Introduction

In a study from the Center for Food Integrity (2017), only 25% of respondents strongly agreed with the statement, "I trust today's food system." Additionally, only 50% of consumers stated they feel "somewhat positive" about U.S. agriculture (Center for Food Integrity, 2017). Allyson Perry, senior project manager for the Center for Food Integrity stated, "Agriculture doesn't have an image issue — it has a trust issue. There is a lack of trust in today's food system" (Brandon, 2015, p.1). Henderson (2018) said a lack of consumer trust is discerning and harmful to the agricultural industry because this lack of trust can lead to pressures for additional and unnecessary regulations, the rejection of food products, and consumers alternatively seeking information sources that may be unreliable and inaccurate.

To more effectively persuade individuals, one must first capture their attention by presenting information in an interesting and vivid manner (McKenzie-Mohr, 2011). Processing visual information takes less cognitive energy than interpreting text and individuals seem to be more likely to accept visuals as the truth (Rodriguez & Dimitrova, 2011). Visuals can aid in information exchange and retention, as well as keep an audience's interest better than text (O'Neill & Smith, 2014). The American Marketing Association claims, "Video reigns supreme as the most important medium today" (Ologie, 2017, para 1). In fact, visuals are processed 60,000 times faster than reading and are cognitively easier to consume, which is why there has been such a shift in public service announcements and campaigns from print and auditory materials to visuals and video (Clicktale, 2015). Along with utilizing video, it is important to consider who are used as on-camera sources. A message delivered by someone who is perceived as a credible source may have more of a significant impact on the audience than the same message delivered by someone who is seen less credible (Telg et al., 2012). For example, Callison (2001) tested source credibility by having different individuals with their title featured in the corner of the screen say the same message and asked participants who they trusted more. Participants trusted the same message from the president or CEO of the company more than from a communications director.

Although most consumers are geographically and generationally removed from agriculture (Laskaway, 2011), many consumers are interested in learning more about growing processes and forming connections to how their food is grown (Hamilton, 2004). Radke (2016) stated one of the biggest mistakes the agricultural industry has made is putting too much of an emphasis on educating consumers instead of connecting with them. Communicating about the agricultural industry is just as important as the production and scientific work (Fraley, 2017). "Improved communication is the *gateway* to meeting the food security and sustainability challenges" (Fraley, 2017, p. 1). In an attempt to connect with consumers, the message of food availability is often used. However, this message is not effective when trying to connect with consumers because most consumers are not concerned about not having enough food (Anderson, 2017). Consumers are also particular in what type of frames agricultural messages are in (Anderson, 2017). For instance, Augoustinos et al. (2010) found consumers do not want messages about food that have political or financial notions. Ruth and Rumble (2016) posit that communicators should focus on framing messages around the values of consumers in order to change attitudes and risk perceptions. More research needs to be conducted to identify what specific frames or themes consumers prefer when they are consuming agricultural messages (Ruth & Rumble).

Strategic communication involving value-oriented messages is necessary for the agricultural industry (Fischer, 2017). Value-oriented messages may increase the level of information processing and attitude formation that happens during message consumption (von Borgstede et al., 2014) because these types of messages can make information relevant to consumers' values, social beliefs, personal beliefs, and cultural connotations (Schultz & Zelzeny, 2003). Each individual has numerous values of varying levels of importance (Schwartz, 2012). Values provide a gateway for communicators to reference social beliefs and personal beliefs of the target audience (Wilkins et al., 2017). It is crucial to evaluate the effectiveness of messages the agricultural industry is sending to consumers (Goodwin et al., 2011) because sometimes the intended meaning of a particular message may be perceived differently by everyday consumers (Stevenson, 1997). Therefore, media messages that feature the specific values audience members also hold, will have a stronger chance of resonating with consumers and increasing consumer trust. Trust is integral to communicate effectively just as communicating effectively is integral in the formation of trust (Settle et al., 2017).

Research agendas have noted the need to develop effective messages. The National Research Agenda for the American Association for Agricultural Education named "Public and Policy Maker Understanding of Agriculture and Natural Resources" as the number one research priority in its 2011-2015 and 2016-2020 research agendas (Doerfert et al., 2011; Roberts et al., 2016). According to this national research priority, scientific focus should include increasing the understanding of message development and effectiveness, as well as the extent of change in audience attitude and perceptions after consuming information or experiencing an educational program about agriculture (Doefert, 2011).

Continuous response measurement (CRM), also called dial testing, is a tool to use when analyzing the changing nature of an individual's responses when it comes to viewing different messages because it can lead to more effective messages (Cummins et al., 2018). This tool can record real-time shifts in opinions and cognitive processing that traditional pencil-and-paper data collection tools cannot detect because pencil and paper can capture only one moment in time (Biocca et al., 1994). In a CRM study, individuals use a remote control-like device to continuously evaluate media content (Weaver et al., 2009). CRM measures can be integrated into experimental designs that involve the cognitive processing of communication messages because CRM is well-suited to capture the interaction of messages and psychological processes that occur when consuming media (Biocca et al., 1994). Dial testing throughout message development can lead to maximizing the impact and value of the communicative messages by identifying audience members' responses to specific message components (Cummins et al., 2018). CRM's ability to identify moment-to-moment cognitive shifts helps mitigate one of research's biggest problems – memory bias and flawed recall (Izenson, 2021). Maurer and Reinemann (2009) said CRM is a helpful and imperative tool for the social sciences and more social scientists should take advantage of it. When specifically looking at CRM involvement in agricultural communications research, a review of CRM implementation in the agricultural communications field identified only one other study involving CRM, which was a doctoral dissertation published in 2017, indicating the need for further studies utilizing CRM in the agricultural communications research realm (Tarpley, 2017). "While continuous response measurement, or moment-to-moment, equipment requires a significant monetary investment or the use of the equipment in another department or college, moment-to-moment studies should be more present in agricultural communications research" (Tarpley, 2017, p 105).

Others have researched trust in agricultural messages (Fischer, 2017; Settle et al., 2017; Tarpley, 2017), and several have noted the need to utilize CRM in agricultural communications research. Tarpley (2017) recommended agricultural communicators use dial testing methodology to determine real-time effects of media on consumers including measures of trust and credibility. The results of a moment-to-moment study would yield evidence regarding different audio statements that resonate best with consumers (Fischer, 2017). The current study provides evidence of the trust or skepticism consumers held with different agricultural messages.

Conceptual Framework

This study used CRM technology to collect data. While the CRM approach provides a rich amount of data, CRM is "a measure in search of a theory" (Biocca et al., 1994, p. 22). It is a media measure that cannot be explained by theories because of "the lack of satisfactory theory of moment-to-moment psychological properties" (Biocca et al., 1994, p. 23). Because CRM is truly a measure in search of a theory, multiple research areas comprised the conceptual framework for this CRM study. The conceptual framework incorporated the following concepts: trust in messages, trust in the agricultural industry, message delivery, narrative persuasion, and message quality.

Although trust in messages has been studied in a variety of disciplines such as psychology and marketing, trust is not a simple construct to define, which has been an ongoing issue in research (Settle et al., 2017). In terms of news media, magazines, and social media, trustworthiness and context related to content is of primary importance (Charanza & Naile, 2012). Trustworthiness continues to be of growing interest in the social sciences (Kohring & Matthes, 2007). Trust shows "how individuals perceive and evaluate news media" (Kohring & Matthes, 2007, p. 231). Additionally, "Trust is integral to communicate effectively" (Settle, et al., 2017). Trustworthiness in communication can be defined as the audience's acceptance of messages (Ohanian, 1990). To explore trust in messages, this study utilized a trustworthiness scale developed by Ohanian (1990), which is comprised of five dimensions: dependability, honesty, reliability, sincerity, and trust. Empirical studies have not further examined trust by looking individually at these dimensions of trust (Doney & Cannon, 1997) indicating more research is needed in this area. A review of literature revealed no studies to date have explored the differences between the dimensions of trust or people's perception of the different trust dimensions. The review of literature also found a lack of studies that utilized Ohanian's trustworthiness scale to identify how people trust messages. However, many trust scales exist to test how people trust people, not how people trust messages. Giffin (1967) created a source credibility scale often used in source credibility research (Brodsky et al., 2010; Marsh & Dibben, 2003). Trust is a complex and multi-dimensional construct, and it should be conceptualized as such because it is one of the main coordinating mechanisms that shapes social structure (Andaleeb, 1995).

As previously noted, there is a lack of trust in today's agricultural industry (CFI, 2017). Specifically, there is a lack of trust in certain messages associated with agriculture (Tarpley 2017). Industry reports have revealed consumers do not want scientific data about agriculture; they want to see evidence that those in the industry possess shared values when it comes to topics they care about most such as animal husbandry, environmental stewardship, and food safety (CFI, 2017).

Over time, the delivery of messages has changed as well. With the integration of new technology, more people are turning to video as a form of "visual news." Organizations and news outlets have recognized this transition and have begun creating their own videos regarding their specific news and posting them to video content sharing sites, such as YouTube (Pew Research Center, 2014). "Videos continue to emerge as the vehicle by which more online information is disseminated and consumed" (Chris, 2012, p. 1). Online videos are one of the most powerful storytelling tools for promoting products, including agricultural products (Kirkpatrick, 2017).

Along with the medium utilized in the message delivery, it is important to note that source credibility can also affect how a message is perceived. A speaker's perceived expertise, attractiveness, along with other components can affect a viewer's perception of how credible the speaker is (Hovland et al., 1953). The perception of the speaker can influence how a message is perceived and whether or not it will change attitudes (Underwood, 2003). This specific study did not examine the influence of source credibility on agricultural messages; however, the perception of source credibility may have been considered as viewers attended to the message. While this specific study did not directly measure perceived source credibility, the viewers most likely did their own evaluations of how credible they found some on-camera sources in comparison to others.

Narrative persuasion posits that how the story is told is as important as who is telling the story. Narrative persuasion presents messages in a story-like fashion in comparison to an abstract and educational form. This strategic approach to message development is meant to engage the audience in an emotional matter (Dahlén et al., 2009). An important component of narrative persuasion is character identification. Character identification is an emotional and cognitive undergoing where an audience member takes on the perspective of the character in the narrative and forgets their own reality (Cohen, 2001). Viewers are more likely to connect with messages and content in a movie or book if they are able to identify with a character (Cohen, 2001).

The quality of message content is also of importance when it comes to persuading others. In order to present information about agriculture that resonates more with individuals, value-oriented message appeals should be used (Krause et al., 2016). Value-orientated messages may increase the level of information processing and attitude formation that happens during message consumption (von Borgstede et al., 2014). Strategic communication in agriculture needs to include value-oriented messages (Fischer, 2017). "Communicators must provide messages that resonate with a public audience to build trust in agricultural practices" (Wilkins et al., p. 2). Communicators should focus on framing messages around the values of consumers in order to change attitudes and risk perceptions (Ruth & Rumble, 2016).

Purpose and Research Objectives

The purpose of this study was to determine the trustworthiness of different agricultural message statements featured in an agricultural video. This agricultural video was created to be a "pro-agriculture" video in hopes of sparking a positive perception of agriculture in consumers' and legislators' eyes after an anti-agriculture video was released while the 2018 Farm Bill was entering legislation (G. Joiner & G. Hall, personal communication, September 21, 2018). The following research objectives guided the study:
   1) Identify what message statements participants deem most trustworthy and most untrustworthy.

2) Determine the on-camera sources featured (both visually and audibly) during the most trusted and most distrusted message statements.
3) Describe emerging themes of the message statements present in the peak (positive) identified critical moments and in the trough (negative) identified critical moments, which are derived from CRM data.

Methodology

This experiment examined trustworthiness in agricultural messages through continuous response measurement (CRM) and self-report measures. CRM is the ability to track real-time responses of individuals exposed to different visual or audio messages. The stimulus was a video produced by the Texas Farm Bureau titled "Our Food." Although one of the goals of the video was to get people thinking about the Farm Bill and how it can affect farmers and ranchers, the purpose of this video was to persuade consumers they can trust farmers and ranchers when it comes to producing food (G. Joiner & G. Hall, personal communication, September 21, 2018). The video lasts approximately three minutes and was published on February 19, 2018, via the organization's YouTube page, Facebook page, and Vimeo page.

The population for the study was undergraduate and graduate students at Texas Tech University. The sample consisted of 151 students (18 years or older) who volunteered to participate in research through the College of Media and Communication SONA system, which allows students to sign up for different studies occurring on campus and receive extra credit for participating. Seventy-one percent of participants ($n = 107$) identified as female, 27.8% ($n = 42$) of the participants identified as male, and 1.3% ($n = 2$) participants choose the "other" option. Nearly 30% ($n = 45$) were majoring in the College of Agricultural Sciences & Natural Resources while approximately 70% ($n = 106$) were not.

All participants watched the same video; however, we randomly assigned each participant group session to one of the five dimensions of trustworthiness (Ohanian, 1990): dependability ($n = 31$), honesty ($n = 32$), sincerity ($n = 30$), reliability ($n = 29$), and trust ($n = 29$). Participants were randomly assigned a single trust dimension rather than rating all trust dimensions in order to minimize the fatigue of watching the same video five times and to promote fluency in responding to the video (Woltman et al., 2004). While watching the video, participants were asked to continuously indicate their agreement or disagreement with the assigned prompt using a CRM tool called a dial. For example, one group was prompted with the statement "This message is honest" before watching the video. Participants were not read a definition of each trust dimension. With all dials set at 50 to begin, participants then used their dial to indicate their evaluation of the messages in the video by turning their dial to the left or right. The far left of the dial, which was set at 0, indicated "strongly disagree" and the far right of dial, set at 100, indicated "strongly agree." The other prompts used were: "This message is dependable."; "This message is reliable."; "This message is sincere."; and "I trust this message."

Data were collected each second of the 184-second video for each participant. CRM data can be analyzed both visually by inspecting the visual representation of mean series or by a more formal process of analyzing the peaks and troughs (Biocca et al., 1994; Cummins et al., 2018; Izenson, 2021). To determine moment-to-moment perceived trustworthiness, change scores for each second were calculated by subtracting the initial raw value from each subsequent raw value (Cummins & Gong, 2017). By starting at the scale midpoint (50), participants could report lower scales from that initial point to indicate a negative response, allowing for a bipolar response from

the initial value (Burton et al., 2015). Group change scores for each second of the 184-second video from participants in each trust dimension group were averaged and used to create visual representations of the change in participants' trust throughout the duration of the video.

In the current study, critical moments from the CRM data were coded for different agricultural messages that occurred in the video. As an individual cognitively processes media, his or her experiences and shifts in cognitive states are made up of moments of truth, or critical moments (Izenson, 2021). After arranging the group mean change scores for each second of the video into a visual representation, the lead researcher recorded critical moments through peak-and-trough analysis. "A visual inspection of the mean series clearly shows points in the series where audience movement was distinctly higher or lower than the mean" (Biocca et al., 1994, p. 38). Maximum contrast moments (high and low change score moments) were recorded to identify stronger messages (peaks) and weaker messages (troughs) (Biocca et al., 1994). Visually speaking, peaks are spikes that indicate a positive impression and troughs are dips or valleys, which indicate a negative impression. When CRM is used to code video content for critical moments, researchers can examine the relationship between certain scenes and time to identify trends or themes in messages (Biocca et al., 1994). This analysis allowed us to identify exactly what agricultural messages in the video participants trusted and distrusted the most, which addresses research objective one.

To answer research objective two, the highest peaks and lowest troughs across the five different trust dimensions were first identified. Then, screenshots were captured at those moments to see if there were any patterns among the on-camera sources used. On-camera sources had to be featured visually and audibly (voiceovers were not considered on-camera sources).

To answer research objective three, themes were identified from critical moments in the data. The spoken agricultural messages in the video that were identified as peak and trough critical moments (reported in RO1) were organized into emerging themes using the constant comparative method. The constant comparative method involves breaking down data into units and coding them into categories (Glaser & Strauss, 1967).

Results

RO1: Identify what message statements participants deem most trustworthy and most untrustworthy.

The peak-and-trough analysis identified 74 total critical moments: 43 peaks and 31 troughs. This analysis revealed the agricultural messages participants found most trustworthy varied based on the trust dimension (i.e., reliable, dependable, sincere, trust, honest) the participant group was prompted with to evaluate throughout the video. For example, Table 1 shows the message "If I can't feed my family, I can't feed yours" was rated the most dependable in the dependable group, but the same message was the least reliable in the reliable group. In some cases, regardless of the dimension participants were prompted with, the highest peaks and lowest troughs in different trust groups were the same message. For instance, both the trust group and the sincere group rated the following message the highest: "I face adversity just like you. We have connection, you and I."

Table 1

Highest Peaks and Lowest Troughs of Participant CRM Data Across All Ohanian (1990) Dimensions of Trustworthiness

Trustworthiness Dimension	Highest Peak	Peak Change Score	Lowest Trough	Trough Change Score
Trust	"I face adversity just like you. We have a connection, you and I."	36.27	"I'm not going to tell you what to eat."	13.62
Honest	"We wouldn't feed you something we wouldn't feed our kids."	27.93	"I'll grow what you want to eat, but we don't think your food should be a political statement."	12.50
Dependable	"If I can't feed my family, I can't feed yours."	24.81	"…and consumer. My passion is to grow food."	2.40
Reliable	"If I can't feed my family, I can't feed yours."	24.13	"…and consumer. My passion is to grow food."	6.07
Sincere	"I face adversity just like you. We have a connection, you and I."	20.83	"It's [caring for the environment] my life. Today's farming techniques means I use less."	5.40

Figures 1 and 2 below provide insight into when these critical moments occurred in the duration of the video across the five trust dimensions. Figure 1 showcases the highest rated positive critical moments (peaks) across the trust dimensions and features callout boxes with the message participants rated the highest. The message "I face adversity just like you. We have a connection you and I." was rated as the most trusted message among the different trust dimensions. Figure 2 showcases the lowest rated negative critical moments (troughs) across the trust dimensions and features callout boxes with the message participants rated the lowest in terms of the different trust dimensions. The message "… and consumer. My passion is to grow food." was rated as the least trusted message amongst the different trust dimensions.
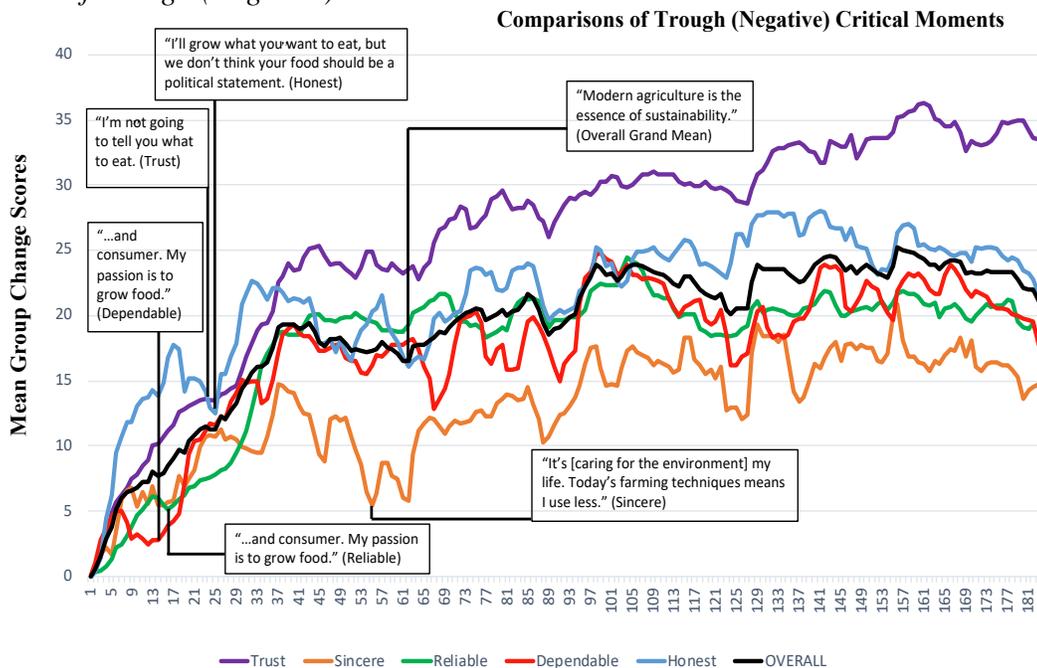
Figure 1
Comparisons of Peak (Positive) Critical Moments
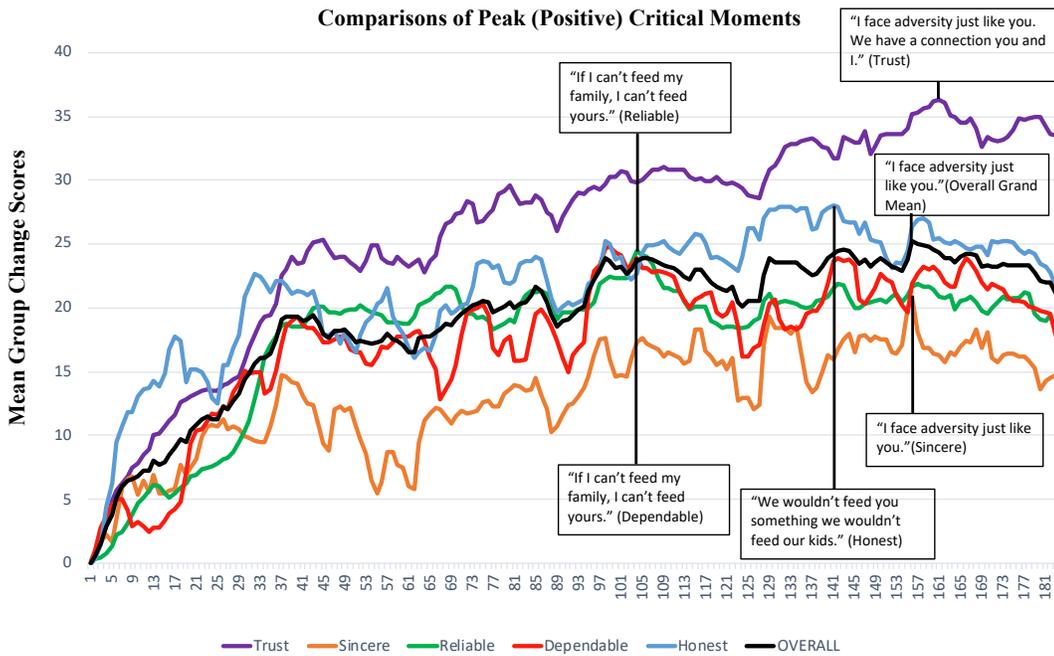
Note. A visual representation of the comparison of different peak (positive) critical moments across the different trust dimensions.

Similar to Figure 1, Figure 2 also features the different critical moments identified throughout the duration of the video, but Figure 2 features the trough or negative critical moments as they occurred.

Figure 2
Comparisons of Trough (Negative) Critical Moments

Note. A visual representation of the comparison of different trough (negative) critical moments across the different trust dimensions.

RO2: Determine the on-camera sources featured (both visually and audibly) during the most trusted and most distrusted message statements.

As mentioned in the methodology, upon identifying the highest peaks and lowest troughs across the five different trust dimensions, screenshots were captured at those moments to see if there were any patterns among the on-camera sources used. On-camera sources had to be featured visually and audibly (voiceovers were not considered on-camera sources). Table 2 displays who was featured during the highest peak of each trust dimension.

Table 2
On-camera Sources Featured During the Highest Peaks of Participant CRM Data Across All Ohanian (1990) Dimensions of Trustworthiness

Trustworthiness Dimension	Highest Peak & Screenshot of On-camera Sources	
Trust	"I face adversity just like you. We have a connection, you and I."	The male rancher said the message.
Honest	"We wouldn't feed you something we wouldn't feed our kids."	The woman holding the child said this message.
Dependable	"If I can't feed my family, I can't feed yours."	
Reliable	"If I can't feed my family, I can't feed yours."	

Table 2 Continued

Trustworthiness Dimension	Highest Peak	Screenshot of On-camera Sources
Sincere	"I face adversity just like you. We have a connection, you and I."	The male rancher said the message.

Note. If a trust dimension features two screenshots per peak or trough, this means the video cut to have multiple on-camera sources say parts of the message. If multiple people are in one screenshot, who specifically said the message is identified below each screenshot.

Table 3 shows the on-camera sources featured during the lowest troughs of the participant CRM data across the different trust dimensions.

Table 3
On-camera Sources Featured During the Lowest Troughs of Participant CRM Data Across All Ohanian (1990) Dimensions of Trustworthiness

Trustworthiness Dimension	Lowest Trough	Screenshot of On-Camera Sources
Trust	"I'm not going to tell you what to eat."	The woman between the two children said the message.
Honest	"I'll grow what you want to eat, but we don't think your food should be a political statement."	The man in the flower pattern shirt said, "I'll grow what you want to eat."

Table 3 Continued

Trustworthiness Dimension	Lowest Trough	Screenshot of On-Camera Sources
Honest (continued)	"I'll grow what you want to eat, but we don't think your food should be a political statement."	The man in the blue long sleeve said, "But we don't think your food should be a political statement."
Dependable	"…and consumer. My passion is to grow food."	
Reliable	"…and consumer. My passion is to grow food…"	
Sincere	"It's [caring for the environment] my life. Today's farming techniques means I use less."	The man said, "It's my life." The man in the vest said, "Today's farming techniques means I use less."

Note. If a trust dimension features two screenshots per peak or trough, this means the video cut to have multiple on-camera sources say parts of the message. If multiple people are in one screenshot, who specifically said the message is identified below each screenshot.

RO3: Describe emerging themes of the message statements present in the peak (positive) identified critical moments and in the trough (negative) identified critical moments.

The critical moments identified across the trust dimensions were divided into a peaks group ($n = 43$) and a troughs group ($n = 31$). Those two groups were then analyzed and seven emergent themes were identified: politics in agriculture; passion in agriculture; agriculture as a family endeavor; agriculture is sustainable; purchasing choice in agriculture; economics and security of agriculture; and connection between producer and consumer. For the sake of data reduction, Table 4 features only the highest ranked peak critical moment for each of the trust dimensions categorized into themes, and Table 5 features the lowest trough (negative) critical moment for each trust dimension categorized into themes. Some messages may appear multiple times, indicating the message was the lowest ranking trough critical moment for more than one trust dimension.

Table 4
Highest Peak Critical Moment for Each Trustworthiness Dimension Categorized into Themes

Trustworthiness Dimension	Peak Critical Moment Messages	Theme
Trust	"I face adversity just like you. We have a connection, you and I."	Connection Between Producer and Consumer
Honest	"We wouldn't feed you something we wouldn't feed our kids."	Agriculture as a Family Endeavor
Sincere	"I face adversity just like you. We have a connection, you and I."	Connection Between Producer and Consumer
Dependable	"If I can't feed my family, I can't feed yours."	Agriculture as a Family Endeavor
Reliable	"If I can't feed my family, I can't feed yours."	Agriculture as a Family Endeavor

Table 5
Lowest Trough Critical Moment for Each Trustworthiness Dimension Categorized into Themes

Trustworthiness Dimension	Peak Critical Moment Messages	Theme
Trust	"I'm not going to tell you what to eat."	Purchasing Choice in Agriculture
Honest	"I'll grow what you want to eat, but we don't think your food should be a political statement."	Politics in Agriculture
Sincere	"It's my life. Today's farming techniques mean I use less."	Agriculture is Sustainable
Dependable	"…and consumer. My passion is to grow food."	Passion in Agriculture
Reliable	"…and consumer. My passion is to grow food."	Passion in Agriculture

Conclusions, Discussion, & Recommendations

More research is required to understand how to increase knowledge of agriculture and trust in the agricultural industry (Settle et al., 2017). Previous researchers have suggested conducting experiments that incorporate moment-to-moment analysis in agricultural communications would help to better understand what agricultural messages resonate best with consumers (Fischer, 2017; Krause et al., 2016; Tarpley, 2017). The current study contributes to this body of knowledge by showcasing how different types of agricultural messages can elicit various levels of trust.

Despite previous literature showing a strong distrust in agriculture (Center for Food Integrity, 2017; Henderson, 2018), this study revealed participants trusted the agricultural messages presented in the video. This is evident in examining the mean series score in Figure 1. There was not a strong distrust that resulted in the group mean change scores dipping below the midpoint (50) on the dial, which is displayed as 0 on the figure. All troughs (dips in impressions) occurred near the midpoint, showing it is not that consumers distrust the agriculture industry entirely, but they are skeptical about certain messages and components. The line never dipped below 0, which would have indicated a strong distrust. Instead, we see little divots throughout the positive mean series score indicating where participants had some skepticism regarding that specific moment. Additionally, out of the 74 critical moments, 31 were troughs and 43 were peaks, meaning there were more positive impressions of agricultural messages than negative ones.

The overall highest rated message across the trustworthiness dimensions was the message, "I face adversity just like you. We have a connection, you and I." This message statement was ranked the highest in both the trust dimension and the sincere dimension. Examination of the participants' thought-listing responses from these groups provided additional insight. One participant in the sincere dimension group wrote: "The people in this video gained my trust and respect. They are genuine and work hard." Based on the open-ended responses, it appears participants valued family and hard work. Our results confirm previous research findings that found value congruent messages resonate more with individuals (Fischer, 2017; Krause et al., 2016;) and can make information more relevant and appealing to individuals, which may assist in persuasion or the changing of attitudes (Schultz & Zelzeny, 2003).

The lowest rated message across trustworthiness dimensions came from the dependable group. The lowest rated message was the message "…and consumer. My passion is to grow food," which was rated as a trough or negative impression. To discover why this was lowest rated message, we referred to the dependable dimension participants' thought-listing responses. A participant in this group made the comment: "Farmers and ranchers only care about making money. They don't care what I eat, only that I buy it." Another participant made the comment: "Do these farmers care about growing food for everyone like they say, or only those who can afford it and those who they can profit off of?" Additionally, the lowest trough out of the overall mean series fell under the theme "agriculture is sustainable," which means on average across all of the participants, this was the least trusted theme, with nine messages falling under the category. This outcome is similar to the Center for Food Integrity's (2017) research that found only 30% of consumers think U.S. farmers take good care of the environment. Agriculture needs to learn how to better communicate sustainability efforts and practices to consumers. Improved communication is vital to meeting sustainability challenges and fighting negative perceptions of environmental factors in agriculture (Fraley, 2017).

We recommend the agricultural industry be careful in explaining the benefits it adds to the economy and avoid always presenting information from a monetary and fiscal standpoint as it may make it seem as though profit is all agriculture cares about (Anderson, 2017; Augoustinos et al., 2010). Augoustinos et al. (2010) advised specifically against framing agriculture in a financial and political context specifically because these messages will not resonate with consumers, which is in accordance with this study's results.

Research objective two sought to determine the on-camera sources featured (both visually and audibly) during the most trusted and most distrusted message statements. Although no clear patterns emerged from identifying the on-camera sources during the highest peak and lowest trough critical moments (such as a specific source being rated as untrustworthy across the different trust dimensions), participant data derived from the thought-listing exercise provided insight into their perceptions of the on-camera sources. One participant noted, "I like the older man, he reminds me a lot of my grandfather and you can tell he loves what he does." Participants may have been participating in character identification while consuming the media, which allows for content to be more persuasive if a participant is emotionally connecting with a character (Cohen, 2001). Although this study did not evaluate participants' trust in individual on-camera sources but rather trust in messages, future studies should examine what source (i.e. a mother, young farmer, older farmer, female farmer, or other individual) is the most trusted when saying the same agricultural message. A message delivered by someone who is perceived as a credible source may be perceived as a more trustworthy (Telg et al., 2012), which is what Callison (2001) found in his study regarding source credibility. Additionally, this specific video never verbally mentioned Texas Farm Bureau as the creator, but it did feature the Texas Farm Bureau logo. This study should be replicated and feature different agricultural organizations to see if the attribution influences evaluation of the messages.

Research objective three aimed to describe emerging themes of the message statements present in the peak (positive) identified critical moments and in the trough (negative) identified critical moments, which are derived from CRM data. The highest peaks for each trustworthiness dimension fit in the themes of "agriculture as a family endeavor" and "connection between producer and consumer" meaning consumers trusted and resonated with these messages the most. Participants seemed to like the idea of a "connection" between farmers/ranchers and consumers. Appealing to consumers in an effort to connect with them can benefit the agriculture industry (Center for Food Integrity, 2017).

When considering the message themes with the lowest troughs across the trust dimension groups, participants were skeptical of farmers' and ranchers' motivation and passion in doing what they do. This conclusion is based on the lowest rated message, which was "…and consumer. My passion is to grow food." The agricultural industry often touts a message of feeding the world (Anderson, 2017). For some consumers, this may conjure images of a manipulative government, which has created a social and political debate when it comes to food (Augoustinos et al., 2010). This implies consumers do not want to think of their food in a political context. Improved communication messages are vital to meeting production challenges and fighting negative perceptions of agriculture (Fraley, 2017). The agricultural industry needs to be more proactive in sharing stories that feature producer's passion when it comes for caring for the land and providing food and fiber for others (Schultz & Zelzeny, 2003). This study found messages that emphasized "agriculture as a family endeavor" and provided a "connection between producers and consumers" resonated the most with participants.

One recommendation for future research is to replicate this study with a random sample of the U.S. population using a video produced by a national agricultural organization, rather than a state organization. Doing so would provide more generalizable results. In addition, although our study did not examine the effectiveness of source credibility on the perceived trust or distrust of a message, researchers should test this video with different participant groups who are told the video was produced by different agricultural organizations or businesses to determine how much of an impact source credibility has on message trust. Future research should be conducted to see how influential certain message statements are when they come from different on-camera sources (Cummins et al., 2018; Fischer, 2017).

Finally, another CRM study should be conducted using video stimuli featuring value-oriented statements that may align with participants' values. Strategic and intentional message development of agricultural messages is imperative to achieve industry goals (Fischer, 2017). After watching the video, participants should complete a questionnaire to identify and prioritize different values, social beliefs, and personal beliefs (Center for Food Integrity, 2017; Fischer, 2017). The researcher could then use the CRM data to identify peaks and troughs throughout the duration of the video and compare those to the participants' identified values to see if value-congruent messages elicit higher levels of trust in different agricultural messages.

In terms of recommendations for practitioners, value-oriented messages should be implemented when trying to increase trust in the agricultural industry or when trying to persuade the public (Ruth & Rumble, 2016). Additionally, organizations should be utilizing video as a medium to share information about agriculture as opposed to text-only channels. This form of communication allows for a more engaged audience and can convey a great deal of information in a short amount of time (Kirkpatrick, 2017). Video messages should show more vulnerable parts of agriculture, as participants appreciated the adversity message and questioned if producers are really passionate about what they do. Before implementing a campaign with informational videos, practitioners should use CRM to test and develop different messages. Implementing CRM during message development can result in videos featuring the most strategic and effective messages for the intended audience (Cummins et al., 2018). Continuous response measurement gives agricultural communicators the ability to see real-time cognitive shifts as they unfold, which traditional pencil-and-paper questionnaires do not have the capability to capture. Pairing CRM data and traditional questionnaires provides a more complete understanding in the development and implementation of video for strategic communication efforts.

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