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Young Mothers' Trust of Celebrities and Influencers for Food Safety and Nutrition Information

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Abstract

Because mothers are the primary grocery shoppers for most households, they play a fundamental role in the food their families eat. As such, it is important to understand their perceptions of potential sources of food safety and nutrition information. This study surveyed young mothers (i.e., 18-40 years old) across the United States to assess their awareness, knowledge, and trust of celebrities and social media influencers who communicate about food-related topics. The list of celebrities and influencers consisted of TV chefs, celebrities and influencers who espouse favorable viewpoints of food and agriculture, and celebrities and influencers who espouse more alternative viewpoints of food and agriculture. Respondents were usually more aware and knowledgeable of the celebrities and chefs than the influencers. They also generally trusted the TV chefs the most. There tended to be small-to-medium positive correlations between a respondents' knowledge of a celebrity/influencer and their trust of that celebrity/influencer but not all were statistically significant. Communicators looking to influence the largest number of people would benefit more from working with celebrities, but social media influencers could still play a role in campaigns that target specific online communities where the influencers' values align with community members. More research is recommended to expand to other audiences, as well as assessing other celebrities and influencers. Research can also address how consumers use social media to get food-related information, how trust could be affected by communication using different social media platforms, and content analyses of food-related communication by celebrities and influencers on social media outlets.

Keywords

Mothers, trust, celebrities, influencers, Elaboration Likelihood Model

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Introduction

Consumer trust has become increasingly relevant in the agricultural sector as consumers have begun to question how their food is produced, which has shifted production trends and purchasing decisions (Howard, 2005; Klimczuk & Klimczuk-Kochańska, 2019). The globalization, mass-production, and advanced technology used in food production have created a considerable knowledge gap between producers and consumers, as well as an element of distrust of the unknown (Meijboom et al., 2006). Distance between production and consumption of food, in addition to fear-based marketing in the food sector, have made consumers question or even challenge production practices in agriculture (Vermeir & Verbeke, 2005). Much of this fear-based discourse has occurred on social media (Roberts & David, 2020), and researchers have found that increased social media use led to decreased trust in agriculture (Robinson et al., 2020). The public often lacks enough food and agricultural information to make informed decisions (Frick et al., 1995; Kovar & Ball, 2013; Meischen & Trexler, 2003). When people do not have enough information, they often turn to sources with whom they share values and believe to be more informed on the topic (Kahan, 2012). As such, it is important to understand where the public is turning to for information on topics they are not always well-informed about, such as food and agriculture.

Social media sites have become a popular method for consumers and producers to attempt to bridge the knowledge gap and share their thoughts regarding food and agriculture. Increased popularity of social media use has changed how food experts and production companies disseminate food-related information to the public by increasing the speed of information spread and accessibility (Laws et al., 2019). According to Pew Research Center (2021), 72% of U.S. adults use at least one social media site. Demographic factors like age, gender, socioeconomic status, and education impact which social media sites are used most, and women (78%) are more likely than men (66%) to use at least one social media site (Pew, 2021). With the increased prevalence of social media in society, there is a need to better understand how users interact with the platforms and content creators to learn about topics related to food and nutrition.

Celebrity Influence on Consumers

Increased use of the internet and social media allows consumers to be constantly inundated with information, and the platform in which that information is received makes a difference in how consumers react to the information presented from companies, influencers, and celebrities (Chen & Chang, 2019). Even before the public could directly connect with celebrities via social media, celebrities were influencing purchasing and behavioral trends as illustrated by the Oprah Winfrey vs. Texas Cattle Feeders case (Hayenga, 1998). Texas cattle feeders sued Oprah, claiming she spread false information on her show that could be construed as libel to the beef industry, and cattle futures dropped $1.50/cwt the day the show aired (Hayenga, 1998). Economists speculate her broad reach to consumers led to a decline in beef futures. Similarly, Jenny McCarthy used her platform as a celebrity and mother to inform other parents of what she believed to be the dangers of vaccines (Gottlieb, 2016). When she was added to the popular talk show *The View*, her views on "anti-toxin" and "anti-schedule" could be shared to mass audiences. At the same time McCarthy and other celebrities spoke against vaccines, preventable outbreaks became increasingly common (Benecke, 2019). In 2019 measles outbreaks in the

United States, Philippines, Ukraine, Venezuela, Brazil, Italy, France, and Japan reached emergency levels (Benecke, 2019). Both Oprah and McCarthy illustrate the wide-reaching impact celebrity stances can have on entire industries.

While celebrities can negatively impact organizations or products, they can also have positive impacts. The use of celebrities in advertising have been a successful part of creating brand loyalty and trust, and in the age of social media, celebrity endorsements have become a powerful marketing technique on social media platforms (Min et al., 2019). Increased presence on internet and media platforms has allowed celebrities to be more present and active when endorsing products and brands (Rocha et al., 2018). Pairing a brand or product with a celebrity who has a positive image association can increase persuasiveness and effectiveness of promotional practices, making the brand or product more attractive to consumers (Min et al., 2019). The more followers a celebrity endorser has, the more credible, trustworthy, and competent they are in the eyes of the consumer, which has a positive effect on buying intention (Jin et al., 2014). Johnston and Goodman (2015) found celebrities often take a role "mediating the grammar of good food" (p. 211) by telling consumers what they should and should not eat, and how to maintain a certain identity or lifestyle. Celebrities frame the constructs of sustainable food, a proper meal, and a correct body type (Johnston & Goodman, 2017). Barnes (2014) made similar arguments about celebrity chefs acting as intermediaries between the public and agricultural producers to impact the public's food decisions, but this is affected by how trustworthy the celebrity is perceived to be.

Influencers, bloggers, and celebrities hold power over online audiences, not only through brand endorsements, but also on their own personal social platforms (Gottlieb, 2016). While celebrities have generally gained their recognition from some other area beyond the social media sphere (e.g., acting, sports, politics), social media influencers are a type of "micro celebrity" whose recognition is almost entirely from cultivated online followings, with an emphasis on maintaining parasocial relationships with followers (Khamis et al., 2017). Parasocial relationships are a simulation of real relationships between social media followers and the accounts they follow, notably celebrities and influencers (Reinikainen et al., 2020).

This study looked at U.S. mothers aged 18 to 40 years for their awareness, knowledge, and trust of celebrities and influencers related to communication about food and nutrition. Mothers were the target audience for this study because the majority of grocery shopping in United States households is done by women, particularly mothers (Private Label Manufacturers Association [PLMA], 2013; Schaeffer, 2019). Of note is that women have less positive perceptions regarding biotechnology in food compared to men, though knowledge of science can moderate the gender gap some (Elder et al., 2018; Moerbeek & Casimir, 2005; Qin & Brown, 2007; Simon, 2010). Additionally, mothers are more likely than fathers to rely on internet sources for information regarding their children's health and nutrition (Laws et al., 2019). Rockers et al. (2020) found mothers' food information was received mostly online. Duplaga (2020) found that influencers affected health behaviors, including food consumption, of women who were between the ages of 18 and 35, though they indicated there is a lack of research on influencers' effect on health-related behaviors. Mothers' perceptions of influencers are particularly important because mothers were among the first online influencers through avenues like mommy blogs where they shared their experiences with other mothers (Holiday et al., 2021). When individuals do not trust government sources, they often turn to alternative sources such as influencers, who often portray themselves as subject-matter experts (Goodyear et al., 2021; Leader et al., 2021).

Conceptual Framework

The conceptual framework that guided this research drew upon the Elaboration Likelihood Model (ELM; Petty et al., 2009) and Dutton's (2006) definition of trust. ELM is a dual-process communication model developed to illustrate how persuasive communication can inform changes in attitude and behavior (Petty et al., 2009). The model assumes that individuals will not provide the same level of thought or attention to every piece of communication they encounter and will utilize active or passive information processing routes depending on their motivation and ability to engage with the content (Petty et al., 2009). When the communication content is not personally relevant to an individual or the receiver lacks the prior knowledge to adequately process the communication, they will assess the information using the passive peripheral processing route (Petty et al., 2009). People are cognitive misers who will try to make decisions as efficiently as possible and avoid actively processing all available information (Fiske & Taylor, 1991). This processing route heavily relies on the peripheral cues, such as source credibility and expertise, to inform changes in attitude (Petty et al., 2009). However, these attitudes are not always strong or predictive of behavior (Petty et al., 1995).

One of the ways consumers can assess the quality of a source is by how much they trust the source. However, there has historically been dissention between researchers when trying to define the constructs of trust (Tschannen-Moran & Hoy, 2011). Some common words associated with trust include goodwill, vulnerability, reliability, and predictability (Bhattacharya et al., 1998; Das & Tang, 1998; Mayer et al., 1995; Rousseau et al., 1998). Rawlins's (2008) definition of trust describes a willingness to be vulnerable based on the confidence that the other party displays competence, dependability, integrity, and goodwill. For this research project, trust has been operationalized as a confident expectation or a firm belief in the reliability of a person or thing and the assurance of truthful statements without examination (Dutton, 2006).

Trust is an important component affecting consumer behavior. Past research has shown linkages to agriculture were positively correlated with trust in food and agriculture, while using social media was negatively correlated with trust in food and agriculture (Robinson et al., 2020). Trust of labels, quality, and safety are important components for why organic food is purchased (Curvelo et al., 2019; Lazaroiu et al., 2019; Tandon et al., 2020). While knowledge is considered an important influence on consumer behavior (Bamberg & Möser, 2007; Misra & Singh, 2016), knowledge is not always enough to affect behavior (Hansmann et al., 2020).

ELM has been utilized in a variety of studies related to communicating agricultural sciences topics, and literature suggests consumers use the peripheral processing route when faced with messages about agriculture (Goodwin, 2013; Meyers, 2008; Morgan & Gramann, 1989; Verbeke & Vackier, 2004; Verbeke & Ward, 2006). Researchers have specifically concluded that peripheral cues, like sources, can influence consumers' attitudes toward food products (Ruth & Rumble, 2017). Therefore, there is a need to further examine how young mothers perceive sources communicating food-related information.

Social media has become a primary form of communication allowing companies a two-way dialogue with consumers to form meaningful connections instead of simply being a one-directional channel of information to the public (Rutasert et al., 2013). Consumers often ignore experts when information is disseminated through a one-way channel and instead turn to online interactive platforms for information sources (Rutasert et al., 2013). Social media allows more content to be shared over various platforms and to foster more social and emotional ties between users of accounts, including organizations and customers (Coulter & Roggeveen, 2012). These

relationships between content creators and followers allow influencers and celebrities to play a crucial role when relaying information to influence consumer purchasing decisions (Specht et al., 2020).

Social media influencers "represent a new type of independent third-party endorser who shape audience attitudes through blogs, tweets, and the use of other social media" (Freberg et al., 2011, p. 90). Effectiveness of using social media influencers in advertising is still not as well understood as celebrity endorsements; however, there are indications that influencers can be more influential to consumers than celebrities (Schouten, 2019). Jin et al. (2019) found that consumers exposed to Instagram influencers' brand posts perceived the influencer posts as more trustworthy and showed a more positive attitude toward the endorsed brand than consumers exposed to traditional celebrity brand posts. Schoulten's (2019) study demonstrated consumers relate more easily to social media influencers than traditional celebrities: They see more similarities and more attainable attributes, which increases trust and wishful identification when it comes to brand endorsement. Lim et al. (2017) also found that meaning transferred through social media influencers to their millennial audience had a positive relationship with consumer attitude and intent to purchase. However, consumers acknowledged social media influencers lacked credibility and knowledge about endorsed products (Lim et al., 2017).

One of the unique aspects of social media compared to traditional media, such as television or newspapers, is that users have the ability to curate their own feed of information based on whom they follow. This ability to pick and choose which accounts and users to follow creates online communities that share similar values and attitudes (Iyengar & Hahn, 2009; Prior, 2007). Because of these self-selected online communities, communicators are able to develop targeted communication to reach specific audiences, which may be one way to address consumers' fear of the unknown and ambiguity around agricultural products by helping them feel more connected to the industry (Meijboom et al., 2006).

Consumers lack the motivation and ability to process information related to agriculture consistently and thoughtfully, which leads them to rely on peripheral cues, like trust of sources, to form attitudes (Petty et al., 2009; Ruth & Rumble, 2017). Additionally, celebrity and social media influencer endorsements provide communications practitioners a powerful way to establish shared values with customers (Specht et al., 2020). Therefore, agricultural communicators need to understand how celebrity and social media influencers can affect public perceptions of agriculture. Previous studies have assessed celebrity and social media influencer endorsements and their impact on consumer perceptions of brands and products (Barnes, 2017; Gottlieb, 2016; Hayenga, 1998; Jin et al. 2019; Min et al. 2019; Schouten, 2019), but none of the found studies explored the relationship between trust and knowledge of celebrity and social media influencers as sources of food and nutrition information.

Due to the segmented nature of social media, there is also a need to explore specific audience's perception of celebrity and social media influencers when communicating about food and nutrition topics. Because mothers make the primary food purchasing decisions for their home (PLMA, 2013; Schaeffer, 2019), and social media serve as prevalent sources of information for female consumers (Ruane & Wallace, 2013), mothers between the ages of 18 and 40 were specifically examined to understand their trust in celebrities and influencers to communicate about food and nutrition.

Purpose & Objectives

The purpose of this study was to explore young mothers' perceptions of celebrity and social media influencers trustworthiness as communicators about food and nutrition topics. The following objectives guided the study:

1. Describe young mothers' awareness and knowledge of celebrities and social media influencers that communicate about food safety and nutrition,
2. Describe young mothers' trust of celebrities and social media influencers who communicate about food safety and nutrition, and
3. Describe the correlation between young mothers' trust and knowledge of celebrities and social media influencers that communicate about agriculture and natural resources.

Methods

To accomplish the goals of this study, a quantitative survey via Qualtrics was distributed to mothers in the U.S. who were 18 to 40 years old with children under the age of 18 living with them. Quota sampling was used to ensure that respondents were reflective of the U.S. population based on race and Hispanic status based on U.S. Census Bureau estimates. Non-probability sampling, which includes quota sampling, involves a non-random sample that is selected to satisfy research goals (Dillman et al., 2014). Non-probability sampling was used for this study because of coverage and response rate issues from internet- and phone-based probability samples (Dillman et al., 2014). In this study, Qualtrics sent out invitations to online panel members based on desired demographic characteristics until the required number of participants was achieved. There were 216 respondents. Race and ethnicity sample results are provided in Table 1.

Table 1
Race and ethnicity of respondents

Race/Ethnicity	Sample Percent (*n*)	U.S. Population Percent[a]
White	76.9% (166)	76.3%
Black or African American	16.2% (35)	13.4%
American Indian or Alaska Native	1.4% (3)	1.3%
Asian	5.6% (12)	5.9%
Other	3.7% (8)	-
Hispanic	20.4% (44)	18.5%

[a]United States Census Bureau (n.d.)

The majority of respondents were married, in a civil union, or domestic partnership (*n* = 141, 65.3%), followed by single, never married (*n* = 58, 26.9%); divorced (*n* = 12, 5.6%); separated (*n* = 3, 1.4%); and widowed (*n* = 1, 0.5%). The largest number of respondents' highest level of education was high school or GED (*n* = 61, 28.2%), followed by 4-year college degree (*n* = 56, 25.9%), some college but no degree (*n* = 37, 17.1%), two-year college degree (*n* = 31, 14.4%), master's degree (*n* = 19, 8.8%), professional degree (*n* = 7, 3.2%), less than high school or GED (*n* = 4, 1.9%), and doctoral degree (*n* = 1, 0.5%). Household income for respondents is as follows: 19.4% less than $25,000 (*n* = 42), 28.7% $25,000-$49,999 (*n* = 62), 31.5% $50,000-$99,999 (*n* = 68), 10.2% $100,000-$124,999 (*n* = 22), and 10.2% more than $124,999 (*n* = 22).

The largest group of respondents described themselves as Democrats (*n* = 86, 39.8%), followed by Independent (*n* = 64, 29.6%), Republicans (*n* = 57, 26.4%), and other (*n* = 9, 4.2%). The majority of respondents used Facebook (*n* = 194, 89.8%), YouTube (*n* = 189, 87.5%), Instagram (*n* = 152, 70.4%), Pinterest (*n* = 124, 57.4%), and Snapchat (*n* = 110, 50.9%). A smaller number of respondents used TikTok (*n* = 85, 39.4%), Twitter (*n* = 74, 34.3%), and Reddit (*n* = 40, 18.5%)

The questionnaire was based on questions from the Settle et al. (2017) study that addressed the public's knowledge and trust of agricultural and natural resources organizations. The current study assessed awareness, knowledge, and trust of prominent online communicators of food and nutrition information. Respondents were asked if they were aware of the 15 celebrities and influencers with a dichotomous, yes/no question. For each celebrity/influencer they were aware of, respondents reported how knowledgeable they were of the individual on a scale ranging from 1 = *not at all knowledgeable* to 5 = *extremely knowledgeable*. If respondents were at least slightly knowledgeable of a celebrity/influencer, they were asked the extent they trust or distrust that individual's communications about nutrition and food safety. Nutrition and food safety were asked about as separate questions with response items ranging from 1 = *distrust* to 5 = *trust*, with the option to say they were not familiar with communications about the respective topic from that individual. Respondents were then asked to indicate their level of trust with each individual there were at least *slightly knowledgeable* of on a nine-item scale. Reliability for trust of each individual was run using Cronbach's alpha. More information about reliability is provided in Table 3. To help ensure face and content validity, a cognitive interview was conducted after initial development of the questionnaire (Dillman et al., 2014). This led to a clarification in the knowledge question so that it was clear respondents were answering questions about the individuals, not the shows some of those individuals hosted. The number of items on the trust scale for each celebrity/influencer was also reduced to nine items from the original 15 to reduce survey fatigue.

The goal in developing the list of celebrities and influencers was to ensure a breadth of individuals were assessed, as well as ensuring each group was equally represented in the final list. One group consisted of celebrity chefs who feature prominently on television but also have substantial online followings: Gordon Ramsey, Jamie Oliver, Paula Deen, Alton Brown, and Rachael Ray. Another set of individuals were chosen to represent what would be considered favorable viewpoints of traditional agricultural and food production, many of whom are involved in production agriculture: Ree Drummond, Peterson Farm Bros, Krista Stauffer (The Farmer's Wifee), Jay Hill, and Michele Payn (AgChat). The last set of individuals who had substantial online followings and exhibited alternative views of food and agriculture: Mehmet Oz (Dr. Oz), Dana Schultz (Minimalist Baker), Naturally.jo, Lucy Watson (Feed Me Vegan), and Andrea Hanemann (Earthy Andy). The initial list of individuals to consider was based on their prominence in the media, as well as suggestions from individuals with expertise in agricultural communication and education who were not on the research team. From that larger set, final selection of celebrities and influencers included in the study was based the number of social media followers. Because of the different natures of each group, different threshold levels were used for each group. The celebrity chefs and alternative group all had at least one million followers on an individual social media site. The traditional agriculture group had at least 30,000 followers on an individual social media site. The list was developed during the summer of 2020 when data collection occurred.

Data analysis for objective 1 consisted of reporting frequency counts and percentages. Mean and standard deviation were calculated for objective 2. For objective 3, Pearson product-moment correlation coefficients were calculated with .05 set as *p* value for statistical significance. The effect size of the relationships is described in the paper using Cohen's (1988) conventions (as cited in Field, 2013).

Results

Objective 1: Describe Young Mothers' Awareness and Knowledge of Celebrities and Social Media Influencers That Communicate About Food Safety and Nutrition

Table 2 shows consumers' level of awareness and knowledge of celebrities and social media influencers included in the study. Food celebrities Gordon Ramsey (*n* = 189) and Rachael Ray (*n* = 186) had the highest number of respondent awareness. Social media influencers Andrea Hanemann (*n* = 20), Naturally Jo (*n* = 22), Lucy Watson (*n* = 26), Jay Hill (*n* = 26), and Peterson Farm Bros (*n* = 28) had the lowest number of respondent awareness. The highest number of respondents were at least moderately knowledgeable of Gordon Ramsey (*n* = 86) and Rachael Ray (*n* = 71), while the fewest were at least moderately knowledgeable of social media influencers Dana Schultz (*n* = 5) and Naturally Jo (*n* = 5).

Objective 2: Describe Young Mothers' Trust of Celebrities and Social Media Influencers Who Communicate About Food Safety and Nutrition

Table 3 shows the respondents' level of trust in celebrities and social media influencers. Food Celebrities Gordon Ramsey (*M* = 4.49) and Alton Brown (*M* = 4.43) were the most trusted regarding food safety communication, while social media influencers Michele Payne (*M* = 3.63) and Krista Stauffer (*M* = 3.86) were the least trusted. Alton Brown (*M* = 4.43) and Naturally Jo (*M* = 4.33) were the most trusted regarding nutrition communication, while Paula Deen (*M* = 3.36) and Krista Stauffer (*M* = 3.41) were the least trusted.

Objective 3: Describe the Correlation Between Young Mothers' Trust and Knowledge of Celebrities and Social Media Influencers That Communicate About Food Safety and Nutrition

Table 4 shows the correlation between trust and knowledge of celebrities and social media influencers regarding both food safety and nutrition. Gordon Ramsey (*r* = .319) and Paula Deen (*r* = .324) had statistically significant moderate correlation in relation to nutritional communications. Peterson Farm Bros (*r* = .428) and Paula Deen (*r* = .327) had statistically significant moderate correlation in relation to food safety communications. All but one of the statistically significant relationships involved traditional celebrities who have had TV shows, though this is possibly an artifact of more respondents being aware of those celebrities, which means correlations do not have to be as strong to reach statistical significance.

Table 2

Respondents' awareness and knowledgeability of celebrities and influencers.

Celebrity/ Influencer	Percent Respondents Aware of Celebrity/ Influencer (*n*)	Percent Not at All Knowledgeable (*n*)	Percent Slightly Knowledgeable (*n*)	Percent Somewhat Knowledgeable (*n*)	Percent Moderately Knowledgeable (*n*)	Percent Extremely Knowledgeable (*n*)
Gordon Ramsey	87.5% (189)	7.9% (15)	28.0% (53)	20.1% (38)	20.1% (38)	23.8% (45)
Rachael Ray	86.1% (186)	5.9% (11)	28.0% (52)	28.0% (52)	23.7% (44)	14.5% (27)
Paula Deen	76.9% (166)	9.6% (16)	38.6% (64)	19.9% (33)	18.1% (30)	13.9% (23)
Mehmet Oz	69.4% (150)	14.7% (22)	35.3% (53)	24.7% (37)	14.0% (21)	11.3% (17)
Ree Drummond	56.5% (122)	10.7% (13)	26.2% (32)	27.9% (34)	20.5% (25)	14.8% (18)
Alton Brown	41.2% (89)	15.7% (14)	32.6% (29)	18.0% (16)	22.5% (20)	11.2% (10)
Jamie Oliver	34.7% (75)	22.7% (17)	28.0% (21)	25.3% (19)	10.7% (8)	13.3% (10)
Krista Stauffer	15.3% (33)	30.3% (10)	36.4% (12)	15.2% (5)	9.1% (3)	9.1% (3)
Dana Schultz	15.3% (33)	27.3% (9)	27.3% (9)	30.3% (10)	6.1% (2)	9.1% (3)
Peterson Farm Bros	13.0% (28)	14.3% (4)	21.4% (6)	28.6% (8)	35.7% (10)	0.0% (0)
Lucy Watson	12.0% (26)	26.9% (7)	23.1% (6)	19.2% (5)	19.2% (5)	11.5% (3)
Michele Payn	12.0% (26)	15.4% (4)	46.2% (12)	11.5% (3)	11.5% (3)	15.4% (4)
Jay Hill	12.0% (26)	23.1% (6)	23.1% (6)	11.5% (3)	34.6% (9)	7.7% (2)
Naturally Jo	10.2% (22)	22.7% (5)	27.3% (6)	27.3% (6)	18.2% (4)	4.5% (1)
Andrea Hanemann	9.3% (20)	25.0% (5)	5.0% (1)	35.0% (7)	15.0% (3)	20.0% (4)

Note. Percentages are calculated from the total number of respondents. Respondents who were not aware of a celebrity or influencer did not respond to the knowledge question.

Table 3

Respondents' overall level of trust for the celebrities and influences and trust of communications from the celebrities and influencers about nutrition and food safety

Celebrity/Influencer	Overall Trust (*SD*)	Trust of Communication about Nutrition (*SD*)[a]	Trust of Communication about Food Safety (*SD*)[a]
Alton Brown (*n* = 77)	3.90 (0.81)	4.43 (0.92)	4.43 (0.94)
Rachael Ray (*n* = 180)	3.89 (0.88)	4.07 (0.95)	4.26 (1.00)
Ree Drummond (*n* = 118)	3.85 (0.91)	4.00 (0.94)	4.29 (0.86)
Jamie Oliver (*n* = 60)	3.79 (0.89)	3.92 (1.05)	4.04 (1.13)
Gordon Ramsey (*n* = 180)	3.72 (0.72)	4.20 (1.05)	4.49 (0.85)
Mehmet Oz (*n* = 130)	3.63 (0.88)	3.93 (1.24)	4.04 (1.15)
Dana Schultz (*n* = 24)	3.56 (0.71)	4.00 (1.09)	4.13 (1.25)
Krista Stauffer (*n* = 23)	3.53 (0.81)	3.41 (1.10)	3.86 (1.39)
Lucy Watson (*n* = 20)	3.52 (0.71)[b]	3.89 (1.24)	4.00 (1.33)
Naturally Jo (*n* = 17)	3.51 (0.56)[b]	4.33 (0.90)	4.14 (1.17)
Andrea Hanemann (*n* = 15)	3.51 (0.61)[b]	3.64 (1.15)	4.07 (1.10)
Jay Hill (*n* = 21)	3.46 (0.69)	3.89 (1.24)	4.00 (1.30)
Paula Deen (*n* = 155)	3.45 (0.90)	3.36 (1.33)	4.02 (1.13)
Michele Payn (*n* = 23)	3.39 (0.63)[b]	3.55 (1.37)	3.63 (1.54)
Peterson Farm Bros (*n* = 25)	3.34 (0.60)[b]	3.88 (0.95)	4.17 (0.94)

Note. Respondents only answered trust questions if they were aware of the individual and at least slightly knowledgeable about individual. The number of respondents who answered trust questions about each individual is listed in the first column.

[a]Items were coded as 1 = *Distrust*, 2 = *Slightly distrust*, 3 = *Neither trust nor distrust*, 4 = *Slightly trust*, 5 = *Trust*.

[b]Reliability for overall trust for these celebrities/influencers was below .70. All others were at least .70, which is considered a threshold of acceptability when using Cronbach's alpha.

Table 4

The relationship between respondents' knowledge of a celebrity/influencer and their trust of nutrition and food safety communication from that celebrity/influencer

Celebrity/Influencer	Knowledge and Trust of Nutrition Communication	Knowledge and Trust of Food Safety Communication
Lucy Watson (*n* = 20)	.373	.320
Jay Hill (*n* = 21)	.355	.321
Naturally Jo (*n* = 17)	.343	.140
Paula Deen (*n* = 155)	.324*	.327*
Gordon Ramsey (*n* = 180)	.319*	.249*
Peterson Farm Bros (*n* = 25)	.318	.428*
Rachael Ray (*n* = 180)	.291*	.288*
Jamie Oliver (*n* = 60)	.270*	.280*
Alton Brown (*n* = 77)	.222	.248*
Ree Drummond (*n* = 118)	.208*	.277*
Andrea Hanemann (*n* = 15)	.173	.022
Krista Stauffer (*n* = 23)	.145	-.034
Mehmet Oz (*n* = 130)	.144	.190*
Dana Schultz (*n* = 24)	-.268	-.161
Michele Payn (*n* = 23)	-.001	.177

Note. Respondents only answered trust questions if they were aware of the individual and at least slightly knowledgeable about the individual. The number of respondents who answered trust questions about each individual is listed in the first column. Trust items were coded as 1 = *Distrust*, 2 = *Slightly distrust*, 3 = *Neither trust nor distrust*, 4 = *Slightly trust*, 5 = *Trust*. Knowledge items were coded as 1 = *Not at all knowledgeable*, 2 = *Not at all knowledgeable*, 3 = *Slightly knowledgeable, 4 = Moderately knowledgeable,* and 5 = *Extremely knowledgeable*.
* $p < .05$

Conclusions

Results showed that the mothers in the study were most aware and knowledgeable of food celebrities like Gordon Ramsey and Rachael Ray. Social media influencers like Andrea Hanemann, Naturally Jo, Lucy Watson, and Jay Hill had the least amount of awareness and knowledge among respondents. These results differ from Schoulten's (2019) who found social media influencers to be more well-known and relatable to the everyday consumer. This indicates the mothers in this study possibly did not have similar values and attitudes to the influencers in this study given the ability for social media users to self-select online communities (Iyengar & Hahn, 2009; Prior, 2007).

Respondents in this study slightly trusted food safety communication from all the celebrities and influencers they were at least somewhat knowledgeable of, though there was less trust of communication about nutrition from those same sources. This is important because trust is an important part of how influential celebrities and influencers can be (Barnes, 2014; Jin et al., 2014). With the exception of Paula Deen, the traditional celebrities were trusted by the mothers in this study more than the influencers. The results of the current study conflict somewhat with the studies by Jin et al. (2019) and Schoulten (2019) who found that influencers were considered more trustworthy than traditional celebrities, but the results were consistent with the Jin et al.

finding that celebrities with more followers tend to inspire a sense of credibility and trustworthiness to their audiences.

The correlation between knowledge and trust of communication was usually positive, with low to moderate strength of correlations, but not always at a statistically significant level. This is important because familiarity can impact trust perceptions (Barnes, 2014). While knowledge is considered necessary for individuals to make informed decisions (Frick et al., 1995; Kovar & Ball, 2013; Meischen & Trexler, 2003; Powell & Agnew, 2011; Specht et al., 2014), knowledge is not always strongly tied to trust (Settle et al., 2017). Understanding whom people trust is important because that will shape their opinions and decisions (Brossard & Nisbet, 2007; Kahan, 2012), likely even when consumers are not very knowledgeable about those sources.

Humans are cognitive misers by nature, and only pay attention to as much information about a topic as they need to for making decisions (Fiske & Taylor, 1991). Source credibility and expertise are often used in peripheral processing of information (Petty et al., 2009), so it is important to understand how people trust celebrities and influencers communicating online who have the ability to influence food perceptions (Barnes, 2017; Gottlieb, 2016; Hayenga, 1998; Jin et al. 2019; Min et al. 2019; Schouten, 2019). Because of their role as the primary food-buyers in households (PLMA, 2013; Schaeffer, 2019) and young women's health-related behaviors can be affected by influencers (Duplaga, 2020), young mothers are a particularly important audience, and it is important to continue researching what might be influencing the attitudes and decisions of mothers as they make food-related decisions.

Recommendations

Trust is an integral part of effective communications, and this research contributes to better understanding how celebrities and influencers may be influencing mothers. If the goal is to influence the most people possible, the celebrities in this study were more well-known than the social media influencers, and familiarity affects trust (Barnes, 2014). While social media influencers were not as well known among respondents, the influencers could still play a role in in shaping attitudes and behaviors in self-selected online communities where users share values with each other (Iyengar & Hahn, 2009; Kahan, 2012; Prior, 2007). If agricultural communicators can work with social media influencers whose values align with their target communities, this could present the opportunity to engage in targeted campaigns to help reduce fear and uncertainty toward food and agriculture (Meijboom et al., 2006). If there is a mismatch between influencers and target communities, effects are likely to be limited.

That said, more research is needed though to properly understand how celebrities and social media influencers are affecting food-related decisions. Future research should explore how consumers use social media to get food-related information. Research can explore differences in trust of food-related communication coming from celebrities and influencers who utilize different social media platforms. Content analysis of food-related communication from celebrities and influencers on social media outlets could also be beneficial for understanding what information members of the public are being exposed to online and how the public engages in that content.

A limitation of this study is the population. This study only looked at mothers aged 18 to 40 in the United States, so expanding the research to other demographic groups would be beneficial, especially given perceptions of celebrities can be impacted by demographic factors,

such as age, gender, and socioeconomic status (Brown & Basil, 1995). The results are also limited by which celebrities and influencers were included in the study. Only so many could be included, so future research would benefit by looking at other celebrities and influencers who could be affecting food perceptions of various demographic groups, which is particularly important given self-selective nature of following social media accounts (Iyengar & Hahn, 2009; Prior, 2007). It is possible other influencers could have aligned more with young mothers' values to foster higher levels of awareness and trust (Kahan, 2012). Another limitation is the timing of the research, which was in the ongoing COVID-19 pandemic, which could be affecting food-related perceptions, especially given supply chain issues that have reduced availability of many products in stores (Friesen, 2021). Repeating the study after the pandemic can help illustrate if any of the results were an artifact of when the study was conducted.

References

Abeza, G., O'Reilly, N., & Reid, I. (2013). Relationship marketing and social media in sport. *International Journal of Sport Communication*, *6*(2), 120-142. https://doi.org/10.1123/ijsc.6.2.120

Bamberg, S., & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. *Journal of Environmental Psychology, 27*(1), 14-25. https://doi.org/10.1016/j.jenvp.2006.12.002

Barnes, C. (2017). Mediating good food and moments of possibility with Jamie Oliver: Problematising celebrity chefs as talking labels. *Geoforum*, *84*, 169-178. https://doi.org/10.1016/j.geoforum.2014.09.004

Benecke, O., & DeYoung, S. E. (2019). Anti-vaccine decision-making and measles resurgence in the United States. *Global Pediatric Health*. https://doi.org/10.1177/2333794X19862949

Bhattacharya, R., Devinney, T., & Pillutla, M. (1998). A formal model of trust based on outcomes. *Academy of Management Review*, *23*. https://doi.org/10.5465/amr.1998.926621

Brandon, H. (2015). Agriculture's challenge: How to counter lack of trust in today's food system. https://www.farmprogress.com/miscellaneous/agriculture-schallenge-how-counter-lack-trust-today-s-food-system

Brossard, D., & Nisbet, M. C. (2007). Deference to scientific authority among a low information public: Understanding U.S. opinion on agricultural biotechnology. *International Journal of Public Opinion Research, 19*(1), 24-52. https://doi.org/10.1093/ijpor/edl003

Brown, W. J., & Basil, M. D. (1995). Media celebrities and public health: Responses to 'Magic' Johnson's HIV disclosure and its impact on AIDS risk and high-risk behaviors. *Health Communication, 7*(4), 345-370. https://doi.org/10.1207/s15327027hc0704_4

Chen, F. Z., & Cheng, Y. (2019). Consumer response to fake news about brands on social media: The effects of self-efficacy, media trust, and persuasion knowledge on brand trust. *Journal of Product & Brand Management*. https://doi.org/10.1207/s15327027hc0704_4

Coates, A. E., Hardman, C. A., Halford, J. C., Christiansen, P., & Boyland, E. J. (2019). Social media influencer marketing and children's food intake: A randomized trial. *Pediatrics*, *143*(4). https://doi.org/10.1542/peds.2018-2554

Coulter, K. S., & Roggeveen, A. (2012), "Like it or not": Consumer responses to word-of-mouth communication in on-line social networks, *Management Research Review*, *35*(9), 878-899. https://doi.org/10.1108/01409171211256587

Curvelo, I. C. G., Watanabe, E. A. d. M., & Alfinito, S. (2019). Purchase intention of organic food under the influence of attributes, consumer trust and perceived value. *Revista de Gestão*, *26*(3). https://doi.org/10.1108/REGE-01-2018-0010

Das, T., & Teng, B. (1998). Between trust and control: Developing confidence in partner cooperation in alliances. *Academy of Management Review*, *23*(3), 491-512. https://doi.org/10.5465/amr.1998.926623

Dumortier, J., Evans, K. S., Grebitus, C., & Martin, P. A. (2017). The influence of trust and attitudes on the purchase frequency of organic produce. *Journal of International Food & Agribusiness Marketing*, *29*(1), 46-69. http://dx.doi.org/10.1080/08974438.2016.1266565

Duplaga, M. (2020). The use of fitness influencers' websites by young adult women: A cross-sectional study. *International Journal of Environmental Research and Public Health, 17*. https://doi.org/10.3390/ijerph17176360

Dutton, W. H. (2006). Trust in the internet as an experience technology. *Information Communication and Society, 9*(4), 433–451. https://doi.org/10.1080/13691180600858606

Elder, L., Greene, S., & Lizotte, M. K. (2018). The gender gap on public opinion toward genetically modified foods. *Journal of Applied Communications, 55*(4). https://doi.org/10.1016/j.soscij.2018.02.015

Ewerhard, A.-C., Sisovsky, K., & Johansson, U. (2019). Consumer decision-making of slow moving consumer goods in the age of multi-channels. *The International Review of Retail, Distribution and Consumer Research*, *29*(1), 1-22. https://doi.org/10.1080/09593969.2018.1537191

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). Sage.

Fiske, S. T., & Taylor, S. E. (1991). *Social cognition*. McGraw-Hill.

Freberg, K., Graham, K., McGaughey, K., & Freberg, L. A. (2011). Who are the social media influencers? A study of public perceptions of personality. *Public Relations Review*, 37, 90–92. https://doi.org/10.1016/j.pubrev.2010.11.001

Frick, M. J., Birkenholz, R. J., & Machtmes, K. (1995). Rural and urban adult knowledge and perceptions of agriculture. *Journal of Agricultural Education, 36*(2), 44-53. https://doi.org/10.5032/jae.1995.02044

Friedlander, J., & Riedy, C. (2018). Celebrities, credibility, and complementary frames: raising the agenda of sustainable and other 'inconvenient' food issues in social media campaigning. *Communication Research and Practice, 4*(3), 229-245. https://doi.org/10.1080/22041451.2018.1448210

Friesen, G. (2021). No end in sight for the COVID-led global supply chain disruption. *Forbes*. https://www.forbes.com/sites/garthfriesen/2021/09/03/no-end-in-sight-for-the-covid-led-global-supply-chain-disruption/?sh=3bc18ac63491

Goodwin, J. N. (2013). *Taking down the walls of agriculture: Effect of transparent communication and personal relevance on attitudes and trust within the Elaboration Likelihood Model* (Doctoral Dissertation). http://ufdcimages.uflib.ufl.edu/UF/E0/04/53/18/00001/GOODWIN_J.pdf

Goodyear, V. A., Boardley, I., Chiou, S., Fenton, S. A. M., Makopoulou, K., Stathi, A., Wallis, G. A., Veldhuijzen van Zanten, J. J. C. S., & Thompson, J. L. (2021). Social media use informing behaviours related to physical activity, diet and quality of life during COVID-19: a mixed methods study. *BMC Public Health, 21*. https://doi.org/10.1186/s12889-021-11398-0

Gottlieb, S. (2016). Vaccine resistances reconsidered: Vaccine skeptics and the Jenny McCarthy effect. *BioSocieties 11***,** 152–174. https://doi.org/10.1057/biosoc.2015.30

Hansmann, R., Baur, I., & Binder, C. R. (2020). Increasing organic food consumption: An integrating model of drivers and behaviors. *Journal of Cleaner Production, 275*. https://doi.org/10.1016/j.jclepro.2020.123058

Holiday, S., Densley, R. L., & Norman, M. S. (2021). Influencer marketing between mothers: the impact of disclosure and visual brand promotion. *Journal of Current Issues & Research in Advertising, 42*(3), 236-257. https://doi.org/10.1080/10641734.2020.1782790

Howard, P. (2005). What do people want to know about their food? Measuring central coast consumers' interest in food systems issues. *Center for Agroecology & Sustainable Food Systems, 13*(2), 1-4.

Iyengar, S., & Hahn, K. S. (2009). Red media, blue media: Evidence of ideological selectivity in media use. *Journal of Communication, 59*(1), 19-39. https://doi:10.1111/j.1460-2466.2008.01402.x

Jin, S. V., Muqaddan, A., & Ryu, E. (2019). Instafamous and social media influence marketing. *Marketing Intelligence & Planning, 37*(5), 567-569. https://doi.org/10.1108/MIP-09-2018-0375

Kahan, D. (2012). Why we are poles apart on climate change. *Nature, 488*(7411), 255. https://doi.org/10.1038/488255a

Khamis, S., Ang, L., & Welling, R. (2017). Self-branding 'micro-celebrity' and the rise of social media influencers. *Celebrity Studies, 8*(2). 191-208. https://doi.org/10.1080/19392397.2016.1218292

Klimczuk, A., & Klimczuk-Kochańska, M. (2019). New economy, food, and agriculture. In P. B. Thompson & D. M. Kaplan (Eds) *Encyclopedia of Food and Agricultural Ethics* (2nd ed.), pp. 1893-1898. https://doi.org/10.1007/978-94-007-6167-4_629-1

Kovar, K. A., & Ball, A. L. (2013). Two decades of agricultural literacy: A synthesis of the literature. *Journal of Agricultural Education, 54*(1), 167-178. https://doi.org/10.5032/jae.2013.01167

Laws, R., Walsh, A. D., Hesketh, K. D., Downing, K. L., Kuswara, K., & Campbell, K. J. (2019). Differences between mothers and fathers of young children in their use of the internet to support healthy family lifestyle behaviors: Cross-sectional study. *Journal of Medical Internet Research, 21*(1), e11454. https://doi.org/10.2196/11454

Lazaroiu, G., Andronie, M., Uta, C., & Hurloiu, I. (2019). Trust management in organic agriculture: Sustainable consumption behavior, environmentally conscious purchase intention, and healthy food choices. *Frontiers in Public Health, 7*. https://doi.org/10.3389/fpubh.2019.00340

Leader, A. E., Burke-Garcia, A., Massey, P. M., & Roark, J. B. (2021). Understanding the messages and motivation of vaccine hesitant or refusing social media influencers. *Vaccine, 39*(2), 350-356. https://doi.org/10.1016/j.vaccine.2020.11.058

Lim, X. J., Radzol, A. M., Cheah, J., & Wong, M. W. (2017). The impact of social media influencers on purchase intention and the mediation effect of customer attitude. *Asian Journal of Business Research, 7*(2), 19-36. https://doi.org/10.14707/ajbr.170035

Lou, C., & Yuan, S. (2019). Influencer marketing: How message value and credibility affect consumer trust of branded content on social media. *Journal of Interactive Advertising, 19*(1), 58-73. https://doi.org/10.1080/15252019.2018.1533501

Mayer, R., Davis, J., & Schoorman, F. (1995). An integrative model of organizational trust. *The Academy of Management Review, 20*(3), 709-734. https://doi.org/10.5465/amr.1995.9508080335

Meijboom, F., Visak, T., & Brom, F. (2006). From trust to trustworthiness: Why Information is not enough in the food sector. *Journal of Agricultural and Environmental Ethics, 19*, 427-442. https://doi.org/10.1007/s10806-006-9000-2

Meischen, D. L., & Trexler, C. J. (2003). Rural elementary students' understandings of science and agricultural education benchmarks related to meat and livestock. *Journal of Agricultural Education*, *44*(1), 43-55. https://doi.org/10.5032/jae.2003.01043

Meyers, C. A. (2008). *The agricultural angle: Effect of framing agricultural biotechnology messages on attitudes and intent to publish within the Elaboration Likelihood Model* (Doctoral Dissertation). http://gradworks.umi.com/33/34/3334488.html

Min, J. H. J., Chang, H. J. J., & Jai, T. C. (2019). The effects of celebrity-brand congruence and publicity on consumer attitudes and buying behavior. *Fashion and Textiles, 6***,** (10). https://doi.org/10.1186/s40691-018-0159-8

Misra, R., & Singh, D. (2016). An analysis of factors affecting growth of organic food: Perception of consumers in Delhi-NCR (India). *British Food Journal*, *118*(9). https://doi.org/10.1108/BFJ-02-2016-0080

Moerbeek, H., & Casimir, G. (2005). Gender differences in consumers' acceptance of genetically modified foods. *International Journal of Consumer Studies*, *29*(4), 308-318. https://doi.org/10.1111/j.1470-6431.2005.00441.x

Morgan, J. M., & Gramann, J. H. (1989). Predicting effectiveness of wildlife education programs: A study of students' attitudes and knowledge toward snakes. *Wildlife Society Bulletin*, *17*(4), 501-509. http://www.jstor.org/stable/3782720

Oritz-Ospena, E. (2019). The rise of social media. https://ourworldindata.org/rise-of-social-media

Petty, R. E., Brinol, P., & Priester, J. R. (2009). Mass media attitude change: Implications of the elaboration likelihood model of persuasion. In J. Bryant, & M. Oliver (Eds.), *Media effects: Advances in theory and research* (3rd ed., pp. 125-164). Routledge.

Pew Research Center (2021). *Social Media Fact Sheet*. https://www.pewresearch.org/internet/fact-sheet/social-media/

Powell, D. V., & Agnew, D. M. (2011). Assessing agricultural literacy elements of project food land and people in K-5 using the food and fiber systems literacy standards. *Journal of Agricultural Education*, *52*(1), 155-170. doi:10.5032/jae.2011.01155

Prior, M. (2007). *Post-broadcast democracy: How media choice increases inequality in political involvement and polarizes elections*. Cambridge University Press.

Private Label Manufacturers Association (2013). Today's primary shopper. *PLMA Consumer Research Survey.* https://plma.com/2013PLMA_GfK_Study.pdf

Qin, W., & Brown, J. L. (2007). Public reactions to information about genetically engineered foods: effects of information formats and male/female differences. *Public Understanding of Science, 16*(4), 471-488. https://doi.org/10.1177%2F0963662506065336

Rawlins, B. (2008). Measuring the relationship between organizational transparency and employee trust. *Public Relations Journal, 2*.

Reinikainen, H., Munnukka, J., Maity, D., & Luoma-aho, V. (2020). 'You really are a great big sister' – parasocial relationships, credibility, and the moderating role of audience comments in influencer marketing. *Journal of Marketing Management, 36*(3-4), 279-298. https://doi.org/10.1080/0267257X.2019.1708781

Roberts, J. A., & David, M. E. (2020). The social media party: Fear of missing out (FOMO), social media intensity, connection, and well-being. *International Journal of Human–Computer Interaction, 36*(4), 386-392. https://doi.org/10.1080/10447318.2019.1646517

Robinson, C. R., Ruth, T. K., Easterly, R. G.., Franzoy, F., & Lillywhite, J. (2020). Examining consumers' trust in the food supply chain. *Journal of Applied Communications, 104*(2). https://doi.org/10.4148/1051-0834.2298

Rocha, P. I., Caldeira de Oliveira, J. H., & Giraldi de Moura, J. E. (2019). Marketing communications via celebrity endorsement: An integrative review. *Benchmarking: An International Journal, 27*(7), 2233-2259. https://doi.org/10.1108/BIJ-05-2018-0133

Rockers, A., Settle, Q., and Cartmell, D. (2020) Agricultural Mothers' Conversations & Decision-Making about Food. *Journal of Applied Communications, 104* (4). https://doi.org/10.4148/1051-0834.2349

Rousseau, D., Sitkin, S., Burt, R., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review, 23*. https://doi.org/10.5465/amr.1998.926617

Ruane, L., & Wallace, E. (2013). Generation Y females online: insights from brand narratives. *Qualitative Market Research, 16*(3), 315-335. https://doi.org/10.1108/13522751311326125

Ruth, T. K., & Rumble, J. N. (2017). What's in a name? The influence of persuasive communication on Florida consumers' attitude toward genetically modified food. *Journal of Applied Communications, 101*(2). https://doi.org/10.4148/1051-0834.1006

Ruth, T. K., Rumble, J. N., Lamm, A. J., & Ellis, J. D. (2018). A model for understanding decision-making related to agriculture and natural resource science and technology.

Journal of Agricultural Education, 59(4), 224-237. https://doi.org/10.5032/jae.2018.04224

Schaeffer, K. (2019). Among U.S. couples, women do more cooking and grocery shopping than men. *Pew Research Center*. https://www.pewresearch.org/fact-tank/2019/09/24/among-u-s-couples-women-do-more-cooking-and-grocery-shopping-than-men/

Schivinski, B., & Dabrowski, D. (2016). The effect of social media communication on consumer perceptions of brands. *Journal of Marketing Communications, 22*(2), 189-214. https://doi.org/10.1080/13527266.2013.871323

Schouten, A. P., Janssen, L., & Verspaget, M. (2019). Celebrity vs. influencer endorsements in advertising: The role of identification, credibility, and product-endorser fit. *International Journal of Advertising, 39*(2), 258-281. https://doi.org/10.1080/02650487.2019.1634898

Settle, Q., Rumble, J. N., McCarty, K., & Ruth, T.K. (2017) Public Knowledge and Trust of Agricultural and Natural Resources Organizations. *Journal of Applied Communications*, *101*(2). https://doi.org/10.4148/1051-0834.1007

Simon, R. M. (2010). Gender differences in knowledge and attitude towards biotechnology. *Public Understanding of Science, 19*(6), 642-653. https://doi.org/10.1177/0963662509335449

Specht, A. R., McKim, B. R., & Rutherford, T. (2014). A little learning is dangerous: The influence of agricultural literacy and experience on young people's perceptions of agricultural imagery. *Journal of Applied Communications, 98*(3), 63-73. https://doi.org/10.4148/1051-0834.1086

Tandon, A., Dhir, A., Kaur, P., Kushwah, S., & Salo, J. (2020). Why do people buy organic food? The moderating role of environmental concerns and trust. *Journal of Retail and Consumer Services, 57*. https://doi.org/10.1016/j.jretconser.2020.102247

The Center for Food Integrity (2018). A dangerous food disconnect: When consumers hold you responsible but don't trust you. The Center for Food Integrity. http://www.foodintegrity.org/wpcontent/uploads/2018/01/CFI_Research_8pg_010918_final_web_REV2-1.pdf

Tschannen-Moran, M., & Hoy, W. (2000). A Multidisciplinary Analysis of the Nature, Meaning, and Measurement of Trust. *Review of Educational Research, 70*. https://doi.org/10.3102%2F00346543070004547

United States Census Bureau. (n.d.). QuickFacts United States. https://www.census.gov/quickfacts/fact/table/US/PST045219

Verbeke, W., & Vackier, I. (2004). Profile and effects of consumer involvement in fresh meat. *Meat Science, 67*, 159-168. http://doi:10.1016/j.meatsci.2003.09.017

Vermeir, I., & Verbeke, W. (2006). Sustainable Food Consumption: Exploring the Consumer Attitude – Behavioral Intention Gap. *Journal of Agricultural and Environmental Ethics 19*(2): 169-194. https://doi.org/10.1007/s10806-005-5485-3

Verbeke, W., & Ward, R. W. (2006). Consumer interest in information cues denoting quality, traceability and origin: An application of ordered profit models to beef labels. *Food Quality and Preference, 17*(6), 453-467. http://doi:10.1016/j.foodqual.2005.05.010