Is What You See What You Get? Examining How Agricultural Visibility and Personal Relevance Shape How Tennessee Residents Picture Agriculture

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Introduction & Conceptual Perspective

As each generation moves further from farm sources, consumers are made to rely on information received through media messages (Davis et al., 2017; Hoerbert, 2020; Howard et al., 2017). Unfortunately, the depiction of agriculture through news and social media is not always positive or accurate (Hoerbert, 2020; Lundy et al., 2007; Ruth et al., 2004). Opportunities to improve perceptions of agriculture lie in providing information relevant to current industry representation (Howard et al., 2017). How consumers process and make meaning of information can vary based on the personal relevancy of the message (O'Keefe, 2016). The Elaboration Likelihood Model (ELM) provides a conceptual perspective that allows us to examine how individuals process information. The ELM delineates two routes through which a person can connect familiar concepts with unfamiliar concepts, including the peripheral and central processing routes (O'Keefe, 2016; Petty & Cacioppo, 1986). In this study, we sought to examine personal relevance through consumers' perceptions of agriculture.

Purpose and Objectives

Four research objectives guided this study: (1) describe residents' perceptions of the type of agriculture production in Tennessee, (2) describe residents' perceptions of farmers, (3) describe residents' perceptions of the agriculture technology used, and (4) examine factors to explain residents' perceptions of agriculture.

Methodology

We used a survey research design to obtain a non-probability sample of Tennessee residents (N = 494). An online link to a questionnaire was distributed via Qualtrics. We used three instrument sections that included a series of photos to represent various aspects of the types of agricultural commodities produced, agricultural technology used, and producers of agriculture in the state. Respondents were shown each question and asked to indicate their agreement on a 5-point Likert scale with the statement "when I think of Tennessee agriculture, this image comes to mind." Data were analyzed using descriptive statistics, independent samples *t*-tests, and one-way ANOVAs.

Results

We assessed objective one using four photos that included both livestock and row crop operations. Relatively more respondents (f = 410; 83%) agreed or strongly agreed they think of dairy cows when they think about agriculture in Tennessee. Roughly two-thirds of respondents agreed or strongly agreed they think of soybeans (f = 388; 78.5%) and corn (f = 367; 74.3%). Lastly, slightly less than two-thirds of respondents ((f = 363; 73.5%) agreed or strongly agreed they think of chicken production when they think about Tennessee agriculture. To assess objective two, we presented respondents with seven photos of farmers of varying characteristics. Full results and photo descriptions are presented in Table 1.

Table 1

Respondents' agreement with who they picture when they think about a farmer in Tennessee

Descriptive Characteristics of Photo					Agree or Strongly Agree	
Photo #	Race	Age	Gender Pres	Other photo description	*f*	%
#4	White	>60	Male	Hay in background; jeans and hat	441	89.2

#5	African Am.	>60	Male	On a tractor; work gloves and suspenders	422	85.5
#6	White	20-40s	Male	In a field; plaid shirt and hat	413	83.6
#2	White	>60	Female	In a corn field; jeans, blouse, earrings	338	68.4
#3	African Am.	20-40s	Male	In a greenhouse; pocket T and beanie	285	57.7
#1	African Am.	20-40s	Female	In soybean field; wearing t-shirt, holding data pad	261	52.8
#7	White	20-40s	Female	In sheep pasture; wearing pink dress	230	46.5

We assessed objective three using four images, including more traditional and newer technologies. More respondents agreed or strongly agreed they think of more traditional equipment, such as combines (f = 376; 76%) and water irrigation for pastures (f = 311; 63%), when they think about Tennessee agriculture. Fewer respondents agreed or strongly agreed they think of technologies such as hydroponic systems (f = 216; 43.7%) or drones (f = 176; 35.7%). Lastly, objective four was to explore factors that may explain respondents' perceptions. We found differences in perceptions of types of agriculture-based only on location. Respondents in the top five corn production counties were significantly more likely to associate the photo of corn with Tennessee agriculture, $t(492) = -2.00$, $p = .02$. Differences in perceived technology use were observed based on agricultural experience for the photos featuring the hydroponic system $F(4, 489) = 4.95$, $p = .001$ and drones $F(4, 489)$, $p = .008$. Respondents involved in agriculture as a living were more likely to picture both hydroponics and drones as part of agriculture than those who had previously been involved, were involved as a hobby, and had never been involved. For perceptions of Tennessee farmers, one-way ANOVAs revealed significant differences based on respondents' experience in agriculture for Farmer 1, $F(4, 489) = 3.18$, $p = .01$; Farmer 2, $F(4, 489) = 3.79$, $p = .01$; Farmer 3, $F(4, 489) = 3.38$, $p = .01$; Farmer 4, $F(4, 489) = 5.00$, $p = <.00$; Farmer 5, $F(4, 489) = 5.82$, $p = <.001$; and Farmer 6, $F(4,489) = 3.48$, $p = .01$. Specifically, multiple comparisons each photo indicated that respondents involved in agriculture as a hobby were more likely to agree that Farmers 2, 3, 4 and 5 are who they view as farmers in Tennessee. Those involved in agriculture as a living or hobby were more likely to identify Farmers 1 and 7.

Conclusions, Discussion, and Implications

Respondents associated Tennessee agriculture with both livestock and row crop production. Further analysis revealed differences based on what respondents see around them in their counties when it comes to production in the area. When viewing agriculture based on technology and equipment, respondents agreed more with the image of more traditional equipment. Lastly, when considering who farms in Tennessee, respondents agreed more overall with male figures, followed by those in an older age category. Respondents agreed least that younger females are who they imagine when they think of agriculture, except for respondents involved in agriculture for a living. Per the ELM, individuals may be more likely to make sense of informational messaging if it is personally relevant and fitting with their experiences. It may therefore be beneficial to include images of agricultural commodities based on the region in which messages are being delivered. However, when attempting to bring to light agricultural activities and producers who are less often associated with agriculture, messaging should not be limited to the personal experiences of others. Rather, agricultural communicators should seek methods of using

personally relevant information to capture attention and highlight the diverse aspects of agriculture in the state.

References

Davis, G. T. (2017). An examination of social media as a marketing tool for Tennessee small farmers (Publication No. 10272200) [Doctoral dissertation, Tennessee State University]. ProQuest Dissertations & Theses Global.

Hand, S. S. (2020). Bridging the divide: Understanding the agricultural literacy of Georgia consumers. [Master's thesis, University of Georgia]. UGA Repository. https://esploro.libs.uga.edu/esploro/outputs/graduate/BRIDGING-THE-DIVIDE-UNDERSTANDING-THE-AGRICULTURAL-LITERACY-OF-GEORGIA-CONSUMERS/9949366055202959

Hoerbert, B. (2020). *The perceptions of media portrayals of agriculture*. ISU ReD: Online University Research Symposium and eData. https//ir.library.illinoisstate.edu/ursagr/7

Howard, M., Stevens, C. A., Stripling, C. T., Brawner, S., & Loveday, H. D. (2017). The effect of social media on university students' perceptions of the beef industry. *Journal of Agricultural Education, 58*(2), 316–330. https://doi.org/10.5032/jae.2017.02317

Lundy, L. K., Ruth, A. M., & Park, T. D. (2007). Entertainment and agriculture: An examination of the impact of entertainment media on perceptions of agriculture. *Journal of Applied Communications, 91*(1). https://doi.org/10.4148/1051-0834.1257

Lusk, J. L., McFadden, B. R., & Wilson, N. (2018). Do consumers care how a genetically engineered food was created or who created it? *Food Policy, 78*, 81–90. https://doi.org/10.1016/j.foodpol.2018.02.007

O'Keefe, D. (2016). *Persuasion: theory and research* (3rd ed.). SAGE Publication Inc.

Petty, R. E., & Cacioppo, J. T. (1986). *The elaboration likelihood model of persuasion.* Springer.

Ruth, A., Telg, R., Irani T., & Locke, D. (2004) Agricultural scientists' perceptions of fairness and accuracy of science and agriculture coverage in the news media. *ResearchGate.* https://www.researchgate.net/publication/228492176