. *Journal of Agricultural Education*, 64(4). <https://doi.org/10.5032/jae.v64i4.86>
- Sheth, J. (2021). New areas of research in marketing strategy, consumer behavior, and marketing analytics: the future is bright. *Journal of Marketing Theory and Practice*, 29(1), 3–12. <https://doi.org/10.1080/10696679.2020.1860679>
- Smith, A. R., Foster, D. D., Spiess, M., & Lawver, R. G. (2024). *National Agricultural Education Supply and Demand Study, 2023 Executive Summary*. <https://aaaeonline.org/Teacher-Supply-andDemand>
- Smith, A. R., & Smalley, S. (2018). Job Stress, burnout, and professional development needs of mid-career agricultural education teachers. *Journal of Agricultural Education*, 59(2), 305–320. <https://doi.org/10.5032/jae.2018.02305>
- Solomonson, J. K., Thieman, E. B., Korte, D. S., & Retallick, M. S. (2019). Why do they leave and where do they go? A qualitative study of Illinois school-based agriculture teachers who left the profession. *Journal of Agricultural Education*, 60(4), 115–131. <https://doi.org/10.5032/jae.2019.04115>
- Spearman, C. (1904). The proof and measurement of association between two things. *The American Journal of Psychology*, 15(1), 72–101. <https://doi.org/10.2307/1412159>

Thyer, B. A. (2010). *The handbook of social work research methods* (2nd ed.). Sage Publications.

Williams, K. C., & Page, R. A. (2011). Marketing to the generations. *Journal of Behavioral Studies in Business*, 3, 1–17. <https://www.aabri.com/manuscripts/10575.pdf>