Introduction/Literature Review

Social media platforms have become important tools for communicators to reach broad audiences in an instant (Zhao et al., 2020) and are popular tools audiences use to engage with the world (Allen, 2019; Brown, 2018). In 2020, the average American spent 144 minutes scrolling through social media every day (Henderson, 2020). Just under half of U.S. adults (43%) receive their news from online sources, with 18% being strictly social media sources (Mitchell et al., 2020).

Social media users today view content based on engagement-based algorithms (versus timeline-based algorithms), which creates a new level of connection across platforms. This means what you interact with on one site will influence what you see on that platform and others. Eventually, this places social media users into their own "filter bubble" (Pariser, 2011) meaning they only spend time with content they "like," meaning they have engaged with it (Digital Marketing Company, 2019a). The concept of a filter bubble is similar to the metaphor of an echo chamber, which describes social media users' tendency to selectively engage with content that agrees with existing views, beliefs, and opinions (Cinelli et al., 2021). Algorithm-driven content streams on social media have intensified the presence of filter bubbles and echo chambers (Terren & Borge, 2021). Therefore, users are receiving less exposure to diverse points of view. The content they do see is determined by their attitude and actions (Pariser, 2011), which is related to the concept of confirmation bias.

Confirmation bias is defined as seeking information that emphasizes or confirms pre-existing beliefs (American Psychology Association, n.d.; Klein, 2019; Klayman, 1995; Nickerson, 1998), and it is a continuous process used to limit cognitive dissonance (Festinger, 1957; Noor, 2020). Confirmation bias is often expressed through selective exposure (Fischer et al., 2020; Knoblock-Westerwick et al., 2015a; Westerwick et al., 2020.), a deliberate behavior one commits to attain control over events in life to limit cognitive discomfort (Zillmann & Bryant, 1985). Selective exposure is a behavioral cognitive process individuals do, most likely subconsciously, to focus on information that helps affirm pre-existing attitude rather than causing discomfort through information that disagrees (Knobloch-Westerwick & Kleinman, 2012). Williams et al. (2016) theoretically connected selective exposure and confirmation bias into a positive feedback cycle when researching employees' attitude development. Williams et al. (2016) found that employees with a positive attitude toward the company will seek out the positive aspects or virtues, which then confirms their positive attitude (bias) of the company, causing them to find more evidence to support their positive attitude (selective exposure). When referring more specifically to the role of attitudes, selective exposure is described as the action of choosing attitude-consistent information rather than attitude-discrepant information (Knobloch-Westerwick et al., 2015b).

Garrett (2009) found evidence to support the idea that people will limit cognitive dissonance through selective exposure. Results indicated that participants tended to seek out attitude-supporting websites; however, that did not stop them from visiting attitude-opposing websites. This implies that in online environments, to limit or avoid dissonance, people will seek out reinforcing information over challenging information (Garrett, 2009). More recent studies have demonstrated how new algorithms cause users to be selectively exposed to content that matches their attitudes, beliefs, and opinions (Knobloch-Westerwick & Kleinman, 2012; Knobloch-Westerwick et al., 2015a; Knobloch-Westerwick et al., 2015b; Ling, 2020; Westerwick et al., 2020; Zhao, 2020). These studies have measured selective

exposure based on time spent on content to demonstrate confirmation bias when participants gravitate toward attitude-consistent (i.e., agreeable) messages, rather than attitude-discrepant (i.e., disagreeable) messages.

Knoblock-Westerwick et al. (2015a, 2015b) investigated the relationship between an individual's search results on social media and attitude toward political messages. The two studies had a similar goal to test selective exposure but in two different populations – Americans (Knoblock-Westerwick et al., 2015a) and Germans (Knoblock-Westerwick et al., 2015b). The primary finding in both studies was that social media users spent more time with attitude-consistent messages rather than attitude-discrepant messages.

Sude et al. (2019) evaluated how selective exposure and incidental exposure shapes attitude and public opinion. Participants were asked to provide their attitude regarding nine topics (six target issues and three distractor) before viewing the stimuli. The messages were presented as online articles about controversial topics, and participants were instructed to explore whichever articles they found interesting based on the headlines. After the stimuli, participants moved into a post-test question were they again asked to indicate their attitude on all the topics. The researchers found evidence of confirmation bias with participants spending more time on attitude-consistent than attitude-discrepant messages (Sude et al, 2019).

Expanding on the idea that attitude affects a user's selective exposure to ultimately display their confirmation bias, Westerwick et al. (2020) researched how a person's confirmation bias is impacted by the source credibility of a peer or professional. A peer source was defined as a source similar to a personal account (e.g., blogs and social media) and a professional source was defined as a source from a news organization. Confirmation bias was demonstrated through time of selective exposure, as participants spent 15 more seconds on articles that were consistent with their attitude, regardless of the source (Westerwick et al., 2020).

Selective exposure has been studied within agricultural communications using a different methodological approach. Fischer et al. (2020) evaluated visual attention through eye-tracking of different messages presented within a researcher-created magazine stimulus. The study determined what about an advertisement attracted the most attention and to which frame (scientific or value-oriented) participants paid more attention. Results indicated participants were more likely to give their attention to value-oriented messages over scientific ones. The researchers concluded that participants spent more time on value-oriented messages because participants were "exposed to information that affects them personally or their families" (Fischer et al., 2020, p. 16). Essentially, the topics were important to them. Value-oriented messages increased motivational saliency, which is the cognitive process that motivates an individual to selectively choose information (Fischer et al. 2020).

As individuals increasingly rely on social media for information, they are seeing only partial information being presented to them through "filter bubbles" (Pariser, 2011). Like many industries, agriculture has had to adapt to the new era on social media to market their business and products directly to consumers; to learn and connect to other agriculturists; and to correct misinformation about the industry (Dobbins et al., 2021; Shaw et al., 2015; White et al., 2014). With the increasing amount of information online, the spread of misinformation has become increasingly dangerous because information can come from any source, credible or not, and not all topics are presented equally from multiple perspectives (Dobbins et al., 2021; Melki et al., 2021). This reinforces the need to explore the role of confirmation bias and

selective exposure to information presented to social media users through these platforms. Understanding how attitudes and perception of topic importance impacts audience members' selective exposure to agricultural social media messages will help improve communication strategies.

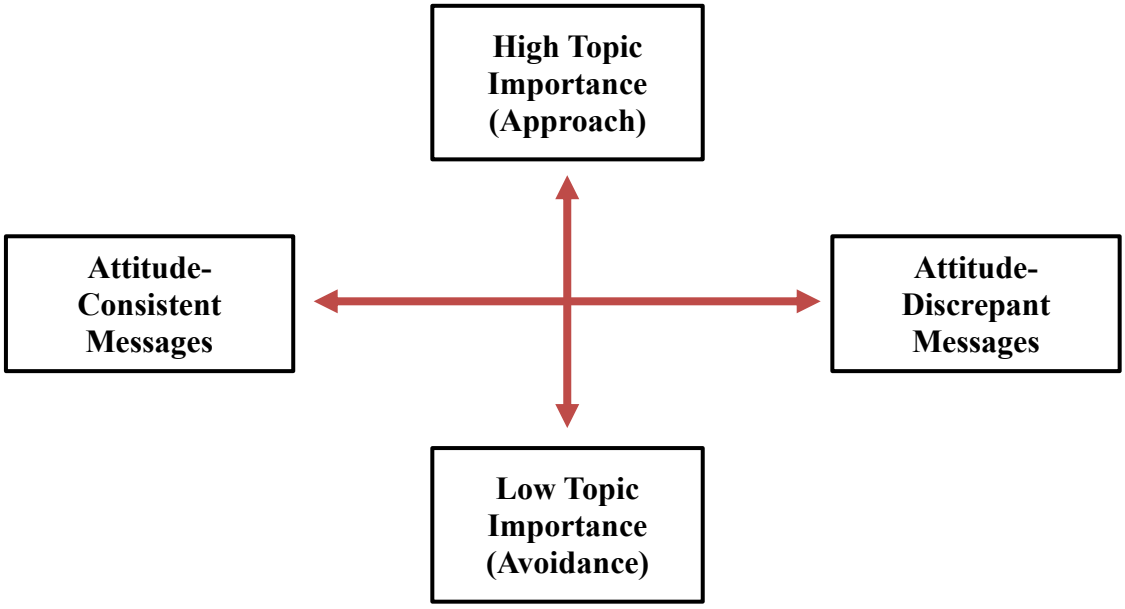
Theoretical Framework

The two frameworks used to guide this study were the theory of cognitive dissonance and the approach-avoidance model. Together, these frameworks explain the cognitive process of confirmation bias, seen through the behavior of selective exposure – purposely exposing oneself to information that agrees with existing attitudes or beliefs. The basic tenet of cognitive dissonance is when we encounter information that conflicts with our beliefs (and therefore with our goals and actions), a psychological discomfort emerges, and we start to find ways to limit the discomfort (Festinger, 1957). The process of reducing cognitive dissonance can happen by avoiding information that causes discomfort and approaching/seeking information that creates psychological comfort (Harmon-Jones & Mills, 2019).

The approach-avoidance model (Lowin, 1967) describes the two choices an individual experiences during a situation of dissonance. This model is directly tied to the behavior of selective exposure. According to Lowin (1967), people will approach information that agrees with previous beliefs and avoid information that would cause cognitive discomfort. He expanded this idea to add message strength as an additional factor to selective exposure. Lowin (1967) stated, "consonant information is always approached and dissonant always avoided. The more potent the message, the stronger the approach or avoidance tendency; the weaker the message, the weaker the tendency" (p. 2). While Lowin never created a physical model, Bruning and Campion (2018) offered a figure to help visualize the concept of approach-avoidance. This visual has been adapted to fit the present study (Figure 1), displaying how people will approach messages with a high topic importance and avoid messages with low topic importance. The figure also presents the role of attitude with a spectrum from attitude-discrepant to attitude-consistent messages (Bruning & Campion, 2018). In a study about how source credibility impacted selective exposure, Westerwick et al. (2020) found support for the approach-avoidance model's tenets. Participants sought out the information that agreed with existing attitudes, rather than information that contradicted them.

Figure 1

Approach-Avoidance Model (Adapted from Bruning & Campion, 2018)



Purpose & Research Questions

The purpose of this study was to determine the effect of attitudes and topic importance on an individual's selective exposure when seeking agricultural information on social media. The following research questions guided the study:

RQ1: What were participants' attitudes and topic importance of antibiotic use in livestock and agriculture's impact on climate change?

RQ 2: How much time did participants allocate to viewing the message stimuli?

Methods

This quantitative study employed a quasi-experimental design, which strives to measure the effect between an independent and dependent variable. While this approach is similar to an experimental design study, the researcher has no control over participants' exposure to the stimuli (Campbell & Stanley, 1959). The design of the study focused on allowing participants to self-select which messages were viewed and time spent on each message. The messages were created using a 2 (topic: climate change vs. antibiotics in livestock) x 2 (attitude: pro-agriculture/support vs. anti-agriculture/oppose) design. This study was modeled after procedures from Sude et al. (2019) and was completed within a laboratory setting. While decreasing the ecological validity of the study, the laboratory setting allowed us to minimize distractions and create a consistent environment for each participant (Wimmer & Dominick, 2014). Selective exposure was measured both by selecting a specific stimulus (or

not) and by the amount of time participants spent on blog posts; therefore, conducting the study in the lab allowed researchers to gain a more valid measurement of time spent on each message stimuli when other distractions were removed.

The study's instrumentation was a questionnaire created in Qualtrics with the message stimuli embedded. A pilot test was conducted with graduate students in agricultural education, agricultural communications, and agricultural leadership to examine the flow of questions, establish the reliability of items, and message test the stimuli. Based on the feedback, a few revisions were made to improve the instrument flow. A panel of experts in agricultural communications and survey instrument development reviewed the questionnaire and message stimuli to establish face validity.

Population and Sample

The target population for this study was college students. The accessible population was undergraduate students at Texas Tech Univeresity. According to the Pew Research Center, members of Generation Z are those born after 1996, and 57% of 18- to 21-year-olds no longer in high school are enrolled in a two-year or four-year college (Parker & Igielnik, 2020). Members of Gen Z are considered "digital natives" because they have grown up with access to digital technology such as the internet and smartphones (Parker & Igielnik, 2020). Additionally, 76% of college students, of any age, are active on social media for 1-10 hours/day and this increases to 80% of students on weekends (Knight-McCord et al., 2016). For college students, social media platforms are not only tools used for connecting with family and friends, but also serve as the main place to find news (Pew Research Center, 2021).

Participants were recruited through an online university system recruitment portal. Students from across campus voluntarily join this system and can select studies to complete for extra credit in their classes. Data were collected from 117 participants over three weeks in 21 different group sessions. Eight participants were removed due to incomplete responses. The final sample size was 109 participants.

Most participants identified as female (n = 87, 79.8%) and the remaining identified as male (n = 22, 20.2%). Participants' ages ranged from 17-48, but most (n = 98, 89.9%) were classified as Generation Z (ages 19-24). Most participants selected Caucasian (n = 78, 71.6%) as their ethnicity. The remaining participants' ethnicity was as follows: Hispanic or Latinx (n = 19, 17.4%), African American (n = 9, 8.3%), American Indian (n = 2, 1.8%), and Asian (n = 1, 0.9%). Almost half of the participants were students in the College of Human Sciences (n = 54, 49.5%), followed by the College of Agricultural Sciences and Natural Resources (n = 28, 25.7%), then the College of Media Communication (n = 22, 20.2%). The remaining 10 students were enrolled in three other colleges on campus. To describe their agricultural involvement beyond college affiliation, we asked participants to respond to 10 items on a 7-point Likert-type scale (1 = *Strongly Disagree* to 7 = *Strongly Agree*). This scale has been previously tested and found to have a reliability of $\alpha = .97$ (Tarpley et al. 2020). The grand mean for this variable was 3.71 (SD = 1.70, Mdn = 3.40) indicating participants were overall somewhat involved with agriculture.

Message Stimuli

The message stimuli participants viewed included two parts: a Twitter feed with fictional links to four blog posts and the complete blog posts. Treatment variance and message variance were achieved with two levels of treatment and two message topics (Thorson et al., 2012). The treatment was the attitude of the message (pro-agriculture/support vs. anti-agriculture/oppose). The two topics per treatment were antibiotic use in livestock and agriculture's impact on climate change. These topics were chosen due to opinion polarity seen in national news coverage (Steede et al., 2019; Taddicken & Wolff, 2020). Consumers have indicated they want more information about antibiotic use in livestock (PR Newswire, 2011) and are concerned about antimicrobial use in meat production (Barrett, et al., 2021; Busch et al., 2020). In a survey of respondents from three countries, Busch et al. (2020) found participants perceived risks associated with using antibiotic in animal agriculture.

Other studies have found consumers are concerned about climate change (Michigan State University, 2020) with those in Generation Z expressing the most interest in addressing climate change (Funk, 2021). The Pew Research Center found people who are engaged in this topic on social media platforms are more likely to have emotional reactions – and many of these people are in younger generations such as Gen Z (Funk, 2021).

The four blog messages were modified from published material about the selected topics (beefwhatsfordinner.com, 2021; Carrington, 2018; Groosman, 2021; Kleven, 2020). They were edited to have word counts near 800 words, within a 10% range (± 80-word, 720-880). Figures 2 and 3 provide excerpts from the pro-agriculture/support and anti-agriculture/oppose blog posts provided for agriculture's impact on climate change topic.

Figure 2.

Pro-Agriculture/Support: Agriculture's Impact on Climate Change Blog Post Excerpt

Serious about Climate Change? Get Serious about Agriculture

Washington has come a long way since the great climate change debate of 2010 sent industries and environmental advocates back to their corners to plan the fight for or against the next big congressional showdown. Now it's here — but it's not the one I expected.

Instead of quibbling over whether and why to reduce carbon emissions, Congress is actively legislating how to do limit the U.S. carbon footprint.

Amassing as a bipartisan political force for policy change are the farmers, foresters and ranchers who are at once at high risk from a changing climate and poised to grow rural economies by being part of the solution. It's no surprise that Sens. Debbie Stabenow (D-Mich.) and Mike Braun (R-Ind.) have made the risks and rewards of climate change for agriculture a focus of their efforts and partnership.

Congress & Agriculture Partnering to Take-on Climate Change
Farmers are masters at adaptation. But climate change-induced heat, water and pest stressors are outpacing farmer adaptation and threatening the long-term economic viability of farm economies and rural communities.

Agriculture can help direct its own fate so long as it has the right policies, incentives, and technical resources to both mitigate its greenhouse gas emissions and adapt to future climate impacts. Doing so will help strengthen the domestic food supply and bring new revenue to rural economies.

The agriculture sector currently contributes about 10 percent to overall U.S. greenhouse gas emissions. That's lower than global agricultural contributions, but there's opportunity for improvement.

Figure 3.

Anti-Agriculture/Oppose: Agriculture's Impact on Climate Change Blog Post Excerpt

Avoiding Meat and Dairy is 'Single Biggest Way' to Reduce Your Impact on Earth

Avoiding meat and dairy products is the single biggest way to reduce your environmental impact on the planet, according to the scientists behind the most comprehensive analysis to date of the damage farming does to the planet.

The new research shows that without meat and dairy consumption, global farmland use could be reduced by more than 75% – an area equivalent to the US, China, European Union, and Australia combined – and still feed the world. Loss of wild areas to agriculture is the leading cause of the current mass extinction of wildlife.

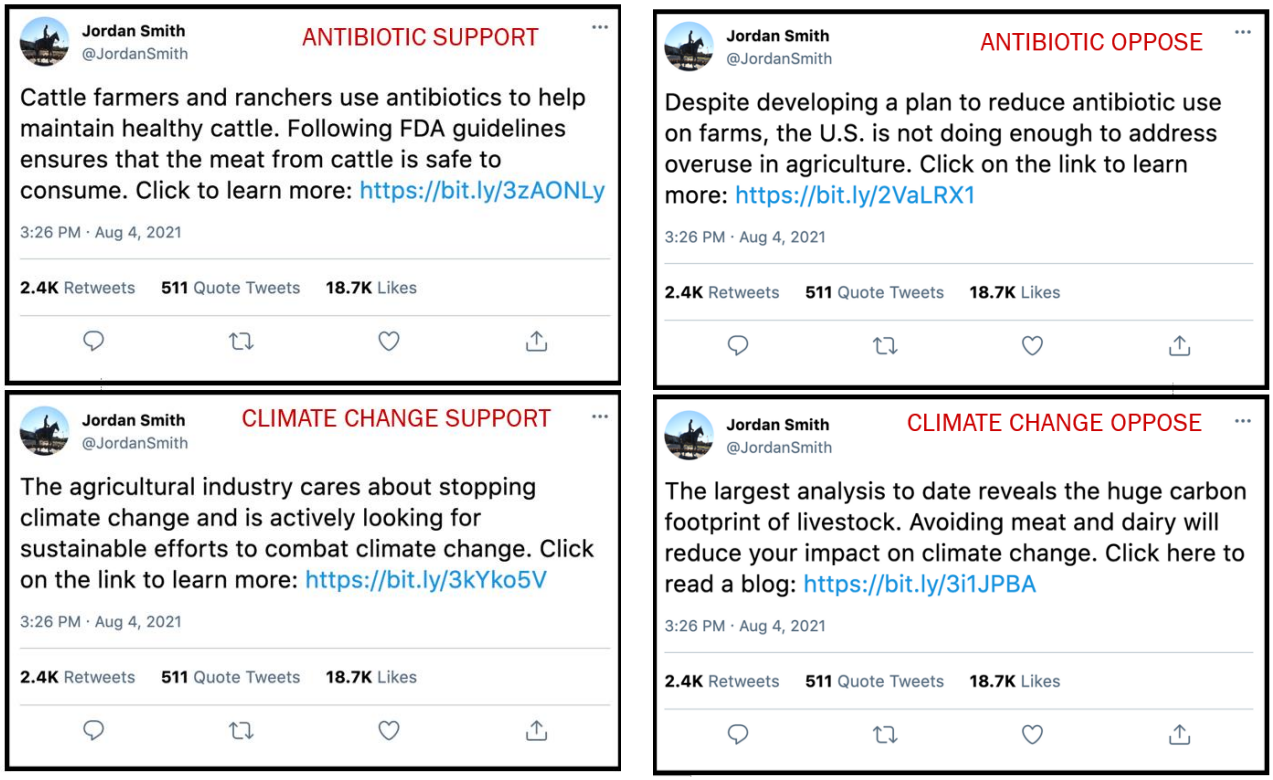
Analysis Shows a Vegan Diet is More Environmentally Friendly
The new analysis shows that while meat and dairy provide just 18% of calories and 37% of protein, it uses the vast majority – 83% – of farmland and produces 60% of agriculture's greenhouse gas emissions. Other recent research shows 86% of all land mammals are now livestock or humans. The scientists also found that even the very lowest impact meat and dairy products still cause much more environmental harm than the least sustainable vegetable and cereal growing.

"A vegan diet is probably the single biggest way to reduce your impact on planet Earth, not just greenhouse gases, but global acidification, eutrophication, land use and water use," said Joseph Poore, at the University of Oxford, UK, who led the research. "It is far bigger than cutting down on your flights or buying an electric car," he said, as these only cut greenhouse gas emissions.

Using a tweet generation website, we created a tweet to promote for each blog post (Figure 4). All tweets were presented from a fictional gender-neutral account (Jordan Smith, @jordansmith) with the same number of retweets, quote tweets, and likes. All tweets had the same posted day and time to avoid any unintentional bias. Tweets were kept under the Twitter character count of 280, and all included the phrase "Click to learn more:" with a bit.ly link. Four different versions of the Twitter feed were randomized across sessions to guard against order effects (Ary et al., 2010).

Figure 4.

Twitter Posts Presented to Participants as a Twitter Feed



Note. Participants did not see the text in capital letters when viewing the blog posts.

Variables

The independent variables were attitude and topic importance, and the dependent variable was selective exposure.

Attitude

Participants were asked to indicate their attitude toward each topic on a 5-point semantic differential scale with five bipolar adjective pairs (Fischer et al., 2020): *acceptable/unacceptable, helpful/harmful, right/wrong, good/bad, positive/negative*. Participants provided their responses after reading a sentence prompt. The prompt for antibiotics was: "I believe of antibiotic use in livestock production is _____." The prompt for climate change was: "I believe agricultural industry's impact on climate change is _____." An overall attitude score was computed for each participant by calculating the mean of the individual responses for the bipolar adjective pairs. Reliability was calculated for these attitude scales after a pilot test. The Cronbach's alpha reliability coefficient for the antibiotic scale was 0.97, and the climate change scale was 0.91.

Topic Importance

Participants were asked to indicate importance of each topic on a 5-point semantic differential scale with five bipolar adjective pairs (Fischer et al., 2020): *not very important/very important, of no concern/of concern, doesn't matter to me/matter to me, irrelevant/relevant, worthless/valuable.* The sentence prompt for antibiotics was "I find the topic of antibiotic use in livestock production to be _____." The prompt for climate change was: "I find the topic of agricultural industry's impact on climate change to be _____." An overall topic importance score was computed for each participant by calculating the average of the five bipolar adjective pairs for each topic. The reliability of these scales was calculated using the pilot test data. The importance toward antibiotic use in livestock scale had a Cronbach's alpha reliability coefficient of 0.97 and importance toward climate change had an alpha reliability coefficient of 0.95.

Selective Exposure

According to Westerwich et al. (2020), confirmation bias can be measured and demonstrated with data collected through selective exposure to stimuli. With the use of computer software, Westerwich et al. (2020) recorded participants' selective exposure as the amount of time spent on certain messages. The dependent variable of selective exposure was measured in the current study by the amount of time participants spent on each stimulus (i.e., the four blog posts). Time was measured using Qualtrics' timing tool, which tracks the time spent on each page of a questionnaire. As participants clicked on each of the tweets to visit the blog message, Qualtrics internally tracked the time spent on the page with the blog post and provided the data when downloaded. Selective exposure time did not start until participants viewed the actual blog post; time viewing the Twitter feed was not measured.

Data Analysis

The data were collected in Qualtrics then analyzed in IBM SPSS version 27. Data were first exported from Qualtrics into an Excel document to be organized and remove participants with missing data. Prior to calculating statistics, we explored the data to ensure

the assumption of statistical procedures had been met for parametric analysis. Descriptive (frequencies, means) and inferential statistics (paired sample t-tests) were used to answer the research questions. To analyze the descriptive statistics, real limits were used to interpret the descriptive statistics as follows: 1 – 1.49: *Disagree*, 1.5-2.49: *Somewhat Disagree*, 2.5-3.49: *Neither Agree nor Disagree*, 3.5-4.49: *Somewhat Agree*: 4.5-5 *Agree*.

For the inferential statistics, the alpha level was established at .05 *a priori*. Post hoc reliability measures were established using the Cronbach alpha coefficient to determine reliability (Ary et al., 2010). Before data were analyzed, selected items were recoded within attitude questions. Additional variables were created to conduct further analysis: number of blogs posts viewed, if the blog post was viewed or not viewed, bipolar attitude average for both topics, and topic importance average for both topics.

Results

RQ 1: What were participants' attitudes and topic importance of antibiotic use in livestock and agriculture's impact on climate change?

Participants' responses to the series of questions about attitude and importance of antibiotic use in livestock and the agricultural industry's impact on climate change were averaged to calculate an overall grand mean for each variable. Overall, the participants' attitude toward antibiotic use in livestock (M = 3.55, SD = 1.10) was somewhat positive; however, the participants' attitude toward agriculture's impact on climate change (M = 3.14, SD = 1.00) were neutral. Additionally, the participants somewhat agreed that climate change (M = 3.91, SD = .85) and antibiotic use in livestock (M = 3.85, SD = .86) were topics they found to be important.

Two paired-samples *t*-tests were conducted to compare the overall means of the two agriculture topics regarding both attitude and importance (Table 1). There was a significant difference in the mean scores for antibiotic attitude (M = 3.55, SD = 1.10) and climate change attitude (M = 3.14, SD = 1.00); $t(108) = 3.78$, $p < .01$, Cohen's d = .37. This finding suggests that the participants had more positive attitudes toward antibiotic use in livestock as opposed to agriculture's impact on climate change. However, there was no significant difference between participants' perceptions of importance for the two topics, $t(108) = -0.68$, $p = .49$, Cohen's d = -.06; antibiotic importance (M = 3.85, SD = .85) and climate change (M = 3.91, SD = .85). This suggests there was not a significant difference between the participants' perceived issue importance between agriculture's impact on climate change and antibiotic use in livestock.

Table 1

Paired Samples t-Tests to Compare Mean Attitude and Topic Importance Between Agriculture Topics

	Antibiotic		Climate Change				
	M	SD	M	SD	*t*	*df*	*p*
Attitude	3.55	1.10	3.14	1.00	3.78	108	<.01
Topic Importance	3.85	0.85	3.91	0.85	-0.68	108	.49

Note. 1 = *strongly disagree*, 5 = *strongly agree*

RQ 2: How much time did participants allocate to viewing the message stimuli?

This research question sought to determine selective exposure in terms of the number of blog posts viewed and time spent on pro-agricultural (support) and anti-agricultural (oppose) messages. Forty-five participants viewed two blog posts (41.3%). Only 11 participants (10.1%) viewed all four blog posts. Forty-one participants viewed one blog post (37.6%), and the remaining participants viewed three blog posts (*n* = 12, 11.0%).

Frequencies for both viewed and not viewed are displayed in Table 2. The antibiotic support message was viewed by 63 participants (57.8%) while 46 participants (42.2%) viewed the antibiotic oppose message. For messages about agriculture's impact on climate change, 52 participants (47.7%) viewed the support message, and 50 participants (45.9%) viewed the oppose message.

Table 2

Blog Posts Viewed by Participants

	Viewed		Not Viewed		Total	
Blog Post Message	*n*	%	*n*	%	*n*	%
Antibiotic Support	63	57.8	46	42.2	109	100
Antibiotic Oppose	46	42.2	63	57.8	109	100
Climate Change Support	52	47.7	57	52.3	109	100
Climate Change Oppose	50	45.9	59	54.1	109	100

Table 3 displays the time participants spent on each message (measured in seconds). Messages were timed through a tool embedded in the Qualtrics questionnaire. If participants chose not to view a blog post, the time for that post was treated as missing data and was not included in subsequent data analysis. Only the blogs that were viewed were included to calculate an average duration of time participants spent on each blog.

For time spent on the blog post (Table 3), the highest mean was found in the climate change oppose message (*M* = 111.55, *SD* = 91.63), which had a range from 5.56 to 412.48 seconds. The lowest mean was found in the antibiotics oppose message (*M* = 91.85, *SD* = 84.57). This message ranged from 1.81 to 340.99 seconds.

Table 3

Time Spent on Blog Posts

Blog Message	*n*	*M*	*SD*	Min	Max
Antibiotic Support	63	103.68	87.27	3.40	339.63
Antibiotic Oppose	46	91.85	84.57	1.81	340.99
Climate Change Support	52	97.89	86.40	4.46	361.21
Climate Change Oppose	50	111.55	91.63	5.56	412.68

Note. Time measured in seconds

To compare the difference between the overall mean time spent (measured in seconds) on the support and oppose blog posts for each topic, two paired samples *t*-tests were conducted (Table 4). Each of these paired samples t-tests compared the time spent on the blog posts only for participants who viewed both the support and the oppose blogs for the antibiotic blog posts (n = 23) and climate change blog posts (n = 29). There was a significant difference between the participants' overall mean time spent on the antibiotic support blog post (M = 127.30, SD = 90.72) and the antibiotic oppose blog post (M = 87.06, SD = 74.71), t(22) = 3.18, p = .002, Cohen's d = .66. However, there was not a significant difference in the overall mean time spent on the climate change support blog post (M = 80.49, SD = 54.98) and the climate change oppose blog post (M = *92.22*, SD = 76.74), t(28) = -11.73, p = .15, Cohen's d = .20

Table 4

Paired Samples t-Test Comparison of Time Spent on Blog Posts

	Support		Oppose					
	M	*SD*	*M*	*SD*	*df*	*t*	*p*	*Cohen's d*
Antibiotic	127.30	90.72	87.06	74.71	22	3.18	.002	.66
Climate Change	80.49	54.98	82.22	76.74	28	-1.08	.15	.20

Conclusions/Recommendations

Social media platforms have become a tool for people to access a large amount of information in an instant (Zhao et al., 2020), but these platforms' algorithms have created an environment where people can place themselves in "filter bubbles" (Pariser, 2011). Because people spend hours on social media to obtain information about the world (Hess et al., 2020), the way they develop thoughts, feelings, and actions is changing. Therefore, the purpose of the current study was to determine the effect of attitudes and topic importance on an individual's selective exposure when seeking agricultural information on social media.

To address Research Question One, participants answered questions to ascertain their attitudes and topic importance regarding the two selected agricultural topics – antibiotic use in

livestock and agriculture's impact on climate change. For attitudes, the participants' attitude of antibiotic use in livestock was somewhat positive; however, the participants viewed agriculture's impact on climate change near the midpoint of the 5-point scale, indicating more neutral overall attitudes. These findings somewhat disagree with previous literature (Busch et al., 2020), which found that overall, people have a perceived negative view of the use of antibiotics in livestock when considering the impact on human health. However, these scholars also suggested that the public acknowledges the advantages of antibiotic use. Regarding climate change, our participants had relatively neutral views on this topic. Although Generation Z has been found to have expressed the most interest in addressing climate change initiatives (Funk, 2021), perhaps the college students sampled for this study were not aware of the agricultural industry's impact on climate change. Additionally, the sample used for this study did somewhat agree they had prior involvement in the agricultural industry. This involvement may have influenced their perceptions of the agricultural industry's impact on climate change.

For topic importance, antibiotic use in livestock and agriculture's impact on climate change both received mean scores slightly above the mid-point indicating these are somewhat important topics to the participants. This aligns with prior literature stating these are important topics of discussion within the agricultural industry and the public values these topics (PR Newswire, 2011; Steede et al., Taddicken & Wolff, 2020). The public has expressed a need for more information about antibiotic use in livestock due to concerns about antimicrobial use in meat production (Barrett et al., 2012; Busch et al., 2020; PR Newswire, 2011). There is also concern about climate change, with Generation Z having the most concern when compared to other those in generations (Funk, 2021).

A paired-samples t-test was conducted to compare the overall means of attitudes and topic importance for each of the topics. There was a significant difference between the overall attitude means for the two topics with attitude toward antibiotics use in livestock being more positive than attitudes regarding agriculture's role in climate change. However, this statistically significant difference was not found for topic importance. This implies that participants had varying attitudes of the two topics but had equal views of importance.

To answer Research Question Two, selective exposure was measured in terms of what blog messages were viewed and how long participants spent on each blog post. Nearly half of the participants viewed two blog posts, potentially indicating that only two of the messages were appealing to participants. The selection of how many and which blog posts participants selected may be influenced by factors not measured in the current study, such as knowledge of the subject or need for cognition. Additional research could explore those additional personal characteristics and how they influence selective exposure.

Views of each blog post varied but the most viewed post was the antibiotic support-agriculture blog, and the least viewed was the antibiotic oppose-agriculture blog. In line with the theory of cognitive dissonance (Festinger, 1957), one explanation for the result that more participants selected the antibiotic support-agriculture blog may be because that blog message was consistent with their slightly positive attitude, and they did not want to encounter dissonance. Williams et al. (2016) described a positive feedback loop, which supports the idea that if a participant's attitude is positive, they seek out positive statements to confirm their attitude. In turn, that confirmation will strengthen the attitude, leading the participant to seek more positive information (Williams et al., 2016). The current study's results are also

consistent with Knobloch-Westerwick et al. (2015b) who found people spent more time on attitude-consistent messages than attitude-discrepant messages.

Prior studies have determined selective exposure through time spent on a stimulus (Sude et al, 2019; Westerwick et al., 2020). In the current study, the blog with the highest average time viewed was the oppose-agriculture blog about climate change. The participants indicated this topic's importance was high, but their attitudes were neutral. Although this result, regarding attitude, is not consistent with what Festinger (1957) predicted, it could be explained by Lowin (1967). Lowin stated that a person's confidence could lead them to approach dissonant messages in hopes to refute the opposing side. This implies that participants who felt confident in their position on climate change might have wanted to learn about the other side of the argument in hopes to disprove the information presented. Additionally, this result may have occurred as those who were neutral on their views toward agriculture's impact on climate change were attempting to seek out information to derive a stronger attitude about the topic.

To provide comparisons between the time spent on support and oppose blogs, we conducted a paired samples t-test. The two paired samples *t*-tests confirmed a statistically significant difference on the time the participants' spent on the antibiotic use in livestock blog posts; however, there was not a statistically significant difference for time spent on the two climate change blog posts. In the case of the antibiotic use in livestock blog, the results demonstrated that the time spent on the antibiotic support blog was much longer than the antibiotic oppose blog. This result may be contributed to Knobloch-Westerwick et al. (2015b) who found people spent more time on attitude-consistent messages than attitude-discrepant messages.

However, with the participants' attitudes regarding agriculture's impact of climate change essentially being neutral, these topics were not polarizing enough for participants to indicate a difference, meaning they did not display dissonance to the information presented. In previous studies conducted in the political realm (Westerwick et al., 2020), the researched topics were controversial enough to encourage a stronger response based on political stance of either liberal or conservative.

Another explanation for these results, as stated earlier, could be that participants just wanted to learn about the opposing side (Garrett, 2009). The participants were college students, mostly Gen Z and Millennials, who have an interest in transparency and learning about all sides of a situation (Myers, 2020; Walker, 2019). Online environments, such as social media, allow people to limit dissonance, but that does not stop participants from selecting attitude-discrepant information. In previous literature exploring selective exposure of websites, results showed that while participants indicated they preferred attitude-consistent information, they were still willing to view attitude-discrepant websites (Garrett, 2009). The results of the current study provide evidence that the process of selective exposure is a complex construct that involves many factors. In future studies, the researchers must ensure the topics are controversial; that is, the participants have polarizing views on the topic.

Future research should approach the study of selective exposure by collecting both quantitative and qualitative data. The addition of focus groups and interviews will allow researchers to gain insight of a person's thinking when considering messages. Lowin's (1967) approach-avoidance model suggested that people will approach strong consistent messages and weak discrepant messages and avoid strong discrepant messages and weak consistent

messages. Collecting quantitative data through eye tracking technology would provide valid measurements of where their attention was placed. Then participants could be asked to describe why they spent more or less time with certain stimuli. Previous research on communication transparency (Tarpley et al., 2020) used a similar mixed-methods approach to find critical moments within a video. Once the critical moments were identified using continuous response measures (CRM), researchers asked participants to think aloud, explaining why that was a critical moment for them. In addition to selective exposure, future research should explore what role selective interpretation may have in how people choose to view attitude-discrepant content. Including this variable in subsequent research will provide a more complete understanding of how an individual's attitudes and perceptions influence their media consumption.

This study focused on communication presented through social media because that is the current source for most communication between consumers and producers and influences attitudes and opinions of the industry (Allen, 2019; Henderson, 2020). As communicators strive to share fact-based information with their audience members, this study emphasizes the need to understand the role of attitudes and topic importance in how those individuals might interact with that content. We found those who were seeking information about antibiotic use in livestock sought information that aligned with their prior attitudes. This finding indicates that agricultural communicators must develop messages that align with prior beliefs to garner attention. Because the public has shown interest in learning more about the use of antibiotic use in livestock and its impact on meat (PR Newswire, 2011; Steede et al., Taddicken & Wolff, 2020), messages should be developed to communicate how the use of antibiotics helps improve animal welfare, protects animal health, and is not detrimental to human health as these are issues that are of utmost importance to consumers. We did not find a statistically significant difference between the time spent on the support or oppose blog posts about climate change. Perhaps the participants were not familiar with the topic, or they recognized various factors influence climate change; thus, they had more neutral attitudes.

For those charged with improving the public's view of agriculture as it relates to climate change, we recommend communicating about agriculture's role in mitigating climate change. For example, communicators should share what agriculture is proactively doing to address climate change by sharing specific goals, examples of industry initiatives, and implemented adaptation and mitigation strategies. Because those in Gen Z are the most interested in addressing climate change (Funk, 2021), it would be beneficial to help them understand the agricultural industry's efforts to reduce impacts of climate change. Members in this generation also need to be critical media consumers and gather information from a variety of trustworthy sources. As their reliance on social media will likely continue to strengthen over time, it is important they develop an acceptable level of media literacy. This will help them recognize their own biases along with those in the media as they continue to encounter online news shaped through selective exposure and social media algorithms.

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