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JOURNAL OF APPLIED COMMUNICATIONS

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The *Journal of Applied Communications* is a quarterly, refereed journal published by the Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Sciences (ACE).

The *Journal of Applied Communications* is:

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- Peer-reviewed to ensure accuracy and quality.

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When statistical information is reported in an article, the author should contact the lead editor for special guidelines.

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ACE develops professional skills of its members to extend knowledge about agriculture, natural resources, and life and human sciences to people worldwide.

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If the article is accepted, then the author will have to submit a final copy containing the revisions as electronic files (Word) that can be edited. These will be reviewed one final time by the executive editor.

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RESEARCH

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Viewer Perceptions and Preferences for *Farmweek*

McKayla Brubaker, Quisto Settle, and Elizabeth Gregory North

ABSTRACT

A survey was conducted to determine how frequently viewers watched Farmweek *and to determine what their perceptions were through the lens of Uses and Gratifications.* Farmweek *is a weekly 30-minute news broadcast produced by Mississippi State University Extension Service. Respondents were asked about what audiences they believed the show appealed to, what decisions they have made based on viewing the show, and what topics they wanted to see on the show in the future. Almost 40% of respondents viewed the show weekly. They believed the show presented a positive view of the state and its residents, but responses were not strong for the program appealing to all residents. Respondents reported landscaping and gardening decisions were the most likely to have been influenced by watching the show. The highest number of respondents wanted to see home and garden tips in the future, followed by livestock and animal health practices. Viewing frequency had a statistically significant relationship with respondents' perceptions related to appeals of the show. However, viewing frequency had fewer statistically significant relationships with the types of decisions respondents made based on viewing the show and their preference for future topics. Future research was recommended to broaden the scope of this line of research to other states and other types of media produced by Extension in the country. It was also recommended to research why nonviewers did not watch* Farmweek.

KEY WORDS

Agricultural News Program, Mass Media in Extension, Television, Uses and Gratifications Theory, Viewer Perceptions and Preferences,

INTRODUCTION

Cooperative Extension is often referred to as the "best kept secret" (Debord, 2007, para. 1). Only about one-fourth of the nation's population is aware of Extension and less than 15% of the population is at least somewhat knowledgeable about the organization (Settle, McCarty, Rumble, & Ruth, 2015). Cooperative Extension has been reaching out to the public for more than a century (USDA, 2014), but many Cooperative Extension systems around the country are facing challenges like dwindling budgets and shifting legislative priorities (Varea-Hammond, 2004). Additionally, Extension, like other organizations and government agencies, is faced with the challenge of staying up to date with ever-changing media platforms and communication approaches. The needs and satisfactions of Extension programming vary among Extension and non-Extension users (Boone, Sleichter, Miller, & Breiner, 2007). In order to reach audiences effectively, Extension should strive to match individuals to their media preferences for receiving information (Cartmell, Orr, & Kelemen, 2006). Despite these challenges, Extension programming must function effectively to stay connected with constituents.

When Extension was first founded in 1914, more than half of the population lived in rural areas, with more than 30% of the workforce being personally involved in agriculture (USDA, 2014). The number of farms decreased in ensuing decades, but as technology advanced, each farm continued to become more efficient in its production. In 2012, less than 2% of the United States population participated in agricultural production (Environmental Protection Agency, 2012). The demographic shift has affected the awareness of Cooperative Extension and its programs (Abrams, Meyers, Irani, & Baker, 2010). Even though the demographic has shifted, Extension continues to be a prominent information source, with an office in or near the nation's more than 3,000 counties (USDA, 2014).

According to Curtis, Veroff, Rizzo, and Beaudoin (2012), "Population characteristics, including age, sex, type of household, race/ethnicity, education, income, and employment, are central to the planning and delivery of most Extension programs. Demographic data helps Extension understand communities and tailor or target effective education and programming," (p. 2). Monaghan, Ott, Wilber, Gouldthorpe, and Racevskis (2013) found that audiences for Extension programming are not consistent and continue to shift demographically and culturally. Despite the need to constantly adapt as an organization, Extension has a well-known history of successfully adapting communication and scholarly resources for diverse audiences (Labelle & Anderson-Wilk, 2011).

One longstanding Extension program is *Farmweek*. *Farmweek* is a weekly 30-minute televised news program that focuses on prominent agricultural topics and issues (Mississippi State University Extension Service, 2015). The show was first broadcast in 1977 (A. Ford, personal communication, January 25, 2016). *Farmweek* is produced by the Office of Agricultural Communications for Mississippi State University Extension Service. The program aims to deliver current farming and consumer news. Each episode is approximately 26 minutes in length, with 50 shows produced annually (Mississippi State University Extension Service, 2015). The program airs on Mississippi Public Broadcasting on Saturdays at 6 p.m. and on Mondays at 6 a.m. The program also airs on RFD-TV on Fridays at 5 p.m. and on Saturdays and Wednesdays at 3 a.m. Past episodes are archived on their webpage and YouTube channel.

A previous study of *Farmweek* identified the number of viewers using random digit dialing, viewers' general impression of the program, and demographic information from the audience (Newman, 1995). At the time of the study, 136, or 13%, of the 1,046 households that were interviewed said that they watched *Farmweek*. Newman said, "using an estimated Mississippi adult population of 1,908,008 for 1995, the best estimate of people who watch *Farmweek* is 248,041" (Newman, 1995, p. 1). The study defined regular viewers as those who watch *Farmweek* more than 2-3 times per month, and Newman estimated their regular viewers to be about 198,681. Of the 136 participants who watched *Farmweek*, 37.5% of respondents watched the program every week, 42.6% watched 2-3 times per month, and 19.9% viewed less than once per month. As a part of the general impression of *Farmweek*, the study looked at decisions made based on *Farmweek* content and topic usefulness. The percent of viewers who indicated that had used *Farmweek* to make a decision was 23.5%. Respondents also indicated the usefulness of the *Farmweek* content as follows:
- 19.1% indicated that market reports were useful,
- 17.6% indicated that the weather was useful,
- 16.2% indicated that the news was useful, and
- 14.0% indicated that features were useful.

The final portion of the *Farmweek* study worked to determine the characteristics of viewers. The typical *Farmweek* viewers in 1995 were married (61.0%), female (55.1%), had at least a high school education (86.4%), and either worked or had a spouse who worked in the agricultural industry (41.2%). In 2014, *Farmweek* evaluators estimated, "approximately 367,149 Mississippi residents viewed *Farmweek* in 2014 compared to 224,654 in 2000" (FleishmanHillard, 2014, p. 4).

Outside of *Farmweek* as an agricultural mass media program, there is a need for a general understanding of both agricultural and non-agricultural audiences' needs and perceptions of information relating to agriculture. If it is known

what types of content audiences prefer and their reasons for selecting programming, it can be used in the future to tailor programming according to the audiences' needs, while achieving agricultural communicator's goals of educating the public. Researchers have identified challenges for Extension, such as a decrease in resources and staff time and availability, shifting legislative priorities, and an increasing demand for evidence of program success (Gregory-North, 2015; Monaghan, Ott, & Wilber, 2013a; Sanagorski, 2014; Seevers, 2010; Varea-Hammond, 2004). Mass media programs like *Farmweek* could mitigate these problems by providing the opportunity to communicate Extension messages more widely and efficiently. Although researchers have identified the importance of educating audiences about agriculture-related topics, limited information is available about their preferences for agricultural content, specifically when looking at the viewer preferences and perceptions of mass media programs in Extension.

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

The Uses and Gratifications Theory strives to determine people's needs and expectations for their media consumption (Katz, Blumler, & Gurevitch, 1973). The Uses and Gratifications Theory states audience members actively choose media based on their personal needs, with media sources competing for their attention (West & Turner, 2014). The following are the five assumptions of Uses and Gratifications listed by West and Turner (2014). The first assumption is that the audience is active and its media use is goal-oriented. Each audience member brings a different level of involvement to their media use and may not have the same preferences. The second assumption is the initiative in linking need gratification to a specific medium choice rests with the audience member, which theorizes a level of autonomy of the audience member. The third assumption is that the media competes with other sources for need satisfaction. Because of the varying needs and preferences, a variety of media sources have surfaced, creating competition between one another for the audience member's attention. The fourth assumption is that people have enough self-awareness of their media use, interests, and motives to provide researchers with an accurate picture of that use. The fifth assumption is that the value judgments of media content can only be assessed by the audience; because they are choosing to view the content, they are the only ones who can truly place a value on the content or media source.

In order to evaluate the effectiveness of a medium to meet the audience's gratification criteria, researchers need to analyze the needs of the audience members (Katz et al., 1973). Extension should monitor its audience to keep up to date with their viewers' goals, preferences, and needs involved in their media choices. If Extension is not effective at reaching its audience, the viewers will replace Extension information with another outlet that better gratifies their needs. Audiences have multiple media sources competing for their attention, so Extension can easily lose audience members if the audience's needs are not being met. The Uses and Gratifications Theory can be a key lens for identifying how and why certain audiences select certain media. If it is not known how audiences select media, it can be difficult to address how effective programming is at reaching the intended audience and encouraging a specific action or fulfilling a need. As it relates to Extension, the public is going to have trouble identifying that Extension can fulfill their needs if they are unaware of the Extension organization (Settle et al., 2015). *Farmweek* offers an opportunity to braoden awareness of Extension. For *Farmweek* to continue being successful, it needs to meet its target audiences' needs and expectations. Without that, the program risks losing its audience to competing informational sources that better meet the needs of the public.

Television is in more than 99% of all U.S. homes (West & Turner, 2014). According to West and Turner (2014), television is fundamentally different than all other forms of mass media and provides the opportunity to bring dissimilar groups together, such as Extension and Non-Extension users (Boone et al., 2007). As media platforms and consumption preferences change over time, the reinvention of television will be necessary to keep it current in the ever-changing digital age (West & Turner, 2014). The digital age requires that the dissemination of information be purposeful and targeted for its audiences (Cartmell et al., 2006). While times change, Extension needs to know if television is worth the time and effort required, the same as was recommended in 1986 by Lang, Blacklock, and Bossing.

Rockwell and Randall (1987) found that providing farmers and ranchers production and marketing information via television was well accepted as a way to receive timely and relevant information. However, in a study of Iowa corn and

soybean producers' media preferences, Licht and Martin (2007) found that television was the least preferred media channel. Producers did not feel that there were enough agricultural programs shown on television, and the agricultural industry was typically portrayed negatively on television (Licht & Martin, 2007). The representation of agriculture and rural communities portrayed by the mass media forms an impression on non-agricultural viewers, often perpetuating agricultural stereotypes (Specht & Beam, 2015). Even when agriculture is portrayed positively on television, the portrayal is not necessarily accurate (Dietrich, Buck, & Specht, 2015).

In a study by Boone, Sleichter, Miller, and Breiner (2007), television was also not found to be a strong media preference for Extension users. However, Boone et al. (2007) found that mass media may be an effective way to reach non-Extension users. According to Nazari, Bin, and Hassan (2011), "mass media offers effective channels for communicating agricultural messages, which can increase knowledge and influence behavior of audience members" (p. 931). *Farmweek* provides an opportunity to share agricultural information with individuals who may not be reached regularly or at all by traditional Extension efforts. In order to encourage non-Extension users to participate in viewership, Rockwell and Randall (1987) suggested keeping a continuous flow of television programming when gaining an audience base. It is from the continual programming that Extension will grow and attract new audiences (Rockwell & Randall, 1987). Lang et al. (1986) found that viewers of Extension programs frequently used information that was presented as part of those televised programs. Because many of these studies are about 30 years old, there is a need for more recent research involving television preferences of Extension programs to determine if these recommendations still hold true in the media of today. Little research has been conducted on viewers' needs related to mass media Extension programming. There is a need to conduct more research on audiences' media preferences and programming appeals as Extension seeks to better educate populations about agriculture and natural resources. By understanding the target audiences' needs and preferences for media, the Extension Service, as well as other agricultural groups, can tailor their programming to better fit the needs, motivations, and educational goals of current and potential Extension audiences.

PURPOSE AND RESEARCH OBJECTIVES

The purpose of the study is to understand how *Farmweek* can gratify viewers' needs. Included in these needs are differences in viewers' levels of involvement with *Farmweek*, which would include frequency of content or audience activeness (West & Turner, 2014). A program can only be successful if the needs of the audience are being met, and only the audience can determine those needs based on the tenets of Uses and Gratifications Theory (West & Turner, 2014), which necessitates research to gather information directly from viewers. The specific objectives of the study were to

1. Determine how frequently viewers watched *Farmweek*,
2. Determine viewers' perceptions of *Farmweek* meeting their needs, including program appeal and topic preferences, and
3. The relationship between viewing frequency and responses related to program appeal and topic preferences.

METHODS

This study consisted of a quantitative survey to assess viewership and perceptions of *Farmweek*. A third-party research firm developed the instrument with feedback from Mississippi State University Extension personnel, including an evaluation specialist to help ensure face and content validity. The research firm also implemented the survey. Analysis for this study was done by Mississippi State University researchers to meet the needs of this study.

Respondents were reached one of two ways. The first was through random digit dialing to help represent the entire state. Responses were given over the telephone. Within this group, there were 504 responses, including 94 who watched *Farmweek*. Only viewers of the program were included in this study. Future analysis will address non-viewers' perceptions. The second method was an opt-in method that only targeted current viewers. Respondents were able to

opt in by going to the link that was listed at the end of the *Farmweek* broadcast and in fliers sent to county Extension offices, or by following links to the questionnaire on the *Farmweek*'s website, the Mississippi State University Extension Service's website, or the *Farmweek*'s Facebook page. The opt-in method yielded 166 more respondents. There were 260 total respondents in the study between both modes of contact.

This study used four sections from the overall questionnaire. Respondents were asked to indicate how frequently they viewed the show during a typical month. Seven items related to the program's appeal to different audiences. Respondents were also asked what types of decisions they have made based on watching *Farmweek* and what topics they would like to see included on *Farmweek* in the future. There were additional sections in the full questionnaire that did not meet the needs of this study, but they included topics that dealt with perceptions of *Farmweek* and Extension. The majority of respondents were male (*n* = 164, 63.1%) and married (*n* = 178, 68.5%). Almost 80% of respondents had at least a high school education, with some college or technical training being the most frequent response (*n* = 81, 31.2%), followed by a bachelor's degree (*n* = 71, 27.3%). The majority of respondents were not in households where anyone worked on a farm (*n* = 161, 61.9%) and a slight majority had no household income depending on the agricultural industry (*n* = 132, 50.8%).

RESULTS

Determine How Frequently Viewers Watched *Farmweek*

Respondents selected how often they watched the program: 38.9% (*n* = 100) of respondents identified themselves as weekly viewers 38.9% (*n* = 100) of respondents viewed the program 2-3 times per month, and 22.2% (*n* = 57) of respondents viewed the show less than once a month.

Determine Viewers' Perceptions of *Farmweek* Meeting Their Needs, Including Program Appeal and Topic Preferences

Respondents answered questions related to the show's appeals to different audience segments (Table 1). Respondents were most likely to completely agree the show presented a positive view of Mississippi and its residents, as well as being for audiences like the respondents. They were less likely to completely agree the show appeal to all Mississippi residents, primarily to those in rural areas, or primarily to those working in agriculture.

Table 1

Respondent Perceptions of Farmweek's *Appeal to Audience Segments*

	Appeals primarily to farmers or those working in agriculture	Appeals to all residents of MS	Appeals primarily to those living in rural areas	Appeals to older viewers	Is for people like me	Is for the whole family	Presents a positive view of MS and its residents
M	2.92	2.78	2.91	3.06	3.40	3.12	3.68

Note. Scales ranged from 1 = *Completely Disagree* to 4 = *Completely Agree*.

Table 2 shows the types of decisions respondents have made based on watching *Farmweek*. The majority of respondents had made landscaping or gardening decisions (56.9%). Agricultural business decisions were the second-most frequently made decision based on viewing *Farmweek* (36.5%). Only 18.5% of respondents believed the program never influenced their decisions.

Table 2

Types of Decisions Respondents Have Made Based on Viewing Farmweek

Types of decisions	f	%
Landscaping/gardening	148	56.9
Agricultural business	95	36.5
State travel/vacation	67	25.8
Farm equipment	63	24.2
Home Improvement	60	23.1
Agricultural investing	57	21.9
Farmweek never influenced decisions	48	18.5

Table 3 shows the topics respondents would like to see included in *Farmweek* in the future. Home and garden tips (72.7%) and livestock and animal health practices (70.0%) were the most-desired topics. The only topic included in the survey to not be wanted by a majority of respondents was information on programs where the respondents could volunteer their time (35.4%).

Table 3

Respondents Preferences for Inclusion of Topics on Farmweek *in the Future*

Topics	f	%
Home and garden tips	189	72.7
Livestock and animal health practices	182	70.0
Profiles on interesting people from/living in MS	175	67.3
Information on agri-tourism/places where non-farmers can learn about agriculture	165	63.5
Stories/features focusing on community festivals or events in MS	161	61.9
Information on programs where you can volunteer your time	92	35.4

The Relationship Between Viewing Frequency and Responses Related to Program Appeal and Topic Preferences

Table 4 shows the correlations for the study. Kendall's tau was used to describe the relationships because it is a more conservative measure to use when ordinal items are being used in correlations (Field, 2013). There were statistical significant correlations between viewing frequency and agreeing with the following statements: *Farmweek* appeals to all residents of Mississippi (r_t = -.23), *Farmweek* presents a positive view of Mississippi and its residents (r_t = -.23), *Farmweek* is for the whole family (r_t = -.28), and *Farmweek* is for people like me (r_t = -.32). This indicated that those who viewed at higher frequencies were more likely to agree with those statements. There were three statistically significant relationships between viewing frequency and types of decisions made based on program content. Those who viewed the program more frequently were more likely to make agricultural business (r_t = .26) and farm equipment (r_t = .15) decisions, and were less likely to have never made a decision based on *Farmweek* programming (r_t = -.17). Correlations were also run between viewing frequency and topics respondents would like to see on *Farmweek*, but the only statistically significant relationship was that those who viewed the show more frequently were interested in profiles of interesting people from or living in Mississippi (r_t = -.12*).

Table 4

Relationship between Viewing Frequency and Appeals Related to Farmweek *Decisions Made Based on Program, and* Farmweek *Topics Preferences*

Correlation between viewing frequency and respondent beliefs of *Farmweek*'s appeals to audiences[a]						
Appeals primarily to farmers or those working in agriculture	Appeals to all residents of Mississippi	Appeals primarily to those living in rural areas	Appeals to older viewers	Is for people like me	Is for the whole family	Presents a positive view of Mississippi and its residents
.05	-.23*	-.02	-.04	-.32*	-.28*	-.23*

Correlation between viewing frequency and types of decisions respondents have made based on *Farmweek* content[b]						
Agricultural business decision	Agricultural investing decision	Local/state travel of vacation decision	Farm equipment purchase decision	Home land-scaping or gardening decision	Home improvement decision	Never made a decision based on *Farmweek* programming
.26*	.12	.07	.15*	.09	.07	-.17

Correlation between viewing frequency and topics respondents would like to see on *Farmweek*[b]					
Stories or features focusing on community festivals or events in state	Profiles on interesting people from or living in Mississippi	Information on programs where you can volunteer your time	Information on agritourism or places where non-farmers can learn about agriculture	Home and garden tips	Livestock and animal health practices
-.11	-.12*	-.10	-.05	-.11	-.09

Note. Viewing frequency coded as 1 = weekly viewers, 2 = viewed 2-3 times per month, and 3 = less than once a month.
[a]Scale code ranged from 1 = *Completely Disagree* to 4 = *Completely Agree*.
[b]Coded as 1= yes and 2 = no
*$p < .05$.

CONCLUSIONS

When looking at viewership, the vast majority of respondents watched at least half the episodes of *Farmweek* each month, with almost reporting 40% watching every episode, indicating *Farmweek's* viewers are not casual viewers. This study found similar results as Newman's 1995 study involving viewing frequency. This indicates that viewers are continually choosing to watch *Farmweek*, indicating the show is gratifying their needs as viewers; otherwise, they most likely would turn to other sources for information that would better fulfill their needs (West & Turner, 2014). In terms of the respondents' perceptions of the program, the only item to receive strong agreement was that the show presented a positive view of Mississippi and its residents, while there was no true consensus to whom respondents believed the show appealed. Included in these middling perceptions of appeals is that the show appeals to all residents, predominantly rural areas, and those in agriculture. Because of the need to appeal to increasingly non-rural audiences (Abrams et al., 2010), the show does not appear to be fully engaging audiences that traditionally could be missed by Extension programming.

Since Newman's study in 1995, the viewer demographics for *Farmweek* have shifted slightly. Today's viewers for *Farmweek* are predominantly married and male. In 1995, 55.1% of viewers were female compared to only 36.9% of current female viewers, although a similar number of viewers indicated that they were married (61% in 1995 vs. 68.5% in 2015; Newman, 1995). Newman found that 36% of viewers (or their spouse) worked on farms, while 38.1% of today's viewers (or their spouse) indicated that they worked on a farm. Despite the slight increase in viewers who worked on the farm, the study found a decrease in viewers that worked in the agricultural industry (not on a farm). 50.8% of current *Farmweek* viewers did not work in the agricultural industry, whereas 58.8% of viewers in 1995 did not work in the agricultural industry. As less than 2 percent of the nation's population is involved in agriculture (Environmental Protection Agency, 2012), it is not surprising that the bulk of *Farmweek*'s viewers were not tied directly to production agriculture, which indicates a need for media programming and content that appeals more broadly, to all Mississippi residents, which is important given that respondents did not completely agree that *Farmweek* appealed to all Mississippi residents. As the demographic makeup of the public continues to shift (Monaghan et al., 2013a), it is vital that Extension evaluates its audiences to assess any changing needs and preferences for media programming (Curtis & Beaudoin, 2012), which fits within the scope of the Uses and Gratifications Theory.

As stated by the Uses and Gratifications Theory, audiences prefer content that will meet their needs (West & Turner, 2014). In the case of *Farmweek*, content that was practical in nature was the most likely to gratify the audience. *Farmweek* viewers expressed their interest in gardening and landscaping content. Similarly, the only decision a majority of respondents based on watching *Farmweek* was related to landscaping and gardening. This may reflect the urban and suburban viewer groups' viewing preferences because gardening and landscaping would more likely appeal to a broader audience than traditional agricultural content. This content may help broaden the influence of the program as Extension attempts to reach new audiences with the show given these results and a lack of a relationship between viewing habits and preference for gardening and landscaping as a topic.

Additionally, livestock and animal health practices and profiles of interesting people from the state were the other topics respondents wanted to see on the show. Based on the results, viewers identified information and advice as a need that *Farmweek* was currently fulfilling for its viewers. Other informational content, such as the individual profiles on people from Mississippi, was also important to viewers, though not as strongly indicated by as many respondents as gardening and landscaping topics.

Viewing frequency had more statistically significant relationships related to appeals of the show than for any of its topics. As it relates to the appeals, more-frequent viewers were more likely to believe the show appealed to all residents of the state, for the whole family, and represented a positive view of the state and its residents. This would appear to be logical given that someone viewing the show more frequently would be more likely to perceive the show would gratify others' preferences based on gratifying the individual's preferences. The area for growth would appear to be how the show could broaden its appeal to reach its more casual viewers to improve their viewing frequency. To grow viewing frequency, the preferences of high-frequency and low frequency viewers should be assessed to identify commonalities. Care should be taken to avoid unintentionally alienateing the current audience's needs as they strive to increase the gratification of casual viewers to increase viewing frequency.

As it relates to the topics, viewing frequency was at best a low correlation with the topic preferences, indicating there are no real trends in the differences in topic preference between the viewing groups. With gardening tips and animal health practices being preferred by a large majority of respondents, these topic areas would appear to be more advantageous than other topics, such as agritourism or community festivals/events. While agritourism and the community festivals/events were wanted as topics by a majority, an even larger number liked gardening and animal health as topics, indicating a broader appeal, which is important if the program is to reach new audiences. By accounting for the public's uses and needs for agricultural programming through the lens of Uses and Gratifications Theory, *Farmweek* has the opportunity to expand its viewership, therefore, expanding the reach of Mississippi State University Extension Service as it tries to accomplish its mission and educational goals.

RECOMMENDATIONS

The first recommendation for the program is to increase focus on general tips and practices. While gardening and landscaping topic was the most likely to be wanted by respondents, animal health was also highly rated, which indicates that one of the needs the show can meet for its audience is providing practical solutions and advice that viewers can apply to their lives. Other topics were also wanted by a majority of respondents and would warrant inclusion in the program at some scale, but tips and advice would still be preferred by a larger portion of the audience and would merit comparatively more focus on the program. While this research did not look at other states and types of media programming, it would not be unreasonable to expect tips and advice to be desired by other Extension audiences. The public is only going to view media content that gratifies its needs, so tailoring content to the audience's indicated needs is important for success (West & Turner, 2014).

The second recommendation relates to audience appeals. Respondents did not have strong beliefs of whether or not the show appealed only to those on farms and in rural areas or if the show appealed to everyone in the state. This indicates *Farmweek* has room to improve in appealing to its target audience. If the show is seeking to expand its audience without losing its current audience, then the show should focus on universal agricultural issues that affect everyone in the state and frame the content in a manner that appeals to everyone in the state. Regardless of which audiences the show targets, *Farmweek* will need to continually re-evaluate how it gratifies audience needs because audience needs and demographics will continue to change as they have for the past century (Monaghan et al., 2013). Extension and its media programs will need to continue to shift to meet the needs of changing audiences as Extension has done in the past century (Labelle et al., 2011)

There were limitations to this study. First, it was only conducted in one state for one media program. Future research should expand the scope of this line of research by duplicating the study for other mass media Extension programming across the country. This can include shorter programs, such as 2- to 3-minute clips, that might be more feasible for Extension systems that are facing dwindling budgets or legislative issues and do not have the ability to produce a 30-minute weekly broadcast (Varea-Hammond, 2004). Related to this, future research can also compare the effectiveness of longer-form programs, such as *Farmweek*, to the shorter programs to see if one form is better suited for meeting audience needs or if the different types of programs gratify audience needs. While this study reports the findings in Mississippi, it cannot be assumed that these findings will be the same in Extension units in every state, especially because Extension and non-Extension viewers' needs, interests, and preferences for content and format may vary from person to person and may differ regionally (Boone et al., 2007; Curtis & Beaudoin, 2012; West & Turner, 2014). Research is needed to address other types of mass media programs, such as podcasts or blogs, in other states to determine other viewers and non-viewers preferences for Extension content and delivery format (Cartmell II et al., 2006). After further research has been completed, viewer perceptions and preferences may be generalized to be used in other Extension units.

The second limitation is that this study compared viewers based on frequency, but it did not address nonviewers. Future research could address how to attract nonviewers to view *Farmweek* and other mass media Extension programming. This could include addressing audience needs, as well as issues affecting nonviewers' awareness of the program.

While not all audiences may prefer Extension content through television, mass media may be an effective way to reach audiences Extension has traditionally missed (Boone et al., 2007), particularly television, which is available in more than 99% of U.S. homes (West & Turner, 2014). Reaching these new audiences is imperative as the population continues to be increasingly urban and suburban, as well as ending the trend of Extension being the "best kept secret" (Debord, 2007, para. 1). News-based programs, such as *Farmweek*, offer the opportunity to provide accurate representations of an industry that are not typically seen on television (Dietrich et al., 2015; Specht & Beam, 2015).

REFERENCES

Abrams, K., Meyers, C., Irani, T., & Baker, L. (2010). Branding the land grant university: Stakeholders' awareness and perceptions of the tripartite mission. *Journal of Extension, 48*(6), 1-11. Retrieved from http://www.joe.org/

Boone, K., Sleichter, L., Miller, R., & Breiner, S. (2007). Perceptions and preferences of Extension programming and sources among Extension users and non-users: 10 Kansas counties. Retrieved from http://www.joe.org/

Cartmell II, D. D., Orr, C. L., & Kelemen, D. B. (2006). Effectively disseminating information to limited-scale landowners in the urban/rural interface. *Journal of Extension, 44*(1), 1-9. Retrieved from http://www.joe.org/

Curtis, K. J., & Beaudoin, J. (2012). Tools of the trade: Making the case for demographic data in Extension programming. *Journal of Extension, 50*(3). Retrieved from http://www.joe.org/

Debord, K. (2007). How integrated Extension programming helps market Cooperative Extension: The North Carolina recommendation. *Journal of Extension, 45*(5). Retrieved from http://www.joe.org/

Environmental Protection Agency. (2012). *Agriculture demographics.* Retrieved from http://infohouse.p2ric.org/ref/02/01244/www.epa.gov/agriculture/ag101/demographics.html

FleishmanHillard. (2014). Farmweek *general public survey*. Starkville, MS.

Gregory-North, E. (2015). *Social marketing: "Selling" education to your clients.* Starkville, MS: Mississippi State University Extension Service.

Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and Gratifications research. *Public Opinion Quarterly, 37*(4), 509-523. doi:10.1086/268109

Labelle, C., & Anderson-Wilk, M. (2011). Leveraging new media in the scholarship of engagement: Opportunities and incentives. *Journal of Extension, 49*(6), 1-13. Retrieved from http://www.joe.org/

Lang, M. B., Blacklock, K., & Bossing, B. E. (1986). Is anyone watching. Retrieved from http://www.joe.org/

Licht, M. A. R., & Martin, R. A. (2007). Communication channel preferences of corn and soybean producers. *Journal of Extension, 45*(6), 1-9. Retrieved from http://www.joe.org/

Mississippi State University Extension Service. (2015). *Farmweek.* Retrieved from http://extension.msstate.edu/shows/farmweek

Monaghan, P., Ott, E., & Wilber, W. (2013a). Defining audience segments for Extension programming using reported water conservation practices as a case study: Audience segments for urban water conservation programs. Journal of Extension, 51(6), 1-14. Retrieved from http://www.joe.org/

Monaghan, P., Ott, E., & Wilber, W. (2013b). Defining Audience Segments for Extension Programming Using Reported Water Conservation Practices s A Case Study : Audience Segments for Urban Water Conservation Programs. *Journal of Extension, 51*(6). Retrieved from http://www.joe.org/

Nazari, M. R., Bin, S., & Hassan, H. (2011). The role of television in the enhancement of farmers' agricultural knowledge. *Journal of Agricultural Research, 6*(4), 931-936.

Newman, M. E. (1995). Farmweek *evaluation*.

Rockwell, S., & Randall, J. (1987). Television as a delivery system. *Journal of Extension, 25*(4). Retrieved from http://www.joe.org/

Sanagorski, L. (2014). Using prompts in Extension: A social marketing strategy for encouraging behavior change. *Journal of Extension, 52*(2). Retrieved from http://www.joe.org/

Seevers, B. (2010). Turning an Extension aide into an Extension agent. *Journal of Extension, 48*(6), 1-5. Retrieved from http://www.joe.org/

Settle, Q., McCarty, K., Rumble, J., & Ruth, T. (2015). *Trust of organizations communicating about agriculture and the environment*. Workshop presented at Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Sciences Conference. Charleston, SC.

Specht, A. R., & Beam, B. W. (2015). Prince farming takes a wife: Imagery and stereotypes on ABC's The Bachelor. *Journal of Applied Communication, 99*(4), 20-33. Retrieved from http://journalofappliedcommunications.org/

USDA. (2014). *Cooperative Extension History*. Retrieved from http://nifa.usda.gov/cooperative-extension-history

Varea-Hammond, S. (2004). Guidebook for marketing Cooperative Extension. Retrieved from http://www.joe.org/

West, R., & Turner, L. H. (2014). *Introducing communication theory: Analysis and application* (5th ed.). New York, NY: McGraw-Hill Education.

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Making a Case for McDonald's: A Qualitative Case Study Examining the McDonald's "Our Food Your Questions" Campaign

Laura M. Gorham, Courtney Gibson, and Erica Irlbeck

ABSTRACT

In the last decade, a trend of consumer skepticism toward the agricultural industry has emerged. The consumer is demanding to know how food is grown, processed, its origin, and its content. At the same time, these same consumers are increasingly voicing their concerns and fueling the fire of misperception through the use of social media. Many organizations are counteracting these misperceptions by developing food campaigns detailing the food production process from the farm to the table. In this qualitative case study, McDonald's social media video campaign, "Our Food, Your Questions" was analyzed to determine how a specific corporation provided content in particular frames to meet consumers' demand for food-based information. Findings from this study suggest user-generated content helped develop the content for the social media campaign in terms of video topics and specific content addressed. Further, content in these videos were framed to help viewers connect to the video content and messages and to show that the company participates in socially responsible behavior. The recommendations and implications provide suggestions on how agricultural communicators could incorporate multimedia content into their campaigns to better facilitate communication.

KEY WORDS

Corporate Social Responsibility, Multimedia Content, Qualitative Case Study, User Generated Content

INTRODUCTION

What is in my food? Where does my food come from? These questions have been used to describe the information demanded by consumers from the agricultural industry (Hallman, Hebdeb, Aquino, Cuite, & Lang, 2003; Marshall, 2013). To meet these demands, multiple food corporations, such as Panera, Monsanto, Whole Foods, and McDonald's, have implemented initiatives to show consumers more about the food they eat (Fishman, 2015).

This general movement of the population away from the farm has led to a decreased knowledge and understanding of the complexities involved in agricultural production systems (Doerfert, 2011; Vilsack, 2014). A declining direct interaction with the agricultural industry leaves consumers skeptical of agricultural topics and food production processes and with many questions (Goodwin, Chiarelli, & Irani, 2011; Vance, 2012; Whitaker & Dyer, 2000). To answer these questions, food-based industries are creating messages, communication materials, and social media campaigns addressing agricultural knowledge gaps such as a campaign run by McDonald's in 2014.

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In the fall of 2014, McDonald's implemented "Our Food, Your Questions" (OFYQ), a social media campaign aimed at providing information behind their food. McDonald's realized misperceptions existed about its products, product packaging, food quality, and food production and wanted the opportunity to answer questions about its food and production practices (Jarboe, 2015). A social media campaign was developed as company researchers found these "myths were seeded and growing within social media" (Jarboe, 2015, para. 4). In response, McDonald's released behind-the-scenes videos describing the production processes behind products and answering questions from consumers (Jarboe, 2015; Starkman, 2014). Each video centers on specific consumer questions about specific McDonald's products.

Although the company attempted to answer consumers' questions by providing information about its food production processes, media reports have been indecisive on the success of the campaign (Jarboe, 2015; Starkman, 2014). Starkman (2014) explained that although the company made an effort to be transparent in its food production, a better strategy might have been to "make truly meaningful commitments to sustainability" (para. 1). Further, Starkman (2014) described how the campaign appealed to consumers' desire to buy from farm to table; however, with mass production needed to feed its customers, the campaign actually showed large-scale farms to table. Others have described McDonald's campaign as being innovative, earning McDonald's Canadian division awards as the top marketer of the year in 2013 for redefining transparency (Laird, 2013). While the success of this campaign to consumers is unclear, it has implications for agricultural communicators to learn how corporations have framed informational food campaigns.

Understanding the content of messages and the frames in a food campaign is essential for agricultural communicators wanting to market products to consumers. In this study, the content of the McDonald's OFYQ video campaign was analyzed to identify how information regarding food production processes and practices was displayed to meet consumers' demands for information. Further, the frames were analyzed to better understand how the company encouraged consumers to buy their products.

Social Media
Although the development of new agricultural technologies has led consumers away from the farm, it has given birth to the development of the internet and social media creating a new model of communication. Social media have provided users with a platform that shifts communication away from a one-way distribution model of information.
Toward a more participatory model of culture, one which sees the public not as simply consumers of preconstructed messages but as people who are shaping, sharing, reframing, and remixing media content in ways which might not have been previously imagined (Jenkins, Ford, & Green, 2013, p. 2).

Social media have created a platform where organizations create content to attract audience engagement and attention (Gladwell, 2000; Jenkins et al., 2013). Social media allow an online form of word-of-mouth communication where the audience has the chance to interact with the content distributed and share what they have learned with the masses (Gorham, Lamm, & Rumble, 2014; Jenkins et al., 2013). This user-generated content, or "media content created or produced by the general public rather than by paid professionals" (Daugherty, Eastin, & Bright, 2008, p. 16), allows consumers to be active and in charge of their media experiences and has made it even more important to understand what motivates people to consume particular media (McQuail, 2010).

Transparency and Corporate Social Responsibility
Social media have also provided a platform for improving relationships with key audience members through transparent information (Rawlins, 2008). Holtz and Havens (2009) defined transparency as the degree to which an organization shares information with its stakeholders who need to make informed decisions. Disanto and Bortree (2012) explored various social media campaigns and found most content to be structured around distributing information to help stakeholders make educated decisions and communicating how the company is accountable for its actions. Conversations on social

media allow for a larger discussion about companies and their practices that have an impact on an audience's awareness, knowledge, opinions, attitudes, and purchasing decisions (Jacques, 2012). Jacques (2012) also explained social media as a platform where the public can express what behaviors and information they perceive as responsible. Through social media, the public is able to tell companies what they expect, or demand, as responsible corporate behavior, thus telling companies what policies or information is distrusted in the public eye (Jaques, 2012).

To provide information that meets the demands of the public, companies have used social media to show corporate social responsibility and increase trust in their organization (Pivato & Tencati, 2007). Corporate social responsibility (CSR) has been defined as an organization's communication discussing the social and environmental concerns of stakeholders (Commission of the European Communities, 2011; Crowther & Aras, 2008). The idea of CSR has allowed companies to meet the expectations of their consumers (such as local initiatives and environmental stewardship) while improving trust with stakeholders (Murray & Vogel, 1997). As stakeholders see organizations doing what they perceive as the right thing, a positive relationship can be developed (Pigott, 2004; Sen & Bhattacharya, 2004). CSR should be high on research agendas in public relations as it shows a business is doing the right thing, thus, portraying the organization as more trust-worthy (Maignan & Ralson, 2002; McWilliams, Siegel, & Wright, 2006; Pearce & Doh, 2005). By making themselves look socially responsible, a company gives consumers a good feeling about the organization, and in doing so, have framed their messages using components of CSR to meet consumers' expectations and increase trust.

Framing

Communicators can use frames to create messages that appeal to a specific audience. Communicators may set a frame of reference when readers, viewers, or listeners interpret information based on how it is presented (Scheufele, 1999). The communicator must incorporate the idea of capturing the audience by targeting their information toward their need for information. Additionally, "the existence of social movements that seek to decrease or prevent common agriculture practices demonstrates the necessity for the agricultural industry to be cognizant of pressures to change the status quo" (Abrams & Meyers, 2012, p. 64). Agricultural communicators need to be aware of these changes in consumerism and cultural values when developing their communication materials. Frames may contain information regarding agricultural topics, such as food safety, but they must also meet the consumers' social expectations to be effective.

Goodwin, Chiarelli, and Irani (2011) concluded organizations and companies need to increase the occurrence of favorable agricultural messages to create mental images that are important and essential in the eyes of consumers. Information must be framed in a way to give consumers a positive mental image and leave them with a feel-good experience. Additionally, Goodwin and Rhoades (2011) concluded that consumers who felt emotionally connected with an advertisement were more likely to connect with the product. This study showed personal relevancy or emotional appeals may be used to connect consumers to their products.

Further, Gorham, Rumble, and Holt (2015) found specific frames have an impact on consumers' decisions to buy particular products based on appealing attributes. Although consumers were interested in buying a socially-accepted product, such as local food, they were more interested in products meeting their desired expectations, such as taste, quality, or preference (Gorham et al., 2015). In this study, the message frames used in the McDonald's OFYQ campaign were identified and described to determine how this campaign incorporated frames to appeal to the consumer.

PURPOSE AND OBJECTIVES

The purpose of this study was to examine the McDonald's OFYQ campaign videos to identify how information regarding food production processes was displayed to meet consumers' demands for information. This insight will help agricultural communicators gain knowledge of how the type of content included in a corporate campaign can meet consumer demands for food-based information and social expectations. The following research questions guided this study:

1. What consumer questions were answered in the campaign videos?
2. What food production procedures were described?
3. What framed messages can be identified in the video campaign?

METHODS

A qualitative case study approach was used to identify content and relevant frames in the OFYQ campaign. A case study was selected as it is the evaluation of a particular situation that is intrinsically interesting (Smith, 1978). The qualitative nature of this study helped the researchers understand the characteristics of the videos in a particular social setting (Altheide, 1996). A qualitative content analysis was chosen to describe the content of the videos (Wimmer & Dominick, 2003). Rossman and Rallis (2003) described a qualitative content analysis as the "systematic examination of forms of communication to objectively document patterns" (p. 198). In order to identify patterns and examine the frames, a case study of all five campaign videos released within the active campaign time period, between October 2014 and February 2015, were selected. These videos contained information about five different McDonald's products containing various agricultural products (eggs, chicken, beef, pork, and potatoes) and were the only videos posted to the McDonald's YouTube and Facebook pages during the campaign's duration. In addition to identifying the content of the videos, a framing analysis was conducted to determine how the corporation sought to position their messages to make consumers more willing to purchase their product.

For the video content analysis, ideas (narrated sentences) and multimedia video content were explored. Each video's audio content was transcribed verbatim to allow the researchers to better investigate the verbal narrative of the videos. As described by Clandin and Connelly (2000), a detailed narrative allows researchers to understand how content is displayed, or framed, through communication. For the second data source, two researchers observed and recorded detailed notes of the video and multimedia content displayed in the five videos individually. Spradley (1979) recommended researchers should observe frequently recurring activities in order to make assumptions of the culture or context. In this case study, five videos were observed to create descriptions of the events displayed within. To create observation notes, two strategies for observation by the researchers were employed. First, the researchers provided grand tour observations where the major features, or big picture, of the videos were observed and recorded (Spradley, 1979). Next, the researchers provided mini tour observation descriptions where each scene was described in detail (Spradley, 1979). The scene-by-scene observations allowed for an investigation of "smaller aspects of the experience" (p. 79). In order to ensure the credibility of the data, prolonged engagement and persistent observation were used to develop the descriptive narrative of video and audio content (Patton, 1999). Further, transferability, or the degree of how well the findings can be transferred to other settings or situations, was established through the development of rich and thick audio and visual narratives and photo descriptions. These descriptions allow observers of other contexts to make tentative judgments and apply the findings to situations with shared characteristics or contexts.

After the audio and video narratives were collected, the researchers prepared and organized data into themes (Creswell, 2007). To do so, data were uploaded and organized using qualitative data analysis software, MaxQDA, by the principle researcher. Themes were identified using constant comparative analysis via open and axial coding (Glaser, 1965). Similar themes were constructed from different phrases, patterns, and words presented in the narrative data and descriptions of visual content (Glaser, 1965). The constant comparative method was chosen as it allows researchers to develop categories of information, interconnect the categories, and a use these stories to build categories (Creswell, 2013). In order to increase the confirmability and dependability of the findings, the researchers developed a detailed audit trail detailing the theme formation and provided a description of each of the themes (MacQueen, McLellan, Kay, & Milstein, 1998). Additionally, for accuracy and trustworthiness of the themes, the researchers used the methods of peer debriefing to discuss and agree on theme formation (Creswell, 2007; Lincoln & Guba; 1985).

FINDINGS AND RESULTS

Five videos from the McDonald's OFYQ campaign were analyzed for this study. Table 1 identifies the speakers in each video by name, industry, title, and corporation.

Table 1

Speakers Featured in "Our Food, Your Questions" Campaign Videos

Name	Industry	Title	Corporation
Grant Imahara		Narrator	
Jimmy Rendon	Beef	Operations Supervisor	Cargill
Manoah Crane	Beef	Food Safety, Quality and Regulatory Technician	Cargill
Wes Bellamy	Consumer	Teacher, Executive Director of Non-Profit Organization	
Nicole Brady	Consumer	McDonald's® Family Arches Blogger	
Harry Herbruck	Egg	Executive Vice President of Operations	Herbruck's Poultry Ranch
Rickette Collins	McDonald's	Director of Strategic Supply	McDonald's®
Drew Marsh	McDonald's	Manager	McDonald's Franchised Restaurant
Amy Steward	Poultry	Principle Meat Scientists, M.S., C.C.S	Tyson Foods, Inc.
Kevin Nanke	Pork	Vice President, Ph.D.	Lopez Foods
Gai Pahamark	Pork	Food Safety, Quality and Regulatory Technician	Lopez Foods
Koko Neher	Potato	Production Planner	SIMPLOT
Gena Bumgarner	Poultry	National Account Executive	Tyson Foods, Inc.

Based on their credentials and organizations, reputable speakers and experts were featured to add credibility to the information presented in the videos. For example, the narrator of the videos, Grant Imahara, was chosen for his role in the TV show *Mythbusters* in an attempt to clarify myths about the McDonalds organization (Jarboe, 2015). The topic of each video is indicative of its title each and the initial question asked by the narrator.

Research Question One

Research Question One sought to identify the type of content discussed in the videos to answer consumer questions. To begin, the consumer questions used to form the video were identified. Although many specific, individual questions were answered, most answers could be grouped into two main themes: clarifying ingredients and clarifying misperceptions. The title of the OFYQ video and the initial question asked by the narrator dictated the topic of the video. The questions asked by consumers on social media included the following: "Is McDonald's Beef Real?, What are McRib Patties Made of?, What are McDonald's Chicken McNugget's Made of?, Does McDonald's Use Real Eggs?, and What are McDonald's USA Fries Made of?" These questions resulted in food production videos in the beef, egg, pork, poultry, and potatoes/produce industries.

Clarifying ingredients. Throughout the videos, a discussion was created about the food production system to clarify which ingredients were included in McDonald's food products. For example, in the Chicken McNugget video the narrator, Grant, asked, "Are those ingredients secret?" (2:48). Amy, a principle meat scientist at Tyson Foods, Inc., replied,

> So the full list is on the website, but some of the ingredients are water, sodium phosphates, and food starch, which give us that really juicy bite to the Chicken McNugget. So then it is also salt, to really increase the flavor of the product. And finally, rosemary extract which is a natural antioxidant that protects the flavor of the product throughout its shelf life (2:51).

In addition to a narrative description, the videos also used visual lists to clarify ingredients contained in the products, such as the one seen in Figure 1.

Figure 1.
Observation of the List of Chicken McNugget Ingredients (McDonalds(a), 2014, 2:57)

To further clarify ingredients in their meat products, the videos described menu items as containing a pure product. Rickette, a supply director with McDonald's, explained how nothing was added to the burger patties in response to Grant's question, "So you don't pour in any wood pulp or other kinds of meat" (1:55). Rickette replied, "Beef in and beef out. Nothing else is added" (2:00).

In the Chicken McNuggets video, Grant asked Amy about the different parts of the chicken used in the Chicken McNugget. He questioned, "This is the only part of the chicken that goes into the Chicken McNugget?" (1:56). In response, an image showing cuts of chicken could be observed, as seen in Figure 2, while the voiceover described the parts of the chicken used. Amy later explained, "Okay, so this is our grinding operation. This is a 100% white meat chicken. So the exact same cuts that you saw previously" (2:11).
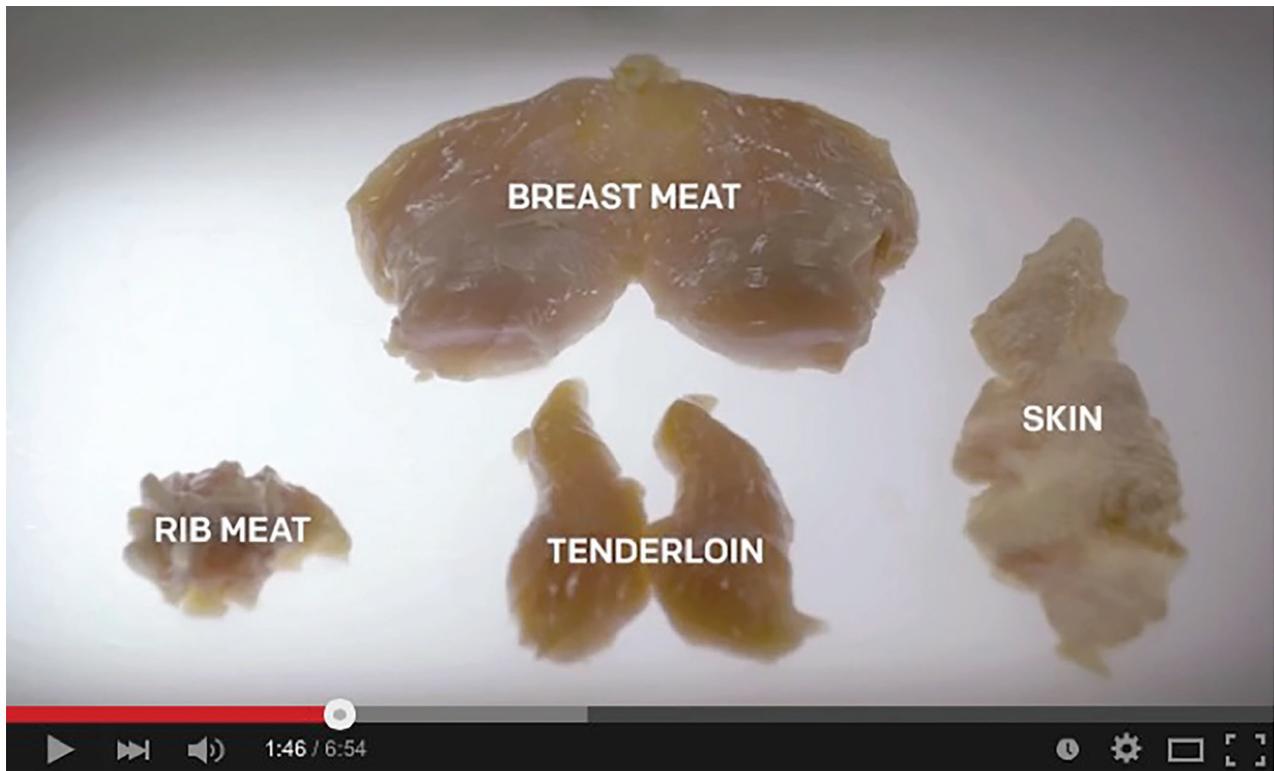
Figure 2.
Observation of the List of Chicken McNugget Chicken Cuts (McDonalds(a), 2014, 1:46)

Clarifying misperception. Discussion in the videos also identified and clarified misperceptions of McDonald's products on the internet and social media. In the McRib video, the consumer representative speaker, Wes, was asked to participate in the video based on his comment on social media. He explained,

> McDonald's brought me here because of a tweet that they saw. Someone sent me a picture of what I thought was a McRib, and I put WOW with a lot of Os and Ws and that I thought it looked disgusting and that I was encouraging everyone to never eat anything from McDonald's ever again. So I think you all [McDonald's] want to bring me here so that I can see how the McRib is made and see if my mind can be changed a little bit. I don't know though I am a skeptic (0:15).

At the end of the video, Wes stated, "All of my questions have been answered [throughout the video]." (4:43). Wes was able to see the production practice, view the type of meat being used in the McRib, as well as view the processing of the meat. When Wes viewed the final product, he explained "Well that looks a lot different from the picture that I saw on Twitter" (4:48).

In addition to social media, Grant explained how search engine inquiries led to photos of what is included in the Chicken McNugget,

> Okay, give me that picture [found in Figure 3]. If you do a search on the internet for Chicken McNuggets this pops up…Now, they say that this is pink slime. So, if you grind up the parts of the chicken that you use, does it look like this? (1:04).

Amy compares the photograph to the meat used in Chicken McNuggets. Grant clarifies the final ground chicken product for viewers when he says, [See this. This (Figure 3) is what people think the final step looks like but it (Figure 3) has a completely different texture… This still looks like meat] (3:20).

Figure 3.
Comparison Detailing Public Perception versus Realty (McDonalds(a), 2014, 3:24)

Research Question Two

Research Question Two sought to identify what food production procedures were described in the videos. Again, multiple production procedures were shown, but two main themes emerged during the analysis: ensuring food quality and ensuring food safety.

Ensuring food quality. Several procedures meant to ensure food quality were displayed throughout the videos. Two sub-themes were developed to further explore these food quality procedures: checking quality throughout the production process and ensuring quality in the final product for the consumer.

Checking quality throughout the production process. Throughout the videos, speakers explained how products were examined for quality throughout the production process. For example, Jimmy, an operations supervisor at Cargill, described the high quality of beef used in the hamburger meat. He said, "When we go on the tour you are going to be pretty impressed by the quality of beef we have here" (1:03). To ensure a consistent product, Harry, executive vice president of operations for Herbuck's Poultry Ranch, explained,

> Once we determined that it [the egg] has met the criteria, the eggs get weighed and it determines if it is a large egg. It will be used for the Egg McMuffin or if it is gonna be too large or too small it will be used for the liquid egg (1:28).

Ensuring a quality product for the consumer. At the end of each video, products were examined to determine if they met consumers' quality demands of taste. This discussion revolved around the idea of knowing the end product was perfect for the consumer. Manoah, a food safety, quality, and regulatory technician at McDonald's, explained "Well, what we are doing here is basically replicating exactly what they do in the McDonald's restaurants so we know what the consumers are going to be getting in the end product" (2:36). Gena, a national account executive for Tyson Foods, Inc., explained how her job was to evaluate the Chicken McNugget for quality control; "We are in our sensory kitchen where we evaluate nuggets every hour off the line" (4:58).

Ensuring food safety. Another major food production procedures theme focused on procedures to ensure food safety during the production process. Two sub-themes emerged within this theme: interventions used to minimize contamination and clean facilities.

Interventions used to minimize contamination. To minimize contaminant and infection risks, the videos indicated the food production facilities underwent specific interventions to keep impurities out of food products. Speakers were observed wearing clothing items to ensure the safety of the food and the personnel. Refrigeration was described as a measure used to minimize infection risk. In the Egg McMuffin video, Harry explains, "They [the eggs] are very warm. So we refrigerate everything immediately that way we know bacteria and stuff like that can't start to grow" (2:38). In the beef processing video (Figure 5), the speakers wore protective equipment such as coats, hairnets, helmets, goggles, and gloves to ensure the products were kept clean of contamination risks. Similar observations were seen in all five of the campaign videos.

Figure 5.
Observation of Personal Protective Equipment (McDonalds(c), 2014, 1:19)

Clean facilities. In addition to protective gear, ensuring food safety through clean facilities was observed throughout the videos. Each of the food production facilities were depicted to be free of clutter and clean and some even displayed cleaning materials. In the Chicken McNugget video, a neatly stored hose can be observed in the Tyson Food, Inc.'s production plant and freshly hosed floors can be observed around the chicken cutting stations, as seen in Figure 6.

Figure 6.
Observation of Clean Floors in the Tyson Production Plant (McDonalds(a), 2014, 0:35)

Research Question Three

Research Question Three sought to identify what key frames were used to answer the questions in the videos. Three emergent themes were found during the analysis: personal relevancy, corporate social responsibility (CSR), and food attributes to appeal to customer.

Personal relevancy. Multimedia content attempted to connect viewers to the videos through the use of personal relevancy. Throughout the videos, the idea of personally relevant content was revealed through the use of speakers describing their background and how they were skeptical of McDonald's products, describing the production processes as being similar to their cooking processes at home, and explaining their choice to not consume McDonald's food.

The frame of personal relevancy was shown in the speaker introductions. Wes explained, "My name is Wes Bellamy, and I am from Charlottesville, Virginia. I am a teacher at Albemarle High School, and I am also the executive director at HYPE: Helping Young People Evolve." Further, Grant introduced Nicole as, "Nicole Brady, mother of two, had a question about McDonald's eggs" (0:06). Nicole continued the conversation by saying, "I have two kids, and I care about what they eat. I care about their health" (0:09). In addition to speaker introductions, personal relevancy was shown throughout the food production process. Ties were made to how McDonald's food preparation practices were similar to those performed in families' homes. Kevin, vice president of Lopez Foods, explained, "We're following the recipe just like she [Wes's grandmother] does at home" (2:33). In the Chicken McNugget video, Grant connected to viewers when he discussed how the chicken was being cut. "I mean there are multiple lines of people making cuts on the chicken just like you would at home or just like a butcher would" (1:20). Koko, a production planner at SIMPLOT, a potato company, connected people to their food when explaining different types of potatoes; "Potatoes are just like people, they come in different shapes and sizes" (3:30). Further, personal relevancy was shown when the speakers described themselves as being unsure of McDonald's products. Grant explained, "I stopped eating them [McDonald's food]. I felt guilty about eating their food" (0:12). In an additional video he said, "It has been 15 years since I have had a Big Mac" (3:40).

Corporate social responsibility (CSR). The frame of CSR was observed in the videos. In an effort to show McDonald's as a socially responsible company, multimedia content was framed to connect McDonald's products to the farms where they were produced and provided speakers and experts from reputable corporations and sources for the videos.

Farm-to-table. In the campaign videos, many messaged were framed to suggest McDonald's related their products to the farm-to-table movement. For example, Grant traced McDonald's fries to a potato farm. "So I went to SIMPLOT, and I went backwards through the whole process. So I knew exactly how they are made, and I traced it all the way back to here. To this, a potato. Pretty simple" (4:17). Additionally, Grant was taken to the farm to harvest a potato. Koko explained where the potatoes come from, "All around us, underneath these vines we will find what makes Mac fries…Clear the vines away, and start digging" (3:52). Similarly, Harry explained, "So the eggs are very fresh, they just came from the chicken houses and they are very warm… Literally, a hundred feet from here would be the first chicken house" (0:54).

Credibility of the source. Throughout the videos, messages were also framed as socially responsible by providing clear explanations of who each source was and their credentials to give a tour of the production facilities. Well-known and respected companies in the agricultural community were shown in the videos and included Cargill, Herbuck's Poultry Ranch, Lopez Foods, SIMPLOT, and Tyson Foods, Inc. Logos and company names were prominently displayed and mentioned in each video. As each speaker was introduced, the company title was provided both via audio and through text displayed in the video. Additionally, if the speaker held a high-level degree, that information was displayed as seen in Figure 7.

Figure 7.
Observation of Introduction of Educational Level and Title (McDonalds(b), 2014, 0:51)

Food attributes to appeal to customer. In the campaign videos, messages were also framed in a way to make McDonald's products appear appealing to customers. Video content showed how certain ingredients increased color, flavor, freshness, and texture and how freezing procedures increased the palatability or the taste of products. On-screen text was used in many videos to describe how certain ingredients promoted desired characteristics in food products. For example, how

dextrose was used to keep the fries a consistent golden color throughout the year or how marinade ingredients in the Chicken McNugget were used to make the product appealing to customers: "Adds moisture," "enhances flavor", and "preserves freshness" (3:06). Procedures were also shown that promoted desired consumer expectations. Before Chicken McNuggets are shipped to restaurants, they are partially cooked to maintain a consistent texture, as Grant explained, "So, that [partially cooked] is just to get this texture" (4:29). Harry explained how the eggs were fresh, "The fresh shell eggs that are used in the Egg McMuffin" (0:42). Additionally, the videos sent Grant and consumers to a McDonald's restaurant to taste the food and comment on how well it met their expectations. Wes found the McRib appealing and said, "The sandwich is pretty good man. It is actually really good" (4:42). Grant, when trying his first Big Mac in 15 years, said, "That's good. Really good"

CONCLUSIONS AND RECOMMENDATIONS

This study sought to identify the content and frames displayed in the McDonald's OFYQ campaign videos. Because the video content was created from user-generated content, specifically questions about particular industries or types of foods, it can be concluded that user-generated content is an area where consumers have the opportunity to participate and set the tone for the type of media content created by companies such as McDonald's (Jenkins et al., 2013). Further, this finding supports McQuail's (2010) idea of the consumer being active and in charge of their media experiences as they help to determine what type of content is developed in company campaigns. In the findings about video content, McDonald's provided a picture of how their food was created from a cut of meat into the corresponding McDonald's food. DiStaso and Bortree (2012) explained how information about production practices were used to help company stakeholders make informed decisions about their products. The information provided by McDonalds could be used to help the corporation clarify consumer skepticism of production techniques (Jacques, 2012). The information detailing consumer safety, product quality, and personnel safety were also top concerns for the company. For example, when asked if lean finely textured beef (LFTB, commonly known as pink slime) was injected into beef and chicken products, food producers explained what LFTB was and how it was not used in McDonald's food. With a public fear of some food products, McDonald's attempted to regain trust by reassuring consumers their food products do not contain LFTB.

Personal relevancy was also used to connect McDonald's to the consumer. Speakers introduced themselves as being from a particular place, in a certain occupation, or in a specific family role to help connect to consumers on a more personal level. The use of personal messages helped McDonald's connect to consumers through images and narratives discussing families and their skepticism of the agricultural industry. Similarly, in Goodwin et al.'s (2011) study, the inclusion of personal relevancy helped to connect individuals to corporate sounding messages, thus leading to consumers being more willing to buy a particular product.

Additionally, social responsibility was a frame used in the social media campaign. Video content attempted to show McDonald's as a company that sources products from the farm to the table. The idea of sourcing products from farm-to-table and from local areas was described. The farm-to-table movement is a cultural conception that allows the audience to make a connection to sustainable sourcing or local food, and McDonald's, apparently using Sen and Bhattacharya's (2004) framework, framed their videos to market their products as socially responsible. The findings suggest the OFYQ campaign was framed to help the company appear socially responsible in terms of building a healthier, more sustainable product from reputable sources

Content was also framed to show how products were produced to meet desired consumer attributes. Having an appealing appearance, quality, taste, and flavor were important attributes for McDonald's consumers and fit the idea of framing information to meet a preferred consumer preference (Gorham et al., 2015). However, this campaign failed to fully address agriculture by omitting references to live animals, indicating an additional frame. The idea of farm-to-table was only incorporated into one video: the potato video. Additionally, McDonald's failed to take viewers to any farms containing live animals. References to live animals were only made in the Egg McMuffin video when Kevin discussed how close the poultry houses were; "Literally, a hundred feed from here would be the first chicken house" (1:02). McDonald's

failed to be truly transparent about their production processes; however, this leaves room for agricultural communicators to tell the story of the processing of livestock. Online news articles showed inconclusive results on the success of the campaign (Jarboe, 2015; Starkman, 2014). Perhaps this perceived failure was due to missing information or a lack of animal agriculture portrayed in the videos. Because of missing information, did consumers still have questions regarding how animals were treated before harvesting their meat? McDonald's left many questions for the consumer to ask. Would more transparent depictions of animal agriculture in the videos lead consumers to react differently?

The findings of this study provide information for agricultural communications practitioners who wish to implement a campaign and utilize user-generated questions. Consumers are no longer a just a receiver of information; they are actively participating in media and developing their own content (Jenkins et al., 2013; McQuail, 2010). Communicators must be aware of the type of content produced by consumers, and they should strive to actively engage their audience through social media campaigns. By engaging and actively participating with an audience, the communicator can set the tone or arrange for a topic to be discussed by their audience.

The findings of this study provide content that shows consumers are skeptical or hold misperceptions of the agricultural industry (Goodwin et al., 2011; Vance, 2012). These skepticisms or misperceptions often lead to consumer questions about the agricultural industry. McDonald's attempted to answer these questions by providing messages of how their food is produced. While McDonald's attempted to meet the demands of socially responsible practices demanded by their consumers, the company was able to market their products in a favorable manner. However, the lack of information on animal agriculture or how produce is grown may leave the consumer with further questions.

As agricultural communicators begin to develop their own campaigns from user-generated content, they can use these messages to structure their own content. Content in these videos connected consumers to the company by showing how they were responsible for food safety and quality. Further, it provided consumers with information to help them make better decisions as they could understand what ingredients were in the food and how it was prepared. However, future research should be structured on evaluating messages in their impact to connect consumers to how the food was grown or raised. Future research should also concentrate on how the public perceived this campaign. An analysis of social media comments in response to the videos would help researchers understand how consumers perceived the messages and how content was framed. Similar campaigns showing how livestock are raised should be incorporated in the evaluation. Future studies could also address how different companies have produced food-based or agricultural-based media content and how these campaigns were perceived by consumers. Based on the findings of this study, the communicator attempted to personally connect with the receiver, therefore, future research should also evaluate how the effect of these videos on information processing, trust toward the agricultural industry, and attitude formation.

REFERENCES

Abrams, K., & Meyers, C. (2011). From opposite corners: Comparing persuasive message factors and frames in opposing organizations' websites. *Journal of Applied Communications, 96*(1), 54-67.

Allen, K., Abrams, K., Meyers C., & Schultz, A. (2010). A little birdie told me about agriculture: Best practices and future uses of Twitter in agricultural communications. *Journal of Applied Communications, 94*, 3-4.

Altheide, D. L. (1997). The news media, the problem frame, and the production of fear. *The sociological quarterly, 38*(4), 647-668.

Clandinin, D. J., & Connelly, F. M. (2000). *Narrative inquiry experience and story in qualitative research*. San Francisco, CA: Jossey-Bass.

Commission of the European Communities. (2011). Corporate social responsibility. Retrieved from http://ec.europa.eu/ enterprise/policies/sustainable-business/corporate-social-responsibility/index_en.htm

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches*. Thousand Oaks, CA: SAGE Publications.

Crowther, D., & Aras, G. (2008). *Corporate social responsibility*. Bookboon.

Daugherty, T., Eastin, M. S., & Bright, L. (2008). Exploring consumer motivations for creating use-generated content. *Journal of Interactive Advertising, 8*(2), 16-25. Doi 10.1080/15252019.2008.10722139

DiStaso, M. W., & Bortree, D. S. (2012). Multi-method analysis of transparency in social media practices: Survey, interviews and content analysis. *Public Relations Review, 38*(3), 511-514. doi:10.1016/j.pubrev.2012.01.003

Doerfert, D. L. (Ed.). (2011). *National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015*. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Erlandson, D., Harris, E., Skipper, B. & Allen, S. (1993). *Doing naturalistic inquiry: A guide to methods*. Newbury Park, CA: Sage Publications.

Fishman, C. (2015, June). Panera promotes transparency with new marketing campaign. *Advertising Age*. Retrieved from http://adage.com/article/cmo-strategy/panera-promotes-transparency-campaign/299051/

Gladwell, M. (2000). *The tipping point: How little things can make a big difference*. Boston: Little, Brown.

Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social problems, 12*(4), 436-445.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies of qualitative research*. New York: Aldine DE Gruyter.

Goodwin, J. N., Chiarelli, C., & Irani, T. (2011). Is perception reality? Improving agricultural messages by discovering how consumers perceive messages. *Journal of Applied Communications, 95*(3), 21-33.

Goodwin, J. N. & Rhoades, E. (2011). Agricultural legislation: The presence of California proposition 2 on YouTube. *Journal of Applied Communications, 95*(1), 22-35.

Gorham, L. M., Lamm, A. J., & Rumble, J. N. (2014). The critical target audience: Communicating water conservation behaviors to critical thinking styles. *Journal of Applied Communications, 98*(4), 42-55.

Gorham, L. M., Rumble, J. N., & Holt, J. (In Press.). The impact of local: Exploring availability and location on food buying decisions. *Journal of Applied Communication*.

Hoffman, A. (2009, July 20). Social media bridges consumer-producer gap. *American Farm Bureau Federation*. Retrieved from http://www.fb.org/index.php?action =newsroom. focus&year =2009& file=fo0720.html

Jaques, T. (2012). Is issue management evolving or progressing towards extinction? *Public Communication Review, 2*(1), 35-44. Retrieved from http://epress.lib.uts.edu.au/journals/index.php/pcr

Jarboe, G. (2015, March 16). McDonald's "our food, your questions" video is campaign is changing hearts, minds, and actions. *Reelse* [online newspaper]. Retrieved from http://www.reelseo.com/mcdonalds-our-food-your-questions-video-campaign/.

Jenkins, H., Ford, S., & Green, J. (2013). *Spreadable media: Creating value and meaning in a networked culture*. NYU Press.

Hallman, W. K., Hebden, W. C., Aquino, H. L., Cuite, C. L., & Lang, J. T. (2003). *Public perceptions of genetically modified foods: A national study of American knowledge and opinion*. (Publication number RR-1003-004). New Jersey: Food Policy Institute, Cook College, Rutgers, The State University of New Jersey.

Holtz, S., & Havens, J. C. (2008). *Tactical transparency: How leaders can leverage social media to maximize value and build their brand* (Vol. 9). John Wiley & Sons. Laird, K. (2013, January 23. Marketer of the Year 2012: McDonald's Canada. *Marketing Magazine Canada.* Retrieved from http://www.marketingmag.ca/advertising/marketer-of-the-year-2012-mcdonalds-canada-70067

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Lindgreen, A., & Swaen, V. (2010). Corporate social responsibility. *International Journal of Management Reviews, 12*(1), 1-7. doi: 10.1111/j.1468-2370.2009.00277.x

Maignan, I., & Ralston, D. (2002). Corporate social responsibility in Europe and the U.S.: insights from businesses' self-presentations. *Journal of International Business Studies*, 33, 497-514. doi: 10.1057/palgrave.jibs.8491028

Marshall, T. (2013, December 12). *It's a front-burner issue, but what exactly is transparency in agriculture?* Beef Magazine. Retrieved from http://beefmagazine.com/blog/it-s-front-burner-issue-what-exactly-transparency-agriculture

MacQueen, K. M., McLellan, E., Kay, K., & Milstein, B. (1998). Codebook development for team-based qualitative analysis. *Cultural anthropology methods*, 10(2), 31-36.

McCroskey, J. C. (1977). Classroom consequences of communication apprehension. *Communication Education, 28*(?), 27-33. Retrieved from http://www.cdc.gov/hiv/pdf/library_software_answr_codebook.pdf

McDonalds. (2014a, December 8). *Our Food, Your Questions. What are McDonald's Chicken McNuggets made of?* [Video file]. Retrieved from https://www.youtube.com/watch?v=6o6Hh6tQj2w

McDonalds. (2014b, November 3). *Our Food, Your Questions. What are McRib patties made of??* [Video file]. Retrieved from https://www.youtube.com/watch?v=PJoMzhStPNk

McDonalds. (2014c, November 3). *Our Food, Your Questions. Is McDonald's beef real?* [Video file]. Retrieved from https://www.youtube.com/watch?v=wXgSnUmhdws

McWilliams, A., Siegel, D. S., & Wright, P.M. (2006). Corporate social responsibility: Strategic implications. *Journal of Management Studies*, 43, 1-18.

McQuail, D. (2010). *McQuails mass communication theory* (6th ed.). Thousand Oaks, CA: Sage Publications Inc.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.

Murray, K. B., & Vogel, C. M. (1997). Using a hierarchy-of-effects approach to gauge the effectiveness of corporate social responsibility to generate goodwill toward the firm: Financial versus nonfinancial impacts. *Journal of Business Research, 38*(2), 141-159. Retrieved from http://www.sciencedirect.com/science/article/pii/S0148296396000616

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Service Research, 34*(5), 1190-1208.

Pivato, S., Misani, N., & Tencati, A. (2008). The impact of corporate social responsibility on consumer trust: the case of organic food. *Business Ethics: A European Review, 17*(1), 3-12.

Pigott, T. (2004). Tomorrow's consumer. UNEP Industry and Environment, 27(4), 25-28. Pearce, J.A. and Doh, J.P. (2005). High-impact collaborative social initiatives. *MIT Sloan Management Review, 46*, 30-39. Retrieved from http://sloanreview.mit.edu/article/the-high-impact-of-collaborative-social-initiatives/

Rawlins, B. (2008). Give the emperor a mirror: Toward developing a stakeholder measurement of organizational transparency. *Journal of Public Relations Research, 21*(1), 71-99. doi:10.1080/10627260802153421

Rossman, G. B., & Rallis, S. F. (2003). *Learning in the field: An introduction to qualitative research* (2nd ed.) Thousand Oaks, CA: Sage Publications.

Ruth, A. M., Lundy, L. K., & Park, T. D. (2005). Glitz, glamour, and the farm: Portrayal of agriculture as the simple life. *Journal of Applied Communications, 89*(4), 21-37.

Scheufele, D. (1999). Framing as a theory of media effects. *Journal of Communication, 49*, 103-122. doi: 10.1111/j.1460-2466.1999.tb02784.x

Sen, S., & Bhattacharya, C. B. (2004, Fall). Doing better at doing good: When, why and how consumers respond to corporate social initiatives. *California Management Review, 47*, 9-25.

Smith, L. M. (1978). An evolving logic of participant observation, educational ethnography, and other case studies. *Review of Research in Education, 6*, 316-377.

Starkman, N. (2014). What McDonald's new 'transparency' campaign is hiding. *Time Magazine*. Retrieved from http://time.com/3501921/mcdonalds-transparency-campaign/

Spradley, J. (1979). *Participant observation*. Ft. Worth, TX: Harcourt Brace Jovanovich College Publishers.

Vance, A. (Editor). (2012, April 16). Grandin: Finding balance between science and perception [Audio podcast]. Retrieved from http://www.feedstuffs.com/ME2/dirmod.asp?sid=F4D1A9DFCD974EAD8CD5205E15C1CB42&nm=Breaking+News&type=news&mod=News&mid=A3D60400B4204079A76C4B1B129CB433&tier=3&nid=C1B8439AA22E44C09B3735FC97ED8A14

Vilsack, T. (2014). 2012 Census of agriculture preliminary report. United States Department of Agriculture. Retrieved from http://www.agcensus.usda.gov/Publications/2012/ Preliminary_Report/Full_Report.pdf

Whitaker, B. K., & Dyer, J. E. (1998). A comparison of levels of bias in environmental and food safety articles: Agricultural versus new periodicals. Proceedings of the *National Agricultural Education Research Meeting, 25*, 436-446.

White, D., Meyers, C., Doerfert, D., & Irlbeck. E. (2014). Exploring agriculturalists' use of social media for agricultural marketing. *Journal of Applied Communications, 98*(4), 72-85.

Wimmer, R. D., & Dominick, J. R. (2003). *Mass media research: An introduction* (7th ed.). Belmont, CA: Wadsworth/Thomson Learning.

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RESEARCH

Promoting Commodities through Comic Books: A Framing Analysis of the Captain Citrus Campaign

Tiffany M. Rogers, Joy N. Rumble, and Lisa K. Lundy

ABSTRACT

The communication campaign starring Captain Citrus, first released in 2011, was aimed at elementary school students with the goals of encouraging health and agricultural literacy, as well as promoting the consumption of Florida orange juice. This study was designed as a qualitative, inductive framing analysis of the Captain Citrus comic book series featured in the campaign. The goal was to identify the prominent frames along with evidence of agricultural perspective and promotion throughout the series. The first two editions of the series, totaling 38 pages, were evaluated for the study. The results indicated the presence of four predominate frames: "Amazing Inside," health, responsibility, and empowerment. A majority of the agricultural perspective and promotion was found in the form of images, followed by textual mentions, and symbolic references. It was determined that the "Amazing Inside" and health frames contributed to meeting the campaign objective to boost health literacy. The second objective, to promote agricultural literacy, was somewhat endorsed through the agricultural references, however there is an opportunity for this to be strengthened. The presence of all four frames aided in the achievement of the final goal, to promote Florida citrus through the sale of orange juice. It is recommended that further research be conducted to measure the effects of framing on the attitudes and behaviors of elementary school students before and after they are exposed to the campaign materials.

KEY WORDS

Agricultural Literacy, Communication Campaign, Citrus, Content Analysis, Framing

INTRODUCTION

In 2011, the Florida Department of Citrus (FDOC) released an elementary school marketing program that featured its very own superhero, Captain Citrus (Florida Department of Citrus [FDOC], 2011). The program was conducted in three Florida counties, reaching more than 50,000 students during the pilot period. The pilot was comprised of educational materials aimed at conveying the health and nutritional benefits of consuming orange juice. The original intention was for Captain Citrus to serve as an educational tool to aid the struggling citrus industry, specifically targeted toward elementary-aged children (FDOC, 2011).

Five years later, the Florida citrus industry is still facing hardships. Production costs have risen, citrus greening has reduced supply, juice prices have increased, sales have declined due to shifts in American's consumption preferences, and all of this has been intensified by a slow economic recovery (FDOC, 2013). The Florida citrus industry is responsible for

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65% of the total citrus production in the United States, 90% of which is processed into juice (Florida Agricultural Statistics Service, 2013). For this reason, encouraging orange juice consumption remains a primary goal for the FDOC.

According to Wexler (2013), a gallon of orange juice cost approximately $4.40 ten years ago, in 2014 the average cost was $6.20 per gallon. When examining the situation through a monetary lens, it would appear that sales have decreased by only 5.2% in the past ten years, with sales totaling $3.49 billion in 2013 (Wexler, 2013). However, the dollar amount may not be painting a holistic picture, as consumers are now purchasing less juice at a higher cost. When examining sales by volume, it becomes apparent that sales have dropped by approximately one-third over the ten-year time period (Wexler, 2013). Over the past decade, increased competition has developed between orange juice and other beverages. For example, in 2003, carbonated beverage consumption in children outweighed that of 100% orange juice (Rampersaud, Bailey, & Kauwell, 2003).

Amidst the current bleak conditions for the Florida orange juice industry, the Florida Department of Citrus recognizes the importance of sharing the nutritional benefits of orange juice. Specifically, the FDOC acknowledges the need to reach their audience at a young age due to the theories established by Freud, Erikson, and Piaget which state that between the ages of six and 11, children establish habits, opinions, and beliefs that can last throughout their lifetime (Meyer, 1998). The information provided by the FDOC to elementary students promotes science literacy. Its focus is two-fold as it lends itself to both the health and agricultural arenas as students discover the nutritional benefits of drinking orange juice and understand where their juice comes from. These two entities, health and agricultural literacy, mesh well together as found by Trextler, Johnson, and Heinz (2000). It was determined that it is important for "youth to understand the food production and consumption system in order to make well reasoned decisions regarding personal health and the environment" (Trextler et al., 2000, p. 30).

Beyond increasing awareness of the health benefits of orange juice and providing the agricultural context for which it is produced, the goal of the FDOC is to promote the Florida citrus industry through the sale of orange juice. The FDOC aims to increase orange juice sales, making elementary school students a prime target to receive the information. It is typically thought that the parents in a household are the key decision-makers, but the decision-making power is shifting more and more into the hands of their children. Children are viewed in three different lights when it comes to their role as a consumer, first, as their own primary market; second, as influencers of their parents' buying habits; third, as possible future adult consumers (Wilson & Wood, 2004).

With the given current state of the Florida citrus industry and its goals to reach elementary school students to provide health and agricultural knowledge, as well as promote the citrus industry, it was time for the FDOC to assess the Captain Citrus campaign that was released in 2011. It was determined that the 2011 Captain Citrus campaign was not meeting its goals and objectives (FDOC, 2013). Thus, the development of the revamped Captain Citrus campaign was released in 2014. In a million dollar partnership formed with Marvel Entertainment, the FDOC has unveiled John Polk (Captain Citrus' everyday alias). John stars in the Captain Citrus comic books and resides at his family's Central Florida citrus grove. When John morphs into Captain Citrus, he draws his power from pure Florida sunshine. Captain Citrus joins the Avengers to fight off evil, but before he does, he always drinks a glass of orange juice to kick start his day. (For the purposes of this paper, let it be noted that "John Polk" and "Captain Citrus" refer to the same individual. The name "John" will be used to reference the character while in his normal, human form and "Captain Citrus" will be used to address John when he has morphed into his superhero alias).

The evolution of the agricultural industry and consumers have increased the need for agricultural communicators to share relevant, correct, timely, and understandable information to create an agriculturally literate society (National FFA Organization, 2002). The average American is three generations removed from the family farm (American Farm Bureau Federation, 2015). While lacking first hand agricultural experience, consumers have the ability to wield a great deal of power and affect serious change as they are able to make individual choices, influence the choices of others, and cast a vote with their food dollar (Tuckermanty et al., 2002). The need for agricultural communicators to be able to share the

message of the agricultural industry is becoming ever more pressing and to answer this call they have begun utilizing communication campaigns.

Communications campaigns have become commonplace in today's media and public relations. Many industries have invested in these campaigns in hopes of delivering a message designed to achieve specific objectives. More recently, the agricultural industry has begun developing educational and advertising campaigns of their own (Telg & Irani, 2012), Captain Citrus being one example. The hope of these campaigns is to narrow the gap between the industry and consumers, as well as promote their product by "communicating a message, using appropriate tools packaged for specifically targeted audiences and strategically framed messages" (Telg & Irani, 2012, p. 283). Agricultural communicators play a huge role in the development and execution of these campaigns.

Messages and campaigns have been strategically crafted and framed to highlight agriculture and give consumers greater insight. However, there is still a disconnect between even the most well-intentioned campaigns and the perception of the American public (Stevenson, 1997). The agricultural industry is well equipped and adjusted to communicating amongst itself, but it continues to struggle when reaching those outside of industry borders (Boone, Meisenback, & Tucker, 2000). To begin to create a more agriculturally literate and appreciative society, there is a need to understand the intricacies of the communication campaigns that connect the agricultural industry and the public (Boone et al., 2000). This need is expressed as the Informed Choices Priority in the National Research Agenda of the American Association of Agricultural Education (2012). Campaigns can be very costly, as in the case of Captain Citrus, and they are a reflection on the entire agricultural industry, providing additional reasoning for the need to study and evaluate the content and effectiveness of these campaigns.

By specifically considering the frames and agricultural perspective presented throughout the Captain Citrus campaign, specifically the comic book series, an understanding of how information has previously been presented by agricultural communicators will be gained. Clarifying these pieces of the framing process will allow agricultural communicators to be better equipped to craft strategically framed messages that will be well received by the public and as a result create a more agriculturally literate society. This purpose of this study was to uncover the frames and communication lessons presented throughout the Captain Citrus campaign that can be applied to other commodity campaigns.

THEORETICAL FRAMEWORK

Frames are often compared, much as the name implies, to a frame placed around a photograph or painting (Reese, Gandy, & Grant, 2001). In this metaphor, a communicator plays the role similar to that of an artist by choosing the frame or boundaries through which to present the scene (Bryant & Zillmann, 2002). The chosen frame allows the audience to see just a "slice" of the overall picture (Reese et al., 2001). The images, symbols, comparisons, arguments, vocabulary, and statistics used to present an issue are all elements combined to form a frame.

Frames are abstract in nature, however they serve to provide a framework to organize and structure social meanings (Bivins, 2007). Frames serve several purposes, they allow for interpretation of the world surrounding an individual, they are cognitive shortcuts to help make sense of complex information, they provide meaning through selective simplification, and they serve as a field of vision for a problem (Bivins, 2007). Through these different purposes, it becomes clear that framing occurs on two different levels, it is both a micro-level and macro-level construct (Scheufele, 1999). On the micro-level, framing portrays how individuals form opinions and impressions of information based on their pre-existing frameworks and schema (Scheufele & Tewksbury, 2007). The macro-level of framing occurs at the hands of communicators as they design messages revolving around issues. As communicators frame a message, the goal is to frame the message in such a way that resonates with the underlying schema and frameworks of their audience members. By doing so, framing allows communicators to convey extremely complex information in a way that the lay public can understand (Scheufele & Tewksbury, 2007).

The act of macro-level framing depicts the creation of frames through a deliberative, analytic, and strategic process (Chong & Druckman, 2007). The framing that a communicator designs at the macro-level, has direct implications on the frame interpretation that occurs at the micro-level with individual audience members. Frames carry a great deal of weight in suggesting how people should understand new information. When it comes to an issue or event, such as those related to agriculture, as new frames are introduced, they significantly shape audiences' attitudes, actions, and opinions (Bryant & Zillmann, 2002). These conceptualizations of an issue by individuals or the reorientation or confirmation of their thinking as a result of framing, are known as framing effects. According to Druckman (2001) framing effects occur when "in the course of describing an issue or event, a speaker's emphasis on a subset of potentially relevant considerations causes individuals to focus on these considerations when constructing these opinions" (p. 1042). Chong and Druckman (2007) expand further on framing effects by saying "these occur when (often small) changes in the presentation of an issue or an event produce (sometimes large) changes of opinion" (p. 104). Due to the large influence framing effects can have on the audience, it becomes necessary to understand the frames that are present in agricultural campaign materials and messaging.

To explore the frames presented throughout the Captain Citrus comic book series, a framing analysis was employed. Semetko and Valkenburg (2000), discussed the functionality of a framing analysis, highlighting its ability to identify trends in information revolving around an issue and compare variations across different sources. Several issues presented in the media have undergone framing analyses. Issues such as political power, social security, foreign policy, and immigration reform are among this list (Provalis Research, n.d.). Agricultural issues are no exception, they too have also been subjected to these analyses, issues such as bovine spongiform encephalopathy (BSE) (Ashlock, Cartmell, & Kelemen, 2006), salmonella in salsa ingredients (Irlbeck & Akers, 2010), organic food labeling (Klintman & Boström, 2004), and cultured meat (Goodwin & Shoulders, 2013) have been analyzed.

While an extensive number of framing analyses have been conducted on media portrayal of agricultural issues, fewer studies have focused on the framing of the messages put forth by the agricultural industry itself. One such study, conducted by Van Gorp and van der Goot (2012), sought to investigate the frames used by principle stakeholder groups (including those in the agricultural industry) in their campaigns promoting sustainable food and agriculture. Van Gorp and van der Goot (2012) uncovered six interpretive framing packages including responsibility, undermining foundations, natural goodness, and progress, as well as the good mother, and Frankenstein frames. This study provided insight into how frames are deployed and how frames vary based on the sources, including those based in the agricultural industry. Van Gorp and van der Goot (2012) provided an example of how framing can be utilized to relay complex agricultural messages in a digestible way to the public.

Gaining insight into how agricultural messages are framed allows for a greater understanding of consumers and their perceptions toward the agricultural industry and the framing effects that have the potential to influence them. This study sought to add to this knowledge base to create more effective strategically framed messages to promote agricultural commodities and to strengthen communication between industry communicators and the public.

PURPOSE AND OBJECTIVES

This study aimed to understand the frames presented throughout the Captain Citrus campaign. The framing of messages leads to framing effects, which ultimately has the potential to shape the public's beliefs, opinions, and actions toward the agricultural industry. For this reason, this understanding will allow agricultural communicators to communicate more effectively through campaigns with consumers. The research objectives were as follows:

Research Objective 1:
Identify the predominate frames utilized in the Captain Citrus comic book series.

Research Objective 2:
Identify evidence of agricultural perspective/promotion in the Captain Citrus comic book series.

METHODS

The intent of this study was to evaluate the content presented through the Captain Citrus campaign, particularly the utilization of frames. For these reasons, a qualitative, inductive framing analysis was employed to conduct the content analysis of the Captain Citrus comic book series. This analysis addressed both comic book editions within the series ("Choose Wisely" and "Amazing Inside"). The first edition consisted of 20 pages and the second edition was 18 pages in length. All pages were considered in the analysis including front and back covers, advertisements, and comic book pages. A qualitative framing analysis was chosen to analyze this content due to the influence of this theory on audience perceptions when presenting new information and its key role in understanding how messages are received (Entman, 1993). A qualitative analysis was selected for this study because of the attributes of qualitative research. The value lies in its ability to provide in-depth illustrations, rich descriptions, and highlight the interpretation of information from various viewpoints (Sofaer, 1999). The approach of an inductive framing analysis was taken due to its ability to distinguish frames from an open range of possibilities as they emerge (Semetko & Valkenburg, 2000). This design lends itself to manual coding of the materials versus machine coding, this allows for greater flexibility in the process of discovering frames beyond pre-determined frames that would be identified in an initial coding scheme for mechanical coding (Chong & Druckman, 2007).

To view the content in a holistic manner and to maintain the integrity of the material, the comic books were first analyzed in their entirety (Johnston, 2005). According to Titscher, Meyer, Wodak, and Vetter (2000), this allows for further micro-analysis to be put into context and to prevent the meaning from being distorted if first viewed in isolation. The micro-analysis was then performed on individual passages. The intent of the micro-analysis was to examine individual components extracted from, but not disconnected from the greater work. This analysis was then generalized and justification was developed for the presence of frames (Creed, Langstraat, & Scully, 2002). Coding instructions were developed by the researcher to assist in analyzing each page of the comic book series. The instrument recorded various logistic pieces of each page, as well as qualitative data such as images, words, and phrases that contributed to predominate frames. The primary researcher, a master's student in agricultural communications, coded every page. A co-coder, also a master's student in agricultural communications, was selected to code 20% of the pages to ensure inter-rater agreement (Hruschka, Schwartz, St. John, Picone-Decaro, Jenkins, & Carey, 2004). The reason for seeking inter-rater agreement was twofold: first, to ensure quality control throughout the coding process and secondly, for the information "produce[d] from [this] qualitative inquiry to remain useful and credible in applied and multidisciplinary settings" (Hruschka et al., 2004, p. 324). Any discrepancies in coding were solved through discussion.

The process of coding was used to identify initial frames which were then further refined (Saldaña, 2012). As outlined above, the first step was provisional coding and then the data was reread looking for units or variables of meaning and logistical components of each page were recorded. The logistic pieces of information that were transcribed included the edition, title, page number, and type of page. The units of meaning were in the form of sentences, phrases, language choices, and images. To determine the frames that were present, elements of framing were identified. Elements of framing included the present tone, symbols, figurative language, themes, and visual images, as well as those that were excluded. These items along with framing techniques were noted on the physical page. For the purpose of this study, Entman's (1993, p. 52) definition of a frame and framing techniques was utilized, "To frame is to select some aspects of a perceived reality and make them more salient in a communicating context, in such a way as to promote a particular problem definition, casual interpretation, moral evaluation, and/or treatment recommendation for the item described." These techniques are defined by the aforementioned elements of framing. The techniques that were utilized were recorded along with the present frames. The final variable that was examined was evidence of agricultural perspective/promotion. The existence of this evidence was determined through mentions of the agricultural industry, terminology reflective of the agricultural industry, facts or statistics that support foundational agriscience knowledge, and symbolism that suggests influence from the agricultural industry.

The constant comparative method of qualitative analysis (Glaser, 1965) was used to analyze the data and reconceptualize the identified frames. This was done through "comparative assignment of incidents to categories, elaboration and refinement of categories, searching for relationships and themes among categories, and simplifying and integrating data into

coherent theoretical structures" (Dominick & Wimmer, 2010, p. 120). To combat researcher bias and reactivity, reflexivity was employed throughout the coding and analysis processes to ensure validity of the study (Kolb, 2012).

Common limitations within qualitative research are the researcher's interpretation of the data and the sample size that is available to be evaluated (Pauly, 1991). At the time of this study, only two editions of the Captain Citrus comic book series had been released, containing approximately 20 pages each. Due to the small number of pages available to analyze, to address this limitation, all pages were included in the analysis. Ideally as more editions are released, they will be made available for inclusion in this study. Due to the nature of qualitative research, this study has the potential to be limited by researcher bias. This study is also limited in its ability to assess the effectiveness of the campaign as it stands on its own as a framing analysis.

RESULTS

There were 38 pages that made up the sample of content coded for this framing analysis. Of these 38 pages, 20 belonged to the first edition and 18 to the second edition. Each edition consisted of both a front and back cover, one game/puzzle page, and four advertisement pages, the remaining pages were devoted to the actual comic book. All pages within the editions were coded to identify the frames presented by the campaign through the comic book medium.

Research Objective 1:
Identify the predominate frames utilized throughout the Captain Citrus comic book series.

In its entirety, the comic book series relied on the framing technique of utilizing stories. According to Fairhurst and Starr (1996), this is accomplished by framing a subject with an anecdote in a vivid and memorable way. Four primary frames were distinguished during the framing analysis in response to the first research question. The four primary frames included "Amazing Inside," health, responsibility, and empowerment.

"Amazing Inside" Frame
"There's Amazing Inside" serves as the tagline for the Florida Department of Citrus and is prominently featured overarching its logo. This logo, with accompanying tagline, graces the front cover of both Captain Citrus comic books. Not only is this phrase incorporated in the branding of Florida citrus but the "Amazing Inside" frame was also the most prevalent of all the frames revealed throughout this study. The FDOC (2013) helps to better understand this frame by digging deeper into this phrase and explaining that it means life's best stuff is on the inside and it's not just what's inside but what you get out of it.

The "Amazing Inside" frame manifested itself throughout the comic books in several ways. As aforementioned, it is first seen as part of the FDOC logo on both covers, it is also seen on several advertisements throughout the series, as well as in the story line of the comic book itself. The first advertisement featured a young boy playing soccer with a glass of orange juice off to the side. The following statement from the advertisement contributed to this frame,

> Every serving of 100% Florida orange juice delivers an amazing combination of nutrition and flavor- all with no sugar added. And it gives you just the right kick you need to get in the game and make your own amazing moments happen.

The hashtag on the advertisement also portrayed this frame, "#AmazingInside." The second advertisement showcasing the "Amazing Inside" frame, was set against the backdrop of an orange grove with a glass of orange juice hovering in the foreground. The word "Amazing" overarches the glass. Inside the glass are the five attributes that contribute to the "amazing-ness" of Florida orange juice: taste, vitamin C, potassium, folate, and no added sugar. This advertisement encouraged readers to find more information at www.FloridaCitrus.org/Amazing5.

The phrase "Amazing Inside" was predominately featured on the cover via the FDOC logo and throughout advertisements in the first edition, however it gained prominence within the second edition as "Amazing Inside" was now spotlighted as the actual title of the edition. Once again, the FDOC and logo were placed on the cover of the edition. The phrase also appeared once more on this cover as a term used to describe Captain Citrus himself. The two previously mentioned advertisements were present within this issue as well.

The "Amazing Inside" frame was also exhibited through the actual storyline of the second edition. This was seen during a conversation between John and his sister, Deb. After inspecting an orange that has been subject to storm damage, Deb hands it to John saying, "Look at this." In response, John peels the orange and says, "You know as well as I that just because something looks a certain way on the outside, doesn't mean what's inside is any less amazing." John continues, "They always say, it's what's on the inside that counts."

Health Frame

The health frame was the second most salient throughout the series. This frame encompassed all aspects of health, taking into account both nutrition and physical activity aspects. The frame was especially prevalent throughout the advertisements within both comic books. One advertisement displayed the My Plate graphic with the accompanying statement "Captain Citrus follows the My Plate guidelines to make smart food choices that keep him healthy and fit." It then described the desired daily requirements in each of the following categories fruits, vegetables, protein, dairy, and grains. This was followed by "Captain Citrus' Physical Challenge: stay powered up with 60 minutes of physical activity every day, and drink 100% Florida orange juice for the energy to stay active!"

A second advertisement also appeared in both editions and was previously mentioned as demonstrating the "Amazing Inside" frame as well, this was the ad of the young boy playing soccer. The statement "every serving of 100% Florida orange juice delivers an amazing combination of nutrition and flavor," speaks to the health frame, in addition to the image of the boy engaging in physical activity.

At the end of the first edition, Captain Citrus reflects on his adventures with the Avengers and states, "And just think, it all started with a glass of orange juice." This is one of several examples throughout the series where orange juice was given credit for Captain Citrus' abilities and experiences. Another example occurred in edition two as John outlines how he is taking care of himself, "Besides I'm eating right…drinking my OJ."

Right from the very beginning, the second edition lent itself to the health frame as the cover depicted an image of Captain Citrus surrounded by health terms to describe his amazing physical attributes. These terms include "femur bone density," "resting heart rate," and "quadriceps muscles."

Responsibility Frame

The responsibility frame played into the idea of a greater purpose or calling. In this frame, thinking goes beyond one's self and begins to consider the needs of others and the difference that one individual can make. Throughout the series, Captain Citrus discusses the duty he feels compelled to fulfill. The responsibility frame boils down to choices, more specifically Captain Citrus' abilities to make the right choices for himself and others. In edition one, the following conversation takes place as John's father warns him to proceed with caution when joining the Avengers in battle. John says, "I have to, Pop. For whatever reason, those solar pods chose our backyard to fall into…and me to bond with…now I have to use them." He continues to say, "I know mom and dad are worried…but lives are at stake and I've been given a gift that could save them." Later in edition two, John shares a similar sentiment, "these solar pods have given me a new power…and responsibility. To our family, our community…to myself."

Empowerment Frame

An investment of power was displayed through the empowerment frame. It shows enablement and ability as Captain Citrus realizes his powers. He becomes more aware of what he is capable of and confident in his abilities. This is

demonstrated in the first edition through the following declarations made by Captain Citrus, "Let's show the world what Captain Citrus can do," and, "The leader wasn't kidding when he said the metal manipulator could defend itself…but so can I."

Edition two holds arguably the best example of empowerment as it illustrated the moment when Captain Citrus realizes what it is exactly that powers him. In that moment he proclaims, "Wait a minute. It wasn't the pods that protected our house from the storm. It was me! I acted to protect and the pods followed. It's not the tools that grant the power…the power is inside!"

Research Objective 2:
Identify evidence of agricultural perspective/promotion throughout the Captain Citrus comic book series.

Much of the agricultural perspective that was provided throughout the series was in the form of images. Numerous pages boasted images of oranges, orange juice, and orange groves in Central Florida within advertisements and through cartoon depictions in the comic. The FDOC logo was placed on the cover of both editions and was also found on advertisements within the comic book.

Textual agricultural references were more seldom, but definitely present. Frequent mentions were made about Florida citrus products such as oranges, tangerines, and grapefruit, as well as 100% Florida orange juice. A portion of the series takes place in an orange grove in Central Florida which receives several acknowledgments. Beyond the general agricultural references, the first specific reference occurs toward the end of the first edition after Captain Citrus has been injured. As he is lying on the ground, Black Widow exclaims "Look! There's some interaction occurring between the pods on his wrists and the soil." After the interaction occurs and Captain Citrus is revitalized he comments, "The feedback from the lightning…it knocked me for a loop. I should've been a goner, but farmers down here…well, we're stronger than anyone knows."

A large portion of the second edition takes place as a flashback that occurred "weeks ago, at the Polk grove in Central Florida." During this time, a storm quickly approaches and items fall from the sky, described as "seeds." Toward the end of the second edition, Captain Citrus reflects over his experiences and shares the largest direct agricultural connection the comic book series has to offer by stating, "You know, I've always felt connected to the land – to the orange grove. The nutrients in the soil, the climate – every element came together in just the right way to create this place."

Throughout the series indirect references are made to issues currently effecting the Florida citrus industry which are personified through the villains that Captain Citrus battles. "Extreme cold and frost" is brought about in the first edition by The Leader – Gamma Enhanced Evil Genius. In the second edition "the climate just isn't what it used to be" according to Blizzard – Cold Hearted Villain who also has the ability to decrease the value of land.

CONCLUSIONS

The goal of this study was to gain greater insight into the frames and the agricultural perspective presented through the Captain Citrus comic book series. The FDOC's objectives in regards to this campaign were as follows 1) convey the health benefits of consuming Florida citrus 2) relay the agricultural practices through which Florida citrus reaches consumers 3) promote the consumption of Florida citrus, specifically orange juice (FDOC, 2013). As this study sought to explore the predominant frames expressed, it can be concluded through a qualitative, inductive framing analysis that the four pre-dominant frames were "Amazing Inside," health, responsibility, and empowerment.

The identified frames were aligned with the objectives of the campaign. The health and "Amazing Inside" frames that were present support with the first objective of the campaign by providing insight to the nutritional and "amazing" ben-

efits of Florida citrus. The "Amazing Inside" frame tended to focus on the nutritional benefits of the juice such as taste, vitamin C, potassium, folate, and no added sugar. The health frame focused more on the benefits to Captain Citrus and the reader from drinking 100% Florida orange juice such as increased energy, good nutrition, and positive physical attributes. These two slightly different frames used to convey the health benefits of citrus may resonate with the underlying schema and frameworks of different audience members (perhaps youth and their parents), thus ensuring that the health benefits are communicated to a broader audience (Scheufele & Tewksbury, 2007). Additionally, the demonstration of these frames through the amazing fruit inside the orange peeled by Captain Citrus and Captain Citrus' good physical and health attributes allow the nutritional benefits to be communicated in a way that readers of the comic books can easily relate to (Scheufele & Tewksbury, 2007).

The second campaign objective, was somewhat met through the evidence of agricultural perspective and references made. While the comic books featured pictures of citrus groves, products, and trees as well as made reference to the challenges that weather introduces and the hardiness of farmers, they failed to highlight practices of the industry such as planting, caring for, harvesting, transporting, and processing citrus. Trextler et al. (2000) said it is important for "youth to understand the food production and consumption system in order to make well reasoned decisions regarding personal health and the environment" (p. 30). Thus, an opportunity exists to creatively highlight these practices in the comic story line and campaign materials, thus meeting objective two of the campaign while furthering reader knowledge of practices associated with citrus production and enabling them to make well-reasoned decisions.

The responsibility and empowerment frames correspond with the third objective of the campaign, by educating consumers about the power of choice and how to exercise that choice to choose Florida orange juice. The health and "Amazing Inside" frames also corresponded with the third objective of the campaign by encouraging the consumption of 100% Florida orange juice to have the energy to stay active, to fulfill good nutrition, and to have the same positive health and "amazing" attributes displayed by Captain Citrus. Similar to objective one of the campaign, these two different approaches to encouraging consumption of 100% Florida orange juice likely appeal to the schema and frameworks of different audience members (Scheufele & Tewksbury, 2007). Holistically, the campaign packaged strategically framed messaged tailored to its specific target audience of elementary school students as prescribed by Telg and Irani (2012).

RECOMMENDATIONS

As discussed in the conclusions, the Captain Citrus campaign features four primary frames, "Amazing Inside," health, responsibility, and empowerment. It should be ensured that these frames fashioned at the macro-level are crafted strategically and deliberately (Chong & Druckman, 2007). This practice should be embraced to guarantee that campaign messages are framed in a way that will resonate with the existing schema of the intended audience, in this case elementary school students (Scheufele & Tewksbury, 2007). The campaign has an opportunity to further highlight agricultural practices related to citrus production. It is recommended that the campaign consider ways to strengthen the agricultural perspective/promotion, perhaps through additional comic books in the series or through teaching or promotional materials. Campaign organizers should consider creative ways to present the complexities of agricultural practices in a way that is understandable to the target audience (Scheufele & Tewksbury, 2007). Strategies such as using Captain Citrus to demonstrate the practices or using villains to demonstrate the need for a practice may be beneficial. Frames should also be utilized in campaigns to present a field of vision for consumers to better understand the problems (Bivins, 2007) facing the agriculture industry. Renewed efforts to strengthen the agricultural components of the campaign should be tested with the target audience during development to ensure that the desired influence on attitudes, perceptions, and actions is being achieved (Bryant & Zillmann, 2002). For children to make informed choices in terms of their health and the environment, an understanding of food systems is necessary (Trexler et al., 2000), therefore campaigns should focus on the promotion of both agricultural and health literacy through framing.

Further research is recommended to analyze the content and effectiveness of the Captain Citrus campaign. While this study served as an in-depth qualitative analysis of framing of the Captain Citrus comic books, it is recommended that

further research be conducted with a quantitative approach. Additional content analysis should be performed, considering the different appeals presented throughout the comic book series. To measure the ability of the Captain Citrus campaign to meet its objectives, it is also recommended that research be conducted to gauge its influence on attitude and behavior changes in audience members before and after being exposed to the material, thus measuring micro-level framing and framing effects (Druckman, 2001). It is recommended that further research be conducted as a summative evaluation of the campaign's objectives, as well assess the impact of the campaign using McGuire's model of attitude change. It is also suggested that research be conducted testing the effectiveness of comic books as a means to communicate agricultural messages versus other mediums. This study's focus was placed on the comic book series, further research should aim to examine other materials within the Captain Citrus campaign including the website and teaching resources. It is also recommended that this research be replicated in different contexts with other agricultural commodity campaigns. Through the continued study of message frames, the disconnect between agricultural messages and the perception of the American public can be further understood.

REFERENCES

American Association of Agricultural Education. (2012). *Public and policy maker understanding about agriculture and natural resources.* Retrieved from http://aaaeonline.org/files/research_agenda/AAAE_NRA_Priority_1_Informed_Choices.pdf

American Farm Bureau Federation. (2015). *Our food link.* Retrieved from http://www.fb.org/index.php?action=programs.ourfoodlink

Ashlock, M. A., Cartmell, D. D., II., & Kelemen, D. B. (2006). The cow that stole Christmas: Framing the first U.S. mad cow crisis. *Journal of Applied Communications, 90*(2), 29-46. Retrieved from http://journalofappliedcommunications.org/

Bivins, T. (2007). Framing. *School of Journalism and Communication*. Retrieved from http://journalism.uoregon.edu/~tbivins/stratcomweb/readings/Framing_comp_new.pdf

Boone, K., Meisenbach, T., & Tucker, M. (2000). *Agricultural communications: Changes and challenges.* Ames, IA: Iowa State University Press.

Bryant, J., & Zillmann, D. (2002). *Media effects: Advances in theory and research*. Mahwah, NJ: Lawrence Elbaum Associates.

Chong, D., & Druckman, J. N. (2007). Framing theory. *Annual Review of Political Science, 10*, 103-126. doi:10.1146/annurev.polisci.10.072805.103054

Creed, W. E. D., Langstraat, J. A., & Scully, M. A. (2002). A picture of the frame: Frame analysis as techniques and as politics. *Organizational Research Methods, 5*(34), 34-55. doi: 10.1177/1094428102051004

Druckman, J. N. (2001). On the limits of framing effects: Who can frame? *Journal of Politics, 63*(4), 1041-1066. doi:10.1111/0022-3816.00100

Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication, 43*(4), 51-58. doi: 10.111/j.1460-2466.1993.tb01304.x

Fairhurst, G. A., & Starr, R. A. (1996). *The art of framing: Managing the language of leadership*. San Francisco, CA: Jossey-Bass.

Florida Agricultural Statistics Service. (2013). *Florida citrus statistics 2011-2012.* Retrieved from http://www.nass.usda.gov/Statistics_by_State/Florida/Publications/Citrus/fcs/2011-12/fcs1112.pdf

Florida Department of Citrus. (2011). *2010-2011 Annual report.* Retrieved from https://app.box.com/shared/1m28sfyog6y6et4c0my5

Florida Department of Citrus (2013). *2012-2013 Annual report.* Retrieved from https://fdocgrower.app.box.com/s/5sz7wjltz5j6d8z5flcs

Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social Problems, 12*(4), 436-445. doi: 10.2307.798843

Goodwin, J. N., & Shoulders, C. W. (2013). The future of meat: A qualitative analysis of cultured meat media coverage. *Meat Science, 95*(3), 445-450. doi: 10.1016/j.meatsci.2013.05.027

Hruschka, D., Schwartz, D., St. John, D. C., Picone-Decaro, E., Jenkins, R. A., & Carey, J. W. (2004). Reliability in coding open-ended data: Lessons learned from HIV behavioral research. *Field Methods, 16*(3), 307-331. doi:10.1177/1525822X04266540

Irlbeck, E. G., & Akers, C. (2010). The summer of salmonella in salsa: A framing analysis of the 2008 salmonella outbreak linked to tomatoes and jalapenos. *Food Protection Trends, 30*(11), 628-634. Retrieved from http://search.proquest.com/docview/763168276?accountid=10920

Johnston, H. (1995). *A methodology for frame analysis.* Abingdon, UK: Routledge.

Klintman, M., & Boström, M. (2004). Framings of science and ideology: Organic food labelling in the US and Sweden. *Environmental Politics, 13*(3), 612-634. doi:10.1080/09644010142000229061

Kolb, S. (2012). Grounded theory and the constant comparative method: Valid research strategies for educators. *Journal of Emerging Trends in Educational Research and Policy Studies.* Retrieved from citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.301.9451&rep1&type=pdf

Meyer, W. (1998). *Human development.* Cape Town: ABC Press.

National FFA Organization. (2002). ***Preparing for a future in the agricultural communications industry***, Retrieved from https://www.ffa.org/documents/cde_agcomm_resources.pdf

Pauly, J. J. (1991). A beginner's guide to do qualitative research in mass communication. *Journalism Monographs.* Retrieved from http://www.aejmc.org/home/publications/jc-monographs/

Provalis Research. (n.d.). What is media framing analysis? *Applications.* Retrieved from http://provalisresearch.com/solutions/applications/what-is-media-framing-analysis/

Rampersaud, G., Bailey, L., & Kauwell, G. (2003). *National survey beverage consumption data for children and adolescents indicate the need to encourage a shift toward more nutritive beverages.* Retrieved from http://www.sciencedirect.com/science/article/pii/S000282230200010X

Reese, S. D., Grady, O. H., & Grant, A. E. (2002). *Framing public life: Perspectives on media and our understanding of the social world.* Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Saldaña, J. (2012). *The coding manual for qualitative researchers.* Thousand Oaks, CA: SAGE Publications Inc.

Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication, 49*(1), 103-122. doi:10.1093/joc/49.1.103

Scheufele, D. A., & Tewksbury, D. (2007). Framing, agenda setting, and priming: The evolution of three media effects models. *Journal of Communication, 57*(1), 9-20. doi:10.1111/j.1460-2466.2006.00326.x

Semetko, H. A., & Valkenburg, P. M. (2000). Framing European politics: A content analysis of press and television news. *Journal of Communication, 50*(2), 93-109. doi:10.1111/j.1460-2466.2000.tb02843.x

Sofaer, S. (1999). Qualitative methods: What they are and why use them. *Health Services Research, 34*(5 Pt 2), 1101-1118. doi:

Stevenson, N. (1997). *Critical perspectives within audience research.* New York, NY: St. Martin's.

Telg, R., & Irani, T. A. (2012). *Agricultural communications in action: A hands on approach.* Clifton Park, NY: Delmar.

Titscher, S., Meyer, M., Wodak, R., & Vetter, E. (2000). *Methods of text and discourse analysis.* London: Sage.

Trexler, C., Johnson, J., & Heinze, K. (2000). Elementary and middle school teachers ideas about the agri-food system and their evaluation of agri-system stakeholders' suggestions for education. *Journal of Agricultural Education, 41*(1), 30-38. doi: 10.5032/jae.2000.0103

Tuckermanty, E., Bailey, C., Chen, H., Gary-Vaughn, G., Lin, L., Purcell-Miramontes, M., Sheely, D., & Welsh, S. (2002). *Consumer driven agriculture.* Retrieved from http://www.csrees.usda.gov/about/white_papers/pdfs/consumer.pdf

Van Gorp, B., & van der Goot, M. J. (2012). Sustainable food and agriculture: Stakeholder's frames. *Communication, Culture & Critique.* Retrieved from https://s3.amazonaws.com/objects.readcube.com/articles/downloaded/wiley/d57ae664a39388b16199becf210ce8e7acbf533456027a04a29f077fd790db69.pdf?

Wexler, A. (2013). U.S. orange juice sales fall to record low. *The Wall Street Journal.* Retrieved from http://www.wsj.com/articles/u-s-orange-juice-sales-fall-to-record-low-1405975874

Wilson, G., & Wood, K. (2004). The influence of children on parental purchases during supermarket shopping. *International Journal of Consumer Sciences, 28*(4), 329-336. doi: 10.1111/j.1470-6431.2004.00393.x

Wimmer, R. D., & Dominick, J. R. (2010). *Mass media research: An introduction* (9th ed.). Boston, MA: Wadsworth.

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RESEARCH

Tweeting with Authority: Identifying Influential Participants in Agriculture-Related Water Quality Twitter Conversations

Ashlan E. Wickstrom and Annie R. Specht

ABSTRACT

In August 2014, Toledo, Ohio, experienced a dangerous algae bloom that led to a citywide water ban. News media coverage of the incident was widespread, as was social media conversation. Opinion leadership has been linked to news media agenda setting, and social media users are capable of generating considerable social influence within the sphere of their social networks. To better understand the dynamics of the conversation—especially as it pertained to agriculture—both during and after the water ban, the researchers used a social media analysis platform to identify high-influence Twitter users who participated in water-quality discussions about the Toledo water ban. Narrowing the search to agriculture-related discussion, the researchers revealed a dearth of agriculture-related content and also identified three categories of Twitter users in the conversation, including news sources, activists, and agriculture advocates. The researchers also found that Ohio users in post-ban discussions tended to be more influential than those who participated during the water ban. Identifying these users allows practitioners to monitor influential accounts for emerging issues and to engage with authoritative users in their geographic regions. The researchers also recommend that agriculture advocates exercise restraint in publicly speaking out about the industry's involvement in environmental issues.

KEY WORDS

Opinion Leadership, Social Influence, Social Media, Water Quality

INTRODUCTION

In the summer of 2014, news spread like wildfire through the city of Toledo, Ohio that quality tests indicated that large amounts of an algae known as *microcystis* were found in the water of Lake Erie (Henry, 2014a). A citywide ban was placed on the water supply, and residents were without drinking water for two days, relying upon donated and store-bought bottled water after a state of emergency was declared by Ohio's governor (Dungjen, 2014; *The Blade*, 2014). In the aftermath of the water ban, a series of community caucuses were arranged, and the city faced a great deal of vitriol from citizens and officials who blamed "agriculture, sewage plants, lawn fertilizers, runoff from our millions of miles of streets and parking lots" for the city's water-quality failings (Henry, 2014b, para. 60). Similar conversations continued beyond these gatherings as individuals sought answers and a place to express their concerns.

During the ban and in the weeks and months following, community leaders used the social media platform Twitter to communicate with affected stakeholders, legislators, and other interested parties. Regional news stations and political

figures provided up-to-date information and details about the events; the local newspaper, the *Toledo Blade*, even utilized a hashtag (#EmptyGlassCity) to encourage readers to discuss the water ban online (*The Blade*, 2014). As time passed, many conversations took a cause-and-effect angle, addressing possible reasons for the spike in dangerous toxins. Again, agriculture became a topic of hot debate among the online audiences following news surrounding the water ban. Given the importance of social media in crisis situations (Graham, Avery, & Park, 2015), our research team believed that identifying how and when individuals bring agriculture to the forefront of online conversation is perhaps just as important as who engages in this discussion. This study was undertaken to demonstrate that not all social media participants carry equal influence during crisis events and that size of followership and message timing are of great importance.

CONCEPTUAL FRAMEWORK

Opinion Leadership and Agenda Setting

Within social networks, whether online or in-person, opinion leaders serve as the primary means through which information, innovation, and ideas spread. "Opinion leadership is earned and maintained by the individual's technical competence, social accessibility, and conformity to the system's norms" (Rogers, 2003, p. 27). Opinion leaders have typically been described as individuals who are more interested in particular issues than their peers, who offer their opinions more readily, who are sought after by others who value their points of view, and who are socially embedded (Shafer & Taddicken, 2015; Katz & Lazarsfeld, 1955).

Opinion leaders are not a demographically homogenous group: Shafer and Taddicken (2015) described what they dubbed "mediatized opinion leaders," individuals who augment or replace interpersonal communication with online conversation and whose characteristics differ from "traditional" opinion leaders. Mediatized opinion leaders still demonstrate higher-than-average investment in issues but have more online friends than traditional opinion leaders, tend to be younger (under 29 years of age), and are more likely to be female than traditional media opinion leaders.

Opinion leadership within traditional media has long been considered the primary means through which opinion and awareness of events pass to citizens with influential outlets setting the media agenda by telling readers and viewers "what to think about" (Neuman, Guggenheim, Jang, & Bae, 2014, p. 193; McCombs & Shaw, 1972; Cohen, 1963). In today's changing media climate, however, digital influencers are beginning to counterweigh traditional agenda-setters (Neuman et al., 2014; Shafer & Taddicken, 2015). For example, Meraz (2009) found that "the independent blog platform is redistributing power between traditional media and citizen media" (p. 701). Micro-blogging platforms like Twitter "allow citizens more influence and power in setting news agendas" (Meraz, 2009, pg. 701). In a comparison of online and traditional news agendas, Neuman et al. (2014) found that social media users "spend a lot more time discussing social issues such as birth control, abortion, and same-sex marriage and public order issues such as drugs and guns than the traditional media" (p. 210). Activist thought is encouraged online than in traditional news outlets.

Influence in Social Media

The role social media networks play goes far beyond users conveying personal opinions and experiences. Individuals have the ability to share and interact with others who may share or oppose viewpoints. Some draw only a few followers, while some have access to thousands (or even millions). With greater networks and stronger connections, almost any user of Twitter today can gain influence and authority on the platform. An influential "uses his or her visible position in a large network to spread messages widely" (Dubois & Gaffney, 2014, p. 1261). Twitter users of high influence can effectively draw attention to certain ideas and issues by bringing them to the attention of users within their networks. "Influencers not only have the ability to reach a large number of people, but also have their audience's attention, and in some cases, their participation" (Goldsmith, 2015, p. 135).

Researchers use a number of metrics to determine users' influence within social networks, including knowledge and interaction. User authority is another way to measure an individual's activity and presence on Twitter. This measure is based on "retweets," or when an original tweet is shared on another user's profile, allowing the second user's network to view the

original post. The number of retweets are measured along with consideration of profile statistics and number of followers (Bray, 2013). The Sysomos MAP online data gathering system used in this study classifies users based on authority with levels ranging from 0 (no authority) to 10 (highest authority).

Twitter Characteristics and Uses

Twitter, a microblogging platform that limits users to 140-character "tweets," was selected as the social medium of investigation for this study. Twitter was selected for several reasons. First, Sysomos Media Analysis Platform (MAP), the online social media analytics program used to gather data (described further in Methods, below), has a high level of access to Twitter data through the Twitter Firehose, which gives license holders access to all tweets in real time ("Sipping," 2011). Twitter is a social media platform that has the ability to produce a large amount of data in a relatively short amount of time (in this case, three months). Its format is simplistic yet dynamic in that users are given restraints in which to craft their tweets, but the single message can rapidly draw attention through retweets, shares, or likes if a user has acquired a high number of followers and has established a profile of high authority.

Another contributing factor in the decision to use Twitter as the target platform was a study released by Pew Research Center outlining the demographic makeup of Twitter users. Their 2015 *Mobile Messaging and Social Media* report found that a large percentage of users had at least a college degree, lived in urban areas, and made above $50,000 per year (Duggan, 2015). Usage by men and women as well as usage across ethnic backgrounds tended to be evenly distributed, with a majority of users being between the ages of 18-29 or 30-49. These characteristics are traditionally associated with opinion leaders within both online and geographic communities, who tend to be socioeconomic, educational, or political elites (Dubois & Gaffney, 2014).

These things—opinion leadership status paired with a strong influence over a large following—allow for quick development of a single group or individual agenda. Many users have the ability to instantly provide a large amount of content to a very engaged population. Understanding the dynamics at play within prevalent conversations on Twitter provides greater insight into how topics like agriculture are brought to the forefront during water-related crises.

PURPOSE AND OBJECTIVES

For crisis communicators, knowing which users are playing the largest role in shaping or driving the Twitter conversation allows for close monitoring of the people introducing and leading conversations on topics of interest. In the context of this study, interest lies in the prominent users who focused on agricultural causes in the months following the Toledo water ban. To this end, the purpose of this study was to identify the most-followed and–shared Twitter users during the Toledo water ban and to compare them with those during the three months following the water ban. The researchers developed the following objectives to guide this study:

RO1: To identify high-authority Twitter accounts in Ohio that engaged in water-quality conversations surrounding the Toledo water crisis, both during and after the ban;

RO2: To describe the agriculture-related Twitter conversations surrounding the Toledo water crisis, both during and after the water ban;

RO3: To categorize high-authority Twitter users who engaged in conversations surrounding agriculture and Toledo water quality; and

RO4: To compare Ohio Twitter accounts' authority in agriculture discussions during and after the water ban.

METHODS

Sampling

Tweets related to the Toledo water ban were gathered using Sysomos Media Analysis Platform (MAP). Sysomos MAP allows users to collect both social and traditional media conversations and creates detailed reports on conversation sentiment, demographics, geography, and key influencers on platforms ranging from Twitter and Facebook to Instagram and YouTube (PR Newswire, 2009). Using Sysomos MAP, the researchers created a Boolean search query to isolate tweets related to water quality in the Lake Erie Basin region of Ohio: "(water OR "water quality") AND (Ohio OR Toledo)." Two searches were conducted to limit content to two different time frames. The first search was limited to the dates of the water ban (August 2, 2014 – August 4, 2014). The second search included the three months following the water ban (August 5, 2014 – November 5, 2014). Both searches generated over 10,000 tweets each. To make the data more manageable, the researchers downloaded Microsoft Excel spreadsheets containing a random sample of 3,000 tweets per search. These tweets were then sorted in Excel according to Sysomos's proprietary user authority levels—with a score of 1 indicating little authority and a score of 10, highest authority—and filtered by geographic location, limiting the users to those in Ohio.

Data Analysis

One researcher—the primary coder—undertook a quantitative content analysis of the resulting data. The coder analyzed both data sets for tweets that included agriculture-related words, such as *agriculture, farm* or *farming, fertilizer,* or *runoff*, using the "Find" feature in Excel. These terms were identified as those that often appeared in state, local, and national news coverage of the Toledo crisis. Both researchers reviewed the data set and agreed upon the inclusion or exclusion of tweets based on agriculture-related content. In total, 259 tweets were included in the data set: 49 posted during the ban and 210 posted afterward.

After the Twitter data set was finalized, discrete users who took an active role in producing these agriculture-related tweets were then identified and categorized. The primary coder coded each user according to their perceived association or occupation based primarily on previous content produced and their Twitter profile biography. This analysis resulted in the emergence of three categories of users: activism-centered users, information sources, and agriculture affiliates. Both researchers came to agreement upon the identification and categorization of Twitter users involved in agriculture-related content during and following the water ban, and spot checks were used throughout the process to ensure coder reliability.

FINDINGS

RO1: Influential Twitter Accounts in Ohio During and After the Water Ban

Most definitions of "opinion leadership" identify proximity, or social embeddedness, as a key component of influence. Therefore, the researchers sought to identify Twitter users or accounts within Ohio that engaged in water-quality discussions about the Toledo water ban. The results for during the ban (Table 1) and post-ban (Table 2) are displayed below. News organizations rated highly in both searches, with local television and radio stations and newspapers appearing most often. Other influential individuals included politicians, writers, and journalists. Ohio Farm Bureau was the only agriculture-related Twitter account to appear either pre- or post-crisis before the data was filtered for agriculture-related keywords.

Table 1

High-Authority Twitter Accounts and Users in Ohio that Engaged in Water Quality Discussions During the Toledo Water Ban

NAME	TWITTER HANDLE	LOCATION	TYPE	AUTH
Clevelanddotcom	@Clevelanddotcom	Cleveland, OH	News	9
Rob Portman	@senrobportman	Columbus, OH	Politician (Sen-R)	9
The Toledo Blade	@Toledonews	Toledo, OH	News	9
WDTN	@wdtn	Dayton, OH	News	9
WSYZ ABC 6	@wsyx6	Columbus, OH	News	9
Brittany Gibbons	@brittanyherself	n/a, OH	Internet Personality	8
David Pepper	@davidpepper	Cincinnati, OH	Politician (Rep-D)	8
Garden Chat w/Bren	@bg_garden	n/a, OH	Blogger	8
News Radio 610 WTVN	@610wtvn news	News/Politics	News	8
Ohio_Politics	@Ohio_politics	n/a, OH	News/Politics	8
Ryan Wichman	@ryan_wichman	Toledo, OH	News/Meteorologist	8
Toledo Tweets	@Toledo_tweets	Toledo, OH	News	8
WHIO Radio	@whioradio	Dayton, OH	Radio	8
Amy Taylor	@nomeatballs	Columbus, OH	Writer	7
Henrietta (top that)	@nonnydee	n/a, OH	Personal	7
Jill Miller Zimon	@jillmillerzimon	n/a, OH	Writer	7
Mike Brandyberry	@didtribewin	Cleveland, OH	Sports Writer	7
News Radio 1370WSPD	@1370wspd	Toledo, OH	News Radio	7
Ohio_EMA	@Ohio_ema	n/a, OH	Gov. Organization	7
Ohmi News	@Ohminews	Toledo, OH	News	7
Patricia	@porcelain10	Cleveland, OH	Personal	7
Rusnivek	@rusnivek	n/a, OH	Personal	7
Sara Hegarty	@sarahegarty	Toledo, OH	Personal	7
Social In Toledo	@socialtoledo	Toledo, OH	Toledo News	7
The Sound of Ideas	@soundofideas	Cleveland, OH	Radio Show	7
Todd Finnerty, Psy.D.	@drfinnerty	Cleveland, OH	Psychologist	7
Greeds World	@greedsworld	Columbus, OH	Music Producer	6
Aaron Shafer	@shafedaddyfresh	Columbus, OH	Student	6
Adam Hansen	@adamhansen	Toledo, OH	Blogger, Entrepreneur	6
Amanda Rabinowitz	@a_rabinowitz	Cleveland, OH	Radio Host	6

Table 2

High-Authority Twitter Accounts and Users in Ohio that Engaged in Water Quality Discussions After the Toledo Water Ban

NAME	TWITTER HANDLE	LOCATION	TYPE	AUTH
10tv	@10tv	Columbus, OH	News	10
wkyc	@wkyc	Cleveland, OH	News	10
dispatchalerts	@dispatchalerts	Columbus, OH	News	10
13abc	@13abc	Toledo, OH	News	9
Toledonews	@toledonews	Toledo, OH	News	9
wsyx6	@wsyx6	Columbus, OH	News	9
Ohio_digital	@ohio_digital	Cincinnati, OH	Business	9
[City]dailynews	@daytondailynews	Dayton, OH	News	9
Wlwt	@wlwt	Cincinnati, OH	News	9
Ohio_tourism	@ohio_tourism	n/a, OH	Government	9
Ohio98babe	@ohio98babe	n/a, OH	Personal	8
kittyfitz50	@kittyfitz50	n/a, OH	Personal	8
1800hurtnow	@1800hurtnow	n/a, OH	Personal	8
wkycweather	@ wkycweather	Cleveland, OH	News	8
philominax	@philominax	n/a, OH	Personal	8
toledodaily	@toledodaily	Toledo, OH	News	8
thetrivshow	@thetrivshow	Independence, OH	Radio	8
Toledo_tweets	@toledo_tweets	Toledo, OH	Parody	8
City of Dayton	@cityofdayton	Dayton, OH	Government	8
Ohio Politics	@ohio_politics	n/a, OH	News/Politics	8
Ohio Farm Bureau	@ohiofarmbureau	Columbus, OH	Ag Non-Profit	8
Toledo Zoo	@toledozoo	Toledo, OH	Zoo	8
Ryan Wichman	@ryan_wichman	Toledo, OH	TV Meteorologist	8
Vindicator	@vindicator	Youngstown, OH	News	8
Joe Cimperman	@joecimperman	Cleveland, OH	Politician	8
917wvxu	@917wvxu	Cincinnati, OH	Radio	8
Ohiodotcom	@ohiodotcom	Akron, OH	News	8
Portia Boulger	@portiaboulger	Chillicothe, OH	Personal	8
Wcpn	@wcpn	Cleveland, OH	News Radio	7
Wally Water Drop	@wallywaterdrop	Cleveland, OH	Water Masco	6

RO2: Agriculture-Centered Twitter Conversations During and After the Water Ban

From the data set during the water ban (August 2-4, 2014), 49 tweets, or less than 2%, were focused on agriculture's contribution to the spike in levels of microcystis found in Lake Erie. Following the ban, this number increased fourfold with 210 tweets focusing on agriculture's role in the lake's contamination. (Examples of these Tweets can be found in Table 3.) A cursory review of the non-agriculture tweets generated during the water ban revealed that Twitter users were less interested in the antecedents of the emergency than in finding access to clean water, resulting in the relatively small number of agriculture-related tweets.

Table 3

Prevalence and Examples of Agriculture-Focused Tweets Before and After the Toledo Water Ban

Agriculture-focused tweets during crisis (*n*=49)	Agriculture-focused tweets post-crisis (*n*=210)
@jillmillerzimon: "RT @guardianeco Farming practices and climate change at root of Toledo water pollution http://t.co/09htFIKHK5"	@chadlivengood: "Farms are focus of studies on drinking water toxin from blue-green algae blooms on #LakeErie http://t.co/FNh510okgX #GreatLakes #Toledo"
@gingerspice44: "RT @Mind_Of_Peace Should we just keep ignoring that agricultural chemicals have left the 50000 people in Toledo without water?	@newsongreen: "Toledo Loses Drinking Water to Algal Bloom From Farm Runoff http://t.co/f29XnAoZU6"
@kevinkimmich: "RT @tickerguy http://t.co/cJLlbjGah4 And Now The Farm Pollution Gets You #water #Ohio"	@art_news: "The truth you're not being told about the Toledo water crisis in Ohio: Chemical agriculture poisoned the water http://t.co/UhWmur1Tpq"

RO2: Types of Twitter Accounts Involved in Agriculture-Related Water Quality

Conversations

Three user categories emerged upon further analysis of the data (Table 4).

Table 4

Users of High Authority or Influence Categorized by Primary Content Focus

Category	Twitter Handle	Name	Cause/Specialty	Additional Resources	Location
Activism-Centered	@mbarlondsmith	Michelle Barlond	Environmental	Facebook	Battle Creek, MI
	@thesqueezeny	The Squeeze food truck/catering	Anti-production agriculture, vegan lifestyle	thesqueezejuice.com	New York, NY
	@soldier_777	חסן "Joseph"	Animal Rights	n/a	n/a
Information Source	@davidkesmodel	David Kesmodel	Bureau Chief of WSJ ag, commodity, and food	LinkedIn	Chicago, IL
	@chadlivengood	Chad Livengood	Detroit news reporter, provides coverage on water/EPA issues	Facebook, Staff Page	Lansing, MI
	@goirish1951	Patrick McDonough	Cornell Vet Medicine, zoonotic disease, animal health		Cornell, NY
Agriculture Affiliate	@fit2farm	Rebecca Davis	Hog farmer and blogger	Blog	Michigan
	@newburgequip	Newburg Equipment	Farm Equipment sales	Facebook, Website	Melbourne, AR
	@adambrent1	Adam Brent	CEO/founder of Cocoa Corp., recycling, sustainable AG	Website	Chicago, IL

The first category of users—*activism-centered*—consisted of those who consistently produced content seeking to engage in conversations to promote their stance. *Information sources* were those users who provided newsworthy or scientific information, and whose network viewed them as knowledgeable or informed in a certain area of focus. *Agriculture affiliates* were the individuals who spoke from experience in agriculture or agriculture-based organizations and businesses.

RO4: Ohio Twitter Accounts' Authority in Agriculture Discussions Before and After the Water Ban

The researchers examined the authority scores of Ohio Twitter users who participated in agricultural conversations during and after the water ban (Table 5). Within Ohio, the user authority level fell from 50% of users at Level 5 authority during the crisis to 33% post-crisis. Far more authority Level 6 users were engaged post-crisis than during. Overall, the percentage of tweets by users of authority levels 6-9 increased across the board; the percentage of Level 5 users was the only category to decrease.

Table 5

Prevalence and Examples of Agriculture-Focused Tweets Before and After the Toledo Water Ban

Authority Level	# of Tweets During Crisis	%	# of Tweets Post-Crisis	%
5	120	50.63	109	33.75
6	74	31.22	122	37.77
7	23	9.70	39	12.07
8	13	5.49	33	10.22
9	7	2.90	20	6.19
Total	237	100.00	323	100.00

CONCLUSIONS

In a time of growing social media use around the world, the ability for individuals to gain influence within their social media networks grows as well. One tweet in the wake of a crisis may take hold in the influx or be carried away by the stream of breaking news and updates. Understanding interactions and conversation in a network can help provide insight into who influences topics and how they arise. In the case of the water crisis in Toledo, Ohio, during the two-day water ban, the most influential users from the primary search set were providing critical news updates and information. As time went on, however, the focus shifted to causes and effects of the algal blooms in the lake. Mentions of agricultural causes became more common as individuals began to speculate in the aftermath when the issue became less immediately pressing.

Based on the analyses of these users and their affiliations, the researchers concluded that individuals who were involved in activist-type organizations or groups were among the most outspoken against agriculture and the most likely to post information implicating the industry. Being able to identify these users provides access to networks that can be monitored for emerging issues and that should be involved in the communication process as those issues arise.

The rise in higher authority users within the post-ban data set for the state of Ohio compared to during the ban could be attributed to awareness and growing media coverage in the months following, drawing a larger number of users and increased discussion following the Toledo water ban. The decrease in authority Level 5 users may also indicate that these lower-authority users produce less content related to the same topic over time. An alternate theory is that the growth in

publicity drew more individuals of higher authority to become engaged in conversations surrounding the issue. Another possibility is that lower authority users during the crisis may have been retweeting health and safety content regularly to stay up to date with changes, rather than producing their own content as many were after the crisis.

IMPLICATIONS AND RECOMMENDATIONS

Perhaps the most intriguing finding of this study is the dearth of agriculture-related content generated by Twitter users during and after the Toledo water ban. The lower-than-expected number of agriculture-related tweets suggests that the general public was less focused on the environmental antecedents of the water ban than ways to prevent it from happening again. The lack of content also suggests that agricultural advocates may due more harm than good when publicly disclaiming sole responsibility for the algae blooms—they may actually be raising more awareness of the industry's role in the *microcystis* outbreaks than existed prior to the water ban. Though industry proponents want to avoid appearing reactive, waiting to respond increases the likelihood of affected parties negatively perceiving the industry's role and reduces opportunities for positive engagement (Houston et al., 2014).

The results of this study suggest many other practical uses. Agricultural communicators could use the results of this study to engage with high-authority social media users to prevent information gaps from forming in the event of future water-quality issues in the Lake Erie basin. They should also monitor activist accounts to identify emerging issues before they become full-fledged crises. This proactivity could improve public perceptions of agriculture. Implementing listening software like Sysomos to aid this process would also be beneficial. Extension practitioners can utilize information gained through finding and monitoring influential users to better identify those who should be involved in the conversation on social media platforms like Twitter. Having the ability to identify these users of high authority in their territories provides a means to influence through the sharing of information within and beyond their networks.

Areas for further research include a deeper analysis of the movement of information through networks during crises such as these. In doing so, researchers could identify secondary users beyond the opinion leaders to gain a broader map of networks related to specific causes or events. Another area that can be further investigated is the reason for a decrease in Level 5 or mid-authority users, perhaps to better understand the fluctuations that each authority level experiences throughout the timeline of crisis events. This may help with identifying the best timing and target audience for professionals utilizing Twitter to generate as many views and interactions as possible.

REFERENCES

The Blade. (2014, August 2). State of emergency declared in Lucas County after toxins found in Toledo water. State and Regional News.

Bray, P. (2013). Social authority: Our measure of Twitter influence. Retrieved January 16, 2016, from https://moz.com/blog/social-authority

Cohen, B. C. (1963). *The press and foreign policy*. Princeton, NJ: Princeton University Press.

Dubois, E., & Gaffney, D. (2014). The multiple facets of influence: Identifying political influential and opinion leaders on Twitter. *American Behavioral Scientist, 58*(10), 1260-1277.

Duggan, M. (2015, August 19). Mobile messaging and social media, 2015. *Pew Internet Project*. Retrieved from http://www.pewinternet.org/2015/08/19/mobile-messaging-and-social-media-2015/

Dungjen, T. (2014, August 3). Algae blooms taint water for 500,000; Lake Erie-area residents await toxicity reports. *Pittsburgh Post-Gazette*, A-1.

Goldsmith, E. B. (2015). *Social Influence and Sustainable Consumption* (Vol. 1, International Series on Consumer Science). Cham, Switzerland: Springer International Publishing.

Graham, M. W., Avery, E. J., & Park, S. (2015) The role of social media in local government crisis communications. *Public Relations Review*, 41(3), 386-394. doi:10.1016/j.pubrev.2015.02.001

Henry, T. (2014a, August 3). Water crisis grips hundreds of thousands in Toledo area, state of emergency declared. *Toledo Blade*, Business and Financial News.

Henry, T. (2014b, August 17). Toledo leaders see big battles on many fronts in water crisis. *Toledo Blade*, State and Regional News.

Houston, J. B., Hawthorne, J., Perreault, M. F., Park, E. H., Goldstein Hode, M., Halliwell, M. R., Turner McGowan, S. E., Davis, R., Vaid, S., McElderry, J. A., & Griffith, S. A. (2015). Social media and disasters: a functional framework for social media use in disaster planning, response, and research. *Disasters, 39*(1), 1-22. doi:10.1111/disa.12092

Katz, E., & Lazarsfeld, P. F. (1955). *Personal influence: The part played by people in the flow of mass communications.* New York, NY: The Free Press.

McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of the mass media. *Public Opinion Quarterly, 36*, 176-187. doi:10.1086/267990

Meraz, S. (January 01, 2009). Is there an elite hold? Traditional media to social media agenda setting influence in blog networks. Journal of Computer-Mediated Communication, 14(3), 682-707. DOI: 10.1111/j.1083-6101.2009.01458.x

Neuman, W. R., Guggenheim, L., Jang, S. M., & Bae, S. Y. (2014). The dynamics of public attention: Agenda-setting theory meets Big Data. *Journal of Communication, 64*, 193-214.

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

Rouse, M. (n.d.). What is social media influence? Retrieved January 16, 2016, from http://searchcrm.techtarget.com/definition/Social-media-influence

Shafer, M. E., & Taddicken, M. (2015). Mediatized opinion leaders: New patterns of opinion leadership in new media environments? *International Journal of Communication, 9*, 960-981.

"Sipping from the fire hose." (2011, October 1). *The Economist*. Retrieved from http://www.economist.com/node/21531025

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Exploring Perspectives of the Student Competencies Needed to Advocate for Agriculture

Garrett M. Steede, Laura M. Gorham, and Erica Irlbeck

ABSTRACT

The agricultural and natural resources industries are increasingly faced with remarks and skepticism from consumers and activists alike. Equipping those in industry as well as college graduates with skills to effectively share agriculture's story through a variety of mediums continues to increase in importance. This qualitative study sought to explore learning objectives and curriculum goals that agricultural advocates have for an undergraduate agricultural advocacy course. Phone interviews with individuals involved in agricultural advocacy revealed two-way communication skills were important when communicating with the public. Active listening, communicating with an open mind, communicating at a level of understanding, and equipping oneself with an arsenal of industry knowledge and contacts were found to be key learning outcomes for a course such as this. Further, role-playing activities, professional experiences, and online media communication abilities were also found to be important class assignments, activities, and skills that would allow students to perfect these two-way communication skills. From the findings of this study, undergraduate educators may have a better understanding of the importance of incorporating two-way communications into their curriculum as well as have a guideline for developing a course for agricultural advocacy within their agricultural education, communications, and leadership programs. The findings of this study may also help communications practitioners and Extension personnel as they prepare for agricultural advocacy efforts within their organizations.

KEY WORDS

Advocacy, Curriculum, Changing Public Perception, Two-way Symmetrical Model of Communication

INTRODUCTION

According to a study completed by the Pew Research Center in 2015, a large gap exists between public perceptions and knowledge of science and scientists' opinions (Funk & Raine, 2015). Funk and Raine (2015) found gaps exist in 13 different areas of scientific enterprise, ranging from climate change, energy, space-exploration, and agricultural processes. In one example, Funk and Raine's (2015) findings suggested 57% of the general public believed genetically modified organisms were unsafe for consumption; whereas, 88% of scientists affiliated with the American Association for the Advancement of Science (AAAS) believed genetically modified organisms were safe for consumption. Previous researchers within the agricultural community have also found consumers do not accept what scientists say as truth (Center for Food Integrity, 2014; Ruth, Gay, Rumble, & Rodriguez, 2015). Researchers have also reported an increasing level of skepticism when it comes to processes and procedures within the agricultural industry (Weatherel, Tregear, & Allinson, 2003; Zimbelman, Wilson, Bennett, & Curtis, 1995). At the same time, an increasing number of consumers want to know about their food, how it is produced, and where it is grown (Smith, 2014).

In this quest for information, consumers are frequently misinformed about food production (Ruth et al., 2015). Previous researchers found scientists have had trouble communicating with the general public as the public has difficulties seeing differences between their attitude toward an agricultural company or industry and the scientific information being delivered by these same companies (Folta, 2012; Ruth et al., 2015). Further, anti-agricultural activists have also been known to disseminate a wide variety of information that can portray agriculture and natural resources in a negative light (Cooper, 2009). Due to large gaps in perceptions, knowledge, and experiences between these multiple parties and the difficulties of these agricultural organizations to communicate about science, Telg and Irani (2012) recommended a higher level of effective communication is needed between agriculturalists and consumers. Students realize the need to be trained in this form of communication as well. McLerran (2015) found students requested a course in agricultural advocacy to help equip them with skills needed to intelligently communicate with an audience that may not understand the agricultural sciences.

To communicate more effectively, conversations are being created by individuals, organizations, and companies involved in agriculture to ensure accurate information is being disseminated to the public to counteract the communication of inaccurate information (Moore, Meyers, Irlbeck, & Burris, 2015; Fraser, 2001). Through social media and other online platforms, individuals have taken it upon themselves to disseminate information and answer questions about agriculture creating an online, two-way communication channel between agriculturalists and consumers (Agriculture Proud, 2015; Blythe, 2015).

Agricultural blog sites have allowed for those involved within the industry to share particular stories about agriculture (Moore et al., 2015). Whether these sites promote the entire industry such as Agriculture Proud, or a specific industry such as Kids, Cows and Grass: Life on a Kansas Cattle Ranch (2015), bloggers have been able to discuss multiple stories associated with the industry. At the same time, organizations and companies, such as the National FFA Organization and the United Soybean Checkoff, have also participated in agricultural outreach. In Texas FFA's agricultural advocacy contest, students have been prepared to advocate for the industry by promoting local, state, and national agricultural programs and by learning how to educate the consumer and general public about the importance and value of the industry (Texas FFA Association, 2015). The United Soybean Checkoff has created a campaign, Find your Common Ground, where volunteer, female farmers have conversations through online tools and word-of-mouth about their personal experiences in growing and producing food (Common Ground, 2015). Additionally, organizations have also used videos to provide transparency and distribute information about their organizations and agricultural producers such as The Udder Truth campaign from Dairy Management Inc. (The Udder Truth, 2016).

Academic programs must be structured to prepare students to communicate in a variety of ways (Corder & Irlbeck, 2016). Current agricultural communications programs have emphasized a variety of skills to include advertising, journalism, photography, public relations, and public speaking; however, there is a need for programs to ensure students are well versed in public speaking, conflict resolution, as well as two-way communication (Corder & Irlbeck, 2016). Previous researchers have described the need for academics to keep up with the needs and recommendations of agricultural communications professionals to produce graduates prepared to enter the workforce (Doerfert & Miller, 2006; Terry, Vaughn, Vernon, Locaby, Bailey-Evans, & Rehraman, 1994). Additionally, Corder and Irlbeck (2016) explained, "cooperation between faculty and industry can continually ensure students are learning the skills necessary to be a desired job candidate and then succeed in the workplace" (p. 16). In the past, the purpose of the agricultural communications academic discipline was to teach students how to inform rural audiences about agricultural sciences; however, as the field has evolved, the need for distributing information to an urban audience arose (Tucker, Whaley, & Cano, 2003). Large (2014) explained the need for agricultural communications courses to "strive to educate students to effectively communicate the message of agriculture to multiple audiences through various media" (Large, 2014, p. 8). For the purposes of this study, the researchers sought to understand the need for developing a course to strengthen the distribution of information about agriculture through two-way communication between agriculturalists and agricultural consumers.

THEORETICAL FRAMEWORK

Grunig and Hunt (1984) introduced the two-way symmetrical model of communication as a public relations model. The model focuses on developing mutual respect through negotiation to achieve a mutual understanding between message sender and receiver (Grunig & Hunt, 1984). Grunig and Hunt's (1984) model was based upon the diachronic model developed by Thayer in 1968 (Culbertson, 1989; Thayer, 1968). The model incorporated similarities including the exchange of knowledge, opinions, and willingness to adjust objectives, beliefs, and behaviors on account of the parties' opinions and situations (Grunig & Hunt, 1984; Thayer, 1968). Further, the two-way symmetrical model allows communicators to adjust the way they communicate their information based on the needs and behavior of the receiver (Grunig & Hunt, 1984).

The two-way symmetrical model of communication differs from one-way persuasive communications that deliver specific framed messages to change opinion (Grunig & Hunt, 1984). In a two-way model of communication, the message sender attempts to engage stakeholders by making the information relevant and necessary (Morsing & Schultz, 2006). In this engagement, the "primary aim is to bring about mutual understanding, rational agreement, or consent" (Morsing & Schultz, 2006, p. 328). In agricultural sciences and natural resources industries, the model has been known as the "best strategy when dealing with activists" (Cooper, 2009, p. 23). For example, Cooper (2009) found a win-win situation arose when using two-way communication to respond to activists about environmental issues. The opportunity to communicate allowed activists to voice their criticism and misunderstanding and afterward the communicator responded with feedback, ultimately, supporting an attitude change.

Duncan and Moriarty (1998) indicated a conversation and a relationship could be built using three components: informing, listening, and answering. Information must be sent from sender to the receiver. Typically, information may be sent via Lasswell's (1948) traditional communication model where the source develops the message, the source distributes the message via a communication channel, and the receiver accepts the information. However, in a two-way communication format, after the receiver decodes the information, the receiver has the opportunity to provide feedback to the message. Two-way communication may arise in face-to-face situations such as public hearings (Greer & Bruno, 1996). Other places to facilitate two-way communication may include social media outlets and interactive online websites (Qu et al., 2015). Listening before responding has also been proven to increase the value of a product in the marketing world; for example, Duncan and Moriarty (1998) explained "when communication is foremost and listening is given as much importance as saying, interactive relationships become the focus" (p. 2). In the third stage, the communicator provides a response to the message receiver or a "reversal of the flow, an opportunity for communicators to react quickly to signs resulting from the signs they have put out" (Schramm, 1973, p. 51). The message sender's answer allows for the communicator to provide an appropriate response to the receiver's attitude, behavior, and informational needs (Duncan & Moriarty, 1998; Qu et al., 2015).

As agricultural organizations continue to see the need for hiring agricultural communicators, it is important that graduates are prepared to meet the needs and expectations of these organizations (Morgan, 2010). Previous researchers suggested a higher level of communication needs to be formed between agriculturalists and consumers (Ruth et al., 2015; Telg & Irani, 2012). Further, current communication strategies to advocate for agriculture have been developed through online media such as social media, blog sites, and interactive websites (Moore et al., 2015). As noted by previous literature, clear communication strategies are needed to form conversations about agriculture between consumers and agriculturalists. Blackshaw and Nazzaro (2004) have discussed how conversations can be formed in a variety of ways from face-to-face communication to conversations through online media. To promote a conversation between two parties, the theoretical framework of the two-way symmetrical model of communication was used to guide this study.

PURPOSE AND RESEARCH QUESTIONS

The purpose of this qualitative study was to understand undergraduate students' needed knowledge and experiences when advocating for agriculture from the perspective of agricultural advocates. The results of this study will be used to design undergraduate curriculum for a course focusing on developing communication strategies that help narrow the

gap between public perceptions and reported scientific findings. The following research questions were used to achieve this purpose:

1. What are the participants' experiences with advocating for agriculture?

2. Based on the participants' experiences, what skills are needed for new college graduates in regard to their ability to advocate for agriculture?

3. What activities and/or assignments can be implemented in a course targeted at developing agricultural advocates?

METHODS

Qualitative research was chosen due to its ability to deeply understand how perceptions and experiences relate to one another (Ary, Jacobs, & Sorenson, 2010; Denzin & Lincoln, 2011). In this study, semi-structured one-on-one interviews were chosen to interview seven individuals who were identified as influential contributors to agricultural advocacy. To gain information about agricultural advocacy, purposive sampling was used for this qualitative study. To meet the needs of the research questions, participants were identified as influential contributors to agricultural advocacy (Dooley, 2007). The researchers collaboratively made a list of individuals who regularly speak about agricultural advocacy strategies at various agricultural conferences. These individuals are also active through the AgChat Foundation. Telephone interviews were selected for this study as the targeted individuals were dispersed throughout the United States. Telephone interviews allow researchers to gather information rapidly from participants despite any geographical limitations or barriers (Janesick, 1998). Additionally, studies have shown that telephone interviews compare fairly positively with face-to-face interviews (Janesick, 1998). Of the 10 individuals who received recruitment emails, seven agreed to participate in the study.

The interview guide was developed based on recommendations from the literature (Birks, Chapman, & Francis, 2007; Erlandson et al., 1993; Gaskell & Bauer, 2000). A semi-structured interview protocol was selected as it gave the researcher the freedom to move away from the question guide to form a conversation with the participant (Erlandson et al., 1993). In order to build rapport with participants, the researchers asked the participants questions about their occupation and their experiences with agriculture (Birks et al., 2007). After the researcher built rapport with the participants, the remaining questions of the interview guide were aimed at gathering information needed to meet the research questions (Gaskell & Bauer, 2000). To meet the first research question, the interviewees were asked to discuss their experiences advocating for agriculture. For research questions two and three, the researchers focused on developing questions regarding the objectives and outcome goals for an agricultural advocacy course, and the methods for achieving these goals in a classroom setting. According to recommendations by Guion, Diehl, and McDonald (2011), environmental triangulation was ensured by interviewing multiple people from varying locations around the United States to minimize any effect location might have on the findings.

All data were collected in November 2015 to minimize the history effect (Ary et al., 2010). All interviews were completed by one researcher and recorded for accuracy (Guest, Bonce, & Johnson, 2006). The primary researcher, a doctoral student studying agricultural communications, created transcripts of the interviews. Transcripts of the interviews and field notes were used in data analysis (Krueger & Casey, 2000). To ensure credibility, member checks were used as after the interview, the participants' conversation with the interviewer was summarized, and the participant had the opportunity to verify, add, or subtract information (Kreuger & Casey, 2000). The researcher assigned pseudonyms to each participant, transcribed the interviews, and analyzed data for each participant using the constant comparative method (Glaser & Strauss, 1967).

To ensure trustworthiness during the data analysis process, the primary researcher created an audit trail detailing the theme formation thus increasing the confirmability and dependability of the results (MacQueen et al., 1998). Further, the researchers conducted data analysis debriefing sessions to reduce bias (Guba, 1981). Transferability was established through the use of long detailed quotations in the findings. Lincoln and Guba (1985) explained transferability as the degree of how well findings can be transferred to other settings, situations, or participants. "The 'thick description' that has been generated, however, enables observers of other contexts to make tentative judgments about applicability of certain observations for their contexts and to form 'working hypotheses' to guide empirical inquiry in those contexts" (Erlandson et al., 1993, p. 33). After the primary theme formation, the co-researchers confirmed the final themes for accuracy and trustworthiness (Erlandson et al., 1993). These findings are limited to the questions asked and how the discussions were interpreted, which are common limitations in qualitative research (Pauly, 1991).

FINDINGS

In order to fulfill the purpose, seven individuals were interviewed to understand their perceptions of an undergraduate student's needed knowledge to advocate for agriculture.

RQ1: What are the participant's experiences with advocating for agriculture?

The first research question aimed to explain the participant's experiences with advocating for agriculture. Seven individuals from across the United States participated in the study. Three of the participants were from a non-agricultural background. Agricultural experiences ranged from livestock operations to row crop farms. The participants were involved in large corporations, non-profits, and entrepreneurial enterprises where they were active in blogging and social media. The participants explained how agricultural advocacy can be in multiple forms. Below, a description of the participant's experiences with agricultural advocacy is explained. The participants described 1) how they became involved in agricultural advocacy, and 2) their current agricultural advocacy efforts.

Involvement in agricultural advocacy. During their introduction, the participants explained how they began advocating for agriculture. Elizabeth explained how her lack of an agricultural background helped her to spread the word about agriculture to those not from an agricultural background,

> I was actually a city kid growing up…had no connection to agriculture and then ended up marrying the son of dairy farmers. Being the city kid, I understood a lot of the questions that people had about food and farming and about what we do, because I was that person not that long ago. I started using social media just like anybody does…just to keep in touch with friends and things like that and the agvocacy part grew from just being online and talking about my life to where it is today.

Becky described how her agricultural advocacy efforts arose from her professional work as an agricultural communicator,

> I have worked professionally in the ag social and digital media space. I work very specifically with consumer outreach in social media as well as influential programs. As far as agvocacy for me, I kind of am more of the neutral party. I am no longer on the farm, so as odd as it may seem, I have more of a natural connection with consumers, as I am not on the farm every day.

Matt's roots in agricultural advocacy began as a want to communicate about agriculture with a public audience. He explained,

> It was six or seven years ago now when I met on Twitter, three other individuals. The four of us had a shared vision of the opportunity social media presented for the agricultural community to be able to reach out to our consumers and our customers in a way that we had never had available before that carried real time, real con-

versations, and the ability to answer questions one-on-one with the opportunity for tens of thousands of others to also see the conversation at the same time…

Current agricultural advocacy efforts. The participants were asked to describe their agricultural advocacy efforts. The majority of the participants indicated social media was a main component of their agricultural advocacy efforts. For example, Kirstin explained, "I run our Facebook account, Twitter account, and Instagram account." Sam explained, "I blog, Twitter, all that I've been doing for a few years." Anna explained how her agricultural advocacy efforts included farm tours. She explained how she, "Worked on a farm through grad[uate] school that has a lot of visitors, so we are constantly doing [farm] tours. I worked with a breakfast on the farm committee, so 600 people visited a farm and had breakfast." Kirsten also explained how her agricultural advocacy efforts included teaching others how to communicate when she said, "I am trying to teach these up and coming professionals, farmers, and ranchers on how to better communicate."

RQ2: Based on the participants' experiences, what skills are needed for new college graduates in regard to their ability to advocate for agriculture?

Research question two sought to determine the skills needed for new college graduates to advocate for agriculture. Genuine conversation and listening skills, an open mind, industry knowledge and connections, and the ability to communicate at a level of understanding were identified as common themes.

Genuine Conversation and Listening Skills. The ability to have genuine conversations while truly listening to the concerns and questions of others arose as a common theme throughout the interview process. Matt discussed the importance of truly listening during a conversation,

> Be able to have a genuine conversation where you are more concerned about listening to understand the other person's perspective than concern for getting your point across…once the opposition or the individual who has a different opinion feels that they are being heard and understood and you can successfully relay back to them, the battle is won. You may still have a war on your hands, but that battle has been won. It's when the rest of the audience can see that you are able to have those conversations with people of different views, that's where the value is, that's when you win…conversations are going to take place. It's agriculture's choice whether you want to be part of the conversation or watch from the sidelines.

Matt later went on to say,

> Simply impressing upon all of them the importance of what makes a good conversation. And number one you have got to learn to listen and listen for meaning. You can't be thinking about what it is you want to say next while they're talking to you. You need to devote your attention... I want to get the information from them first so they feel like I am truly listening for understanding.

Elizabeth described the importance of listening and conversation skills,

> …Teaching the students how to really listen. The key components or the outline is kind of a lot of focus on active listening, debates, and learning opportunities to talk to people and the people in the middle, our customers, the vast majority of the people you know, again people in the middle.

Open Mind. An open mind also arose as a common theme among the participants. Becky described what she feels can be one of the pitfalls for many agricultural advocates when they are trying to tell agriculture's story to someone who might oppose conventional agricultural practices,

> [Agriculturalists] are so passionate about agriculture that they are almost defensive of agriculture but to be a truly compelling advocate you have to be able to see reason and see both sides of the story and that there is no I'm right, they're wrong. There is we are both trying to pursue what's best for both of us.

Matt described an open mind as one of the most important attributes of an agricultural advocate,

> Number one: An open mind and the ability to respect differing opinions. You don't have to agree, but respect is crucial… Because if you are not able to respect differing views, you will be unable to have a conversation that is genuine and have any type of a positive outcome. The most successful agvocacy that occurs is more often than not between two individuals who have very different opinions on one or more subjects but are able to discuss the topic rationally, logically, and objectively, and at the end neither may have changed their mind, but the audience has had the opportunity to at the same time, consider both points of view and make up their own mind. If you are not able to have a mutual respect for one another it turns into an argument and nothing is gained.

Matt additionally discussed the importance of an open mind and mutual respect within differing segments of the agricultural industry,

> Being able to appreciate variety and diversity within agriculture amongst ourselves that is probably one of the biggest stumbling blocks that we ourselves face… A division becomes public, then the public also becomes divided. A little splinter becomes a major abscess and pretty soon you have a big problem. I think until we, in our own house, can respect one another for the diversity that we have, that's a big concept that's really tough for our own industry.

Industry Knowledge and Connections. Knowledge of the different agricultural industries along with contacts from differing industries arose as a common theme throughout the interview process. Kirsten described the importance of having agricultural knowledge, the ability to find information, and knowing when to say, "I don't know:"

> They also need to have a wide knowledge of different agricultural enterprises. I mean from corn and row crops to beef cattle and other livestock species; I have to work a little harder when it comes to row crops because I didn't grow up on a row crop operation. So I have to be able to do a little research and you have to have certain sites I know I can count on for certain information or certain people. Another thing along those lines is making sure that you don't try to be a know-it-all. If you know you don't know the answer be okay with admitting that because people will respect you more knowing, you are trying to help them and learn at the same time then just sounding off facts that you don't know.

Sam described the importance of having industry connections in other fields of agriculture,

> You do find once you put yourself out there and talking people come to you as the expert on stuff that you are not the expert on just because it falls under agriculture. So work on developing that network of different people in the industry…

Morgin concluded that it is important to "[Develop] your network in a positive and critical way."

Ability to Communicate at a Level of Understanding. The ability to communicate with those who have questions or concerns about agriculture or production practices in a way the public can understand arose as a common theme among the participants. Anna described the importance of communicating at a level of understanding,

> I think maybe it's more of a technical skill, but as far as communications, the ability to explain things at a level that people who don't have experience in agriculture can understand. I work with a lot of college students who say the terminology they use is understandable in their circles, but [those same terms] can be difficult to understand in real life.

Sam discussed the importance of the use of language,

Look at the language we are using and kind of find the level that works with people we are speaking to. I hate to say dumb it down, but you know I'm not a professional banker or real estate agent or whatever, you know I'm not going to understand those terms, so we just have to talk to people on the level that they can understand.

RQ3: What activities and/or assignments can be implemented in a course targeted at developing agricultural advocates?

To achieve the skills established in research question two, the purpose of research question three was for the participants to outline specific course activities and assignments that could aid in student learning and could further develop their confidence in, ability to, and understanding of agricultural advocacy. Three themes emerged from the data analysis: face-to-face communication, development of listening skills, and ability to utilize online media.

Face-to-Face Communication. The ability to communicate face-to-face arose as a common theme among participants. Anna described a situation where students could use face-to-face communication skills learned in the classroom in a real world setting,

> I think that incorporating real life experiences in that course whether they do an event on their university farm or on campus or something like that where they actually get to use the [communication] skills in real life would be really important and helpful.

Additionally, Kirsten described an activity to encourage a conversation between farmers and ranchers and consumers about an agricultural topic. She explained,

> …give them a scenario where they have to sit down and one of them that we have use is kind of about a friend whose mom has cancer and they blame it on GMOs. The first time I did the exercises… I went straight into 'well why do you blame GMOs?!' Instead of being a friend first, you say I'm so sorry to hear your mom has cancer…I need to be a human first before I become an agricultural advocate.

Development of Listening Skills. The development of listening skills arose as another important theme. Elizabeth described the following activity as a way for building active listening skills,

> Working on some active listening exercises where [students] are really listening to people. One of my favorite things that I've ever taken part in is having panels of people come in and speak to groups like food bloggers, chefs, and foodies from all different backgrounds and really hearing what they have to say and what they think and what they are learning.

Elizabeth went on to explain,

> Going to the grocery store interviewing people there about food or even online surveys and really asking questions. Anything you can do that can help them get out there and talk to the people in the middle is going to be really key for them to understand what the middle is thinking instead of just guessing.

Sam also noted bringing people into the classroom who might have differing viewpoints to discuss issues could aid in developing listening skills among students and further develop their ability to understand both sides of issues. He suggested,

> …bring people into the classroom with different viewpoints. We always have a panel of three or four people that have different viewpoints on food production and what they eat and where it comes from and sometimes it hurts a little bit to hear what they have to say, but it's very, very important for those of us in ag to hear face-to-face what consumers are saying and thinking. Have a dialogue with them.

Ability to communicate through online media. The ability to utilize online media was the final theme that arose from the interview discussions. Kirsten provided an example activity for students to practice their online media communication abilities,

> …set up a fake Facebook account that you can make a group that's closed and private and test your students. Where you post either a meme or a comment attacking agriculture, attacking the food system, or attacking grocery prices, and blaming the farmer because prices are rising higher because the farmer wants to make more money. Give students a chance to see actual concerns that real people have and role-play in that situation in a closed Facebook group and see how they handle it.

Kirsten added that real-time online discussion skills could be practiced through weekly online discussions such as #AgChat. She described,

> Another thing you can encourage the students in that class is to… every Tuesday night that we do AgChat or food chat conversations on Twitter and you know of course sit in or participate or follow along with those hashtags.

Matt described the importance of punctuation, intonation, and word choice when communicating through online media. He offered the suggestion of having students evaluate archived conversations, arguments, and discussions to learn what worked and what did not work. Matt explained,

> …you break down whether it's a conversation from Twitter, a conversation on Facebook, comments, interactions on blogs. Really take a look at the importance of word selection, because that's the biggest challenge with social media. You do not have the ability to hear the tone in someone's voice or see the expression on their face and so the choice of words and language and punctuation become critical.

Becky explained the need for teaching students a more conversational type of writing style to be used on social media. She explained,

> One of the transitions that I have noted, with interns who have come out of ag communications programs, is a transition into a more approachable writing style. I know that as an ag communications alumni we are taught very technical writing. You know reporting style, research style, but that's simply not the type of writing that's going to cut it in advocacy. So more of the creative writing, the entertaining writing style…

> Morgin explained how more communicators needed experience with the live video-based social media tools. She explained,

> All of those video services like Periscope and Blab. These tools are much more important now, and people don't know how to use them well so they're not really effective….I think students should work through a scenario or a task where they plan out a post, and where they have to decide what to do with that video post.

CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

Increased The purpose of this study was to explore what competencies students enrolled in an undergraduate agricultural advocacy course needed to advocate for agriculture after graduation as perceived by agricultural advocates. Continued consumer skepticism regarding the production practices within the agricultural industry (Weatherel et al., 2003; Zimbelman et al., 1995) coupled with an increasing consumer interest in the food production system (Smith, 2015) has created a need to equip agricultural communicators with the skills and capabilities to disseminate information to a questioning and concerned public.

By understanding the current and past experiences of agricultural advocates, participants with and without agricultural backgrounds found advocating for agriculture helped to connect consumers and agricultural producers. This finding supports the previous literature that discussed an ill-informed audience has many questions and misunderstandings about agricultural products and processes (Funk & Raine, 2015; Ruth et al., 2015; Smith, 2014). Further, understanding the participants' current advocacy efforts helped the researchers to understand the methods of delivering a two-way conversation from producer to consumer. Similarly, to the previous literature, the participants indicated digital media and interpersonal communication strategies such as social media platforms, video streaming platforms, and blogging sites, provided opportunities to encourage a conversation about agriculture (Blackshaw & Nazzaro, 2004; Moore et al., 2015).

The second research question sought to discover the skills needed for graduates to effectively advocate for agriculture in their personal and professional lives. This research question resulted in four emergent themes: genuine conversation and listening skills, open mind, industry knowledge and connections, and the ability to communicate at a level of understanding. Overall, the emergent themes resulted in skills that emphasized the idea of an agricultural advocate engaging consumers in two-way communication, or more simply, a conversation that would result in a mutual understanding of the topic at hand (Grunig & Hunt, 1984). Supporting the theoretical framework of the two-way symmetrical model of communication, the emergent themes provide a baseline framework of the two-way model of communication. The foundation of the model is the genuine conversation and listening skills. The participants indicated these skills were the ability to have genuine conversations with consumers while actively listening to the questions, needs, and concerns of consumers. As seen in Grunig and Hunt's (1984) model, the ability to exchange information, knowledge, and opinions is crucial. The emergent themes of keeping an open mind and the ability to communicate at a level of understanding showed the importance for agricultural advocates to have an open mind and adjust their objectives as they engage in conversations both online and face-to-face. The two-way symmetrical model of communication encompasses the idea of the advocate to have the willingness to adjust their objectives, beliefs, and behaviors on account of the parties' opinions and situations (Thayer, 1968). As agricultural advocates follow the model, they must be willing to adjust and have an open mind when communicating with those with differing views. Further, these findings are consistent with Duncan and Moriarty's (1998) findings indicating a conversation and a relationship can be built through listening, informing, and answering. Thayer (1968) discussed how a mutual understanding could arise from mutual respect for the views of the consumers as well as the views of others within agriculture. According to the two-way symmetrical model, this mutual respect and exchange of opinions and knowledge can cultivate an environment of open dialogue and understanding (Grunig & Hunt, 1984; Thayer, 1968).

Further, some consumers often assume agriculturalists have an infinite knowledge of agriculture as a whole; therefore, students must be equipped with a specific knowledge base of their industry while also developing a network of agriculturalists. A network of agriculturalists from many disciplines allows communicators to have someone to reach out to when faced with questions regarding agricultural practices outside of their knowledge and experience base. Finally, research question two allowed us to better understand the importance of technical writing and speaking skills in communicating at a level of understanding for consumers. Speaking in industry jargon can only increase consumer skepticism and widen the knowledge gap between producers and consumers of agricultural products. These findings align with those of Cooper (2009) who suggested the two-way symmetrical model allows the communicator to adjust the way he or she communicates information based on the needs and behaviors of the receiver.

The participants' discussion indicated specific class assignments that could foster the development of these skills. Previous researchers have indicated academic programming must be structured to prepare students to communicate in a variety of ways (Corder & Irlbeck, 2016; Doerfert & Miller, 2006; Large, 2014). The findings from this study indicated a course should be designed to incorporate elements of two-way communication such as lessons in face-to-face communication, the development of listening skills, and the ability to communicate through online media. Lessons in face-to-face communication may allow students to gain experience in exchanging knowledge about agriculture through farm and industry tours, and practice in conversations using case studies of agricultural topics. Further, the participants indicated the development of listening skills as an important competency needed by an agricultural advocate. Duncan and Moriarty (1998) suggested listening skills were an important aspect of forming conversations and relationships. Using suggestions

from the participants, an assignment incorporating interviews with agricultural consumers to understand their knowledge base and analyzing panel discussions with individuals with differing viewpoints may allow students to gain an understanding of varying opinions, understanding, and knowledge of agricultural topics.

Students must also be equipped with the skills needed to communicate through online media. The findings supported the previous literature suggesting a strong knowledge base of social media platforms such as Facebook, Twitter, and Instagram as well as video streaming platforms was necessary (Corder & Irlbeck, 2016). Further, students must practice their online media writing skills. Traditionally, agricultural communications students have been trained to write using a more technical approach using research, technical, and AP style writing (Corder & Irlbeck, 2016); however, the participants indicated students should be able to use a conversational tone and a more creative approach when writing for online media.

Although these findings may be used to help develop a course structure for learning agricultural advocacy, the findings could be useful for agricultural communications practitioners and Extension personnel. Advocacy efforts are spreading across the agricultural field, and practitioners may use these to understand how a conversation develops between their organization and a public audience. Activities mentioned by the participants such as interviews with stakeholders, a more creative writing approach, and participating in conversations about agriculture may allow practitioners to gain an understanding of how stakeholders and the public responds to their message. Practitioners should use this knowledge to adapt their communications strategies to help their target audience gain a more mutual understanding of the topic at hand.

Future research should continue to examine the use of advocacy efforts by individuals and organizations involved in agriculture. A quantitative study should evaluate the most important factors when advocating for agriculture. Future research should be used to gain a deeper understanding of consumer knowledge. As noted in the previous literature, a deeper understanding of consumer perceptions of agriculture is needed to advocate for agriculture. This understanding can help agricultural communicators as they develop their messages to be sent to agricultural consumers. One study could identify agricultural and food industry buzzwords and their meaning to agricultural consumers. Once a course is developed on agricultural advocacy, a pre- and post-test should be conducted to understand how a student could respond to agricultural consumers on a given topic. This study could be qualitative in nature and should evaluate how a student responds to a topic at the beginning and end of the semester. The student should show progress in how they are able to communicate at a particular level of understanding, communicate with an open mind, and openly listen to the consumer, and, how they are able to creatively write. Finally, a quantitative pre- and post- test should be conducted in the agricultural advocacy course to determine students' increased knowledge of agricultural topics.

REFERENCES

Agriculture Proud. (2015). Retrieved from http://agricultureproud.com

Ary, D., Jacobs, L. C., Razavieh, A., & Sorensen, C. (2010). *Introduction to research in education.* Belmont, CA: Wadsworth.

Birks, M. J., Chapman, Y., & Francis, K. (2007). Breaching the wall: Interviewing people from other cultures. *Journal of Transcultural Nursing, 18*(2), 150-156. doi: 10.1177/1043659606298617.

Blackshaw, P., & Nazzaro, M. (2006). Consumer generated media (CGM) 101: Word-of-mouth in the age of web-fortified consumer (2nd ed.). *A Nielsen BuzzMetrics White Paper.* Retrieved from http://www.nielsen-online.com/downloads/us/buzz/nbzm_wp_CGM101.pdf

Blythe, D.L. (2015). Kids, Cows and Grass: Life on a Kansas Cattle Ranch. Retrieved from http://www.kidscowsandgrass.com.

Center for Food Integrity. (2014). Cracking the code on food issues: Insights from moms, millennials and foodies. Retrieved from http://s3.amazonaws.com/www.foodintegrity.org/wp-content/uploads/2015/08/CFI2014ResearchBook.pdf

Cooper, A. (2009). *Two-way communication: A win-win model for facing activist pressure: A case study on McDonalds and Unilever's responses to Greenpeace* (Doctoral dissertation). Retrieved from Ball State University database.

Corder, J., & Irlbeck, E. (2016). Agricultural communications skills, abilities, and knowledge desired by employers compared to current curriculum: A literary review. Paper presented at the Southern Association of Agricultural Scientists (Agricultural Communications Section) meeting, San Antonio, Texas.

Culbertson, H. M. (1989). Breadth of perspective: An important concept for public relations. *Public Relations Research Annual, 1*, 3-25. Retrieved from http://files.eric.ed.gov/fulltext/ED247578.pdf.

Denzin, N. K., & Lincoln, Y. S. (2001). *Handbook of qualitative research.* Thousand Oaks, CA: Sage.

Doerfert, D. L., & Miller, R. P. (2006). What are the agricultural industry professionals trying to tell us? Implications for university-level agricultural communications curriculum. *Journal of Applied Communications, 90*(3), 17-31.

Dooley, K. E. (2007). Viewing agricultural education research through a qualitative lens. *Journal of Agricultural Education, 48*(4), 32-42. doi:10.5032/jae.2007.04032

Duncan, T., & Moriarty, S. E. A communication-based marketing model for managing relationships, *Journal of Marketing, 62*(2), 1-13. doi 10.2307/1252157

Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry: A guide to methods.* Newbury Park, CA: Sage.

Common Ground. (2015). Find our common ground. Retrieved from http://findourcommonground.com

Folta, K. (2012). "Talk nerdy to me" about GMO food & science – A colorful adventure [Video file]. Available from http://janiceperson.com/agriculture/ag- awareness/gmo-food-scientists-talk-nerdy-to-me/

Fraser, D. (2001). The "New Perception" of animal agriculture: Legless cows, featherless chickens, and a need for genuine analysis. *Journal of Animal Science, 79*, 634-641.

Funk, C., & Rainie. (2015). Attitudes and beliefs on science and technology topics. *Pew Research Center.* Retrieved from http://www.pewinternet.org/2015/01/29/chapter-3-attitudes-and-beliefs-on-science-and-technology-top-ics/#vaccines-and-access-to-experimental-treatments-18-point-gap

Gaskell, G., & Bauer, M. W. (2000). *Qualitative researching with text, image, and sound: A practical handbook.* London: Sage Publications.

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology Journal, 29*, 75-92.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods, 18*(1), 59-82. doi: 10.1177/1525822X05279903.

Guion, L. A., Diehl, D. C., & McDonald, D. (2009). *Triangulation: Establishing the validity of qualitative studies.* Retrieved from http://edis.ifas.ufl.edu/fy394

Grunig J. E., & Hunt, T. (1984). *Managing public relations.* New York: Holt, Rinehart & Winston.

Greer, J., & Bruno, K. (1996). *Greenwash: The reality behind corporate environmentalism.* Third World Network. Environmentalism. Penang/Malaysia: Apex Press, 1996.

Janesick, V. J. (1998). *Stretching exercises for qualitative researchers*. Thousand Oaks, CA: Sage.

Krueger, R.A. & Casey, M.A. (2000). *Focus groups: A practical guide for applied research* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Lasswell, H. D. (1948). The structure and function of communication in society. *The communication of ideas, 37*, 215-228.

MacQueen, K. M., McLellan, K., Kay, K., & Milstein, B. (1998). Codebook development for team-based qualitative analysis. Cultural Anthropology Methods Journal, 10(12), 31-36. doi: 10.1177/1525822X980100020301

McLerran, E. (2015). *Texas Tech University's undergraduate agricultural communications students' experiences.* (Master's thesis). Texas Tech University, Lubbock, TX.

Morgan, A. C. (2010). Competencies needed by agricultural communication undergraduates: An industry perspective. *Journal of Applied Communications, 94*(1-2), 19-32.

Moore, M. L., Meyers, C., Irlbeck, E., & Burris, S. (2015). U.S. agricultural commodity organizations' use of blogs as a communications tool. *Journal of Applied Communications, 99*(2), 61-75. Retrieved from http://journalofapplied-communications.org/images/stories/issues/2015/jac_v99_n2_article5.pdf

Morsing, M., & Schultz, M. (2006). Corporate social responsibility communication: stakeholder information, response and involvement strategies. *Business Ethics: A European Review, 15*(4), 323-338.

Ruth, T. K., Gay, K. D., Rumble, J. N., & Rodriguez, M. T. (2015). Influences on undergraduate students' opinion toward genetically modified food. Paper presented at the national meeting of the *American Association of Agricultural Educators* conference, San Antonio, Texas.

Schramm, W. (1973), *Men, messages, and media: A look at human communication*. New York: Harper & Row.

Smith, R. (2014, July 3). Ag needs to improve communication efforts. Southwest Farm Press, p. 16.

Telg, R., & Irani, T. A. (2012). *Agricultural communications in action: A hands-on approach*. Clifton Park, NY: Delmar, Cengage Learning

Texas FFA Association. (2015). Agricultural advocacy. Retrieved from https://www.texasffa.org/lde-ag-advocacy

Thayer, L. O. (1968). *Communication and communication systems in organization, management, and interpersonal relations*. Richard D. Irwin, Inc.

The Udder Truth. (2016). Retrieved from www.uddertruth.org

Tucker, M., Whaley, S., & Cano, J. (2003). Agricultural education and agricultural communications: Striking a proper balance in the academy. *Journal of Agricultural Education, 44*(1), 22-30.

Weatherell, C., Tregear, A., & Allinson, J. (2003). In search of the concerned consumer: UK public perceptions of food, farming and buying local. *Journal of Rural Studies, 19*(2), 233-244. doi:10.1016/S0743-0167(02)00083-9

Zimbelman, R. G., Wilson, L. L., Bennett, M. B., & Curtis, S. E. (1995). Public image of animal agriculture in the United States. *Livestock Production Science, 43*(2), 153- 159. doi:10.1016/0301-6226(95)00040-R

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