Predicting Likelihood to Pay Attention to Agriculture-Related Issues in the News with Demographic Characteristics

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Abstract

The public has more choices than ever when it comes to choosing media, which has led to gaps in knowledge across members of the public. Investigating motivational differences across demographic groups to pay attention to agriculture-related news could address knowledge gaps related to agriculture-related issues. The Elaboration Likelihood Model (ELM) includes motivation as a precursor to attitude change. Past research has indicated the public utilizes the peripheral processing route of the ELM when presented with agriculture-related messages, which leads to weak changes in attitude. The purpose of this research was to explore how demographic characteristics could predict likelihood to pay attention to agriculture-related news issues. A nationwide survey of United States residents indicated that respondents were likely to pay attention to agriculture-related news topics. A regression analysis found the following to be statistically significant predictors for likelihood to pay attention: marital status, geographic region, age, and political beliefs. However, the model accounted for a small amount of variance in likelihood to pay attention. The results from this study illustrate that while U.S. residents possess the motivation to process agriculture-related news, they may be utilizing the peripheral pathway of the ELM due to a lack in ability to process the communication.

Keywords: Issue attention, demographic characteristics, communication, Elaboration Likelihood Model,

Introduction

With the introduction of the internet, social media, and niche news programming, members of the public have the ability to selectively choose what information they do and do not want to hear or read in the media. They also have more media options than ever before (Prior, 2007). Thirty to fifty years ago, members of the public would inadvertently be exposed to a variety of topics and issues in the media while watching the nightly news or listening to the radio (Hopmann, Wonneberger, Shehata, & Hoijer, 2016). However, the public now has expansive media options (Perloff, 2014), which has made it to ignore information they are not interested in (Hopmann et al., 2016). Selection of certain news content over others has led to gaps in knowledge, and many

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members of the public have the ability to only pay attention to information that matches their own values (Prior, 2007). These differences in media news preferences and political knowledge can result from differing motivations between members of the public (Bennett & Iyengar, 2008; Blekesaune, Elvestad, & Aalberg, 2012; Ksiazek, Malthouse, & Webster, 2010; Prior, 2007).

Motivational differences between members of the public will continue to widen knowledge gaps between highly motivated and lowly motivated individuals (Bennett & Iyenger, 2008; Mutz & Young, 2011; Prior, 2007). In the United States, agriculture is a topic where gaps in public knowledge and awareness are known to exist (Meischen & Trexler, 2003). A small portion of the population is directly involved in agriculture, which makes it difficult for individuals to make informed decisions about issues in agriculture without first seeking information from an outside source (Powell & Agnew, 2011).

Although food is safer today than ever before, members of the public are skeptical about what they are eating and demand higher quality food compared to the past (Verbeke, 2005). Supplying individuals with information alone will not ease skepticism or increase knowledge (de Garidel-Thoron, 2005; Dranove, Kessler, McClellan, & Satterthwaite, 2003; Ruth & Rumble, 2016); information may need to address the values of the public to be effective (Rumble & Irani, 2016; Ruth & Rumble, 2016). Additionally, members of the public will only seek out and process information they are motivated to learn about (Verbeke, 2005). Individuals' traits have been found to influence their ability to process information (Verbeke, 2005), and advertising can become more effective if it segments audiences by these traits (Schmit & Kaiser, 2004). The purpose of this research was to explore the influence of U.S. residents' demographic characteristics on motivation to pay attention to agriculture-related issues in the news. This study directly aligns with research priority one of the *American Association for Agricultural Education National Research Agenda*: Public and Policy Maker Understanding of Agriculture and Natural Resources (Enns, Martin, & Spielmaker, 2016).

Conceptual Framework

The Elaboration Likelihood Model (ELM) of persuasion guided this research. The model proposed that people will move through one of two cognitive paths to form attitudes after being presented with information (Petty, Brinol, & Priester, 2009). Because not every piece of information individuals are exposed to is relevant or captivating, people will rely on peripheral cues, like source quality and number of arguments, to form attitudes regarding the information. People will not spend time assessing the information carefully or drawing upon past experiences to assess the validity of the information, which is why peripheral cues are able to influence attitude formation. This process is called the peripheral pathway and is associated with weak changes in attitudes that are not predictive of behaviors (Petty et al., 2009). However, when people have the motivation and ability to process the information, they will draw upon past experiences to form attitudes. Motivation to process information includes personal relevance and need for cognition, or need to make sense of information (Cacioppo & Petty, 1982; Petty et al., 2009). Ability to process the information addresses if a person has the knowledge necessary to evaluate the information or if there are too many distractions, whether physical or cognitive, to elaborate upon the information (Petty et al., 2009). Additionally, ability to assess communication is increased over repeated exposure, or repetition, of the same message (Petty et al., 2009). When people possess the ability and motivation to evaluate the message, they move through the central processing pathway. This second pathway is associated with a change in cognition, which leads to attitudes that are resistant to counter-information and are predictive of behavior. Sometimes, people can move through either path and retain their original attitudes if the message process is not operating (Petty et al., 2009).

Historically, research using ELM has found that the public uses a low amount of elaboration when presented with agricultural communication (Goodwin, 2013; Meyers, 2008; Morgan & Gramann, 1989; Verbeke & Vackier, 2004; Verbeke & Ward, 2006), which is indicative of the peripheral pathway. Additionally, researchers have concluded that a lack of motivation and involvement related to agricultural topics likely led to individuals using the peripheral pathway to process communication (Goodwin, 2013; Morgan & Gramann, 1989; Verbeke & Vackier, 2004). According to the ELM, individuals must be motivated to process information before being concerned with ability to process or what route the individuals will use to move through elaboration (Petty et al., 2009). Because research has already found the public lacks motivation to process agricultural topics, additional research is needed to explore this specific aspect of the ELM.

Demographic Characteristics

Verbeke (2005) proposed that individuals' characteristics can influence motivation to process information. Research has explored specific individual characteristics as they relate to attitude and behaviors regarding a variety of agricultural topics, including food safety, nutrition, animal welfare, and genetically engineered food. Gender, age, income, and education have been areas of interest for research related to how attitudes and behaviors form regarding agricultural topics (Byrd-Bredbenner, Berning, Matin-Biggers, & Quick, 2013; Clark, Stewart, Panzone, Kyriazakis, & Frewer, 2016; Ruth & Rumble, 2016; Satia, Galanko, & Neuhouser, 2005). Clark et al. (2016) concluded that women were more concerned about animal welfare compared to men and held negative attitudes toward conventional farming. The researchers also found members of the public who were younger or had a higher level of education were more likely to be concerned with modern farming practices and aware of animal welfare issues (Clark et al., 2016). Association between income and concern toward animal welfare was found to be highest for low-income and high-income individuals. Research has also concluded that individuals with more liberal political ideologies were more concerned about animal welfare compared to conservatives (Clark et al., 2016; McKendree, Croney, & Widmar, 2014). Results regarding families with children and attitude toward animal welfare were inconclusive (Clark et al., 2016). A separate study regarding animal welfare found that Midwesterners in the U.S. were not as concerned about livestock welfare compared to other regions (McKendree et al., 2014).

Regarding food safety behaviors, Byrd-Bredbenner et al. (2013) concluded after a detailed literature review that women were much less likely to mishandle their food compared to men. While literature related to animal welfare and nutrition found higher education associated with increased concern toward the topic (Clark et al., 2016; Satia et al., 2005), Byrd-Bredbenner et al. (2013) found that individuals with post-secondary education were actually more likely to mishandle their food. A study by Leal, Ruth, Rumble, and Simmone (2017) supported additional findings from Byrd-Bredbenner et al. (2013) that the youngest and oldest generations of the public were least likely to engage in safe food handling practices.

Researchers have also explored the role of demographics in forming attitudes and risk perceptions regarding genetically engineered food. Similar to other agriculture topics (Clark et al., 2016), researchers found women to hold more negative attitudes toward genetically engineered food compared to men (Lockie, Lawrence, Lyons, & Grice, 2005; Pounds, 2014; Ruth & Rumble, 2016). There has been conflicting literature regarding the influence of age on perceptions of genetically engineered food (Antonopoulou, Papadas, & Targoutzidis, 2009; Ruth & Rumble, 2016), but some literature indicated that younger individuals are more skeptical of the technology (Ruth, Gay, Rumble, & Rodriguez, 2016).

Satia et al. (2005) found that a significantly larger portion of women were reading food nutrition labels compared to men in a sample of African American consumers. Additionally, older individuals and those with higher education levels were more likely to utilize nutrition labels than their counterparts. While Satia et al. (2005) found no association between marriage status and nutritional label use, Flagg, Sen, Kilgore, and Locher (2014) determined that married men participated less in meal preparation compared to divorced, widowed, or single men. Additionally, women in marriages were spending more time preparing and planning meals compared to married men (Flagg et al., 2014).

These differences between demographic groups related to attitudes and behaviors across agricultural and food topics could suggest differences in motivation to process information about the subjects. The literature indicated that some demographics held similar influences across topics (e.g., women being more concerned/holding more negative attitudes about agriculture; Clark et al., 2016; Lockie et al., 2005; Pounds, 2014; Ruth & Rumble, 2016), while other characteristics were inconclusive across topics (e.g., education and age; Antonopoulou et al., 2009; Byrd-Bredbenner et al., 2013; Clark et al., 2016; Ruth et al., 2016; Ruth & Rumble, 2016; Satia et al., 2005). These characteristics have been looked at in separate contexts, but additional research is needed to explore how the demographic characteristics of gender, education level, income, age, political beliefs, marriage status, parental status, and geographic region influence motivation to process agricultural topics.

Purpose & Objectives

The purpose of this study was to determine which demographic characteristics of U.S. residents predicted their likelihood to pay attention to agriculture-related issues in the news. The objectives of this study were to

1. Determine respondents' likelihood to pay attention to agriculture-related issues in the news, and
2. Determine demographic predictors for respondents' likelihood to pay attention to agriculture-related issues in the news.

Methods

To achieve the objectives of this study, a nationally representative quantitative survey of U.S. residents was conducted online through Qualtrics. Qualtrics was also used as a third-party surveying organization to access an online panel of respondents. Non-probability quota sampling was used to ensure respondents were evenly representative for sex and representative of the national population based on race and Hispanic/Latino status results from the 2010 U.S. Census. Research increasingly uses nonprobability sampling because probability samples that depend on phone and internet samples lack complete coverage and receive poor response rates (Dillman, Smyth, & Christian, 2014). The use of demographic quotas at the beginning of the survey can lessen the effects of bias typically associated with this type of sampling (Baker et al., 2013). Additionally, non-probability sampling has been identified as comparable to, and sometimes better than, using probability sampling (Twyman, 2008; Vavreck & River, 2008). One thousand and ninety-three people started the survey, and there were 524 respondents after filtering out ineligible respondents (i.e., under 18 or not U.S. residents) and incomplete responses.

The study used a researcher-developed instrument. An expert panel consisting of faculty members in colleges of agriculture from three universities reviewed the instrument to help ensure its validity. Their expertise included agricultural communications and evaluation. The expert panel

helped determine the list of issue topics. Cognitive interviews were also conducted with two graduate students to allow individuals not involved in the study to complete the questionnaire and provide feedback on usability of the questionnaire and ability to appropriately respond to the questions.

For issue attention, respondents reported how likely they were to pay attention to five issue topics in the news (agriculture, the environment, food safety, nutrition, and animal welfare) on a five-point scale ranging from 1 = *very unlikely* to 5 = *very likely*, with the option to mark unsure. The post-hoc reliability for the issue attention scale was addressed using Cronbach's alpha, with a resulting reliability of .85. Reliability scores of at least .80 are considered ideal (Norcini, 1999). An index was created for likelihood to pay attention to agriculture-related issues by summating the mean for each topic and dividing by five. Real limits were defined to aid in the interpretation of the results (Sheskin, 2004) and were as follows: 1.00 – 1.49 = *very unlikely*, 1.50 – 2.49 = *unlikely*, 2.50 – 3.49 = *neither likely nor unlikely*, 3.50 – 4.49 = *likely*, 4.50 – 5.00 = *very likely*.

Respondents also provided their marital status, age, if they were the parent or guardian of any children younger than 18, their gender, highest level of completed education, household income, state, and their political beliefs on seven-point scale ranging from 1 = *very liberal* to 7 = *very conservative*. State was recoded into four regions as classified by the U.S. Census Bureau. For marital status, respondents were able to report being single, married, divorced, separated, widowed, or other. Responses were recoded for regression so that all non-married responses were classified as one option. A slight majority of respondents were married, so merging non-married responses provided a more even comparison group.

The questions for this study were part of a larger instrument that also assessed perceptions of organizations that communicated about agricultural and natural resources issues. Results for the other sections of the instrument are reported in separate publications.

Descriptive statistics were used to describe respondents' characteristics and respondents' likelihood to pay attention to agriculture-related issues. Linear regression was used to assess demographic predictors of respondents' likelihood to pay attention to agriculture-related issues. More information will be provided in the results related to the linear regression analysis.

Results

Tables 1, 2, and 3 show the demographic characteristics of respondents. The mean age of respondents was 44.5 (*SD* = 12.2), ranging from 18 to 79. Respondents were 50% male and 50% female. Seventeen percent were Hispanic. The majority of respondents were White (77.5%), followed by Black or African-American (13.9%), Asian (5.9%), American Indian or Alaska Native (2.9%), and 2.9% indicated other as their race.

Table 1

Sex, race, and Hispanic/Latino status of respondents.

Demographic Characteristic	Percent
Sex	
Male	50.0
Female	50.0
Race	
White	77.5
Black or African-American	13.9
Asian	5.9
American Indian or Alaska Native	2.9
Other	2.9
Hispanic or Latino	17.0

Table 2

Marital status, parental status, and income of respondents

Demographic Characteristic	Percent
Married	51.0
Parent of a child under the age of 18	35.1
Income	
Less than $25,000	20.0
$25,000-$49,999	26.7
$50,000-$99,999	32.6
$100,000 or more	20.7

　　　　The largest group of respondents was from the South (31.9%), followed by the West (29.0%), Northeast (20.6%), Midwest (17.6%), and Pacific (1.0%). The Pacific only included Hawaii and Alaska, which is the reason for the lower number compared to other regions. The majority of respondents had at least a two-year degree. On a seven-point scale ranging from 1 =

Very Liberal to 7 = Ver*y Conservative*, the mean of respondents' political beliefs was 3.77 (*SD* = 1.61).

Table 3

Region and education level of respondents

Demographic Characteristic	Percent
Region	
South	31.9
West	29.0
Northeast	20.6
Midwest	17.6
Pacific	1.0
Education	
Less than high school or GED	1.7
High school or GED	16.0
Some college credit but no degree	23.5
Two-year degree	13.5
Four-year degree	29.6
Graduate or professional degree	14.7

Objective 1: Likelihood to Pay Attention to Agriculture-Related Issues in the News

Table 4 shows respondents' likelihood to pay attention to agriculture-related issues in the news. The grand mean for all of the issues was 4.10, indicating respondents believed they were likely to pay attention to agriculture-related issues in the news. While there were differences between topics, respondents' means indicated they were likely to pay attention to each topic.

Table 4

Respondents' likelihood to pay attention to agriculture-related issues in the news

Issue	M (SD)
Agriculture	3.91 (0.96)
Animal Welfare	3.99 (1.03)
Environment	4.12 (0.97)
Nutrition	4.15 (0.89)
Food Safety	4.37 (0.83)
Grand Mean	4.10 (0.74)

Note. Scale ranged from 1 = *very unlikely* to 5 = *very likely*.

Objective 2: Demographic Predictors of Likelihood to Pay Attention to Agriculture-Related Issues in the News

Initially, a backward stepwise regression was run to minimize suppressor effects that can result from stepwise regression (Field, 2013). Based on results from previous research, the variables included in the first model in the stepwise regression included age, gender, the Pacific region, the Northeast region, the Midwest region, the Western region, marriage status, political beliefs, education level, parent of younger than 18, and household income. The Pacific and Western regions were combined due to the low number of respondents in the Pacific region, which only includes Alaska and Hawaii. The Southern region was not included because it had the largest number of respondents and was used as the control group (Field, 2013). Education and income were recoded into categorical variables due to unequal intervals between response items within the questions. The largest responses were excluded in analysis, which were 4-year degree for education and $50,000-$99,999 for income.

The stepwise regression produced six models, excluding a variable each iteration that was not making a statistically significant contribution to the model. The following are the results for each model: Model 1 was R^2 = .090, Model 2 was R^2 = .090 (ΔR^2 = .000) after excluding some college education, Model 3 was R^2 = .089 (ΔR^2 = .001) after excluding high school education, Model 4 was R^2 = .089 (ΔR^2 = .000) after excluding graduate education, Model 5 was R^2 = .088 (ΔR^2 = .001) after excluding the Western and Pacific regions, Model 6 was R^2 = .087 (ΔR^2 = .001) after excluding income between $25,000 and $49,999, Model 7 was R^2 = .086 (ΔR^2 = .001) after excluding two-year education, Model 8 was R^2 = .085 (ΔR^2 = .001) after excluding income less than $25,000, Model 9 was R^2 = .082 (ΔR^2 = .003) after excluding being a parent of a child under the age of 18, Model 10 was R^2 = .079 (ΔR^2 = .003) after excluding income above $100,000, Model 11 was R^2 = .076 (ΔR^2 = .003) after excluding gender, and Model 12 was R^2 = .073 (ΔR^2 = .003) after excluding less than a high school education. The final iteration included age, the Northeast region, the Midwest region, marriage status, and political beliefs. Because the stepwise analysis included only some of the regions, forced entry analysis was run to include all of the variables from the final

iteration of the stepwise analysis, plus the Western and Pacific regions variable. Table 5 shows the results of the final model.

The model was statistically significant ($F(6, 495) = 6.553$, $p < .001$); however, the model only accounted for 7.4% of the variance in likelihood to pay attention to agriculture-related issues in the news ($R^2 = .074$). Marital status was a significant predictor of likelihood to pay attention, and married respondents were predicted to be less likely to pay attention to agriculture-related issues compared to non-married respondents. Additionally, the political beliefs of respondents' predicted likelihood to pay attention; for every one-point increase toward very conservative, there was a .085 decrease in likelihood to pay attention. Midwestern respondents were also found to be less likely to pay attention to agriculture-related issues compared to Southern respondents. The final significant predictor of attention was age, and as age increased by one-point, likelihood to pay attention was predicted to increase by .008 points.

Table 5

Linear model of predictors of likelihood to pay attention to agriculture-related issues in the news.

Predictor	*b* (CI)	*SE B*	β	*p*
Constant	4.395 (4.027, 4.762)	.187		.000
Marital Status	-0.175 (-0.301, -0.049)	.064	-.118	.007*
Political beliefs	-0.085 (-0.125, -0.045)	.020	-.184	.000*
NE Region	-0.135 (-0.316, 0.046)	.092	-.075	.142
MW Region	-0.217 (-0.403, -0.030)	.095	-.112	.023*
W & P Region	0.045 (.0.117, 0.207)	.083	.028	.583
Age	0.008 (0.002, 0.013)	.003	.124	.005*

Note. $R^2 = .074$ for the model. *$p < .05$.

After the final regression model was developed, post-hoc analysis of individual demographic factors was run using the Bonferroni correction to control the familywise error rate (Field, 2013). To be statistically significant, the corrected significance level threshold was .0125. There were no statistically significant differences in likelihood to pay attention based on the factors of age ($r = .11$, $p = .014$) and geographic regions ($F (3, 500) = 2.198$, $p = .087$). While age and geographic region were statistically significant components of the model, they were not statistically significant on their own as predictors of likelihood to pay attention to agriculture-related issues in the news. There was a statistically significant difference between married and non-married respondents on likelihood to pay attention to issues in the news ($t = 2.748$, $p = .006$). Married respondents ($M = 4.18$, $SD = 0.73$) were more likely to pay attention than non-married respondents ($M = 4.01$, $SD = 0.74$). Cohen's *d* was .23, indicating a small effect size (Field, 2013). There was also a statistically significant relationship between issue attention and political beliefs ($r = -.163$, $p < .001$). This indicated that liberal respondents were more likely to pay attention to agriculture-related issues in the news than conservative respondents, though it was a low correlation using Davis's conventions (as cited in Miller, 1994).

Conclusions

The purpose of this research was to explore how likely individuals were to pay attention to agriculture-related issues in the news and how demographics influenced attention. The results from this study can be used to aid agricultural communicators and Extension personnel in developing communication in the future. The respondents reported they were likely to pay attention to agriculture, animal welfare, environment, nutrition, and food safety issues in the news. While respondents indicated they were most likely to pay attention to food safety issues, the large standard deviation scores for each topic represent little practical differences between the issues.

This research conflicted with previous literature that concluded members of the public lacked motivation to process agricultural messages (Goodwin, 2013; Morgan & Gramann, 1989; Verbeke & Vackier, 2004). Because respondents were likely to pay attention to each of the individual topics, and the grand mean supported they were likely to pay attention to agriculture-related issues in the news, they likely possessed the motivation to elaborate upon the issue (Petty et al., 2009). However, research has indicated that the peripheral pathway is used by the public when reading agricultural messages (Goodwin, 2013; Meyers, 2008; Morgan & Gramann, 1989; Verbeke & Vackier, 2004; Verbeke & Ward, 2006). Members of the public may be using central processing route due to a lack of ability to process the communication (Petty et al., 2009). Inability to process the communication may stem from a lack of knowledge and/or experience with agricultural topics, too many distractions presented with the message, or not enough repetition of the message for the individual to elaborate (Petty et al., 2009). Another explanation for the inconsistency in the findings is that the survey measured behavioral intent to pay attention to the messages in the news and not actual behavior.

The final regression model for how demographic characteristics predicted likelihood to pay attention to agriculture-related issues in the news was statistically significant; however, the model accounted for a low amount of variance and is not useful for practical applications. The predictors in the model did support prior research that region (McKendree et al., 2014), age (Antonopoulou et al., 2009; Byrd-Bredbenner et al., 2016; Clark et al., 2016; Leal et al., 2016; Ruth et al., 2016; Ruth & Rumble, 2016; Satia et al., 2016), marital status (Flagg et al., 2014), and political beliefs (Clark et al., 2016; McKendree et al., 2014) were predictive of likelihood to pay attention. Like the small R^2 value of the model, the small effect size of each of the predictors provide few practical applications. Post-hoc tests on individual demographics yielded similar results, except there were no differences in attention across age or region. Because these were statistically significant predictors in the regression, age and region characteristics likely have an interaction with the other demographic characteristics when predicting likeliness to pay attention to agriculture-related news.

Although the regression model did not account for much of the variance in likelihood to pay attention to agriculture-related issues in the news and conflicted with previous literature that differences in attitude and behavior were the result of differences in demographic characteristics (Antonopoulou et al., 2009; Byrd-Bredbenner et al., 2013; Clark et al., 2016; Leal et al., 2017; Lockie et al., 2005; Pounds, 2014; Ruth et al., 2016; Ruth & Rumble, 2016; Satia et al., 2005), there are still conclusions that can be made from these results. The previously cited literature analyzed behaviors or attitudes, while this research used likelihood to pay attention as the dependent variable. The effect of demographics on motivation may not be consistent with the effect of demographics on behaviors and perceptions. Another possible explanation for the inconsistent results is that differences in likelihood to pay attention stem from differing values, personal experiences, or personality characteristics. Additionally, the lack of variation explained in the model when looking at likelihood to pay attention to agriculture-related issues in the news may indicate that one type of communication campaign will not resonate with all audience types across

all issues. The model also supports that alternative characteristics should be explored to better understand what influences individual motivation to pay attention to agriculture-related news.

Recommendations

Communicators and extension professionals should understand that the public claims to have interest in reading, listening to, or watching agriculture-related news. However, they will need to work together to identify strategies to communicate with their target audiences. Most importantly, communication and education campaigns in the media will need to be tailored to the needs of a target audience. While this research supports prior literature that individuals' demographic characteristics relates to their motivation to pay attention to agriculture-related issues in the news (Antonopoulou et al., 2009; Byrd-Bredbenner et al., 2013; Clark et al., 2016; Lockie et al., 2005; Pounds, 2014; Ruth et al., 2016; Ruth & Rumble, 2016; Satia et al., 2005), the relationships were limited in their effect sizes. More research is needed to make specific recommendations for practitioners.

While this research supported the notion that members of the public possessed the motivation to assess agriculture-related news, there is still a need to further explore why individuals utilize the peripheral pathway when exposed to messages on these topics (Goodwin, 2013; Meyers, 2008; Morgan & Gramann, 1989; Verbeke & Vackier, 2004; Verbeke & Ward, 2006). Specifically, researchers should examine individuals' ability to process the information and how we can improve that ability. Ability to process information has been conceptualized as knowledge in previous research (Ruth & Rumble, 2016), but distractions from the message, whether actual distractions like noise or cognitive distractions like perceptions of risk, could lessen a person's ability to process communication (Petty et al., 2009). These different variables of ELM should be investigated to provide a holistic understanding of how individuals process agricultural-related information presented in the news.

One of the limitations of this study is that behavioral intent was measured rather than actual behaviors. Presenting respondents with a series of news articles that cover both agricultural and non-agricultural topics and asking them to select what they would read may provide more accurate accounts for what topics the members of the public are motivated to read. Additionally, motivation was measured by likelihood to pay attention to a news on an agriculture-related issue. Understanding how personal relevance or need for cognition influence motivation related to agriculture-related topics will provide practitioners and researchers a nuanced understanding of how to create effective communication campaigns (Cacioppo & Petty, 1982).

Measurement of actual attention to topics in the news versus intent to pay attention may also yield different results from the regression in this study. The model was significant, but the little variance could be accounted for by the demographic variables. One explanation for this could be that demographic characteristics have differing effects across topics. Prior literature was inconclusive on the effects of education or age on different, and sometimes even the same, topics (Antonopoulou et al., 2009; Byrd-Bredbenner et al., 2013; Clark et al., 2016; Ruth et al., 2016; Ruth & Rumble, 2016; Satia et al., 2005). Inclusion of additional variables to the model, like risk perceptions, personal relevance, past experiences, and knowledge, may account for more variance in likeliness to pay attention to agricultural news topics.

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