

BRANDING THE PORK INDUSTRY: A CONTENT  
ANALYSIS OF INSTAGRAM POSTS USING  
#REALPIGFARMING

By

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Title of Study: **BRANDING THE PORK INDUSTRY: A CONTENT ANALYSIS OF INSTAGRAM POSTS USING #REALPIGFARMING**

Major Field: Agricultural Communications

Abstract: National Pork Board officials recognized a large gap in the connection between pork producers and consumers. The increased use and popularity of social media made social networking sites a popular avenue for consumers to find information about the pork industry. The National Pork Board launched the #RealPigFarming campaign to encourage and empower producers and others passionate about pig farming to use social media to connect with consumers. This study analyzed the predominant themes of captions and media used in Instagram posts containing #RealPigFarming during National Pork Month. The theoretical framework of this study is branding. Social media plays a role in determining brand identity through user-generated content. The study employed quantitative content analysis to meet the research objectives. The researcher manually gathered 598 Instagram posts containing #RealPigFarming and developed a codebook and code sheet for the posts. Three coders were trained to use the codebook and evaluated posts in the data set for descriptive characteristics, photo and video contents, themes of media, and themes of captions. Swine production was the predominant theme across 2019 and 2020 posts while human nutrition content was not prioritized by users. Negative posts in the category of animal abuse also surfaced, specifically in video content. Results indicate pork industry organizations and stakeholders should use Instagram to reach the next generation of consumers. Predominant themes of captions and media from this study can inform social media practitioners content creation strategy. While this hashtag was effective in disseminating information related to swine production, those advertising content related to pork nutrition should employ another strategy or campaign in their marketing efforts. Future research should analyze engagement associated with the content categories used in this study and determine if any new topics have arisen since October 2020. Future research should also be done to determine the type of pork nutrition content consumers are looking for and what kind of content they will engage with. This study could also inform similar studies across more commodity groups.

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## CHAPTER I

### INTRODUCTION

Social media refers to a platform where user-generated information and opinions are shared and discussed over digital networks (Preeti & Gupta, 2018). Using this online format, users can create online communities to share information, ideas, personal messages, and other content (Preeti & Gupta, 2018). Social networking sites provide the platform for individuals to connect, produce, and share content online (Boyd & Ellison, 2007).

Organizations employ social media as a means of connecting users with their brand and shape the brand's image (Vernuccio, 2014). Social networks represent a natural technological platform for marketing because of the access these sites provide to a large number of users across various communities (Cvijikj & Michahelles, 2011). Cvijikj and Michahelles (2011) define social media marketing as the intentional influencing of consumer-to-consumer communications by professional marketing techniques.

According to Keller and Fay (2012), marketers have an increased reliance on and interest in “delivering brand-related content consumers will share with one another as a way of extending the reach of a message and to add to an implicit consumer endorsement of the brand associated with the content” (p. 459). Much of the research devoted to social media usage focuses on networking and marketing, but another way users employ these

platforms is to find information (Kim et. al., 2014). As consumers looked to social media to find more information about pig farming, they were met with content from groups such as the Humane Society of the United States (HSUS), whose platform had more than a 100-fold increase in its Twitter following between 2009 and 2014 (C. Masker-King, personal communication, November 16, 2021).

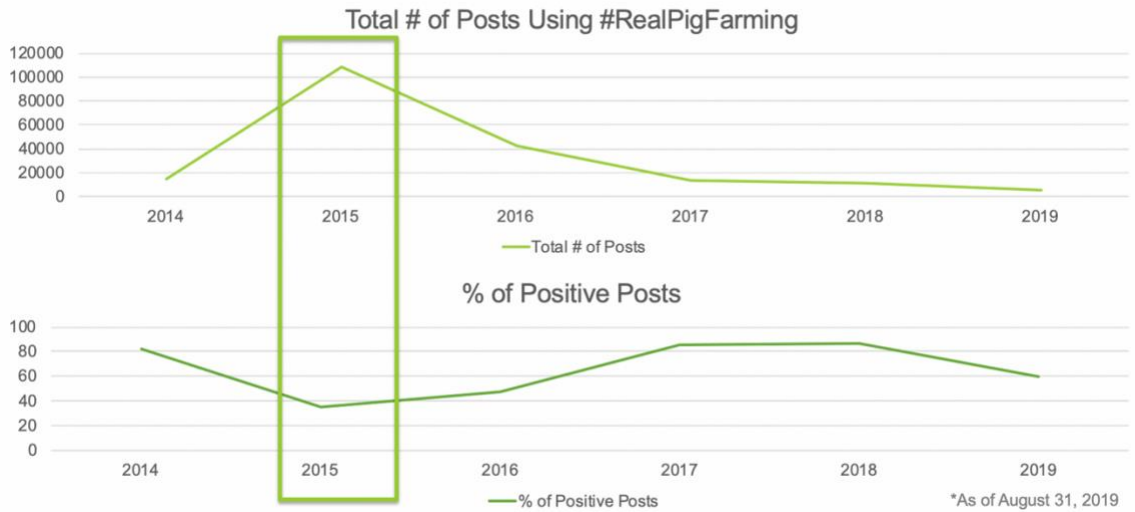
At the same time, National Pork Board officials recognized a large gap in the connection between pork producers and consumers, and they realized the damage this distance could do to the reputation of the pork industry (C. Masker-King, personal communication, November 16, 2021). As a result, the Pork Checkoff, managed by National Pork Board officials, launched the #RealPigFarming campaign in July 2014 to encourage and empower producers and others passionate about pig farming to use social media as a platform for meaningful, impactful conversations with consumers about what happens on their farms (Pork Magazine, 2016). According to the Real Pig Farming mission statement, “The #RealPigFarming campaign was born out of a need to engage producers in sharing stories from their farms and contributing to online conversation surrounding pork production” (C. Masker-King, personal communication, November 16, 2021). The use of the hashtag symbol (#) before RealPigFarming makes the phrase searchable across social media posts and, therefore, easier to follow conversations related to this topic (Pork Magazine, 2016). Prior to the #RealPigFarming campaign, producers and state pork associations advocating for swine production did not have a common theme to unite around, so messages on social media appeared disjointed and did not effectively communicate core messages (C. Masker-King, personal communication, November 16, 2021).

Since its 2014 inception, this campaign has garnered much attention. As of 2018, #RealPigFarming had produced more than 75,000 positive public posts across Facebook, Instagram, and Twitter (Pork Checkoff, 2019). The Pork Checkoff promoted the use of this hashtag with #RealPigFarming Student Social Forces teams from 2014 to 2019. These teams consisted of 12 to 13 college students selected based on their involvement in the pork industry and communication skills. The teams were active on social media for six months and were encouraged to use #RealPigFarming as advocates for the pork industry (Shike, 2019).

After the 2014 inception of the #RealPigFarming campaign, a large increase occurred in the total number of posts using #RealPigFarming followed by a steady decline through 2019 (C. Masker-King, personal communication, November 16, 2021). During this decline, fewer posts were being produced but a higher percentage of those posts were considered positive for the pork industry (C. Masker-King, personal communication, November 16, 2021). The social media impressions #RealPigFarming posts achieved were highest in 2015 and then spiked again in 2018 because of an increase in engagement during National Pork Month in October (C. Masker-King, personal communication, November 16, 2021). Figure 1 and Figure 2 depict a visual representation of the trends.

### **Figure 1**

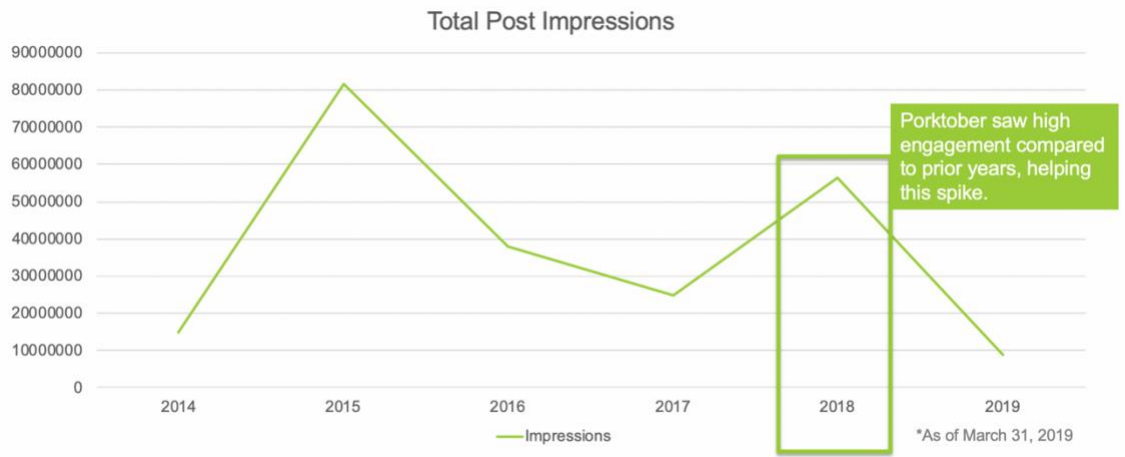
*Social Media Posts Using #RealPigFarming*



*Note.* The figure shows the total number of social media posts using #RealPigFarming and the percent of positive posts using #RealPigFarming. Adapted from C. Masker-King, personal communication, November 16, 2021.

**Figure 2**

*Impressions of Social Media Posts Containing #RealPigFarming*



*Note.* The figure shows the total number of post impressions with social media posts that used #RealPigFarming. Adapted from C. Masker-King, personal communication, November 16, 2021.

After 2019, the executives at the National Pork Board adjusted the strategic plan and the #RealPigFarming campaign shifted to support the updated plan; in 2020, the National Pork Board updated the mission statement of #RealPigFarming (C. Masker-King, personal communication, November 16, 2021). The new mission statement included adjusted verbiage: “The #RealPigFarming campaign evolved to engage producers in sharing stories from their farms and contributing to online conversation surrounding pork production and environmental sustainability” (C. Masker-King, personal communication, November 16, 2021).

The National Pork Board ceased the promotion of #RealPigFarming starting in 2019 (C. Masker-King, personal communication, November 16, 2021). The last Pork Checkoff Facebook post containing #RealPigFarming was posted on December 24, 2019 (The Pork Checkoff, 2019). The last National Pork Board Instagram post containing #RealPigFarming was posted on October 12, 2019 (National Pork Board, 2019). The National Pork Board removed all #RealPigFarming affiliations such as the website, [www.realpigfarming.com](http://www.realpigfarming.com), and social media pages, including Facebook, Instagram, Twitter, and YouTube in March 2020 (C. Masker-King, personal communication, February 7, 2021). Having all organized accounts and pages removed means all #RealPigFarming content posted since is organic and user-generated (Luca, 2015).

### **Statement of the Problem**

The National Pork Board’s support of the #RealPigFarming campaign provided insight into the reach and positive impressions of posts containing this hashtag, but limited research is available on the specific text and media used in social media posts containing #RealPigFarming. Also, little if any research is available on the use of

#RealPigFarming after the National Pork Board stopped promoting the use of this hashtag.

### **Purpose and Objectives**

The purpose of this study was to determine the predominant themes of captions and media used in Instagram posts containing #RealPigFarming during National Pork Month. The research objectives guiding this study were as follows:

1. to describe the selected characteristics (number of likes, video views, unique users, number of photos, number of videos, photo content, video content, caption themes, media themes) of October 2019 and October 2020 Instagram posts containing #RealPigFarming;
2. to compare the types of photos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming;
3. to compare the content of videos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming;
4. to compare the themes that surfaced from the texts used in October 2019 and October 2020 Instagram posts containing #RealPigFarming; and
5. to compare the themes that surfaced from the media used in October 2019 and October 2020 Instagram posts containing #RealPigFarming.

### **Scope of the Study**

This study examined Instagram posts containing #RealPigFarming from October 2019 and October 2020.

## CHAPTER II

### REVIEW OF LITERATURE

Chapter II provides a review of literature organized into six sections: Breadth and Impact of the U.S. Pork Industry; Social Media Impact; Instagram; Social Media Marketing; Theoretical Framework; and Content Analysis Methodology.

#### **Breadth and Impact of the U.S. Pork Industry**

Pig farms are located in all 50 states, but the five with the highest inventory of hogs and pigs are as follows:

1. Iowa (23 million)
2. Minnesota (8.6 million)
3. North Carolina (8 million)
4. Illinois (5.2 million)
5. Indiana (4.15 million). (USDA, 2022)

Several approaches are used to raise and market hogs, including small-scale farms, large-scale farms, and those whose production practices serve niche markets (National Pork Board, 2022). Farms also can be separated by pig growth stage: (a) farrow-to-finish, includes all stages

of pig growth from breeding to finishing; (b) farrow-to-nursery, specializes in breeding sows and raising feeder pigs; (c) farrow-to-wean, breeding herds and raise pigs until they are weaned; (d) wean-to-finish, purchase weaned pigs and grow them to market weights; (e) finishing, purchase feeder pigs and raise them until they reach market weight (National Pork Board, 2022).

### ***Economic Impact***

The pork industry contributes significantly to U.S. economic activity through its purchase of inputs such as feed, equipment, buildings, land, utilities, trucking, and labor (National Pork Producers Council, 2022). Feed cost accounts for 56% of total U.S. pork production costs and the average total feed cost is \$12.74 billion (National Pork Producers Council, 2022).

The U.S. pork industry is also a major contributor to both the agricultural economy and the overall U.S. economy (National Pork Producers Council, 2022). The sales generated from hog sales and pork processing support a total economic contribution of more than \$35 billion in personal income, over \$57 billion in value-added Gross Domestic Production (GDP), and more than 610,000 jobs in the U.S. economy (National Pork Producers Council, 2022).

### ***Size and Scope of the Industry***

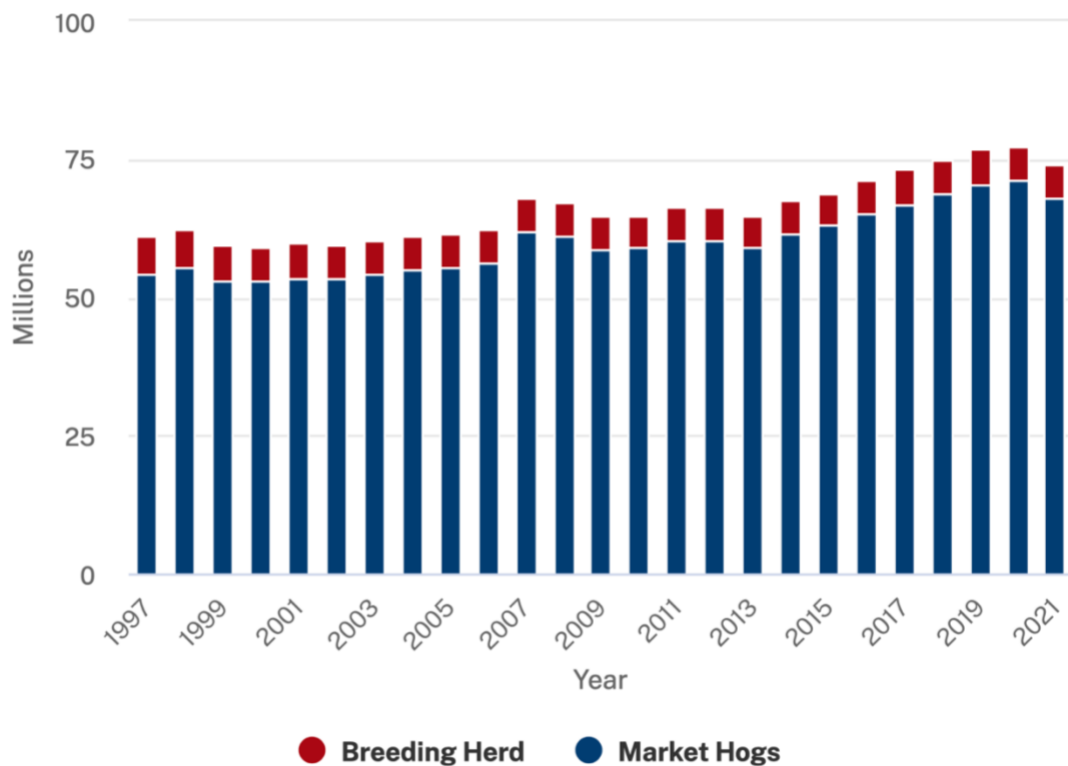
In 2019, pork was recorded as the second highest-produced meat product in the world (*World Food and Agriculture – Statistical Yearbook*, 2021). In the United States, pork is the third-most consumed meat behind chicken and beef (Kuck & Schnitkey, 2021).



In 2021, 66,439 U.S. pork producers marketed more than 140 million hogs (National Pork Producers Council, 2022). Since 2000, hog inventories have trended upward from 59.11 million hogs to 74.15 million in December 2021 (National Pork Producers Council, 2022). There were 68.02 million market hogs and 6.12 million hogs in the breeding inventory in December 2021. Figure 3 shows the breakdown of breeding and market hogs in the total hog inventory from 1997 to 2021.

**Figure 3**

*U.S. December Hog Inventory, Million Head*

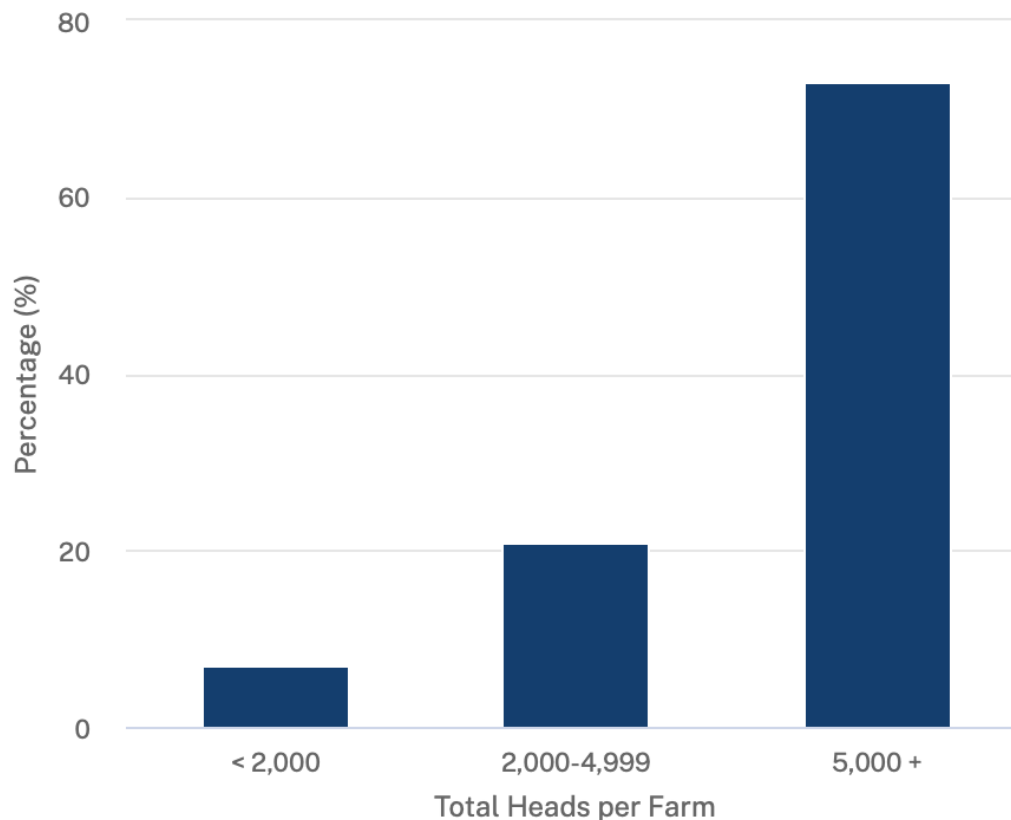


*Note.* This figure shows the U.S. hog inventory for December in million head. Adapted from *Hog Farms and Production*, by the National Pork Producers Council, 2022 (<https://nppc.org/the-pork-industry>). In the public domain.

According to the NPPC (2022), approximately 7% of U.S. hogs are on farms with less than 2,000 head in total inventory, while 93% are on farms with 2,000 or more hogs (National Pork Producers Council, 2022). Of note, 96% of U.S. hog farms are family-owned and those family farms contribute to 81% of all hog inventories. Figure 4 depicts the 2021 hog inventory distribution.

**Figure 4**

*U.S. Hog Inventory Distribution*

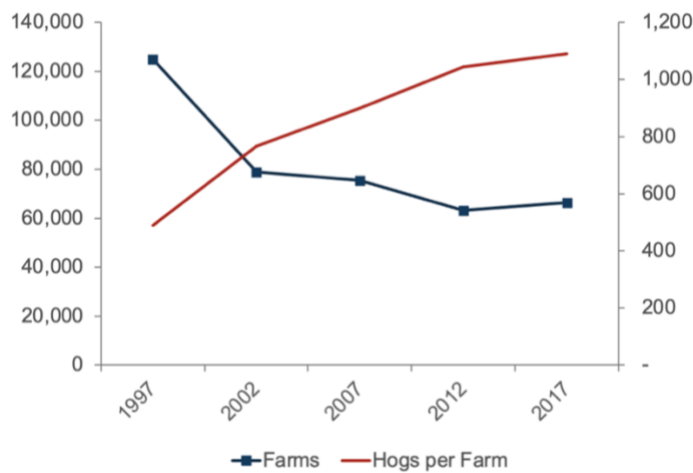


*Note.* Figure 4 shows the U.S. hog inventory distribution for 2021. Adapted from *Hog Farms and Production*, by the National Pork Producers Council, 2022 (<https://nppc.org/the-pork-industry>). In the public domain.

From 2012 to 2017, the number of hogs per farm increased while the number of total farms decreased (USDA, 2017). Figure 5 shows the shift from 1997 to 2017, which is the most current data available.

**Figure 5**

*U.S. Hog Farms and Hogs per Farm*



*Note.* Adapted from *Hog Farms and Production*, by the National Pork Producers Council, 2022 (<https://nppc.org/the-pork-industry>). In the public domain.

Farm and ranch families comprise less than 2% of the U.S. population so a large number of people who consume pork are distantly removed from production agriculture (American Farm Bureau Federation, 2021). In the 20<sup>th</sup> century, the majority of U.S. agriculture took place on small, diversified farms in rural areas where more than half of the population lived (United States Department of Agriculture, 2022). As agriculture transitioned into the 21<sup>st</sup> century, a shift occurred to a smaller number of larger, more

specialized farms in rural areas where less than 25% of the population lives (USDA, 2022).

### ***Animal Welfare Concerns***

As the shift to larger farms occurred, popular press created a negative depiction of modern agriculture (Croney et al., 2012). The term *factory farm* was coined by Ruth Harrison in her 1964 book *Animal Machines* where she depicted large-scale agriculture as irresponsible, unsustainable, unpalatable, and unsafe (Harrison, 1964). The rise in negativity surrounding food production brought with it consumer inquiry to learn more about how food is produced and a concern for animal welfare (Singer & Mason, 2006). Singer and Mason (2006) defined the term *ethical consumerism* as an interest in the way food is produced, the practices employed, and concern for low environmental impact, high animal welfare, and optimal worker conditions. These ideals have been developed in Western nations as consumers in these countries are drawn toward food production systems that fulfill their perceptions of these ideals (Harper & Makatouni, 2002; Singer & Mason, 2006).

### ***Scientific and Social Consideration***

As consumers seek information on which to base their decisions, they likely find overwhelming amounts of information in some areas, shortages in others, and conflicting interpretations of the information they find (Swanson, 2008). Many are likely to turn to science because the discipline is considered rational, objective, and value-free (Croney et al., 2012). However, the topic of animal welfare is a scientific issue and a social issue full of opinions and values (Croney et al., 2012). Decisions regarding these concepts cannot

be made on the basis of science alone (Fraser, 2000; Lackey, 2007; Tannenbaum, 1991; Thompson, 1993).

While scientists can provide information about welfare topics such as swine housing systems by quantitatively measuring the animals' behavior, physiology, health, and productivity, the interpretation of these measures is ultimately based on values (Fraser, 1995). An example of this can be seen through the difference in viewpoints of a pork producer and an animal protection group (Croney et al., 2012). Producers tend to focus on information about production and health while animal protection groups tend to focus on behavioral outcomes (Croney et al., 2012). When presented with the same scientific information regarding housing systems, producers are likely to favor housing systems that promote good health and production while animal protection groups would be more likely to favor those that allow for more movement and mobility despite a potential loss in the animals' health status and productivity (Croney et al., 2012).

### ***Misinformation and Misrepresentation***

A more clear-cut, quantifiable method of evaluating animal welfare would aid in these conversations, but several attempts to develop quantitative methods for risk assessment still included some type of value judgment (Fraser, 1995). Animal welfare differs from many other scientific concepts, such as temperature and metabolizable energy, because it cannot be quantified without invoking value notions to determine what is better or worse for an animal (Fraser, 1995).

This subjectivity leaves room for scientific information to be misrepresented to advance particular agendas (Croney et al., 2012). One of those misrepresentations takes the form of using selective quotations to present the opinions of scientists or other experts

so they appear to support the perspective of the advocates (Croney et al., 2012).

According to Croney (2012), the public sees academic experts as the most credible source of information regarding animal welfare topics. Therefore, parties that may be considered less trusted rely on using scientists to make their case for them (Croney et al., 2012).

### **Social Media Impact**

The term *social media* references the wide range of Internet-based and mobile services that allow users to participate in online exchanges (Dewing, 2010). Social media is used for sharing and discussing user-generated information among people in the form of opinion, video, audio, and multimedia shared via digital networks (Preeti & Gupta, 2018). Through online interactions, users can create online communities to share information, ideas, personal messages, and other content (Preeti & Gupta, 2018). Social media platforms allow people to share and exchange media, news, thoughts, and discussions across large numbers of people (Dewing, 2010). According to Preeti and Gupta (2018), social media are tools of electronic communication that allow users to interact, create, share, retrieve, and exchange information and ideas in any form.

### ***Forms of Social Media***

The internet services often associated with social media include blogs, wikis, social bookmarking, social network sites, status-update services, virtual world content, and media-sharing sites (Dewing, 2010). Social network sites can be defined as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (Boyd & Ellison, 2007, p. 211). The ability to allow users to articulate

and make their social network visible is what makes social network sites unique (Boyd & Ellison, 2007). Participants are not necessarily looking to meet new people but are primarily connecting with those who are already part of their extended social network (Boyd & Ellison, 2007). These sites, such as Facebook, employ many diverse technical features, but their backbone consists of visible profiles that display a list of friends, who are also users of the system, and profiles where individuals can display information about who they are (Boyd & Ellison, 2007). Most sites also provide a mechanism for users to communicate with one another through comments and private messages (Boyd & Ellison, 2007).

Status-update services, such as Twitter, allow people to share short updates and see updates created by others (Dewing, 2010). Media-sharing sites differ slightly from the two aforementioned categories and are defined as sites that allow users to post videos or photographs (Dewing, 2010). Examples of media-sharing sites are YouTube, Pinterest, and Instagram.

Within these categories, overlap exists. For example, Twitter is a social network site and a status-update service. Facebook is typically classified as a social network site, but users also can share photographs, which is classified as a media-sharing site. Similarly, Pinterest can be considered a media-sharing site, but users also can follow other people, which also falls under a social network site (Dewing, 2010).

### ***Social Media Evolution***

The social media era began when SixDegrees.com launched in 1997 and was the first recognizable social network site (Boyd & Ellison, 2007). The website combined features from several previously existing platforms to connect users through profiles,

friend lists, and messaging. The inception of profiles began with dating sites and AOL Instant Messenger (AIM) and Internet Chat Query (ICQ) buddy lists supported the friend list feature (Boyd & Ellison, 2007).

From 1997 to 2000, the internet saw a large influx of people, but many users did not have extended networks of friends online yet (Boyd & Ellison, 2007). A large number of social network sites were launched in 2002 and later (Dewing, 2010). While many of these sites saw a quick rise and fall, others developed niche communities, and in the late 2000s, social media had gained widespread acceptance and large numbers of users (Dewing, 2010).

Most social network sites took the form of profile-centric sites while some focused on business people (Boyd & Ellison, 2007). Friendster was one of the first social network sites designed to help friends-of-friends meet (Boyd & Ellison, 2007). The platform gained popularity so quickly its servers were unable to handle the large onset of users and the site faltered regularly (Boyd & Ellison, 2007). Friendster also began restricting the activities of users, and many early adopters left because of the technical difficulties, social collisions, and broken trust with the site (Boyd, 2006).

The fall of Friendster led many users to flock to MySpace (Boyd, 2006). The platform differentiated itself by listening to user needs and demands and updating the site accordingly (Boyd, 2006). The personalization abilities of users attracted both the early adopters of social sites and a new audience of social networking-teenagers (Boyd & Ellison, 2007). The major users of MySpace were largely classified into three populations: musicians/artists, teenagers, and the post-college urban social crowd (Boyd & Ellison, 2007).



### ***The Rise and Decline of Facebook***

Facebook began in early 2004 and creators differentiated the platform from other social networking sites by designing it to support distinct college networks only (Boyd & Ellison, 2007). When the platform first launched, users needed a harvard.edu email address to join. The platform then expanded to include other universities; in 2005, it included high school students, professionals inside corporate networks, and, eventually, everyone (Boyd & Ellison, 2007).

Over time, Facebook became the most popular social networking site (Alhabash & Ma, 2017). According to Facebook (2016), as of 2016 the platform had more than a billion active daily users and more than 1.65 billion monthly active users. Since Facebook began with only college and high school users until its expansion to include corporate employees in 2005, the audience predominately consisted of teenagers and young adults during the early years (Boyd & Ellison, 2007).

From 2005 to 2015, researchers saw an increase in social networking site users ages 18 to 29 years old (Pew Research Center, 2021). In the early years of Pew's study, Facebook was the main platform used by this age group. However, we saw a shift away from Facebook beginning in 2011. From 2011 to 2014, more than 11 million young people left Facebook (Matthews, 2014). While Facebook remains popular among young adults, teenagers migrated to Instagram and Snapchat (Alhabash & Ma, 2017).

### ***Demographic Trends***

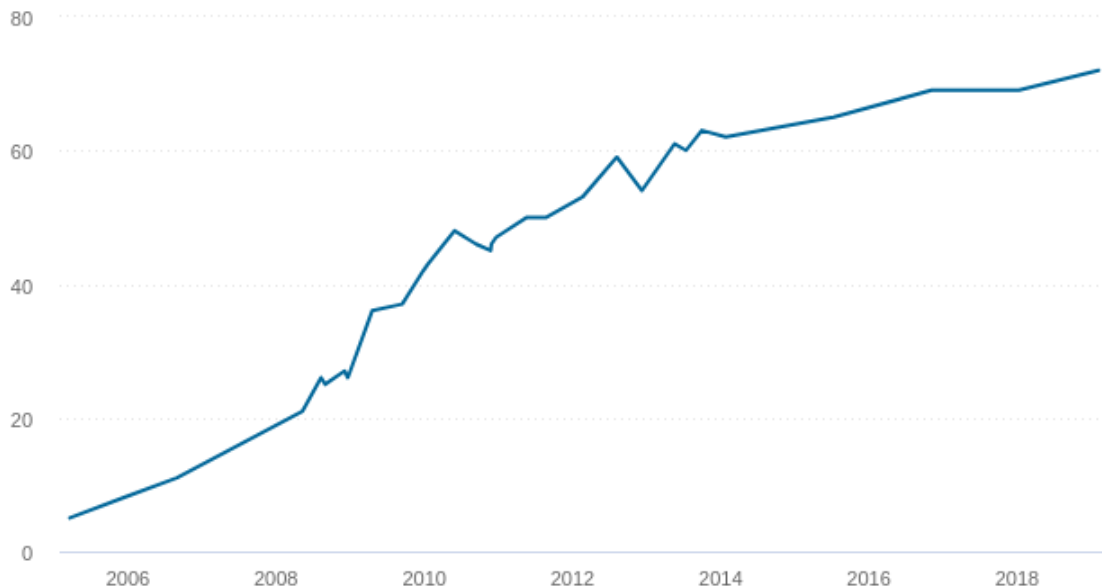
In the early years of social networking, many site users predominately consisted of college students and young professionals (Boyd & Ellison, 2007). Today, around

seven-in-10 Americans use social media to connect with each other, engage with content, share information, and entertain themselves (Pew Research Center, 2021).

In 2005, only 5% of American adults used at least one social media platform (see Figure 6). From 2005 to 2011, the number of American adult users rose to half of all Americans, and as of 2021, 72% of the public used some type of social media (Pew Research Center, 2021).

**Figure 6**

*Social Media Use*

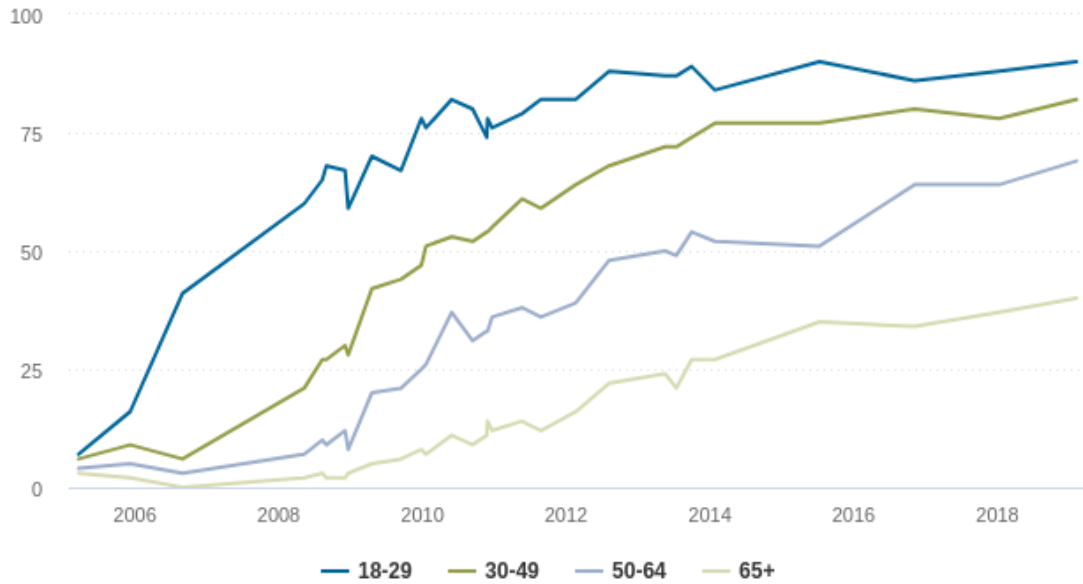


*Note.* The figure shows the percent of U.S. adults who use at least one social media site. The source for this data is surveys of U.S. adults conducted by Pew Research Center from 2005 – 2021. Adapted from 2021 *Social Media Fact Sheet*, by Pew Research Center, 2021 (<https://www.pewresearch.org/internet/fact-sheet/social-media>). In the public domain.

Though original social media users were largely young adults, usage by older adults has increased in recent years (Pew Research Center, 2021). Figure 7 provides a visual usage by age.

**Figure 7**

*Social Media Use By Age*



*Note.* The figure shows the percent of U.S. adults who use at least one social media site, by age. The source for this data is surveys of U.S. adults conducted by Pew Research Center from 2005 – 2021. Adapted from 2021 *Social Media Fact Sheet*, by Pew Research Center, 2021 (<https://www.pewresearch.org/internet/fact-sheet/social-media>). In the public domain.

While YouTube and Facebook are the most widely used online platforms for the population as a whole, smaller groups of Americans use sites such as Twitter, Pinterest, LinkedIn and Instagram (Pew Research Center, 2021). Users of each platform vary by factors such as age, gender, and educational attainment (Pew Research Center, 2021).

**Table 1***Social Media Platform Use by Demographic Group*

| Characteristic            | Facebook | Instagram | LinkedIn |
|---------------------------|----------|-----------|----------|
| All Respondents           | 69%      | 40%       | 28%      |
| <b>Gender</b>             |          |           |          |
| Men                       | 61%      | 36%       | 31%      |
| Women                     | 77%      | 44%       | 26%      |
| <b>Age Group</b>          |          |           |          |
| Ages 18-29                | 70%      | 71%       | 30%      |
| Ages 30-49                | 77%      | 48%       | 36%      |
| Ages 50-64                | 73%      | 29%       | 33%      |
| Ages 65+                  | 50%      | 13%       | 11%      |
| <b>Ethnicity</b>          |          |           |          |
| White                     | 67%      | 35%       | 29%      |
| Black                     | 74%      | 49%       | 27%      |
| Hispanic                  | 72%      | 52%       | 19%      |
| <b>Gross Income Level</b> |          |           |          |
| < \$30,000                | 70%      | 35%       | 12%      |
| \$30,000-\$49,999         | 76%      | 45%       | 21%      |
| \$50,000-\$74,999         | 61%      | 39%       | 21%      |
| \$75,000+                 | 70%      | 47%       | 50%      |
| <b>Education</b>          |          |           |          |
| ≤ High school             | 64%      | 30%       | 10%      |
| Some college              | 71%      | 44%       | 28%      |
| College graduate          | 73%      | 49%       | 51%      |
| <b>Community Size</b>     |          |           |          |
| Urban                     | 70%      | 45%       | 30%      |
| Suburban                  | 70%      | 41%       | 33%      |
| Rural                     | 67%      | 25%       | 15%      |

*Note.* This table shows the percent of U.S. adults in each demographic group who say they ever use Facebook, Instagram or Twitter. Adapted from 2021 *Social Media Fact Sheet*, by Pew Research Center, 2021 (<https://www.pewresearch.org/internet/fact-sheet/social-media>).

Just as young adults led the charge to platforms like Facebook and Twitter nearly two decades ago, trends showed they may be the first to leave and try something new (Duncan, 2016). Duncan (2016) cites several reasons teenagers and other young people left Facebook and opted for other social networking platforms. Those reasons included the older demographics' increased social media presence, permanence of photos and posts on Facebook, and to maintain separation between personal and private life (Duncan, 2016). In 2021, a University of Minnesota extension specialist found YouTube had become the most popular social media site among teens with 85% of 13- to 17-year-olds using the platform while 72% use Instagram, 69% use Snapchat, 51% use Facebook and an estimated 69% are monthly TikTok users (Dworkin, 2021).

### **Instagram**

Instagram launched in October 2010 as a social media app that uses images as the primary means of communication. The name is a combination of the words “instant” and “telegram” (Huang & Su, 2018). Users can share posts in the form of images, videos, carousels, and stories (Instagram, 2022). The platform provides users a means of capturing and sharing moments with friends through a series of pictures and/or videos (Hu, 2014).

Instagram requires posts to contain at least one type of media in the form of photo or video (Instagram, 2022). An example Instagram post is shown in Figure 8. Users can add up to 10 types of media in the form of photos, videos, or a combination of both (Instagram, 2022). The platform also provides filters and editing capabilities for users to edit images if they choose (Hu, 2014). Instagram also allows users to add captions, hashtags, and tags or mentions of other users with the @ symbol (Hu, 2014).

### Figure 8

Example Instagram post



Users can follow other users of the platform (Hu, 2014). Users following an account are known as the user's *followers* (Instagram, 2022). According to Hu (2014), "Instagram's network is asymmetric, meaning that if a user *A* follows *B*, *B* need not follow *A* back" (p. 596). Users can change their privacy preferences to allow their posts to be viewable only by the user's followers (Instagram, 2022). When profiles are set to

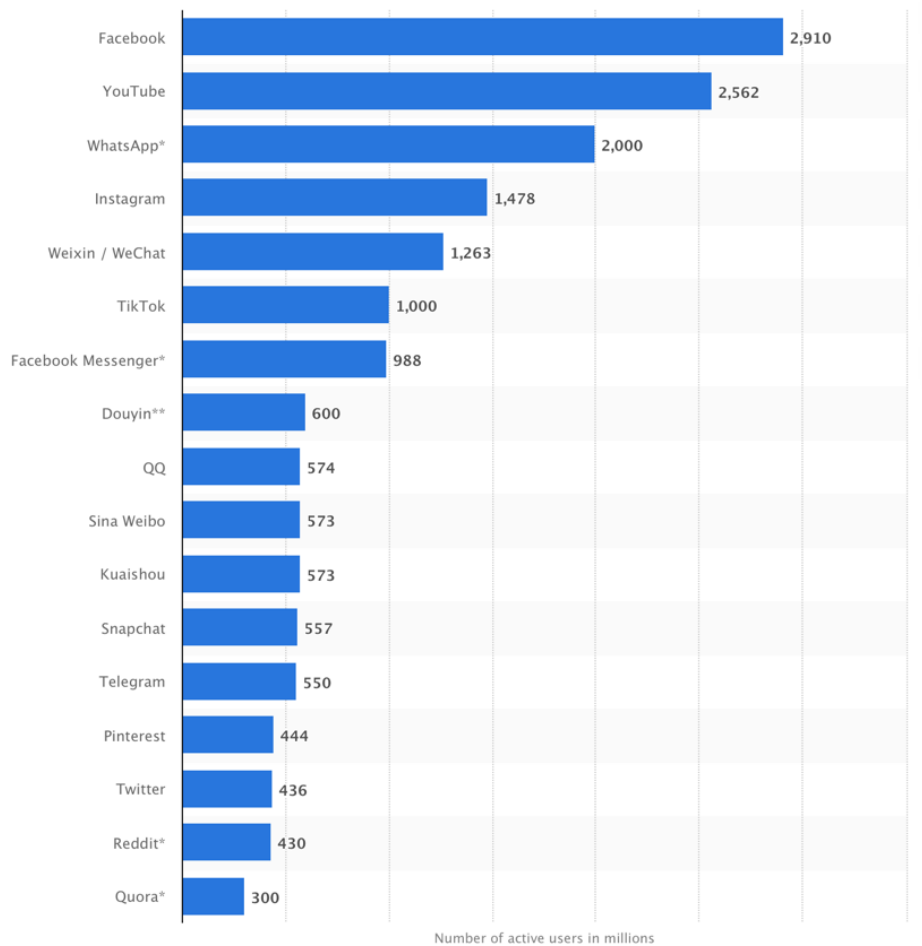
private, users must request to follow private profiles and receive approval from the profile owner to view posts (Instagram, 2022). Instagram profiles are automatically set to public, which means they are visible to anyone using [instagram.com](https://www.instagram.com) or the Instagram app (Hu, 2014). Users can to change their privacy settings at any time (Instagram, 2022).

### *Instagram Usage*

As of 2021, more than 4.26 billion people were using social media worldwide (Dixon, 2022c). Between the 2010 launch and 2013, Instagram attracted more than 150 million active users with an average of 55 million photos uploaded per day (Hu, 2014). Instagram reached 1 billion users in June 2018 and grew to 2 billion active users worldwide in December 2021 (Dixon, 2022b). Since its 2010 inception, Instagram has climbed to the fourth-ranked social network (Dixon, 2022a). As shown in Figure 9, Facebook is still the leading platform, but Instagram has overtaken several of its predecessors including Twitter and Pinterest (Dixon, 2022a).

**Figure 9**

*Most Popular Social Networks Worldwide as of January 2022*



*Note. Adapted from Most Popular Social Networks Worldwide as of January 2022,*

*Ranked by Number of Monthly Active Users, by Statista 2022*

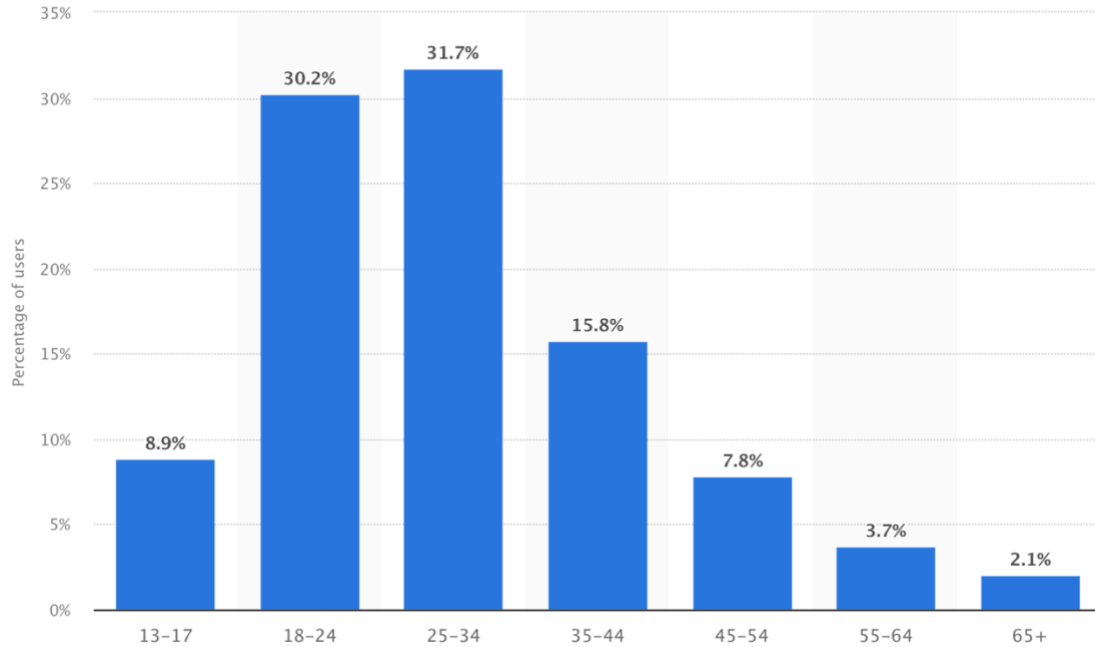
(<https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>). In the public domain.

In 2022, 25- to 34-year-olds made up the biggest population of Instagram users followed by 18- to 24-year-olds (Dixon, 2022b). Figure 10 shows the distribution of Instagram users by age group.



**Figure 10**

*Distribution of Instagram Users Worldwide as of April 2022, by age group*



*Note.* Adapted from *Distribution of Instagram Users Worldwide as of April 2022*, by Statista 2022 (<https://www.statista.com/statistics/325587/instagram-global-age-group/>).

In the public domain.

Visualized communication has become the most favored way of communication for this era of young adults (Huang & Su, 2018). In the U.S., nearly 60% of Instagram users are between the ages of 18 and 29 and the majority are female (Pew Research Center, 2021). Huang and Su (2018) found 42% of participants in their study spent more than one hour on Instagram every day. Participants also expressed strong agreement that they used the platform to “relax and kill time” (Huang & Su, 2018, p. 9).

Motives for young people's Instagram usage stems from the social function of the platform as it enables users to connect which helps relieve anxiety and tension (Huang & Su, 2018). While Facebook is used more for developing relationships, Instagram is more for personal use (Marcus, 2015). Therefore, Instagram users devote a lot of time and effort to their image in an effort to obtain gratification through likes and positive comments (Huang & Su, 2018). Instagram uses the general need to pursue social validation, an especially important concept for teenagers and young adults, and provides users a unique sense of satisfaction (Brewer & Roccas, 2001). Huang and Su's 2018 study, they discovered the main motive of young adult's Instagram usage was "to look at posts, particularly for the sake of social interactions and diversions" (p. 8).

Similarly, Alhabash and Ma (2017) found entertainment and convenience were the top two motivations for college students Instagram use. Entertainment was the top motive followed by convenience, medium appeal, passing time, self-expression, self-documentation, social interaction, and information sharing, respectively (Alhabash & Ma, 2017). In Chen's 2018 study, college-aged participants mentioned browsing Instagram between classes, during work breaks, or whenever they had free time (Chen, 2018).

### **Social Media Marketing**

The rise of social media has created an avenue for friends to connect and now offers multiple ways for marketers to reach and engage with consumers (Appel et al., 2020). Businesses are noticing the value social media can provide in efforts to increase brand popularity, facilitate word-of-mouth communication, provide support for consumers, and create brand trust (Ali, 2011; Ballantine & Stephenson, 2011; Chen, et al., 2011; de Vries, et al, 2012; Wu, et al., 2010). Trusov et al (2009) and Stephen and

Galak (2012) explored the usefulness of social media for marketing and found some interactions positively impacted marketing outcomes. Social media marketing strategies, such as refer a friend features and product discussions, led to new customer acquisition and sales (Stephen & Galak, 2012; Trusov et al., 2009). According to Hajli (2014), reviews are one of the key elements that emerged from social media. Reviews proved to be one of the best methods for developing brand trust as consumers rely on peers to develop or reject trust in a business (Hajli, 2014). In his 2014 study, Hajli found social media increased the level of trust in consumers and encouraged intention to buy through social networking sites.

### ***The Future of Social Media Marketing***

Understanding what users do on social media and how they use each platform has been crucial to better understand social media marketing strategies (Appel et al., 2020). Word of mouth has historically been the main element considered in social media marketing (Lamberton & Stephen, 2016). In addition to word of mouth, the current social media environment lends three themes to consider for the immediate future of marketing: (a) omni-social presence, (b) the rise of influencers, and (c) trust and privacy concerns (Appel et al., 2020).

Social media intersects with almost every aspect of a consumer's life through social interactivity in domains such as travel, work, food, music, and more (Appel et al., 2020). The reach of social media extends beyond each platform as more websites, applications, and operating systems employ social media integrations (Appel et al., 2020). These integrations combined with social media platforms' broader array of functionalities and services suggest today's consumers live in "an increasingly omni-

social world” (Appel et al., 2020 p. 82). According to Appel et al., (2020), the omni-social nature of the current environment suggests every step of the consumer’s decision-making process is prone to social media influence. Another indication of the omni-social phenomenon is the way social media is shaping cultures across the world (Appel et al., 2020). This is evidenced through influencers who have their own TV shows and product lines and made-for-Instagram museums with content and experiences optimized for taking photos and posting content (McClure, 2015; Pardes, 2017). These examples show social media’s influence outside of the online space and how it impacts and shapes cultures (Appel et al., 2020).

The rise of influencers is another current theme that will likely impact the future of social media marketing (Appel et al., 2020). The use of celebrities and other well-known opinion leaders is a well-known marketing strategy (Knoll & Matthes, 2017). Traditional celebrities are frequently used on social media, but they have a high price for businesses opting to utilize their recognition (Appel et al., 2020). Larger brands may have budgets that can sustain this type of marketing, but smaller brands had to develop a different approach (Appel et al., 2020). Many businesses have begun utilizing micro-influencers, influencers who are not as well-known as celebrities but have strong, enthusiastic followings that are usually a more targeted audience (Main, 2017). Given the success of influencers’ reach and engagement, companies have either already adopted the use of influencers or plan to expand their efforts in the future (Appel et al., 2020).

While consumer concerns regarding data privacy are not new, the way consumers, brands, policy makers, and social media platforms are adapting to these concerns has not come to a resolution (Appel et al., 2020). As privacy concerns increase, the relationship

between brands on social media and consumers has become increasingly negative because of fears of personal data being mishandled (Appel et al., 2020). Many brands have grown to rely on social media as their avenue for reaching and engaging with consumers, so combatting negative consumer beliefs and regaining trust and confidence will be a crucial step for social media marketing in the near future (Appel et al., 2020).

### ***Instagram Marketing***

Given the prominence of young adults on Instagram and the importance of social media marketing to businesses success, Instagram marketing is an important avenue for businesses and will likely be a crucial part of strategy for the foreseeable future (Appel et al., 2020; Pew Research Center, 2021). In Chen's 2018 study, the researcher evaluated young consumers' perceptions of social media marketing, specifically on Instagram. The study found young consumers value subtlety and social endorsement in Instagram marketing strategies (Chen, 2018). Growing up in a highly commercialized society, participants were accustomed to advertising and promotional messages, but they valued the subtleness of ads on social media (Chen, 2018). Participants were more likely to accept less traditional-looking marketing material and did not like "obvious" or "intentional" advertising (Chen, 2018).

Additionally, young consumers are more likely to trust and accept marketing information from friends and tend to pay more attention to the content when their friends are spokespeople for a product or company (Chen, 2018). Social endorsements are not only more acceptable to young consumers, but also those endorsements could motivate them to purchase products endorsed by their friends on Instagram (Chen, 2018).

Although participants in Chen's 2018 study did not mind celebrity endorsements, they felt the marketing strategy was better suited for gaining attention and would likely not lead them to purchase the endorsed product or service (Chen, 2018). Young people's consumption power and purchasing ability may not enable them to consume like celebrities, making a celebrity a less relatable resource for buying decisions (Chen, 2018). The use of micro-influencers brings back a sense of relatability for consumers while targeting a more specific audience (Appel et al., 2020).

Given young consumers' need for relatability and social endorsement, the use of micro-influencers may prove to be a successful strategy for marketing to young consumers on Instagram (Appel et al., 2020; Chen, 2018).

### ***Social Media in Agriculture***

Agricultural marketing has traditionally relied on mass media sources such as newspapers, televisions, and magazines to disseminate information (White, 2013). As U.S. agriculture continues to adopt new technology, organizations such as the AgChat Foundation and American Farm Bureau Federation encouraged agriculturalists to utilize social media. The AgChat Foundation is a private organization focused on encouraging social media participation among farmers and ranchers (AgChat Foundation, 2022). The American Farm Bureau Federation encourages farmers and ranchers to use social media to help shape the future of their businesses by providing social media resources on their website (American Farm Bureau Federation, 2022).

The National Cattlemen's Beef Association employed social media strategy to respond to a confirmed case of bovine spongiform encephalopathy in California (White, 2013). Each time a tweet mentioned terms related to "mad cow disease" or "BSE

confirmation in California,” the user received a direct response from NCBA’s Twitter account with correct information regarding the incident (White, 2013). Social media can provide the agricultural community with an effective rebuttal strategy to anti-agricultural messages and the spread of misinformation (Katims, 2010).

Apart from a resource to correct misinformation, agriculturalists also use social media to promote the industry by directly reaching the consumer (Katims, 2010). According to Baumgarten (2012), farmers use social media on a personal level to share their story, give updates, promote their products, and answer consumer questions. In a 2011 study, Graybill-Leonard conducted a study of Facebook as a communication tool in agricultural-related social movements and found qualitative results that showed Facebook was an effective tool for promotion of agriculture (Graybill-Leonard et al., 2011). Social movements in agriculture are a necessary tool for advocating on behalf of the industry and communicating agricultural issues to the public (Graybill-Leonard et al., 2011).

### **Theoretical Framework**

“A brand is a complex, interrelated system of management decisions and consumer reactions that identifies a product (goods, services, or ideas), builds awareness of it, and creates meaning for it” (Franzen & Moriarty, 2009, p. 6). Branding is both a theory and a practice with the goal of differentiating a corporation, organization, or product from others (Franzen & Moriarty, 2009). All organizations and companies have a brand, the question is whether it is the right brand for the organization and if the right people are aware of the brand (Arozian, 2003). Brand image is the public’s perception of a brand and is influenced by the brand’s history, values, and employees (Franzen & Moriarty, 2009; Fritz et al., 2017).

The success of a brand is correlated with its saliency, which is created through three main sources: consumer usage and experiences; the perception of a brand in both the social and physical environment; and the conception of communication manifestations (Ehrenberg et al. 1997; Franzen & Moriarty, 2009). External saliency is the “presence of a brand in the surroundings of a consumer” (Franzen & Moriarty, 2009, p. 349). Companies and organizations establish the saliency of their brand through differentiation (Franzen & Moriarty, 2009). Differentiation “exists when a firm’s offering is preferred, on some buying occasions (or by some customers all of the time), over rival firms’ offerings” (Sharp & Dawes, 2001, p. 5). Without differentiation, there would be no need for multiple brands to exist in the same category (Sharp & Dawes, 2001).

A brand’s description is crafted with consideration of the target audience’s needs and wants using the marketing mix of product, price, place, and promotion (Wood, 2000). The success of this is determined by a brand’s strength or brand loyalty (Wood, 2000). Brand loyalty is the attachment consumers have to a brand and determines the value of the brand (Wood, 2000). Consumers look for authenticity in the brands they choose to follow and brand’s authenticity impacts consumers’ loyalty (Fritz et al., 2017).

While the practice of branding has been in place since 1837 when Procter and Gamble created the brand for Ivory soap, the study of branding did not begin until 1990 (Franzen & Moriarty, 2009; Whisman, 2009). Many branding studies follow corporate, for-profit branding strategies, but non-profit organizations should take part in intentional branding, as well (Kim, 2002). In terms of its brand, the National Pork Board set two main goals in its strategic plan: build trust and add value (Pork Checkoff, 2021). Trust is



an important part of gaining brand loyalty, especially when competing with other food groups, commodities, and organizations (de Chernatony, 2001).

The interaction of brands and their stakeholders allows for the co-building of a brand (Vernuccio, 2014). This interaction is often facilitated through social media and allows stakeholders to have some control in the messages that contribute to the brand's image (Vernuccio, 2014). Social networking relies on user-participation and user-generated content, which allow users to engage and interact with organizations (Rogers-Randolph et al., 2018). Social media can be leveraged for branding communication through three primary practices: reaching out to online opinion leaders, listening to stakeholders, and ensuring all communication reinforces the brand's "connections, image, and reputation" (Vernuccio, 2014, p. 215).

### **Content Analysis Methodology**

Bernard Berelson, a leading proponent of content analysis as a method of media studies stated, "Since the content represents the means through which one person or group communicates with another, it is important for communication research that it be described with accuracy and interpreted with insight" (2000, p. 200). Berelson defined content analysis as "a research technique for the objective, systematic, and quantitative description of the manifest content of communications" (1952, p. 18). Neuendorf (2017) further reinforces this by defining content analysis as "the systematic, objective, quantitative analysis of message characteristics" (p. 1). Stempel and Westley (1989) described content analysis as "a formal system for doing something that we all do informally rather frequently, drawing conclusions from observations of content" (p. 124).

To fully comprehend the content analysis methodology, one must understand the meaning of objective, systematic, quantitative, and manifest content (Stempel & Westley, 1989). According to Kolbe and Burnett (1991), objectivity can be defined as “the process by which analytical categories are developed and used” (p. 245). Precise and detailed definitions, rules, and procedures are necessary for an accurate and reliable coding process (Kolbe & Burnett, 1991). The use of coders other than the researcher is a measurable element of the objectivity in a study (Kolbe & Burnett, 1991). Systematic content indicates “a set procedure is applied in the same way to all the content being analyzed” (Stempel & Westley, 1989, p. 125). Categories should ensure content relevant to the study’s objectives or research questions is being analyzed (Stempel & Westley, 1989). Quantitative involves the “recording of numerical values or frequencies with which the various defined types of content occur” (Stempel & Westley, 1989, p. 126). Manifest content must be coded “as it appears rather than as the content analyst feels it is intended” (Stempel & Westley, 1989, p. 126).

Berelson (1952) proposed five main purposes of content analysis: 1) to describe substance characteristics of message content; 2) to describe form characteristics of message content; 3) to make inferences to producers of content; 4) to make inferences to audiences of content; and 5) to predict the effects of content on audiences. Kolbe and Burnett (1991) also identified three benefits of using content analysis: 1) it allows for the unobtrusive appraisal of communications; 2) it assesses environmental variables' effect on message content; and 3) provides an empirical starting point for generating new research evidence about the nature and effect of specific communications.

While content analysis has been applied to a diverse group of problems, it is often used to better understand mass media communication (Berelson, 1952; Lombard, Duch & Bracken, 2002). Mass communications researchers have used content analysis for a variety of purposes, most notably “1) describing the content itself, 2) testing hypotheses, 3) documenting trends, 4) relating media content to the real world, and 5) assessing the messenger’s motives” (Stone, Singletary, & Richmond, 1999, p. 332). Content analysis data can also be combined with other types of data to allow for different interpretations (Roberts, 2001).

An advantage of content analysis compared to quantitative research is the observational approach that allows for the consideration of participants’ opinions (Krippendorff, 2004). Another advantage is the methodology is not limited by existing viewpoints and provides profound insight into a situation (Krippendorff, 2004).

While content analysis provides many benefits, some weaknesses are associated with the methodology, such as susceptibility to researcher bias and potential issues with reliability (Kolbe & Burnett, 1991; Stempel & Westley, 1989). Content analysis methodology is relatively objective by nature and can present the researcher with reliability complications (Stempel & Westley, 1989). Berelson (1952) provides two types of consistency in content analysis:

- 1) consistency among analysts that is – different coders should produce the same results when they apply the same set of categories to the same content; and 2) consistency through time – that is, a single coder or a group of coders should produce the same results when they apply the same set of categories to the same content but at different times. (Berelson, 1952, p. 172)

Additionally, the research often yields categorical data rather than higher-order scales obtained from other studies (Kolbe & Burnett, 1991). Although categorical data has the benefit of descriptive, classificatory, and identification powers, it also tends to be less sensitive to subtleties in communications compared to higher-order scales (Kolbe & Burnett, 1991).

According to Krippendorff (2004), traditional content analysis involves the following steps: (1) selecting a topic, (2) deciding on the sample, (3) defining concepts or units to be counted, (4) constructing categories, (5) creating coding forms, (6) training coders, (7) collecting data, (8) determining inter-coder reliability, (9) analyzing data, and (10) reporting results. Since content analysis involves human subjectivity, the classification procedure should be reliable to aid in ensuring consistency and reliability (Krippendorff, 2004).

## CHAPTER III

### METHODOLOGY

Chapter I provided an introduction to the study, and Chapter II included an overview of the pork industry and social media, specifically Instagram. It also addressed the theoretical framework behind branding as well as the history and use of content analysis as a research method. Chapter III describes the methods and procedures used to create and conduct this study.

#### **Purpose of the Study**

The purpose of the study was to analyze the content of Instagram posts containing the #RealPigFarming to uncover the predominant themes of captions and media in the posts.

#### **Research Objectives**

The research objectives guiding this study were as follows:

1. to describe the selected characteristics (number of likes, video views, unique users, number of photos, number of videos, photo content, video content, caption themes, media themes) of October 2019 and October 2020 Instagram posts containing #RealPigFarming;
2. to compare the types of photos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming;

3. to compare the content of videos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming;
4. to compare the themes that surfaced from the texts used in October 2019 and October 2020 Instagram posts containing #RealPigFarming; and
5. to compare the themes that surfaced from the media used in October 2019 and October 2020 Instagram posts containing #RealPigFarming.

### **Population**

The population of this study was publicly available Instagram posts containing #RealPigFarming from October 2019 and October 2020. In total, 602 posts were identified for this study.

### **Research Design**

The study employed quantitative content analysis to meet the research objectives. The units of analysis were October 2019 and October 2020 Instagram posts containing #RealPigFarming. Content analysis is a research method that uses a systematic approach to describe, categorize, and make inferences about messages (Wood, 2000). The goal of quantitative content analysis is to produce counts of categories and measurements of the numbers of other variables (Fink, 2009). A content analysis summarizes rather than reporting all details of a message set; this is consistent with a nomothetic approach, which seeks to identify generalizable findings (Neuendorf, 2017).

The researcher chose to analyze #RealPigFarming because this hashtag was used as part of a social media campaign promoted by the National Pork Board with the intention of getting those involved in the pork industry to show what pig farming really looked like (C. Masker-King, personal communication, November 16, 2021). The

National Pork Board launched #RealPigFarming as one of the first social media campaigns to use a hashtag to showcase the entire pork industry as a unified group (C. Masker-King, personal communication, November 16, 2021). In July 2014, the campaign gained traction across numerous social media platforms (Pork Checkoff, 2019).

Initially, the researcher planned to analyze 2021 content; however, the National Pork Board ended promotion of #RealPigFarming on social media in December 2019 (The Pork Checkoff, 2019). The hashtag is still used organically on social media channels but is not formally promoted by the National Pork Board. The October 2019 and October 2020 posts were used to compare social media content while the campaign was still being promoted by the National Pork Board to organic content after promotion ceased.

The researcher analyzed October social media posts because October is National Pork Month. During this time, individuals involved in the pork industry often employ social media while promoting pork and the industry (Wisconsin State Farmer, 2016).

The researcher chose to evaluate posts on Instagram because it has become one of the most popular social media platforms for users ages 18 to 24 (Dixon, 2022b). As this age group begins making purchasing decisions, they are becoming the next group of consumers to target messaging and marketing efforts toward (Appel et al., 2020). Understanding how to craft messages for this demographic will be crucial to successful communication and advertisement in the future (Appel et al., 2020).

### **Instrumentation**

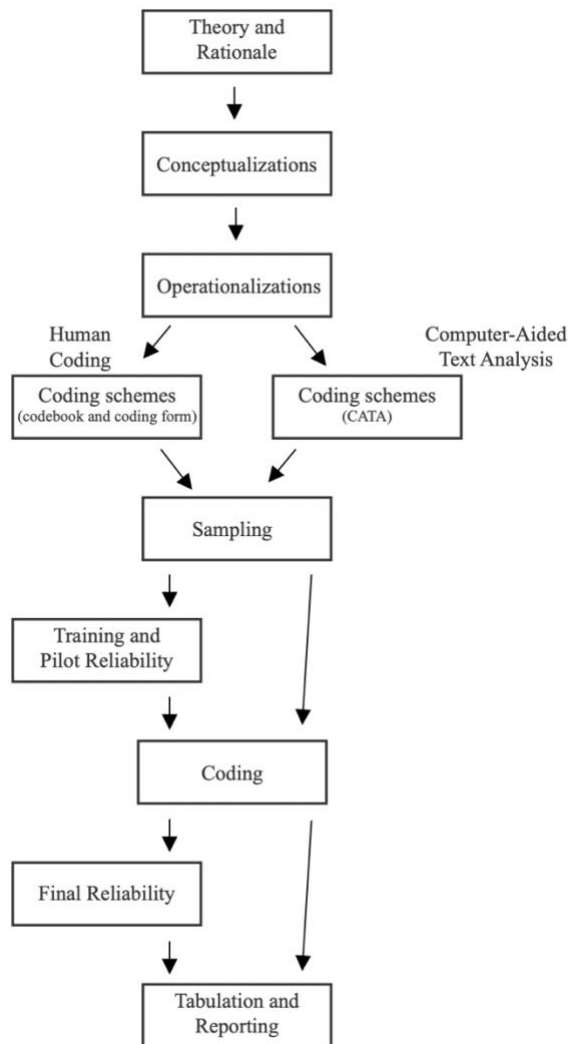
The researcher followed a procedure similar to that of Farrell, Wallis, and Evans (2007) in their study of nursing programs when they analyzed qualitative data using a standardized codebook and content analysis. Human coding uses people as coders who

each use a standard codebook and coding form to read, view, and code the content. They record their objective and careful observations on pre-established variables (Neuendorf, 2017).

The researcher followed the flowchart of a typical content analysis created by Neuendorf (2017).

**FIGURE 11**

*Developing the Code Book and Code Sheet*



*Note.* Adapted from *The Content Analysis Guidebook*, by Neuendorf, 2017.



The goal in creating codebooks and coding forms, or code sheets, is to make the set complete and unambiguous to try to eliminate individual differences among coders (Neuendorf, 2017). When creating an original codebook, all instructions should be spelled out carefully and fully (Neuendorf, 2017). The researcher has influence on the distribution of details between the codebook and coding form. The common choice is to use a detailed codebook and leave the coding form as an empty spreadsheet (Neuendorf, 2017).

A code sheet and codebook were developed by the researcher for quantitative content analysis and reviewed by faculty in the Oklahoma State University Department of Agricultural Education, Communications and Leadership and the OSU Department of Animal and Food Sciences. To develop the codebook, the researcher conducted a pilot study using Instagram content containing #RealPigFarming from September 2020. From September 1, 2020, to September 30, 2020, there were 261 publicly available Instagram posts containing #RealPigFarming. The researcher evaluated posts in this time period to determine categories for the codebook (see Appendix A).

The codebook began with descriptive statistics including the date of the post, post ID, post publisher's username and number of likes. Other descriptive statistics included in the codebook were hashtag location, whether the post was an original or share, and the type of media. Other categories included photo contents, theme of media, video contents, and theme of caption. To determine the options for coders to choose from, the pilot study informed the researcher of themes and subjects that surfaced (Neuendorf, 2017).

When developing the code sheet, the researcher followed the more common approach of providing a more detailed codebook with a mostly empty spreadsheet as the

code sheet. The researcher prefilled the categories of post ID, date of the post, post publisher's username, and number of likes to reduce the margin of error on objective categories and reduce coder fatigue (see Appendix B; Potter & Donnerstein, 1999). Each coder was provided colored paper specific to their coder ID (coder 1 used yellow paper, coder 2 used pink paper, and coder 3 used white paper) to eliminate the need for coders to print their coder ID on every page. This approach was employed to reduce coder fatigue and eliminate the error potential that could result from code sheets being mixed together (Potter & Donnerstein, 1999).

### **Validity and Reliability**

In quantitative data collection, researchers should select instruments that report valid and reliable scores (Creswell, 2012). Validity is “the development of sound evidence to demonstrate that the test interpretation matches its proposed use” (Creswell, 2012, p. 159). Reliability means instrument scores show stability and consistency (Creswell, 2012). When considering both validity and reliability, a dart board analogy is often applied. Validity can be compared to the dart thrower's accuracy of hitting the bullseye, while reliability is compared to the dart thrower's consistency to hit the same point on the target again and again (Williams, Rice, & Rogers, 1988).

#### *Intercoder Reliability*

Intercoder reliability, also referred to as intercoder agreement or interrater reliability, is the “term for the extent to which independent coders evaluate a characteristic of a message or artifact and reach the same conclusion” (Lombard, et al., 2002, p. 589). Assessments of interrater agreement are essential when subjectively evaluating content (Nichols et al., 2010). A goal of content analysis is the identification

of relatively subjective characteristics of messages, which makes reliability a vital component (Neuendorf, 2017). According to Tinsley and Weiss (2000), intercoder reliability is crucial to content analysis because if the coding is not reliable the analysis is untrustworthy. When intercoder reliability is not established, the data can never be considered valid (Lombard et al., 2002).

According to Lombard (2002), intercoder reliability “is assessed by having two more coders categorize units and then using these categorizations to calculate a numerical index of the extent of agreement between or among the coders” (p. 590). In his 2002 study, Lombard presented 10 steps to assess reliability in content analysis studies.

In the first step, Lombard, et al. (2002) directs researchers to calculate and report intercoder reliability. The study should be designed to include multiple coders of the content and assessment and reporting of intercoder reliability among them (Lombard et al., 2002). The researcher utilized three graduate student coders for this study.

The process Lombard, et al. (2002) outlined involves selecting one or more appropriate indices. However, this presents a challenge because no consensus exists on a single, “best” index and a lack of detailed and practical guidelines and tools for researchers to use (Lombard et al., 2002). This study employs nominal categories; therefore, Cohen’s kappa should be considered as it is designed for nominal scales and does take into account agreement by chance, an area where percent agreement falls short (Lombard et al., 2002). However, Cohen’s kappa can only be used to quantify the level of agreement between two raters in placing elements into two or more categories (King, 2004). Since the three coders were involved, Fleiss’ kappa (1971) was used because Fleiss adapted the index for multiple coders. One of the main reasons Fleiss’ kappa

should be used is it takes into account the amount of expected agreement between raters purely by chance (Nichols et al., 2010). The researcher used Microsoft Excel formulas as a tool to calculate Fleiss' kappa.

Selecting an appropriate minimum level of reliability for the index used in the study is important (Lombard et al., 2002). Generally, coefficients of .90 or greater are virtually always acceptable and .80 or greater is typically acceptable to most situations (Lombard et al., 2002). According to Lombard et al. (2002), higher criteria should be used for more liberal indices, while lower criteria can be used for more conservative indices. Fleiss' kappa is an extended variation of Cohen's kappa, a more conservative index, and therefore, a lower coefficient can be accepted. Landis and Koch (1977) also provided an interpretation of Fleiss' kappa:

1.00 – 0.81 Almost perfect agreement

0.80 – 0.61 Substantial agreement

0.60 – 0.4 Moderate agreement

0.40 – 0.21 Fair agreement

0.20 – 0.00 Slight agreement

<0 Poor agreement or no agreement

Based on the above interpretations, the researcher selected a coefficient of 0.80 as a minimum acceptable level of intercoder agreement.

On March 7, 2022, three coders were trained to follow codebook procedures for the following categories: hashtag location, original or share, media, photo contents, theme of media, video contents, and theme of caption. The coders participated in a total of two hours of training to familiarize themselves with the codebook, terminology, and

the code sheet. During this time, the researcher followed the instruction of Lombard, et. al (2002) and used posts similar to those being coded in the study but not part of the full sample. The researcher used 20 posts from the September 2020 pilot group to train coders. This allowed the researcher to provide more detailed instructions until a reasonable level of agreement was reached.

The categories of post ID, date of the post, post publisher's username, and number of likes were prefilled on the code sheet. All four categories are objective so prefilling the data reduced the potential margin for error. Coder fatigue is also a threat to reliability as coder performance can be impacted by a long or intensive codebook or coding schedule (Potter & Donnerstein, 1999). Given the high number of posts, the researcher deemed it best to prefill objective categories to help combat coder fatigue.

According to Lombard et al. (2002), the researcher should assess reliability formally during coding of the full sample and follow appropriate procedures for incorporating reliability coding into the full sample. Reliability was calculated for each category using Fleiss' kappa. Interrater reliability for each category is as follows: original or share (0.98), media (0.99), photo contents (0.97), theme of media (0.89), video contents (0.96), and theme of caption (0.88). The Fleiss Kappa for all of the categories was above the researcher's minimum acceptable level of intercoder agreement of 0.80. All categories could be classified as having substantial agreement or almost perfect agreement based on Landis and Koch's interpretation (Landis & Koch, 1977).

One option for an appropriate procedure for incorporating reliability coding into the full sample is through discussing and resolving disagreements (Lombard et al., 2002). The researcher analyzed the data to find disagreement. The coders met with the

researcher on May 2, 2022, for a consensus meeting. Of the 598 posts in the final data set, 80 posts (13.38%) were flagged for disagreement among the three coders. The researcher compiled screenshots of these posts into a slideshow presentation. Coders reviewed the posts and discussed their thoughts until consensus was reached.

### **Data Collection**

A quantitative content analysis was used to conduct this study. Data collection took place in January 2022.

Content was manually gathered by the researcher from all publicly available Instagram posts published containing #RealPigFarming in October 2019 and October 2020. A total of 701 posts were gathered. However, 99 posts were removed as they were duplicate posts. This was done to help reduce the redundancy in coding and reduce coder fatigue. After removing duplicate posts, 602 remained.

Four posts were unavailable at the time of coding, so the total number of posts coded in the data set was 598. All posts were coded by three graduate student assistants trained to use the codebook and to use the codes accurately and consistently. Coder training is discussed earlier in this chapter. The codebook used for this study is included in (see Appendix A). After coder training, coders were given approximately two weeks, from March 7, 2022 to March 21, 2022, to complete code sheets for the data set.

The coders evaluated posts in the data set for the following seven categories: (a) hashtag location, (b) original or share, (c) type of media, (d) photo contents, (e) theme of media, (f) video contents, and (g) theme of caption. Each category contained multiple options for coders to choose from. For hashtag location, original or share, type of caption, theme of media, and theme of caption, coders were instructed to choose only one option

for each category. On Instagram, multiple photos and videos can be included in a single post; thus, if a post contained multiple photos or videos, coders were instructed to choose one option for each photo or video.

After coding was complete, the researcher compiled and compared the data from each coder and found 80 posts (13.38%) had disagreement in at least one category. The researcher compiled each post with disagreement into a slideshow presentation. Coders met with the researcher on May 2, 2022, to review the posts with disagreement and come to a consensus. During consensus coding, the coders determined an additional option for the theme of caption category: entertainment. The researcher added this option to the codebook. Descriptive statistics and data for comparison were calculated using Microsoft® Office Excel® 2018

## CHAPTER IV

### FINDINGS

Chapter I provided an introduction to the study, and Chapter II included an overview of the pork industry and social media, specifically Instagram. It also addressed the theoretical framework behind branding as well as the history and use of content analysis as a research method. Chapter III described the methods and procedures used to create and conduct this study.

The purpose of Chapter IV is to present the findings for each research objective.

#### **Purpose of the Study**

The purpose of the study was to analyze the content of Instagram posts containing #RealPigFarming to uncover the predominant themes of captions and media in the posts.

This chapter is a presentation of the findings of this study, as directed by the purpose and objectives. Findings are organized by objective.

#### **Research Objectives**

The study focused on the following research objectives:

1. to describe the selected characteristics (number of likes, video views, unique users, number of photos, number of videos, photo content, video content, caption themes, media themes) of October 2019 and October 2020 Instagram posts containing #RealPigFarming;



2. to compare the types of photos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming;
3. to compare the content of videos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming;
4. to compare the themes that surfaced from the texts used in October 2019 and October 2020 Instagram posts containing #RealPigFarming; and
5. to compare the themes that surfaced from the media used in October 2019 and October 2020 Instagram posts containing #RealPigFarming.

### **Procedures**

This study employed content analysis methodology to accomplish the research objectives. The researcher created a codebook based on a pilot study of September 2020 Instagram content containing #RealPigFarming (Neuendorf, 2017). As of February 1, 2022, there were 602 publicly available Instagram posts containing #RealPigFarming in October 2019 and October 2020. Prior to coder training on March 7, 2022, four posts were removed from the data set as they were no longer publicly available. Three agricultural communications graduate students coded 598 posts for the following seven categories: (a) hashtag location, (b) original or share, (c) type of media, (d) photo contents, (e) theme of media, (f) video contents, and (g) theme of caption.

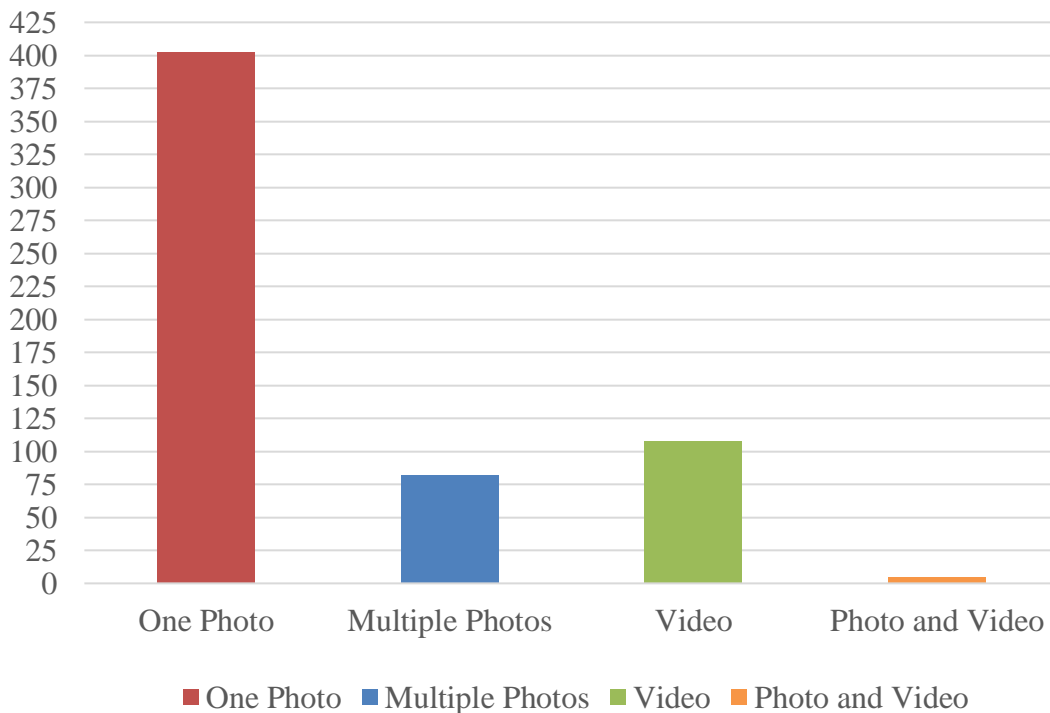
### **Findings Associated with Objective 1**

The first objective of this study was to describe the selected characteristics (number of likes, video views, unique users, number of photos, number of videos, photo

content, video content, caption themes, media themes) of October 2019 and October 2020 Instagram posts containing #RealPigFarming.

As of March 7, 2022, 598 Instagram posts were available ( $N = 598$ ). Of these posts, 485 posts had only photos (81.10%), 108 had only videos (18.06%), and the remaining five posts included a combination of photos and videos (0.84%). Of the posts containing only photos, 403 contained one image (67.39%), and 82 contained multiple images (13.71%).

**Figure 12**  
*Type of Media Contained in #RealPigFarming Instagram Posts*



During October 2019 and October 2020, 176 unique users posted on Instagram using #RealPigFarming. The greatest number of posts from a single user was 40 posts. The lowest number of posts by an individual user was one, and 97 users made only one

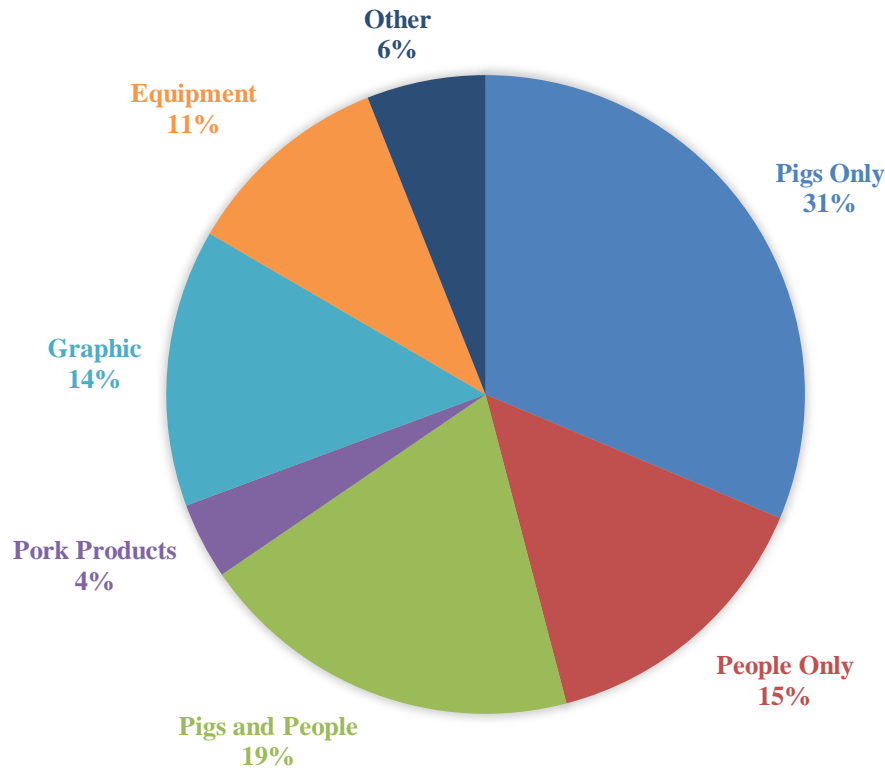
post (55.11%). The average number of posts per user was 3.4. In 2019, 337 posts were published by 119 unique users and the average number of posts per user was 2.83. In 2020, 261 posts were published by 83 unique users and the average number of posts per user was 3.14. The highest number of posts from a single user in 2019 was 17 and in 2020 it was 40.

Instagram posts with at least one photo have an associated number of likes, while metrics for posts containing only a video are measured in views (Instagram Help Center, 2022). For the data set posts with photos ( $n = 497$ ), the total number of likes associated with these posts was 67,254. The highest number of likes on a post was 1,606, and the lowest number of likes was three. The average number of likes per post was 135.32. For the data set posts with videos ( $n = 101$ ), the total number of views was 60,914. The highest number of views on a video was 8,863, and the lowest was 18. The average number of views per video was 603.11.

Coders were instructed to determine the contents depicted in each photo in the data set ( $N = 747$ ). If multiple photos were included in a post, coders identified the contents depicted in each photo. The content response options outlined in the codebook were (a) pigs only, (b) people only, (c) pigs and people together, (d) pork products, (e) graphic (text only or text and animated images), (f) equipment, or (g) other. The category with the highest number of photos was pigs ( $n = 234$ , 31.33%), and the second-highest category was pigs and people ( $n = 146$ , 19.54%). People had the next highest number ( $n = 109$ , 14.59%) followed by graphics ( $n = 105$ , 14.06%), equipment ( $n = 79$ , 10.58%), other ( $n = 45$ , 6.02%), and pork products ( $n = 29$ , 3.88%), respectively.

**Figure 13**

*Photo Contents of #RealPigFarming Instagram Posts*

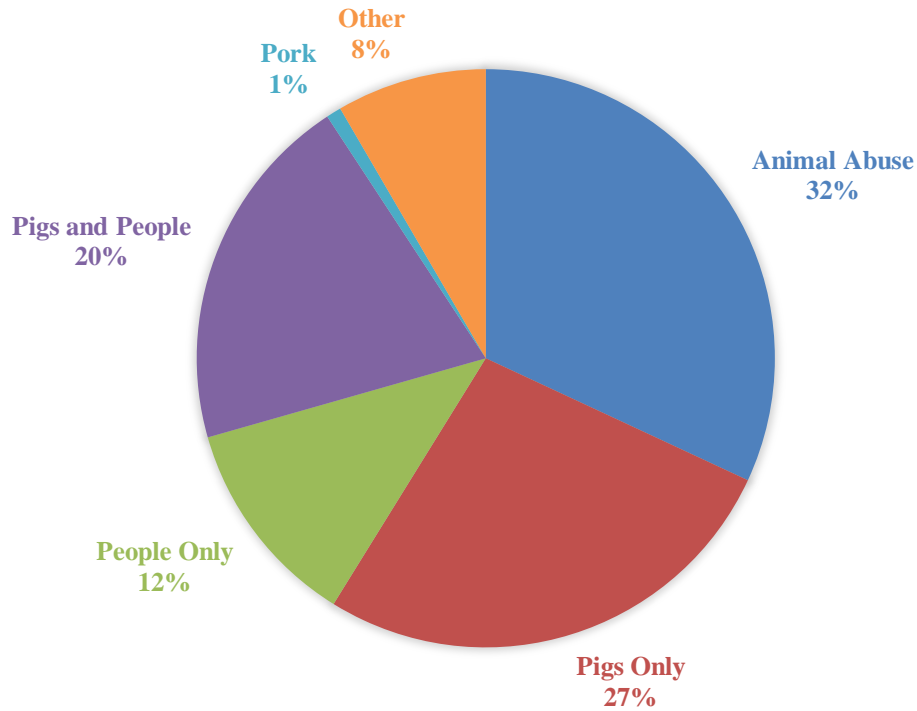


Coders determined the contents shown in each video in the data set ( $N = 119$ ). If multiple videos were included in a post, coders identified the contents of each video. The content response options outlined in the codebook were (a) animal abuse, (b) pigs only, (c) people only, (d) pigs and people, (e) pork products, (f) not a video, or (g) other.

The category with the highest number of videos was animal abuse ( $n = 38$ , 31.93%), and the second-highest category was pigs ( $n = 32$ , 26.89%). Pigs and people had the next highest number ( $n = 24$ , 20.17%) followed by people ( $n = 14$ , 11.76%), other ( $n = 10$ , 8.40%), and pork products ( $n = 1$ , 0.84%), respectively.

**Figure 14**

### Video Contents in #RealPigFarming Instagram Posts

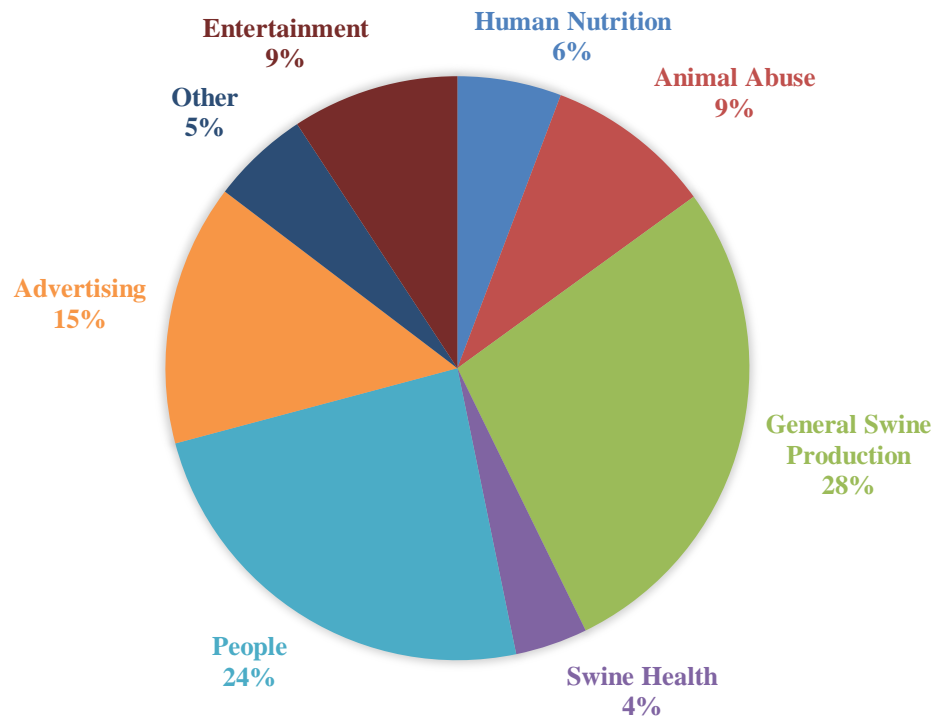


Coders evaluated the texts in each caption in the data set ( $N = 573$ ) for theme. The content response options outlined in the codebook were (a) human nutrition, (b) animal abuse, (c) general swine production, (d) swine health, (e) people, (f) advertising, (g) other, or (h) no caption. One additional category was added to the codebook during consensus coding: (i) entertainment.

The theme with the highest number of captions was general swine production ( $n = 159, 27.75\%$ ), and the second highest was people ( $n = 138, 24.08\%$ ). Advertising had the next highest number ( $n = 83, 14.49\%$ ). Animal abuse and entertainment each contained the same number ( $n = 53, 9.25\%$ ) followed by human nutrition ( $n = 33, 5.76\%$ ), other ( $n = 31, 5.41\%$ ), and swine health ( $n = 23, 4.03\%$ ), respectively.

**Figure 15**

*Caption Themes in #RealPigFarming Instagram Posts*

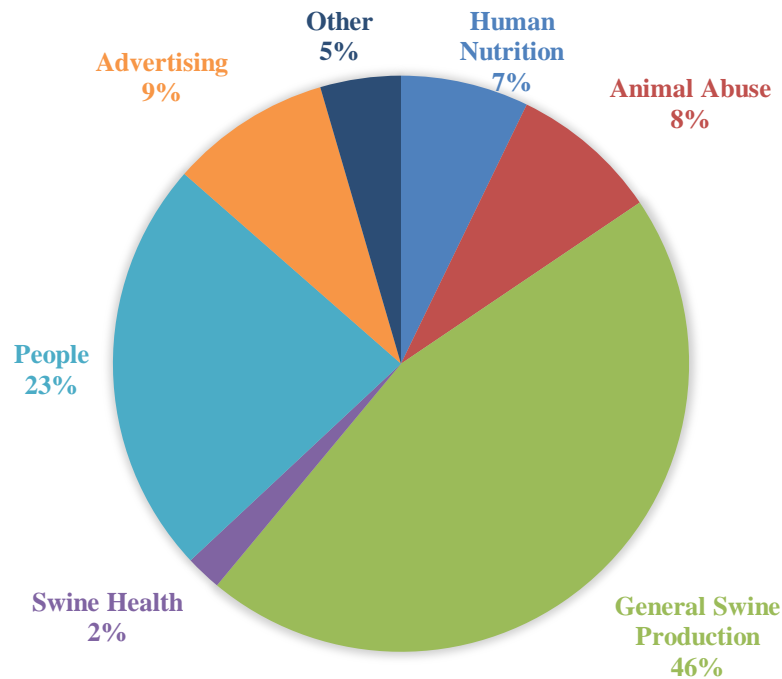


Coders evaluated the media in each post ( $N = 598$ ) for theme. The content response options outlined in the codebook were (a) human nutrition, (b) animal abuse, (c) general swine production, (d) swine health, (e) people, (f) advertising, or (g) other.

The media theme associated with the most posts was general swine production ( $n = 272$ , 45.49%), and the second highest was people ( $n = 140$ , 23.41%). Advertising had the next highest number ( $n = 54$ , 9.03%) followed by animal abuse ( $n = 50$ , 8.36%), human nutrition ( $n = 43$ , 7.19%), other ( $n = 27$ , 4.52%), and swine health ( $n = 12$ , 2.01%), respectively.

**Figure 16**

*Media Themes in #RealPigFarming Instagram Posts*



### **Findings Associated with Objective 2**

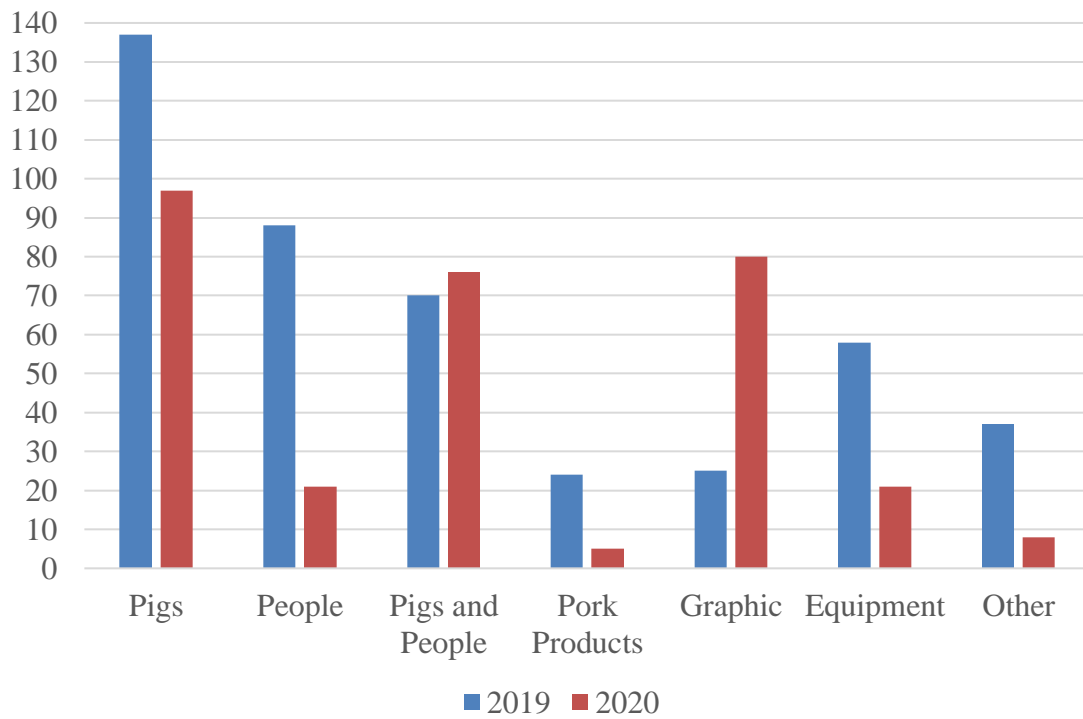
The second objective was to compare the types of photos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming. Of the total number of photos analyzed ( $N = 747$ ), 439 photos were posted in October 2019 (58.77%) and 308 photos were posted in October 2020 (41.23%). In both October 2019 and October 2020 posts, the highest number of photos contained pigs only. Pigs represented 31.21% of photos in October 2019 and 31.49% of photos in October 2020.

October 2019 photo contents were pigs ( $n = 137$ , 31.21%), people ( $n = 88$ , 20.05%), pigs and people ( $n = 70$ , 15.95%), equipment ( $n = 58$ , 13.21%), other ( $n = 37$ , 8.43%), graphic ( $n = 25$ , 5.69%), and pork products ( $n = 24$ , 5.47%).

October 2020 photo contents were pigs ( $n = 97$ , 31.49%), graphic ( $n = 80$ , 25.97%), pigs and people ( $n = 76$ , 24.87 %), people ( $n = 21$ , 6.82%), equipment ( $n = 21$ , 6.82%), other ( $n = 8$ , 2.60%), and pork products ( $n = 5$ , 1.62%). Figure 17 depicts the comparison of October 2019 and October 2020 photo contents.

**Figure 17**

*Photo Contents of #RealPigFarming Instagram Posts, by year*





### **Findings Associated with Objective 3**

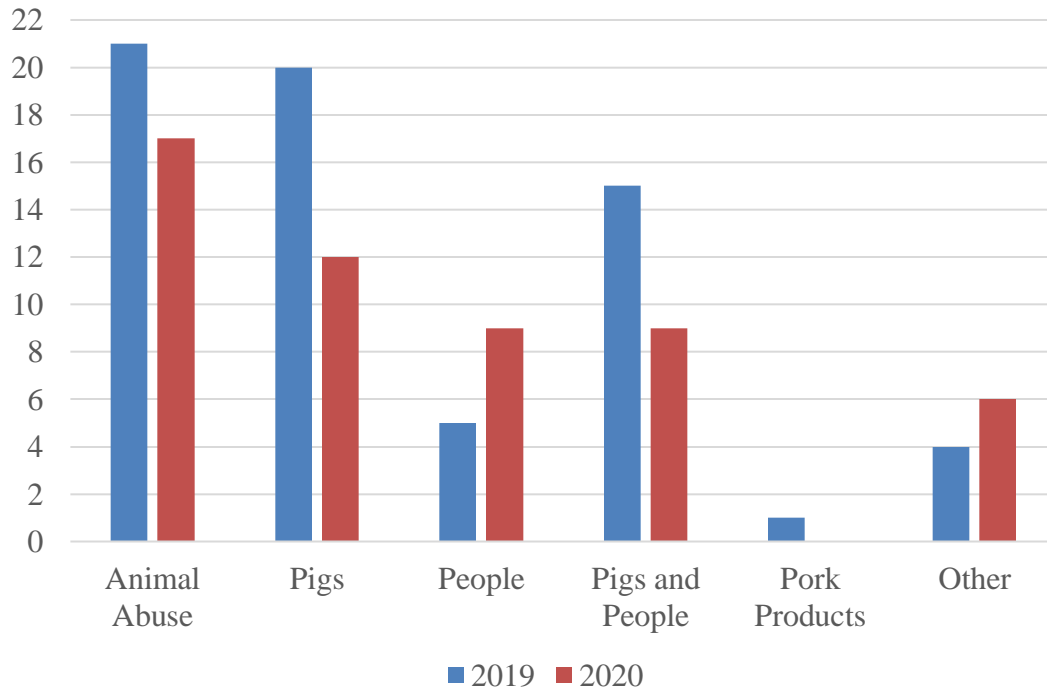
The third objective was to compare the content of videos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming. Coders determined contents shown in each video in the data set ( $N = 119$ ). In both October 2019 and October 2020, the highest number of videos were categorized as animal abuse and the lowest number of videos were categorized as pork products. In October 2019, the second-highest category of video content was pigs only followed by pigs and people, people only, other, and pork, respectively.

October 2019 video contents were animal abuse ( $n = 21, 31.82\%$ ), pig ( $n = 20, 30.30\%$ ), pigs and people ( $n = 15, 22.73\%$ ), people ( $n = 5, 7.58\%$ ), other ( $n = 4, 6.06\%$ ), and pork products ( $n = 1, 1.52\%$ ).

October 2020 video contents were animal abuse ( $n = 17, 32.08\%$ ), pigs ( $n = 12, 22.64\%$ ), pigs and people ( $n = 9, 16.98\%$ ), people ( $n = 9, 16.98\%$ ), other ( $n = 6, 11.32\%$ ), and pork products ( $n = 0, 0\%$ ). Figure 18 shows the comparison of October 2019 and October 2020 video content.

**Figure 18**

*Video Contents of #RealPigFarming Instagram Posts, by year*



#### **Findings Associated with Objective 4**

The fourth objective was to compare the themes that surfaced from the captions used in October 2019 and October 2020 Instagram posts containing #RealPigFarming. Coders evaluated the texts in each caption in the data set ( $N = 573$ ) for theme. October 2019 posts contained 58.29% of the total captions ( $n = 334$ ) and October 2020 posts represented 41.79% ( $n = 239$ ). In October 2019, the theme with the most captions was general swine production. In October 2020, general swine production and advertising tied for the most prevalent theme.

October 2019 caption themes were general swine production ( $n = 100$ , 29.94%), people ( $n = 92$ , 27.54%), animal abuse ( $n = 36$ , 10.78%), human nutrition ( $n = 29$ ,

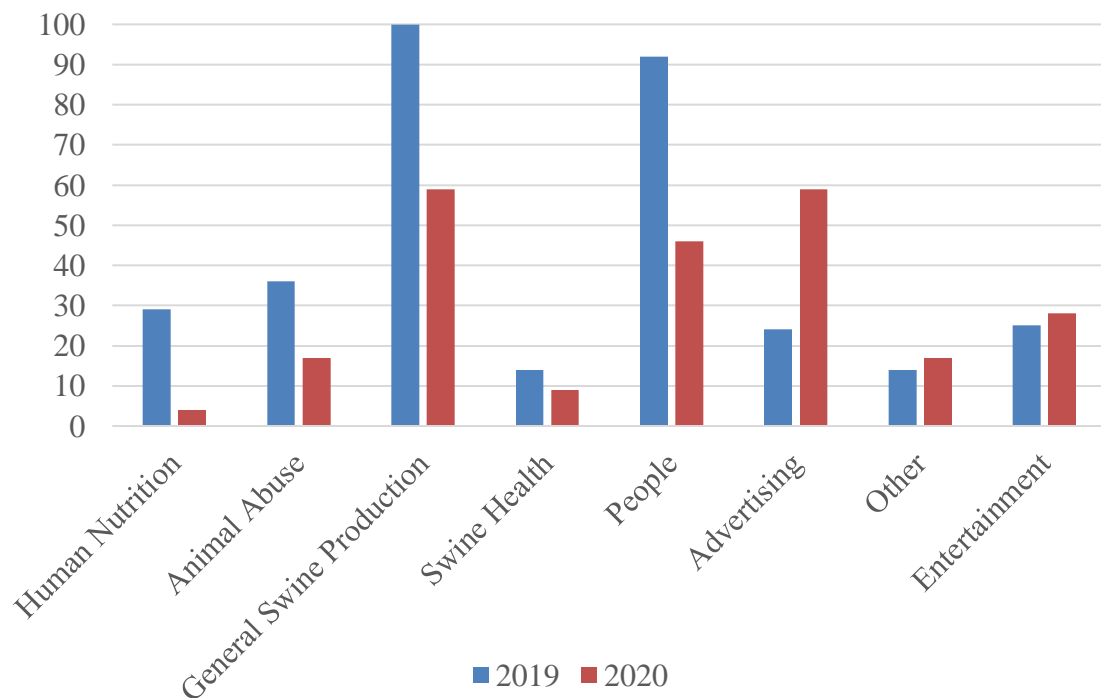
8.68%), entertainment ( $n = 25$ , 7.49%), advertising ( $n = 24$ , 7.19%), swine health ( $n = 14$ , 4.19%), and other ( $n = 14$ , 4.19%).

October 2020 caption themes were general swine production ( $n = 59$ , 24.67%), advertising ( $n = 59$ , 24.67%), people ( $n = 46$ , 19.25%), entertainment ( $n = 28$ , 11.72%), animal abuse ( $n = 17$ , 7.11%), other ( $n = 17$ , 7.11%), and human nutrition ( $n = 4$ , 1.67%).

Figure 19 depicts the comparison of October 2019 and October 2020 photo contents.

**Figure 19**

*Caption Themes in #RealPigFarming Instagram Posts, by year*



### **Findings Associated with Objective 5**

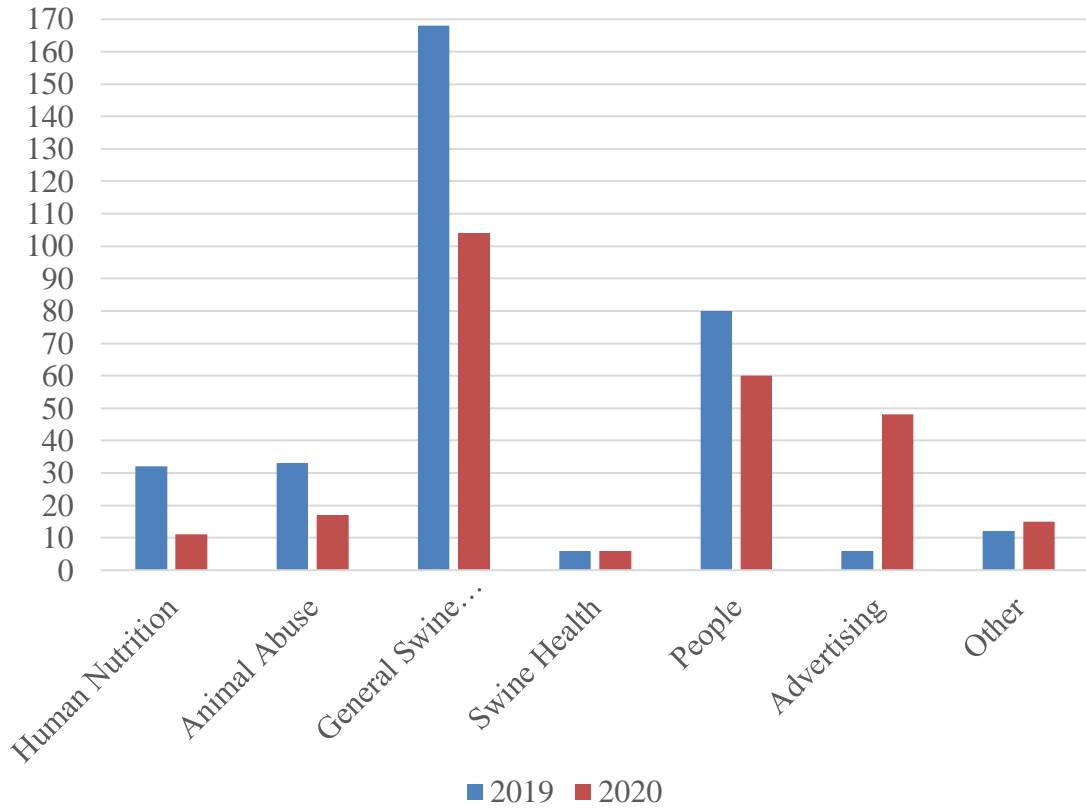
The fifth objective of the study was to compare the themes that surfaced from the media used in October 2019 and October 2020 Instagram posts containing #RealPigFarming.

October 2019 media themes were general swine production ( $n = 168, 48.85\%$ ), people ( $n = 80, 23.74\%$ ), animal abuse ( $n = 33, 9.79\%$ ), human nutrition ( $n = 32, 9.50\%$ ), other ( $n = 12, 3.56\%$ ), advertising ( $n = 6, 1.78\%$ ), and swine health ( $n = 6, 1.78\%$ ).

October 2020 media themes were general swine production ( $n = 104, 39.85\%$ ), people ( $n = 60, 22.99\%$ ), advertising ( $n = 48, 18.39\%$ ), animal abuse ( $n = 17, 6.51\%$ ), other ( $n = 15, 5.75\%$ ), human nutrition ( $n = 11, 4.21\%$ ), and swine health ( $n = 6, 2.30\%$ ).

**Figure 20**

*Media Themes in #RealPigFarming Instagram Posts, by year*



## CHAPTER V

### CONCLUSIONS, IMPLICATIONS & RECOMMENDATIONS

Chapter V presents a summary of the conclusions, implications, and recommendations associated with the purpose and objectives of this study.

#### **Purpose of the Study**

The purpose of the study was to analyze the content of Instagram posts containing #RealPigFarming to uncover the predominant themes of captions and media in the posts.

This chapter is a presentation of the conclusions of this study, as directed by the purpose and objectives. Conclusions are organized by objective.

#### **Research Objectives**

The study focused on the following research objectives:

1. to describe the selected characteristics (number of likes, video views, unique users, number of photos, number of videos, photo content, video content, caption themes, media themes) of October 2019 and October 2020 Instagram posts containing #RealPigFarming;
2. to compare the types of photos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming;
3. to compare the content of videos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming;

4. to compare the themes that surfaced from the texts used in October 2019 and October 2020 Instagram posts containing #RealPigFarming; and
5. to compare the themes that surfaced from the media used in October 2019 and October 2020 Instagram posts containing #RealPigFarming.

### **Procedures**

This study employed content analysis methodology to accomplish the research objectives. The researcher created a codebook based on a pilot study of September 2020 Instagram content containing #RealPigFarming (Neuendorf, 2017). As of February 1, 2022, there were 602 publicly available Instagram posts containing #RealPigFarming in October 2019 and October 2020. Prior to coder training on March 7, 2022, four posts were removed from the data set as they were no longer publicly available. Three agricultural communications graduate students coded 598 posts for the following seven categories: (a) hashtag location, (b) original or share, (c) type of media, (d) photo contents, (e) theme of media, (f) video contents, and (g) theme of caption.

### **Conclusions Related to Research Objective 1**

Research Objective 1 sought to describe the selected characteristics of October 2019 and October 2020 Instagram posts containing #RealPigFarming. Based on the findings related to Objective 1, fewer Instagram users included #RealPigFarming in their 2020 posts than in 2019. In 2020, a smaller number of users averaged more posts per user. Thus, the following of #RealPigFarming decreased after promotion, but Instagram users who kept employing the hashtag posted more often, demonstrating brand loyalty. Brand loyalty is a key measure of the organization's success (Wood, 2000), and the

#RealPigFarming campaign's loyalty seen after promotion ended indicates an overall successful campaign for the National Pork Board.

When brands employ a hashtag in their social media strategy, that hashtag is subject to user-interpretation and the content users choose to associate with the hashtag (Luca, 2015). Even when a brand ceases promotion of the hashtag, as National Pork Board did, users continue to associate this hashtag with the brand's identity (Wood, 2000).

Based on the findings related to Objective 1, most Instagram users who include #RealPigFarming in their posts prefer to use one photo as their primary form of media. Based on the photos in both October 2019 and October 2020 posts, these users are most likely to post photos of pigs only and least likely to post photos of pork products. Photo content of #RealPigFarming posts focuses on the swine production side of the pork industry. Instagram users who use #RealPigFarming post videos about the swine production side of the pork industry or demonstrating animal abuse. As videos began to gain more traction on Instagram, a portion of users took advantage of this opportunity to showcase the pork industry negatively through video. Overall, however, users moved away from videos as their source of media in #RealPigFarming posts from 2019 to 2020.

As in photo content, general swine production was the most popular topic of Instagram captions containing #RealPigFarming and by far the most popular media theme. Based on the popularity of general swine production in both photos and captions across October 2019 and October 2020, Instagram users who employed #RealPigFarming in their posts were more interested in the production side of the pork industry.



### **Conclusions Related to Research Objective 2**

The second objective was to compare the types of photos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming. Based on the findings related to Objective 2, the organic content about #RealPigFarming is as likely to be about pigs as the content posted during the promotion of the hashtag. However, the difference appears in the organic content with a considerable decrease in the use of people photos and even greater increase in the use of graphics. Additionally, the use of pigs and people photos increased noticeably from 2019 to 2020. Although pigs remained the main subject of photos, the greater emphasis on graphics could be related to the shift to advertising found on social media in 2020 (Appel et al., 2020).

### **Conclusions Related to Research Objective 3**

The third objective was to compare the content of videos used in October 2019 and October 2020 Instagram posts containing #RealPigFarming. Based on the findings, animal abuse was the most frequent content category of Instagram video posts. Although the animal abuse category remained steady, the other categories shifted in terms of their proportion of the video posts. In particular, videos in Instagram posts with #RealPigFarming were twice as likely to include people while videos with pork products were eliminated in 2020.

Instagram users did not associate #RealPigFarming with pork-related videos and did not prioritize nutrition as a video topic. Instead, these users opted for swine production-related video content in their posts.

## **Conclusions Related to Research Objective 4**

Research Objective 4 sought to compare the themes that surfaced from the captions used in October 2019 and October 2020 Instagram posts containing #RealPigFarming. Based on the findings from Objective 4, users discussed general swine production most frequently in their captions. When the National Pork Board officials launched the #RealPigFarming campaign, their goal was to encourage those involved in the industry to use social media as a platform to connect with consumers about pork production (C. Masker-King, personal communication, November 16, 2021). The prominence of general swine production in captions during and after campaign promotion shows board leadership accomplished its main goal.

The greatest change in the captions was the substantial increase in advertising content, which was as popular as general swine production in caption related to this theme. After the National Pork Board's promotion of #RealPigFarming ceased in 2019, advertisers began to capitalize on the popularity of the hashtag to promote their products and services related to the pork industry. As Instagram gained popularity, the platform became an important tool for marketing and business success (Appel et al., 2020). The shift to more advertising content is a reflection of the increased use of Instagram as a marketing tool (Appel et al., 2020). Advertising is now a large part of content on the platform, specifically influencer marketing.

One of the National Pork Board's goals with the campaign was to share stories of pig farmers; however, when promotion of the hashtag ended, captions related to people decreased measurably. After the campaign concluded, users did not continue the trend of

sharing captions about people in the pork industry, and therefore, the campaign was less effective at achieving this goal.

Users posted captions related to animal abuse more frequently when National Pork Board was promoting #RealPigFarming in 2019 than after promotion ended in 2020. Since the goal of the campaign was to positively share the story of pig farmers and promote the pork industry, those posting about animal abuse likely posted during the board's promotion of the campaign as a way to combat the positive message points. Similar to advertisers, these users also capitalized on the hashtag's popularity to share their own ideas and persuade consumers not to consume pork or support the pork industry.

### **Conclusions Related to Research Objective 5**

The fifth objective was to compare the themes that surfaced from the media used in October 2019 and October 2020 Instagram posts containing #RealPigFarming. Based on the findings, general swine production was the predominant theme of media in both 2019 and 2020 posts. However, this theme was stronger in 2019 than in 2020. Prior to the #RealPigFarming campaign, no unifying social media component was used to represent the pork industry. The prominence of general swine production, both during and after the campaign, shows the social campaign accomplished its goal of encouraging those involved in the pork industry to share their stories and an inside look into pig farming.

Following general swine production, users were most likely to post media related to people in both 2019 and 2020. This is not surprising as the original goal of social media is to prompt social networking (Preeti & Gupta, 2018). By using people in media, users connected pig farming to real people and, therefore, make it more relatable and

friendly for consumers. Instagram users, specifically young users, looked to the platform to enhance social connections (Huang & Su, 2018; Marcus, 2015). Using people in the media helps users connect with the message and, by extension, the brand. Additionally, Instagram users are more likely to pay attention to posts with photos of people, especially their friends (Chen, 2018). Brands should consider using people in the media to connect with their audience.

Based on the large increase in advertising content from 2019 to 2020, advertisers used the traction #RealPigFarming gained throughout the campaign to promote their products and services on Instagram. This shift can be explained by the increased use of Instagram as a marketing tool (Appel et al., 2020).

Human nutrition occupied a small percent of the media in 2019 but decreased even more in 2020. During and after the National Pork Board's promotion of #RealPigFarming, users did not prioritize human nutrition content. As evidenced by the low engagement in this category, most Instagram users did not associate the #RealPigFarming campaign with human nutrition content.

In both 2019 and 2020, users were least likely to post media related to swine health. Instead, users were most likely to post media related to general pig farming and did not dive into the specifics of swine health content.

### **Recommendations and Implications**

This study analyzed existing Instagram content containing #RealPigFarming. The categories can be used as a basis for evaluating existing content related to the pork industry. The popular themes and contents from this data set should guide pork industry organizations and stakeholders in their current social media strategy. Further research

should be conducted to analyze what content consumers prefer to see and engage with on Instagram. This should include preferences for types of media, themes of media, themes of captions, and length of captions. Future studies should also analyze engagement associated with each of these categories to assess which posts receive the highest level of engagement in each category. This study should also be repeated to analyze a more recent time period to see if any new topics have arisen in each of the categories since October 2020. Future research also should examine #RealPigFarming content across other prominent social media platforms such as Facebook, Twitter, or TikTok.

Pork industry affiliates and social media users should use caution when employing hashtags in their brand strategy. Animal abuse surfacing as the main type of video content associated with the hashtag calls to question the risk of using a hashtag in branding strategy. When a brand uses a hashtag on social media, any user on the platform can employ the hashtag in posts which risks users creating negative posts and using the hashtag to gain the attention of the brand's audience. Brand presence on social media allows users to co-create the brand's identity with the organization (Vernuccio, 2014). Organizations have no control over what social media users post related to the brand and, therefore, no control of user contribution to the brand's identity. Social media practitioners should use caution when involving users in this process, specifically when using a centralized hashtag. Though user-generated content provides a high potential for positive interaction and increased consumer trust, there is also a risk for negative posts that can destroy the brand's image.

However, using a hashtag in social media strategy has a high potential for positive interaction and creating a message users can connect with. Thus, additional research

should be done to determine if additional hashtags or other unifying social media components are used to find additional pork industry-related social media posts outside of #RealPigFarming as well as to determine the same information for other livestock or food areas.

Given the lack of pork and human nutrition content in this data set, those advertising pork nutrition content should consider a different marketing strategy. Future research should analyze social media content related to pork as a food to find what consumers engage with as well as what kind of information they are interested in and looking for on social media. This also calls to question the association consumers make between swine production and pork as a food. Brands promoting the pork industry should keep this in mind when communicating with consumers.

The shift to more advertising content lends Instagram as a viable option for brands to connect with consumers, specifically, the younger audience of consumers. Brands should strongly consider using Instagram as a marketing tool and use the findings of this study to gauge what themes and types of content will resonate most with consumers. This shift also indicates the need for future research to analyze Instagram marketing content and the success of marketing strategies on the platform. With the rise of Instagram influencers, more research should be done to evaluate the effectiveness of influencers in marketing, specifically in the advertisement of agricultural products.

Despite Instagram's 10-year existence, little research on the platform exists. Future research should be conducted to determine consumers' preferences for Instagram content. More specifically, agricultural content should be analyzed to determine what themes emerged and which themes resonate with consumers. This will help inform

agricultural communicators on content consumers are looking for and help them to engage with consumers in the future.

Given Instagram's popularity among users ages 18-24, the platform will be an important element in communicating with the next generation of consumers. Therefore, future research on this platform will be imperative in determining communications strategies. Additional research should also follow this age group over time to determine how social media impacts purchasing decisions for pork and other agricultural products.

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## APPENDICES

### CODEBOOK FOR #REALPIGFARMING INSTAGRAM POSTS

APPENDIX A  
Codebook for #RealPigFarming Instagram Posts

## Codebook for #RealPigFarming Instagram Posts

General directions: Record all data on printed forms

**Unit of Data Collection:** Each publicly available post on Instagram containing #RealPigFarming in the caption or first comment of the post.

**Other Coding Instructions:** Only code the verbiage in the original posts' captions. Do not code any comments on the post.

**Post ID:** On each code sheet, enter the post's ID number provided with the screen capture of the post.

**Date of the Post:** Indicate the date the post was published in the following format: MM/DD/YY.

**Coder ID:** Indicate the individual who coded according to the coder ID list.

1. **Post publisher's username:** List the username of the person who published the post.
2. **Number of likes:** Identify the number of likes a post received by looking at the count provided by Instagram.
3. **Hashtag location:** Indicate where #RealPigFarming is tagged.
  - a. Caption: If #RealPigFarming is listed in the caption of the original post, then it will be listed as caption.
  - b. Comment: If #RealPigFarming is listed in the first comment and the first comment was published by the post publisher, then it is considered comment.
  - c. Both: If #RealPigFarming is listed in the caption and repeated in the first comment it will be categorized as both, only if the comment was made by the post publisher.
4. **Original or Share:** Indicate if the post is an original post or a share of a post.
  - a. Original post: The post in consideration was natively published by the user and has not been reproduced from another user's content.
  - b. Share: If the post in consideration was shared, "regramed," or directly duplicated from another user's post and that user is noted somewhere in the caption, it is considered a share.
5. **Media:** Indicate if the post contains one image, multiple images, or a video.
  - a. One image: The post only contains one still image.
  - b. Multiple images: The post contains more than one still image.
    - i. If the post contains multiple images, indicate how many still images are associated with the post
  - c. Video: The post contains a video.
    - i. If the post is a video, indicate the length of the video.
  - d. Image and video: The post contains at least one still image and a video.
6. **Photo contents:** Indicate the contents depicted in the photo. If there are multiple photos, code each one in the order they were published in the post.
  - a. Pigs only (no people)
  - b. People only (no pigs)
  - c. People and pigs together
  - d. Pork products
  - e. Graphic (text only or text and animated images)

- f. Equipment
  - g. Other
7. **Theme of Media:** Indicate the theme depicted in the photo or video.
- a. Human nutrition: media related to consuming pork
  - b. Animal abuse: negatively depicting the way animals are treated
  - c. General swine production practices: depicting typical production practices on a pig farm such as feeding, watering, breeding, etc. in a promotional or educational manner
  - d. Swine health: media specific to swine health and diseases (showing symptoms of diseases, preventive or curative veterinary medicine, veterinary medical procedures)
  - e. People: media highlights a specific person or shows a person's involvement in pig farming
  - f. Advertising: media is advertising a product or service related to the swine/pork industry
  - g. Other
8. **Video Contents:** Indicate the contents depicted in the video. If there are multiple videos, code each one in the order they were published in the post.
- a. Animal abuse: video shows inappropriate actions on pig farms or depicts pig treatment in a negative way
  - b. Pigs only: video depicts pigs in their environments without humans being shown or heard speaking
  - c. People only: video depicts a person talking or performing an action with no pigs shown
  - d. Pigs and people: video depicts pigs and people. The person/people may be talking or only performing actions
  - e. Pork: video depicts pork food products
  - f. Not a video
  - g. Other
9. **Theme of caption:** Indicate the theme described in the post's caption.
- a. Human nutrition: content related to consuming pork
  - b. Animal abuse: negatively describing the way animals are treated
  - c. General swine production practices: describes typical production practices on a pig farm such as feeding, watering, breeding, etc. in a promotional or educational manner
  - d. Swine health: content specific to swine health and diseases (describing symptoms of diseases, preventive or curative veterinary medicine, veterinary medical procedures)
  - e. People: caption highlights a person or describes a person's involvement in pig farming
  - f. Advertising: caption is advertising a product or service related to the swine/pork industry
  - g. Other

APPENDIX B  
Codesheet for #RealPigFarming Instagram Posts

**Post ID:** \_\_\_\_\_

**Date of Post:** \_\_\_\_\_

| <b>CATEGORY</b>   | <b>CODER RESPONSE</b> |
|-------------------|-----------------------|
| USERNAME          |                       |
| NUMBER OF LIKES   |                       |
| HASHTAG LOCATION  |                       |
| ORIGINAL OR SHARE |                       |
| MEDIA             |                       |
| PHOTO CONTENTS    |                       |
| THEME OF MEDIA    |                       |
| VIDEO CONTENTS    |                       |
| THEME OF CAPTION  |                       |

**CODER NOTES:**

VITA

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