Title: "Local" as an indicator of beef quality: An exploratory study of rural consumers in the southern U.S.

Authors: Amy L. Telligman^a, Michelle R. Worosz^{bcd}, Christy L. Bratcher^{ce}

^a Department of Environmental Studies
Wofford College
Spartanburg, SC 29303

^b Department Agricultural Economics and Rural Sociology
Auburn University
Auburn, AL 36849
USA

^c Auburn University Food Systems Institute
Auburn University
Auburn, AL 36849
USA

^d Alabama Agricultural Experiment Station
Auburn University
Auburn, AL 36849

^e Department of Animal Science
Auburn University
Auburn, AL 36849
USA

Corresponding Author:

Amy L. Telligman
Department of Environmental Studies
Wofford College
Spartanburg, SC 29303
USA
telligmanal@wofford.edu
864-597-4494

1. Introduction

A “turn” to quality is frequently associated with the proliferation of alternative agrifood networks (Goodman, 2003; Murdoch, Marsden, & Banks, 2000). In many instances, quality claims are intended to contrast with the mainstream industrialized food system (Goodman, 2004; Ilbery, Morris, Buller, Maye, & Kneafsey, 2005; Murdoch & Miele, 2004). Re-localization is a common alternative approach. For example, producers may attach a local identity to their products using a label that draws on images from the region as a source of quality (Holloway & Kneafsey, 2000; Murdoch et al., 2000). In other words, notions of *quality* and *local* are socially constructed (Marsden, 1998); the meanings consumers attribute to *local* inform their perceptions of quality and hence whether a product’s characteristics meet their desires and/or needs. Indeed, research has shown that consumer interest in local food is connected to socially-defined food criteria, such as environmental, social, or economic aspects of the product (Feldmann & Hamm, 2015; Marsden, 1998; Migliore, Schifani, & Cembalo, 2015; Roininen, Arvola, & Lahteenmaki, 2006; Sage, 2003a). Furthermore, contested notions of quality have become intimately tied to definitions of value in contemporary food systems (Arce & Marsden, 1993; Ilbery & Kneafsey, 2000). As consumer interest in local foods continues to increase around the world (Akaichi, Gil, & Nayga, 2012; Khan & Prior, 2010; Martinez et al., 2010; Nurse Rainbolt, Onozaka, & McFadden, 2012) and producers and retailers seek ways to differentiate their goods in the marketplace, understanding how consumers perceive quality in the context of local products is vital.

The purpose of this study is to investigate U.S. consumers’ perceptions of local beef, including the definitions and types of quality perceptions held for local beef products. Beef was chosen for this analysis because there has been a steady increase in the market for beef produced in alternative production systems (Johnson, Marti, & Gwin, 2012), which is evident in the U.S. National Restaurant Association’s ranking of locally sourced meats as the number one culinary trend since 2010. Consumption trends indicate that cues consumers have traditionally used to evaluate beef quality, such as price, taste, and convenience, are being supplanted by information about production methods, product nutrition, and safety (Font-i-Furnols & Guerrero, 2014; Grunert, 2006; Hinchion, McCarthy, Resconi, & Troy, 2014). Notably, the types of information requested by consumers pertain to credence characteristics of meat. Since these characteristics are not easily known even after consumption, consumers seek extrinsic cues as a signal. Evidence from the U.S. and Europe suggests that the designation of beef as local has the potential to function as this type of quality cue (Grunert, 2005; Hoffmann, 2000; Lusk et al., 2006; Northen, 2000) and therefore could play an important role in consumer beef quality perceptions.

Additionally, unlike produce, which has been available locally for some time in the U.S., red meat is a complex product and constitutes a much smaller share of the gross farm sales at the local level (Johnson et al., 2012). Accessing appropriately-scaled processing facilities with the inspection status and skills necessary to process local beef safely and legally while meeting consumer expectations adds cost and time to bring cattle to market. A proven and clear understanding of market dynamics surrounding local beef, including consumer perceptions and expectations of local beef quality, is an integral element in delivering these products. Yet, no known published research exists which examines U.S. consumers’ perceptions of local beef. This research will contribute to this gap in knowledge.

This paper is organized as follows. First, the literature relevant to this study is outlined, including an overview of consumer definitions of local foods and quality perceptions of beef. Next, the conceptual framework guiding the research is presented, followed by an analysis of the results and a discussion.

2. Previous research on local foods and quality

2.1 Defining local foods

Understanding how consumers define *local beef* is one step toward a better understanding of what consumers think they are getting when they purchase such products. This information is also highly relevant given studies that show consumers perceive *local* as a multi-dimensional concept (Ostrom, 2006; Wilkins, Bowdish, & Sobal, 2002; Zepeda & Leviten-Reid, 2004). For instance, using open-ended questions Ostrom (2006) identified how consumers and farmers from Washington State defined “locally grown produce.” Their survey results indicated that while *local* was most commonly defined using geopolitical boundaries (names of towns, counties, or states) or by distance and time; notions about freshness or the superior quality of the food were also mentioned (Ostrom, 2006). A focus-group study in Madison, Wisconsin, reports similar findings; participants defined “local food” in terms of driving distance, political boundaries, qualitative characteristics such as helping farmers, and personal relationships (Zepeda & Leviten-Reid, 2004). In a survey of consumers from upstate New York, Wilkins et al. (2002) posed open-ended questions, asking “What do you think makes a food a local food?” A majority of consumers defined *local* in terms of place of production, but some participants also included notions about quality, production method, distribution, and uniqueness of place in their definitions. Studies have also found that consumers perceive local food positively (Chambers, Lobb, Butler, Harvey, & Bruce Traill, 2007; Ostrom, 2006; Roininen et al., 2006). For instance, Roininen et al. (2006) investigated Finnish consumer perceptions of locally-produced pork products using word association and laddering. They found that local production was perceived sympathetically and associated with freshness, short transport, security, and contribution to the local economy (Roininen et al., 2006). Chambers et al. (2007) found that U.K. consumers related foods produced and sold within 30-50 miles of their home with freshness, taste, and high quality.

Several studies have also identified consumers’ definitions of *local* by providing individuals with quantitative parameters to choose from. In a national sample of U.S. consumers, Onozaka, Nurse, and McFadden (2010) provided participants with political and physical distance categories and found that a majority of respondents considered produce raised within a 50-mile radius or within their county as local. Dukeshire, Garbes, Kennedy, Boudreau, and Osborne (2011) asked consumers at a Nova Scotia farmers’ markets and agricultural fairs whether food is local if it is produced in their community, county, province, or country. Over 90% of respondents considered food produced within their community, county, and province to be local, and 38% considered food produced in Canada as local. Research has identified regional differences in the terms individuals use to define what constitutes local to them. For instance, Durham, King, and Roheim (2009) provided respondents from across the United States with six possible geographical definitions of locally produced fruits and vegetables. Physical distances were commonly used in the West whereas travel time was most common in the Northeast. The researchers explained the variation by differences in geographical and physical factors (e.g., mountains, land-locked

communities), as well as by cultural and psychological reasons (Durham et al., 2009). Local ownership has also been found to be an important element of how consumers view local foods. Adams and Adams (2011) included a category for ownership in their survey and found that 70% of Florida farmers' market consumers agreed that "local produce" could only come from locally owned farms. Local definitions have also been found to vary by the food product under scrutiny. When Durham et al. (2009) asked respondents about definitions for locally processed foods, a majority selected larger geographic areas than they had for fresh local products.

2.2 Quality perception and local foods

Consumers' perceptions of quality for local food has primarily been addressed from a country of origin (COO) perspective. The food quality literature has placed emphasis on understanding how COO indications influence consumers' perceptions of quality. According to this literature, consumers use quality cues (i.e., information stimuli that contribute to the function of beliefs about specific product attributes) prior to purchase (Northen, 2000; Steenkamp, 1990). Thus a focus of this work has been on identifying (1) which types of cues influence consumer perceptions of quality and (2) the relative influence of different types of quality cues. Meat products, especially beef, have been a focus of much of this work (Acebrón & Dopico, 2000; Banovic, Grunert, Barreira, & Fontes, 2009; Bernués, Olaizola, & Corcoran, 2003a; Bredahl, 2004; Grunert, 1997; Grunert, Bredahl, & Brunsø, 2004). Historically, meat consumers relied on extrinsic cues (e.g., price, labels) as well as intrinsic cues (e.g., color, marbling) to infer quality. However, some consumers have shifted their reliance to cues from which they can infer credence attributes (Grunert, 2006; Henchion et al., 2014). Consumers have expressed preference for at least three types of credence information to establish meat quality and food safety: guarantee seals or expiration dates (Vanhonacker, Van Poucke, Tuytens, & Verbeke, 2010; Verbeke & Ward, 2006); process-oriented practices such as animal welfare and type of feed (Bernués et al., 2003a; Grunert, 2006; Vanhonacker et al., 2010); and environmental and sustainability characteristics (Bernués et al., 2003a). Additionally, consumers request "backdrop" information that facilitates a connection to place, time, environment, and people (Henchion et al., 2014, p. 565).

As an extrinsic credence attribute, COO has been acknowledged to signal quality to some consumers. For instance, Banovic, Grunert, Barreira, and Fontes (2010) found that Portuguese consumers perceived national branded *Carnalentejana* beef as better on all quality cues and quality aspects relative to national store branded and imported store branded beef. Bernués et al. (2003a) found that the most important extrinsic attribute used to assess meat quality among European beef and lamb consumers was animal feeding followed by origin/region of production of meat. Bernués, Olaizola, and Corcoran (2003b) found that the most important labeling information demanded by European consumers was "consume-by" date and origin/region of production relative to brand name, nutrition and cooking information, or system of production. However, these responses varied by region of study; Italian and French consumers were most interested in production system and traceability while Spanish consumers ranked nutrition and "consume-by" date as important as origin (Bernués et al., 2003b).

Other European beef studies have not found origin to be as important as a quality indicator. For instance, Verbeke and Ward (2006) found that Belgium consumer interest is generally low for traceability, moderate for origin, and high for direct indications of quality like a guarantee seal or expiration date. Acebrón and Dopico (2000) found that region of origin was not a significant extrinsic

beef quality cue for Spanish consumers in their study. Grunert (2005) contends that origin will not impact consumer quality judgments if consumers do not know about the region of origin. Verbeke and Ward (2006) found that the relative importance of COO as a quality cue increased after an informational campaign.

The aforementioned studies are all European; relatively little research has assessed COO from a quality perception perspective among U.S. beef consumers. Rather, this subject has been taken up in the marketing and agricultural economics literatures. For example, in a nationwide study by Lim, Hu, Maynard, and Goddard (2013), consumers preferred U.S.-labeled beef over Canadian or Australian beef. These findings are consistent with European economic studies that have also found consumers prefer domestic beef relative to beef from other countries (Alfnes, 2004; Alfnes & Rickertsen, 2003; Realini et al., 2013). U.S. economic studies examining a narrower definition of origin have found mixed results. Consumers in Chang et al.'s (2013) study were willing to pay (WTP) more for locally-produced and South Dakota steaks, but premiums between the two were trivial and indistinguishable from zero indicating that consumers generally define *local* as anywhere in the entire state. Furthermore, they also found that consumers held higher price premiums for juiciness and the color of the steaks relative to origin (national, state, local), production method (conventional, natural, organic), and percent leanness (Chang et al., 2013). Studies about local produce have also found that consumers don't necessarily differentiate products produced nearby from those produced in state (Darby, Batte, Ernst, & Roe, 2008) with preferences varying by the size of states (Carroll, Bernard, & Pesek, 2013). Other economic studies suggest that consumers infer other attributes from the origin label. For instance, Umberger (2003) and Loureiro and Umberger (2003, 2005) found that consumers who preferred COO labeling and U.S. certified beef interpreted the labels to provide additional food safety assurances.

When place of origin acts as a cue for other attributes, it is considered an *indirect* effect of a product's region of origin (Dentoni, Tonsor, Calantone, & Peterson, 2009; Van der Lans, Van Ittersum, De Cicco, & Loseby, 2001). Specifically, when confronted with a regional cue, consumers make subjective inferences and formulate beliefs about what they perceive to be the "true" quality of the product using the cues available and their background knowledge (Van der Lans et al., 2001; Van Ittersum, Candel, & Meulenberg, 2003). Van der Lans et al. (2001) posit that the attributes and perceived quality inferred from place of origin mediate consumers' WTP for a product. Origin can also affect consumers' attitudes *directly* without mediation. For instance, research has shown that the idea of a place of origin generates consumers' positive affective feelings for the product, sometimes based on positive past experiences with the place, with its historical and symbolic links, or with self-identity (Li & Wyer, 1994; Tregear, Kuznesof, & Moxey, 1998; Van Ittersum, 2001; Verlegh & Steenkamp, 1999). Dentoni et al. (2009) found that the locally grown attribute positively and directly impacted participants' attitudes toward apples. They also found that respondents' beliefs inferred from the origin attribute – that local apples are free of pests and disease, have good flavor, and are firm – indirectly impacted their attitudes toward the apples (Dentoni et al., 2009). Other consumer preference studies have elements suggesting this relationship. Hoffmann (2000) found that country of origin served as an important quality cue for the animal welfare and food safety of fresh meat in a study of Swedish consumers. Other studies have also found origin to be tied to food safety in fresh meat (Becker, 2000; Loureiro & Umberger, 2003, 2005; Northen, 2000; Umberger, 2003).

This literature tell us that the demand for beef products with credence attributes is increasing; origin is an important indicator of quality for some, but not all consumers; the relative influence of origin on consumer WTP is generally positive but not always greater than other attributes; the suitable geographical level for origin may vary by size of the state; and origin labeling can have indirect and direct effects on consumers' attitude and product evaluation. However, with the exceptions noted above, data describing the specific types of attributes consumers infer from origin labeling are lacking. This is especially true for local food studies examining origin and beef. Furthermore, quality perceptions are culturally, socially, and historically dependent (Cardello, 1995; Grunert, 2005; Oude Ophuis & Van Trijp, 1995). Yet, as noted above, a majority of the quality perception research has been from a European consumer perspective.

3. Conceptual Framework

Investigating U.S. consumers' perceptions of local beef quality is the purpose of the present study. This research provides insight regarding the types of quality inferences consumers make about local foods and contributes to the growing literature that seeks to explain how credence attributes such as place of origin have an impact on product evaluations. The specific objectives of this study are (1) to identify the definitions rural U.S. consumers attribute to local beef; (2) to examine how consumers' definitions of local beef inform their perceptions of beef quality; and (3) to describe the types of quality inferences consumers make about local beef.

Defining and measuring food quality is complex. The definition of the term depends on who is defining it and at what level (Cardello, 1995)¹. Likewise, a variety of approaches have been used to analyze food quality perceptions (e.g., total food quality model [Grunert, 1997; Grunert et al., 2004], means-end chain model [Zeithaml, 1988], multi-attribute approaches (Northen, 2000), and expectancy-value theories [Chen, 2007; Singh & Kathuria, 2016]). The conceptual framework adopted in this study combines a social constructionist perspective with a multi-attribute, consumer-based definition of quality. A social constructionist approach is concerned with the meanings individuals assign to their social worlds and phenomena (Berger & Luckmann, 1991) and treats quality as a human perceptual, evaluative construct. This theoretical perspective is consistent with a consumer-based definition of quality that considers quality dependent on the consumer's evaluation about whether a product's characteristics meet their desires and/or needs (Northen, 2000; Oude Ophuis & Van Trijp, 1995).

A multi-attribute approach was chosen because it provides a framework for describing elements that influence consumers' judgments about a product based on its quality cues. Quality cues are bits of information about the product used by consumers to infer and predict (Northen, 2000; Steenkamp, 1990) the benefit-generating aspects of the product. These characteristics are commonly categorized as either process or product attributes. Quality cues are generally integrated by the consumer and used at the point of purchase to infer whether the product possesses the desired product attributes (Northen, 2000). In this way, consumers use cues to predict quality and to evaluate and select a product (Steenkamp, 1990).

¹ A 1995 special issue of *Food Quality and Preference* was dedicated to the definition and measurement of food quality (see Meiselman, 1995).

This study followed a qualitative research procedure that included face-to-face intercept interviews in the southern U.S. A qualitative methodology allows an in-depth exploration into individuals' belief systems, including the ways that individuals give meaning to phenomena (Ritchie, 2003). Following Ajzen and Fishbein's (2010) theory of planned behavior, an individual's most salient (i.e., top-of-mind) beliefs about an object govern intentions and behavior toward the object. For this reason, when asked to define local beef, the meanings and associations that first come to mind ought to be the most important in terms of consumer behavior (product evaluation and choice). Thus, the ways that consumers talk about and define local beef reflect consumers' beliefs about the product and therefore provide insight into how local beef is perceived as a quality cue, including the types of quality inferences consumers make.

The novelty of this research is its emphasis on consumers from the rural U.S. In addition to an overall lack of beef quality research in the U.S., there has been a tendency for U.S. studies on local foods to focus on urban, affluent, white farmers' market consumers (Rice, 2015). This study was intended to make a contribution toward this research gap in at least four ways. First is the rural setting. Very little is known about how rural grocery store shoppers perceive local food products even though research has shown that the purchase context influences the meanings that are attributed to any one product (Holloway & Kneafsey, 2000). Second, participants in this study were purposively selected to reflect both a broad racial mix and a wider range of socioeconomic status. Third, while interest in local foods has been in vogue for some time (e.g. Feenstra, 1997; Hinrichs, 2000), it is a much newer phenomenon in the region where this study was conducted. Lastly, product qualification is seen as one tool for supporting local and regional food systems (Tregear, Arfini, Belletti, & Marescotti, 2007). These food systems are increasingly seen by nonprofits, research universities, and county and regional governments as a means of improving the quality of life in rural communities. Thus, a better understanding of the ways in which rural consumers perceive local beef may provide valuable information for different sectors and agencies seek to develop viable rural economic development strategies.

4. Materials and methods

4.1. Survey instrument

The data for this study were collected as part of a larger research effort which implemented a survey of closed- and open-ended questions. The study was designed following the precepts of the theory of planned behavior (Fishbein & Ajzen, 2010) and a review of the literature on local foods and beef consumption. The survey instrument was developed through collaboration among a team of meat scientists and rural sociologists, as well as a pre-test with a targeted population. To assess consumer familiarity with local beef, participants were first asked a screening question: "Is the term *local beef* familiar to you?" To examine the meaning consumers have for the term *local beef*, individuals familiar with the term were asked: "How do you use the term *local beef*?" and/or "How would you define *local beef*?" Closed-ended demographic questions were included to assess age, place of residence (e.g., rural, small city, medium city, suburban, urban), level of education, income, race, sex, how often beef was purchased for the household, and how often beef was consumed in the household.

4.2. Data collection and participants

A purposive sampling strategy was designed to reflect the aims of the study. Therefore, data were collected in rural grocery stores in counties with greater percentages of non-white residents and median incomes lower than the national average. In total, participants were interviewed in grocery stores across 18 counties across rural Alabama. In all but three counties, data were collected from the same, predominant mid-sized retailer. In many areas of rural Alabama, this mid-sized grocery store was the only retail food market in the county, making it the most common rural grocery store. In the three instances in which this particular retailer was not available, we deferred to the most similar grocery store type in the county. This study design reflects three accepted techniques for increasing validity in qualitative research: first, a purposive sample reflected study aims (Barbour, 2001); second, to achieve within-method data triangulation, data were collected from a variety of places and at various times (across 18 Alabama counties); and third, the use of multiple interviewers balanced the subjective influence of individuals (Flick, 2004).

To be eligible for the study, participants had to be in the process of making a beef purchase selection, at least 19 years of age, and purchase beef at least one time per month. Face-to-face customer intercept interviews were conducted with individuals inside the grocery stores by the meat cooler section. Interviews lasted anywhere from 5 to 25 minutes. Interviewers took notes, and with the respondent's permission, audio recorded the interview. Participants were offered a \$10 check as an incentive to participate. Study protocols were approved by the university Institutional Review Board.

The total sample (n=174) consisted of 70% women and 30% men (Table 1). The mean age of participants was 48.0 years (SD = 14.8). Compared to the 2014 US Census data, a greater percentage (59%) of survey respondents reported household incomes below the state and national median. A majority of the participants identified their place of residence as rural (41%) or small town/city (45%). Of those interviewed, many purchased beef (43.7%) and a majority consumed beef (70.1%) more than once a week.

4.3. Analysis

Audio recordings of responses and written notes to the open-ended questions about the meaning of local beef were digitally transcribed. Using the qualitative software tool NVivo10®, a content analysis of verbatim text was performed. Content analysis is a qualitative research technique in which both the content and context of the data are analyzed, themes are identified, and the frequency of each theme is counted (Spencer, Ritchie, & O'Connor, 2003). As a qualitative analytical practice, it is designed to systematically identify and retain the perspective of the participant in order to make replicable and valid inferences from the text (Krippendorff, 2012). To enhance reliability across response categories, limit coder bias, and more fully consider alternative categorizations, the analysis was conducted by a three-person interdisciplinary team with experience coding data (Barbour, 2001).

Analysis included three phases. In the first two phases, the full range of definitions that respondents' used to define local beef (Objective 1) and their perceptions of local beef quality (Objective 2) were identified. In phase one, researchers independently and carefully read and re-read the verbatim text and developed categories of the major response types. At this phase in the analysis categories were not defined *a priori*. Instead, an inductive approach was used because an aim of the research was to capture the viewpoint of the participants. This "grounding" (Strauss & Corbin, 1994) was required given the lack of information available for this population. Once coded, the research team met to discuss similarities and differences observed across thematic categories. Differences observed across

categories were systematically discussed and at this point data were reevaluated until consensus was reached. Items were treated as distinct when many participants mentioned similar, but not identical items, however low-frequency items were combined into more general categories (Fishbein & Ajzen, 2010). A coding manual was created for retained categories.

Second, starting with the complete list of definitional categories, researchers re-read all the transcripts and scored each respondent with a one for if they had a definition that fell into a respective category and zero for a response that did not. Multidimensional responses could be coded for multiple response categories. Frequencies, percentages, and chi-square test statistics were used to describe and compare the demographic characteristics of the study population and the different types of local beef definitions given.

The third phase of analysis sought to discern the types of quality inferences consumers made about local beef based on their local beef definitions. To do this, the coders read and re-read the transcripts looking for the types of benefit-generating aspects consumers perceived local beef products to possess. Attention was also paid to the ways in which the participants represented and explained the positive associations they attributed to local beef. This step of the analysis was guided by the following questions:

- How do participants conceptualize quality in relation to local beef?
- What types of benefits, if any, do respondents associate with local beef?

These findings are presented and discussed using verbatim statements obtained from the study participants and presented in thematic boxes (Boxes 1 and 2). Next to each participant quote, gender (M = male, F = female), race (C = Caucasian, AA = African American, O = other), and age are given. Place names in quotations are pseudonyms. The goal was to collect the range of top-of-mind definitions held by consumers. The percentages are provided to assess the relative importance of each definition type.

5. Results

Of the 174 consumers interviewed in the study, 54.6% (n=95) were familiar with the term *local beef*. Of those who did know the term, 80.0% had a definition (n=76) that was coded in our analysis. Knowing the term *local beef* and having a definition for the term were significantly related to income. Consumers who indicated that their income was less than \$19,999 annually were less likely to know the term *local beef* (n=39, 81.3%, Pearson's chi-square = 13.5420, p = 0.001). There was also a significant relationship between race and knowing the term *local beef*. Consumers who identified as Caucasian were about equally likely to know or not know the term (knew the term = 46%, did not know the term = 54%). In contrast, a greater proportion of African American consumers were less likely to know the term *local beef* (knew the term = 35%, did not know the term = 65%).

5.1. Research objective 1: Local beef definitions

The content analysis of consumer definitions revealed five major definition types. These included geographic, production, knowledge, relational, and sociopolitical definitions (Table 2). A majority of consumer definitions (80.3%) included references to geographic boundaries, and the second most common definition type included references to beef and meat production practices. These are described in more detail below.

In terms of dimensionality, a majority of definitions (78.96%, n=60) were coded as unidimensional, meaning that the definition only fell into one thematic category. Of the 16 consumers (21.1%) with multidimensional definitions, four included references to three different themes. The other twelve consumer definitions included references to two dimensions of local beef. The biggest overlap in definition types included references to both geography and production practices (19.7%, n=15).

5.1.1. Geographic Definitions

The most common way participants defined local beef was by delineating the scope or geographic extent from which local beef is derived. Eighty percent (n = 61) of the consumers who claim to be aware of the phrase “local beef” included some type of geographic reference in their definition. Generally, participants did this in four ways: (1) using geographic boundaries such as state or county lines; (2) using less specific terms such as “around here,” and “our area”; (3) using mileage (e.g., within a 100-mile radius); and (4) using shipping references. The most common geographic boundary participants relied upon was the state of Alabama (25.0%). Examples ranged from “grown down here in the state of Alabama” and “grown in state”. Beyond the state delineation, 15.8% of respondents understood local beef to originate from a multi-state or regional area. Not surprisingly, all of these respondents lived in towns that were less than 20 miles from the state border. For instance, a respondent that resided in a town abutting the Georgia-Alabama state line defined local beef as being from the “state of Alabama, and probably Georgia too because I’m right on the line.”

The second most common geographic delineator used to define local beef was less precise and included definitions such as “it’s raised in the general area in which I live,” “it was home raised,” and “that it’s raised locally.” Ten percent of the local beef definitions fell into this category. Mileage, a definition for local foods popularized in the general media, was only used by a handful of participants (7.9%) to define local beef. Mileage extents ranged from within 100 miles (2.6%), within 50 miles (3.9%), and within 25 miles (1.3%). There were also a few consumers who defined local beef geographically in terms of the beef not being shipped in from somewhere or shipped out: “When I say local beef it’s bred here, it’s processed here, you know, locally; not shipped off, not coming from somewhere else.”

5.1.2. Production-Related Definitions

Consumers (22.4%) also defined local beef in terms of beef and meat production practices. These definitions associated local beef with feeding practices, the use or non-use of hormones and other additives, the slaughtering process, and animal welfare. With regard to feeding, consumers defined local beef in terms of knowing what the cows were fed: “Well you know what they are eating... if they were good feed locations or not,” and in terms of specific feeding regimens: “It’s locally raised around here where it’s been grain fed.” A few consumers defined local beef in terms of both grass and corn: “I guess being fed, like, grass and corn and those types of things.” Participants’ notions of local beef also included references to hormones and other additives: “I know [if it’s] raised locally they don’t use a lot of different chemicals and I know it’s not a lot of preservatives being put in it, fed to the cow.” Another participant explained that local beef meant “no hormones, not injected with anything, just pure beef, you know?”

Responses that included references to animal welfare were also included in this category. These definitions consisted of specific statements like “I’m not getting something that has been pushed by a fork lift to the slaughterhouse; [it] actually walked off the trailer,” as well as more general allusions to animal welfare such as “...you know how they take care of the cows.” Local beef was also defined by stipulating slaughtering and processing aspects. For example, one consumer explained: “Where you bought cattle, you purchase a side of beef or whatever, and have one slaughtered.”

5.1.3. Knowledge Definitions

Participants (11.8%) also defined local beef in terms of having a greater amount of knowledge about the product. For some, local means knowing where the beef came from: “At least I know where it’s coming from.” For others, local beef means having more knowledge about what the cow was fed: “Well you know what they are eating; you know the way they were raised; you know if they were good feed locations or not; you know all kinds of things.” It also means knowing the producer, which was often tied to knowing more about how the animals were cared for: “Locally raised is better; it is someone you know; you know what they feed, you know how they take care of the cows.” Local beef also means knowing that there were no hormones or other chemicals used: “That it’s raised locally and I know raised locally they don’t use a lot of different chemicals and feed it grain.”

5.1.4. Relational Definitions

A fourth definition type is relational. This category included definitions (6.6%) with references to having a relationship with a certain person or place. Examples include expressions such as “I usually know the person producing the cattle,” and “you’re familiar with the farms.” Some consumers also identified specific stores where they once purchased local beef products.

5.1.5. Sociopolitical Definitions

The sociopolitical category includes definitions with reference to benefits for the local community and local farmers. These definition types occurred with far less frequency (2.6%) than the other types and included responses such as: “If I could get local beef from this county it would keep money circulating in this county,” and “It would help local farmers.”

5.2. Research objective 2: Consumers’ quality perceptions of local beef

In this study, consumers’ top-of-mind definitions provided insight into how and what type of quality inferences consumers made about local beef. Analysis revealed that local beef was perceived as an extrinsic quality cue that was generally tied to a specific geographic area (80.3%). A subset of these consumers linked the product directly to their knowledge (11.8%) of the region of origin. In so doing, consumers’ ability to connect more directly to producers, regional production practices, and specific places, at least symbolically, provided them with a sense of trust and assurance regarding the beliefs they held about local beef. The analysis also showed that consumers most commonly made quality

inferences about credence characteristics pertaining to the process (17.1%) and production (15.8%) aspects of quality. This occurred both directly (23.7%) and indirectly (9.2%). Directly, local beef was used to infer process attributes such as short shipping distances, humane animal treatment, and feeding regimen and product attributes such as freshness, food safety, and additives/hormones. Indirectly, consumers first made inferences about specific product attributes from the extrinsic cue local, from which they then made other inferences about process attributes. For instance, consumers often inferred that because local beef involved less shipping, it was therefore fresher (Fig 1).

5.2.1. Local beef as a quality cue linking knowledge of the region to the product

Consistent with research on country-of-origin effects, participants in this study understood local beef as a quality cue that linked the product with their knowledge of the region of origin (Grunert, 2005). This linkage was reflected in consumers' definitions that alluded to direct relationships and knowledge about farms in the area: "Especially from here, you're familiar the farms." For some consumers, local beef also meant knowing the person raising the cattle, which in turn provided consumers with the perception of having access to more knowledge, and a sense of trust and assurance, about the product. One consumer stated: "it is someone you know; you know what they feed, you know how they take care of the cows" (Box 1, A-B).

Consumers' knowledge about the product's region of origin also evoked general regional beliefs about tradition and culture. For one consumer, this included beliefs about specific production practices: "I know raised locally they don't use a lot of different chemicals and feed it grain." Another consumer defined local beef in terms of the way they used to do things: "it used to be my grandfather did hogs so he would take a hog to the slaughter; we are talking about beef though, but I understand the process" (Box 1, C-E). In these examples *local* was intertwined with traditional ways of doing things; implicit in these explanations is the assumption that *local* is in some way of higher quality (Holloway & Kneafsey, 2000).

Other consumers' definitions suggested that local beef evokes positive associations to a specific place, which has been shown to be relevant in quality evaluations (Hocquette et al., 2012; Hoffmann, 2000; Verbeke, Perez-Cueto, de Barcellos, Krystallis, & Grunert, 2010). One consumer defined local beef as: "you can see the cows and stuff being raised." Other consumers alluded to specific place names in their definitions of local beef. For instance, one consumer said: "I got local beef at Grady's in Smithville, Alabama" (Box 1, F-G).

It is noteworthy that in the examples described above, the definitions suggest that the consumers have real ties to producers, places, and production practices. However, it may be the case that *local* serves as a signifier for personal ties and meanings of quality the consumer associates with the product. Either way, these examples illuminate the ways in which *local* is imbued with symbolic and emotional meaning based on traditional ways of doing things and past experiences, similar to the way that country of origin positively affects consumer evaluations (Verlegh & Steenkamp, 1999). This finding is also consistent with other studies that highlight the importance of tradition, locality and personal ties in the development of social relationships that foster a sense of trustworthiness which then undergirds consumers' quality evaluations (Kirwan, 2006; Marsden, Banks, & Bristow, 2000; Meyer, Coveney, Henderson, Ward, & Taylor, 2012; Sage, 2003b).

5.3 Research objective 3: Types of quality inferences

Consumers surveyed in this study commonly perceived local beef as having benefit-generating aspects that cannot be observed prior to consumption (32.9%). A majority of the credence attributes identified pertained to the production (17.1%) and process (11.8%) dimensions of quality. A third credence category was also identified, societal benefits (3.9%). Overall, associations were made between local beef and shipping distances, freshness, type of animal feed, animal treatment, additives, and contributions to the local economy and community.

Consumers perceived local beef as qualitatively better because it required less shipping. In line with research about consumer ethnocentrism (Shimp & Sharma, 1987), inferences about shipping were often tied to concerns about the beef coming from somewhere else, especially outside the United States. For instance, one consumer stated: "I just don't like it shipped from some foreign country over here because you don't know what you're buying over there. We don't know what they consist of over there, and we have no way of knowing" (Box 2, A-B).

The belief that local beef products required less shipping was also directly tied to consumers' beliefs about freshness. One consumer stated, "...I just don't want it old and shipped here. You think it would just be better if it were local and fresher." Another consumer stated: "it just means it hasn't been sitting long" (Box 2, C-F).

Consumers also perceived local beef as qualitatively better because they believed local beef came from operations in which the cattle received humane treatment. Often this was tied to knowing the person that raised the cow: "Locally raised is better; it is someone you know; you know what they feed, you know how they take care of the cows." In addition to an increased awareness about how cows were raised, local beef also provided the advantage of knowing more about the conditions in which the cattle were slaughtered: "I usually know the person who is producing the cattle, which tells me nine times out of ten I'm not getting something that has been pushed by a forklift to the slaughter house" (Box 2, G-H).

Other consumers made inferences about production practices pertaining to feed and additives. For instance, consumers tied local beef with a grain-fed diet and for some, this was considered a good thing: "It's grain-fed; it's better for you." Local beef was also associated with a lack of additives which was also expressed as a positive aspect of local beef. For instance, consumers stated that the beef "hasn't been pumped full of hormones," "they don't use a lot of different chemicals;" and its "not injected with anything, just pure beef" (Box 2, H-L).

A final type of credence attribute identified had to do with societal benefits. This was expressed as helping to keep money in the community, supporting the local community, and helping local farmers in general (Box 2, M-O). Also characterized as ethnocentric (Shimp & Sharma, 1987), these attributes have generally been recognized in country of origin research and are considered to positively affect consumer preference for domestic products (Verlegh & Steenkamp, 1999).

6. Discussion

6.1. Consumers' meanings of local beef

This study provides empirical insights into U.S. consumers' beliefs and expectations about local beef products that help explain what consumers think they are getting when they purchase such products. In particular, this study provides insight into the ways rural grocery store consumers perceive local beef products.

While consistent with 2015 census data for Alabama, the sociodemographic characteristics of our sample included more people of color and more people of lower income than other U.S. studies focusing on the meanings of local. Consumers who identified as African American or consumers with incomes less than \$19,999 were less likely to be familiar with the term *local beef*. This unfamiliarity could reflect a general lack of availability of such products in grocery stores that cater to these consumers. While direct purchase of local foods is possible in each of the counties included in this study, access to farmers' markets, u-pick, and farm stands is a relatively new phenomenon in the region. Lack of familiarity also suggests that this segment of the market may not respond to the traditional framing of "Buy Local" campaigns that tend to be the focus of community and economic development programs, more broadly. Emphasizing other attributes that are commonly associated with local foods may be a more advantageous marketing strategy. For instance, a study by Zepeda and Leviten-Reid (2004) found that African American shoppers in Wisconsin were not particularly interested in local food labels. Yet they were interested in several qualities associated with local foods such as freshness, supporting local farmers, and personal relationships.

The analysis of definitions showed that consumers most commonly understand local beef as a product originating within a specific geographic boundary, particularly the state. This finding is consistent with other studies about local foods that have found proximity definitions to be the most common (Dunne, Chambers, Giombolini, & Schlegel, 2010; Duram & Oberholtzer, 2010; Ostrom, 2006; Selfa & Qazi, 2005; Zepeda & Leviten-Reid, 2004). Yet relatively few respondents viewed local as originating within the 50-mile radius that is typically used among "foodies," and none of the respondents considered 450 miles, used by some American big box retailers, to be local.

Almost a quarter of the participants in this study have multi-dimensional definitions for local beef. In addition to geographic definitions, participants defined local beef in terms of the production practices, relationships, knowledge, and sociopolitical benefits tied to the product, echoing findings from other studies on local foods (Feldmann & Hamm, 2015; McFadden, 2015; Wilkins et al., 2002). The finding that several participants did not include any geographic reference in their definitions is also noteworthy. These conceptualizations of *local* suggests that when used as an extrinsic quality cue, *local* has the potential to impact consumers' quality perceptions in a variety of ways beyond inferences related to where the product is from. Moreover, some consumers defined local beef in terms of supporting the local economy, the community, and the farmers, providing further evidence that consumers connect local beef purchases with outcomes beyond the physical aspects of the product itself, such as positive social outcomes (Onozaka et al., 2010). These findings also suggest that marketing efforts focused solely on one aspect (e.g., geography) may not meet consumer desires. At the same time, consumers with multidimensional understandings of *local* may be less likely to "buy" into simplistic marketing and sales tactics.

The frequency with which participants alluded to specific feeding regimens in their definitions is also important given previous European studies that found that the content of animal feed was an indication of safe and nutritious meat (Bernués et al., 2003a) and that knowledge of animal feed was

judged to be one of the most helpful indicators of beef safety at the point of purchase (Henson & Northen, 2000). Although consumers were likely to associate local beef with an enhanced sense of knowledge about the feeding regimen, the data showed that there was no singular feeding regimen associated with local beef. In fact, consumers were just as likely to assume local beef was grass-fed as they were to assume it was grain-fed.

The reference to a cow being pushed by a forklift to the slaughterhouse illustrates the ways in which media coverage can shape perceptions, leading to enduring views of the meat industry. We do not know for certain if this consumer was alluding to the 2008 Westland/Hallmark case, a California slaughterhouse and meat packing company subjected to the largest meat recall in the U.S. However, given the high visibility, it is likely he or she is.

6.2. How does the notion of local inform consumers' perceptions of beef quality?

Consumer definitions provided insights regarding the ways in which *local* is perceived as an extrinsic quality cue and revealed the ways that familiarity, trust, and knowledge interact to shape consumers' quality perceptions about beef. In particular, many participants stated that local beef meant having access to knowledge. Whether this was access to information about the producer, the farm, or the production practices, participants understood local beef as a quality cue that linked the product with their knowledge of the region of origin. This finding is important because product familiarity has been shown to affect how consumers use available information to form quality judgments about said products (Banovic, Fontes, Barreira, & Grunert, 2012).

Essentially, the term *local beef* conveyed feelings of familiarity to the consumers, reinforcing consumers' perceptions of confidence about the reliability of the product. For instance, several participants defined *local beef* as being "from around here" or from a specific place, suggesting a heightened or perceived familiarity based simply on geographic proximity. Other consumers defined local beef in terms of someone they knew, from a farm they knew, or with production practices they were familiar with, all qualities that contribute to a greater sense of familiarity with the product and a sense of trust and confidence about the quality inferences they made. In other words, consumers derived trust from both real and perceived relationships to producers, places, and production practices and the knowledge that is transmitted through these ties. The perception that local confers greater familiarity with the product – either through personal relationships such as knowing the farmer (Ostrom, 2006; Zepeda & Leviten-Reid, 2004), through direct experience of producing or processing (Meyer et al., 2012), or simply through more proximate geography – suggests that for some consumers, beef designated as local is perceived as a trusted and reliable product. This is important because research has also shown that consumers make quality inferences from information cues about which they feel confident (Grunert, 2005; Van Wezemael, Verbeke, Kugler, de Barcellos, & Grunert, 2010). Theoretically, trust has been understood as a solution for a lack of knowledge in that it can serve as a bridge between uncertainty and knowledge (Meyer et al., 2012). In this study, participants appeared to tie their sense of product knowledge to their direct relationships with the producers and the product's origin (i.e., trusted relationships). This understanding of local beef provided consumers with a shared sense of assurance that bolstered the quality inferences made about local beef. At the same time, the quality inferences that consumers made were about credence attributes, product characteristics that are, by definition, generally unknowable. In this way, personal knowledge and trust relationships were significant in bridging the gap between uncertainty about the product and identifying the quality

attributes of the product (Murdoch et al., 2000); and this finding demonstrates one way that quality is equated with information about beef rather than about the innate properties of the beef (Font-i-Furnols & Guerrero, 2014; Grunert, 2006).

6.3. What types of quality inferences do consumers make?

Beef consumption trends have suggested that consumers are increasingly seeking information about product nutrition, safety, production methods, and overall eating quality (Grunert, 2006), which has led some researchers to suggest meat quality has come to mean information about meat rather than about the innate properties of the meat (Font-i-Furnols & Guerrero, 2014; Grunert, 2006). In our study, consumers did not explicitly define local beef as safer, nor did they include explicit references to some of the most commonly known foodborne pathogens associated with beef (i.e., *E. coli*, BSE, mad cow disease) in their definitions. However, consumers did allude to specific attributes they associate with local beef that European studies have reported as indicators of beef safety (i.e., animal feed, animal welfare, lack of additives, freshness). The explicit reference to “downer cows” could also be a direct reference to beef safety, given concerns about high concentrations of pathogenic bacteria on the animal’s hide and associations with BSE. These findings are consistent with previous European research indicating that safety is not uppermost in consumers’ minds unless major safety problems are already perceived or there are concerns that already exist about certain production technologies (Grunert, 2005).

Moreover, because of growing consumer emphasis on health and the environment, it has been suggested that future market opportunities, for both Europe and the U.S., lie in meat products that can credibly deliver these types of credence attributes (Henchion et al., 2014; Hocquette & Chatellier, 2011; Thomas, Scollan, & Moran, 2011). Our study shows that *local* was perceived as a quality cue used to inform consumers about credence quality concerns and also that some consumers did perceive local beef as healthier. The belief that local beef is healthier was attributed to a perceived lack of additives such as hormones or chemicals. *Local* was also used to imply that the cattle were raised with a feeding regimen that was “better for you.” These findings echo Verbeke et al.’s (2010) study of European consumers for whom healthiness depended upon how animals were fed and whether or not additives were present in the final product. The authors also found that healthy beef was tied to the production system with certain biases towards romanticized concepts of traditional farming systems (Verbeke et al., 2010), which is similar to several different associations that consumers made in this study.

In this study, the link between local beef and the environment was not particularly strong. For instance, while consumers did make inferences about shipping distance, these inferences were generally related to product freshness and consumer ethnocentrism rather than food miles or other values associated with a broader notion of sustainability. Consumers also made inferences about desirable feeding practices and animal welfare conditions; however, these were not framed by consumers as environmental per se, but instead linked to personal health and food safety. These linkages are noteworthy because early theorizing about U.S. food localization often attributed the “quality turn” in food to consumer concern about environmental outcomes of production systems (Feenstra, 2002; Murdoch et al., 2000) with the notion of food miles emerging as one of the most visible and strongly articulated expressions (Allen & Hinrichs, 2007). Yet this study’s findings suggest that rural consumers do not perceive local beef products explicitly through an environmental lens. One explanation centers on the cultural context; much of the consumer research about local foods in the U.S. has tended to

gravitate towards urban, farmers' market consumer-types and this study focused on rural grocery store patrons.

This study identified a range of societal benefits as another type of credence attribute linked to local beef. This included thoughts about keeping money in the community, supporting the local community, and helping local producers. These interests reflect common motivations for purchasing local produce in the U.S. (Onozaka et al., 2010; Ostrom, 2006; Selfa & Qazi, 2005) and Europe (Denver & Jensen, 2014; Kirwan, 2006; Winter, 2003). Therefore, it is not surprising that survey participants recognized the same quality attributes in beef. However, it is only recently that rural livelihoods have been connected more directly to the U.S. beef industry as an aspect of quality and a potential means of product differentiation. The studies of Thomas, Scollan, and Moran (2011) and Hocquette and Chatellier (2011) both identify the importance of sustaining rural livelihoods as a current challenge-opportunity for the beef industry. Following from these studies, Hocquette et al. (2012) suggest that consumers' willingness to pay a premium for products which help preserve a traditional way of life may be one way of meeting this challenge. The findings in this study suggest that rural U.S. consumers do perceive local beef as a product that supports such values and thus could be a potential opportunity for product differentiation.

7. Conclusion

There is a strong European tradition of studying consumer perceptions of beef quality, while less is known about U.S. consumers. This study provided evidence that rural U.S. consumers perceive local beef as an extrinsic cue from which they infer credence quality attributes. Not unlike European consumers, participants in this study associated healthier beef with production systems and animal feed. Notably, this study shows how consumers make these inferences from notions of local beef and that the inferences were dependent upon a sense of trust and assurance gained from real and/or perceived relationships to their notions of *local*. Some U.S. consumers were found to also share the idea that local beef supports rural livelihoods.

This study also sought to identify the variety of definitions rural U.S. consumers have for local beef and how these notions inform consumers' perceptions of beef quality. While there is a lot of overlap in the definitions consumers have for local beef and local foods more generally, there are significant distinctions. Obvious differences pertain to production definitions related to animal welfare, feed regimen, and slaughter. Although slaughter came up less frequently in this study, it is a significant issue for the sale of red meat given the limited access to federal- or state-inspected slaughter and processing facilities in the U.S (Johnson et al., 2012).

A less obvious but significant difference was the extent to which consumers associated local beef with greater access to knowledge. Because the connection between access and knowledge appeared to be tied to consumers' sense of assurance and trust about product quality, especially in the context of feeding regimens, it is worth further exploration. Marketing specialists should account for the high percentage of participants who were unfamiliar with the term *local beef*, the number of consumers who did not include any geographic references in their definition including any recognition of shipping associated with processing and slaughter, and that the consumers who did allude to mileage tended toward ranges that were much narrower than the 450-mile range utilized by some big box retailers.

A limitation of this study is that it only considers beef products, although demand is rising for other local meat products. It is reasonable to imagine that the inferences participants in this study made about feeding regimens, animal welfare, and use of antibiotics and hormones are not specific to beef but applicable to meats more broadly. However follow-up research is needed to establish whether the findings can be generalized beyond beef.

A second limitation of this study is that it only considers the ways in which rural consumers define *local*. However, the sample included 174 participants who were solicited from 18 different counties representing the voices of consumers across the entire width of the state (210 miles or 323 kilometers). While the views of participants in this study may not be generalizable across all conceivable contexts, this study does help to fill a gap in knowledge by including more people of color and more people of lower income than other U.S. studies. It is also one of a few studies that identifies culturally specific beliefs about local foods among rural consumers from the southern U.S. Additionally, in a recent review of consumers' local food perceptions in this journal, Feldman (2015) identified cross-cultural studies as a key research gap. This study does not make a direct comparison across cultural contexts, but it does situate U.S. beef quality perceptions in relation to European studies and thereby contributes to the wider body of knowledge about consumers.

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Table 1 Socio-demographic characteristics of sample compared with state of Alabama population .			
Demographic characteristic		State of Alabama	Grocery Store (n=174)
		Percentage	Percentage (count)
Sex	Male	48.5%	30.5% (53)
	Female	51.5%	69.5% (121)
Highest degree of education attainment ^a	< High School	16.3%	7.7% (13)
	High School	31.1%	40.0% (68)
	Some college	29.6%	28.8% (49)
	Bachelor's degree or more	23.1%	23.5% (40)
Race	Caucasian/White	69.7%	40.1% (69)
	African American/Black	26.7%	51.7% (89)
	Other	3.6%	8.1% (14)
Income	< \$9,999	8.7%	18.0% (29)
	\$10,000 - 19,999	17.5%	11.8% (19)
	\$20,000 - \$29,999	14.0%	12.4% (20)
	\$30,000 - \$39,999	11.7%	16.8% (27)
	\$40,000 - \$49,999	9.5%	8.1% (13)
	\$50,000 - \$59,999	8.0%	11.8% (19)
	>\$60,000	30.7%	19.3% (31)
Children under 6 years of age in household ^b	Yes	6.4%	26.9% (46)
	No	--	73.1% (125)
Age ^c	>19 and < 25	6.9%	4.1% (7)
	25-44	29.0%	35.5% (60)
	45-64	22.8%	44.4% (75)
	65+	13.0%	33.7% (57)
Place of residence ^d	Rural	3.0%	40.7% (70)
	Small city/town	21.4	44.8% (77)
	Medium size city	75.5%	9.3% (16)
	Suburban		1.7% (3)
	Urban		0.6% (1)
	Other	--	2.9% (5)

^a State data from 2010-2014 American Community Survey and US Census Report. ^b State data reflects U.S. Census data which reports children under age of 5 in household whereas our survey measured children under age of 6 in household. ^c State data reflects U.S. Census age categories 20-24, whereas our survey included individuals age 19, the legal age of consent in Alabama. ^d State data based on the USDA's county-level Rural-Urban Continuum Codes.

Table 2 Local Beef Definitions	
Themes	% (frequency)
Geographic Boundaries	80.3% (61)
Beef and Meat Production	22.4% (17)
Knowledge	11.8% (9)
Relational	6.6% (5)
Sociopolitical	2.6% (2)

BOX 1: USING LOCAL BEEF AS A QUALITY CUE TO LINK THE PRODUCT TO KNOWLEDGE OF THE REGION OR AREA ^a

Connecting to individuals and their farms

- A “Especially from here, you're familiar the farms, which I know a couple around here or the area it comes from.” (M, AA, 55) ^b
- B “Locally raised is better; it is someone you know; you know what they feed, you know how they take care of the cows” (F, C, 75)

Connecting to regional beliefs about tradition and culture

- C “It's raised locally and I know raised locally they don't use a lot of different chemicals and feed it grain.” (F, AA, 54)
- D “Well you know what they are eating; you know the way they were raised; you know if they were good feed locations or not; you know all kinds of things” (F, C, 48)
- E “It used to be my grandfather did hogs so he would take a hog to the slaughter, we are talking about beef though, but I understand the process”. (F, AA, 43)

Evoking positive associations to a specific place

- F “You can see the cows and stuff being raised. Somewhere where you could go out and see the cows.” (F, AA, 56)
- G “...it's better for you. We used to get local beef at Grady's in Smithville, AL until they sold out.” (M, AA, 56)

^a Quotes are verbatim.

^b Identifying information is noted in the parentheses with M = male, F = female, C = Caucasian, AA = African American, O = other, and the number signifying respondent age. Place names are pseudonyms.

BOX 2: CREDENCE ATTRIBUTES ^a

Shipping

- A “I just don't like it shipped from some foreign country over here because you don't know what you're buying over there. We don't know what they consist of over there and we have no way of knowing.” (F, O, 66) ^b

- B "When I say local beef it's bred here, it's processed here, you know, locally. Not shipped off, not coming from somewhere else." (F, AA, 35)

Freshness

- C "Within 50 miles of this area; I just don't want it old and shipped here. You think it would just be better if it were local and fresher." (F, C, 24)
- D "Within the county or state, it just means it hasn't been sitting long." (F, AA, 39)
- E "I would love to buy local beef; that would ensure the freshness of it." (M, AA, 34)
- F "It is so much fresher." (F, AA, 66)

Animal Welfare

- G "Locally raised is better; it is someone you know; you know what they feed, you know how they take care of the cows." (F, C, 75)
- H "... I usually know the person who is producing the cattle which tells me 9 times out of 10 I'm not getting something that hasn't been pumped full of hormones and that kind of thing and hasn't been pushed by a fork lift to the slaughter house; actually walked off the trailer." (M, AA, 30)

Feeding Practices

- I "That it's grain-fed; it's better for you." (M, C, 56)
- J "That's it's raised locally and I know raised locally they don't use a lot of different chemicals and feed it grain." (F, AA, 54)
- K "Being fed um like grass and corn and those types of things and no hormones, not injected with anything, just pure beef." (F, AA, 39)
- L "If it's locally raised around here where it's been grain fed." (F, O, 66)

Societal Benefits

- M "Meat that's around here, locally, Townville, here in AL. Yeah, that's what I'm saying, we would prefer anything right here, to support our local community" (M, C, 34)

- N “I don't know if there is any local beef here anymore; I would buy it if there was. I would buy it if it were from southern states rather than western states because it would help local farmers and it would be cheaper, it would be fresher, and a better quality meat.” (F, C, 48)
- O “I would love to buy local beef; that would ensure the freshness of it. But it's kind of hard to find it. If I could get local beef from this county it would keep money circulating in this county, but I would also buy state-wide.” (M, AA, 34)

^a Quotes are verbatim.

^b Identifying information is noted in the parentheses with M = male, F = female, C = Caucasian, AA = African American, O = other, and the number signifying respondent age. Place names are pseudonyms.

Fig. 1. Quality inferences: the role of knowledge of origin in fostering trust and bridging the gap between uncertainty and product quality. Solid arrows represent direct inferences and dashed arrows represent indirect inferences.