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Consumer Perceptions of Organic, Natural, and Conventional Products When Provided at the Same Price.

Kylee Sigmon
University of Arkansas, Fayetteville

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by

Kylee Michelle Sigmon
University of Arkansas
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Table of Contents

Abstract

Today's grocery stores are filled aisle to aisle with an overwhelming variety of options for the consumer. In a consumer-driven market structure, the food industry has grown to encompass many niche markets which meet the ever changing demands of consumers. From organically produced food to more modern agriculture practices and even to finding non-meat protein alternatives, the options are endless. However, in the United States (a country with a higher level of disposable income compared to others), the question arises *are customers educated about what the products truly are that they are spending a price premium on?*

This study assessed the perceptions that college students have regarding the labeling terms *organic* and *natural* – specifically in regards to the poultry industry. Through a focus group interview process and administration of a brief survey questionnaire, data was collected surrounding the various perceptions. The collected data was analyzed using the constant comparative method and NVivo software to arrive at common themes amongst respondents.

The results found in general consumers believe organic and natural to be synonymous terms that are both equated to a "cleaner," "healthier" product. Although most respondents placed heavy emphasis on the influence of price to their current buying decisions, if all three (organic, natural, and conventional) otherwise identical products were offered at the same price, they would gravitate towards either the organic or natural option.

After presenting respondents with the technical definitions, there was a shift away from natural products and a newfound interest in what other food labels mean. This solidified the importance for strengthened agriculture communication and proved consumers do like to be knowledgeable about their food, they just may not know where to find accurate information. Future research should evaluate broader demographic populations and look further into what methods of education would be most beneficial.

Introduction

As early as the 1940s, talk arose about "non-chemical" farming and the initial development of organic production methods by J. Rodale (Sustainable Agriculture Research and Extension [SARE], n.d.). Initially, these were only ideas and it was not until the 1970s when "increased environmental awareness and consumer demand fueled the growth of the organic industry" (SARE, n.d., para. 2). However, there continued a lack of clarity over what *organic* meant and without regulations this word varied from state to state. The modern day organic market, similar to what we have now, came about after Congress passed the Organic Foods Production Act (OFPA) in 1990, which implemented a national standard for organic food and fiber production.

With this legislation, the presence of process specific labels (e.g., organic, natural) in the food market has drastically increased. The presence of these labels in the marketplace has increased in response to consumer demand. From produce to meats to processed foods, these labels are present in all facets of the food sector.

The organic market continues to increase in interest which is directly reflected in increased sales; the 2016 Organic Market Overview noted organic sales comprise over four percent of total U.S. food sales (USDA ERS, 2016). The United States Department of Agriculture (USDA) has strict requirements, which state a product claimed to be organic must meet the following guidelines (USDA Agricultural Marketing Service, n.d.).

- "Products must be produced without excluded methods (e.g., genetic engineering, ionizing radiation, or sewage sludge)." (para. 1)
- "Products must be produced using allowed substances" which can be found on the *National List of Allowed and Prohibited Substances.* (para. 1)

- "Products must be overseen by a USDA National Organic Program-authorized certifying agent, following all USDA organic regulations." (para. 1)

While organic products have specific, zero tolerance guidelines, the line for *natural* products becomes much greyer. At the current time, there is no written definition of *natural.* While there is no active regulation, the United States Food and Drug Administration (FDA) considers the term *natural* to mean that nothing artificial or synthetic, that would not normally be expected in the food, has been included in or added to the food product (USDA FDA, p. 1).

Any products not labeled organic or natural are considered conventional. Conventional processes have the least amount of restrictions. In regards to growing meat, conventional animals can be treated with antibiotics if necessary and are typically finished to slaughter weight on a grain ration.

As the demand for these specialty products increases, the question arises: are consumers educated about the actual meaning of these labels? Research has found that consumers often overestimate their understanding of labels (Samant, 2015). Other studies concluded that misunderstanding of the labeling terms could be having significant impacts on the markets of each good (Gifford, K., & Bernard, J., 2011, p.1). The definitions above state that organic and natural are, in fact, quite different; therefore, showing a potential gap in what consumers are buying and why they are buying it. These products also vary in prices. As a rule, organic foods are often higher in price than their conventional counterparts because *organic* can be considered a specialty good.

Statement of the Problem

The collection of related research illustrates a disparity between the reality of various food production processes and consumers' perceptions that lead to their buying decisions.

Because agriculture is a consumer driven industry, the producers within the industry need to understand the perceptions of consumers. However, no matter what participant preferences are based on, it is important that their perceptions be based on truth – perhaps by using more fact based marketing strategies. Understanding consumer preferences may help the industry to efficiently tailor their marketing and educational strategies to better inform the public.

Purpose and Objectives

The purpose of this study is to determine consumer preferences when given three identical food products, with the only variation being the language on the label – one reading "organic," one reading "natural," and one having a typical conventional label – and identify themes among their preferences. By presenting the identical products at the same price point, it can also be determined if consumers are making buying decisions based on the label or based on the price. Whether participant preferences are based on health concerns, the environment, animal welfare concerns, price point, or any other factors, it is always important their perceptions are based on truth. Therefore, the objectives guiding this study are:

1. Determine college students' buying preferences between organic, natural and conventional product when offered at the same price.
2. Determine what students' believe each of the terms (organic, natural) means in regards to the product.
3. Identify the main factors and experiences which influence these buying preferences.
4. Analyze how perceptions and buying preferences may or may not change after participants are educated about the true definitions of the terms.

Reflexivity Statement

It must be acknowledged I have direct ties to agriculture which could create bias within this study. I was raised on a 300 acre beef cattle farm and have grown up heavily involved in youth agriculture programs that increased my knowledge about agriculture production. Serving on the National Beef Ambassador team in 2016 and attending multiple consumer outreach events, I talked to various people who believed that *organic* and *natural* were synonymous with one another. Seeing the disparity for myself is what triggered my desire to research this topic.

Now, I have spent the last two years interning for a large poultry company, and will be beginning a full time career with that company in the coming months. However, the survey instruments were created to eliminate my own views and were reviewed by a panel of experts to verify there was no embedded bias within the survey or focus group moderator guide.

Literature Review

A survey of 1,000 adults found more people will purchase *natural* foods than organic foods (Calvo, 2016). In fact, 73% chose the *natural* products while 58% chose the organic products (Calvo, 2016). Urvashi Rangen, Ph.D., said, "We've seen time and again that majority of consumers believe the 'natural' label means more than it does, and by buying 'natural' foods, they may think they're getting the same benefits as organic, but for less money" (Calvo, 2016, para. 2).

Organic

Organic farming practices are utilized for a number of reasons, namely to foster soil and water conservation and to reduce pollution (Mayo Clinic Staff, 2014). When the Organic Foods Production Act was enacted in 1990, it had three objectives:

- "create standards that would regulate the marketing of organically made foods and products" (Solano, 2008, pg. 2)
- "give consumers a guarantee that the products labeled organic were in fact organic" (Solano, 2008, pg. 2)
- "to make possible the interstate exchanges in foods that are organic" (Solano, 2008, pg. 2-3)

These standards outlined organic as a labeling term that would be used on products that have been produced using practices that support the reuse of on-farm resources, encourage ecological sustainability, and conserve biodiversity (United States Department of Agriculture, 2016). Organic operations must focus on constantly bettering the wetlands, woodlands, and wildlife around them while simultaneously producing their commodities (United States Department of Agriculture, 2016). Conventional farming practices cannot be used in any aspect within an

organic operation. For instance, organic producers cannot use conventional methods to fertilize and/or control weeds (Mayo Clinic Staff, 2014). Instead, producers utilize natural fertilizers and may use crop rotation to regulate weeds (Mayo Clinic Staff, 2014).

Products can only display the USDA Organic Seal if they are certified and have met the United States Department of Agriculture's (USDA) requirements for organic production and handling (United States Department of Agriculture, 2016). Examples of product that cannot be labeled as organic would be milk from dairy cows that have been treated with antibiotics or milk from cows which have been given recombinant Bovine Somatotropin (a milk increasing hormone)(Solano, 2008).

As of 2014, there are 12,634 certified organic farms in the U.S. (United States Department of Agriculture, 2015). However, a large portion of the organic products sold domestically are imported from foreign countries that have written agreements with the USDA certified organic program (Cerro, 2013, p. 11). Crops only have to be 95% organic to possess the USDA organic label, so there is a small gap for non-organic products to be used on the crops (Cerro, 2013). Any substances that are or are not allowed in organic product are outlined in the National List of Allowed and Prohibited Substances (Cerro, 2013; United States Department of Agriculture, 2012). As a rule, synthetic substances are typically prohibited and non-synthetic substances are allowed, but there are exceptions. For instance, a vaccine used to prevent livestock from contracting pinkeye is a synthetic substance that is allowed, but arsenic, on the other hand, is a natural substance that is prohibited (Cerro, 2013, p. 14).

In regards to consumer's confidence in USDA organic regulations, a study of Michigan consumers found consumers had little to no confidence in the safety rules and regulations

implemented by the USDA. These consumers believed the set standards are not high enough (Renaldi, 2014).

Natural

Quickly after organic foods began to appear in the market, *natural* foods began to rise as well. These *natural* foods might be labeled as having "no preservatives" or "no artificial colors/flavors" (Solano, 2008). The *natural* claim is used on an array of products, but the USDA definition of the label only applies to meat and poultry (Animal Welfare Institute, 2012). According to the Animal Welfare Institute, this USDA policy says that 'natural' can be used on a product that contains no artificial ingredients or added color and it should only be minimally processed (Animal Welfare Institute, 2012, p. 1). Each label using the term natural must explain the use of the term. The label is no representation of hormone or antibiotic usage, and the claim has no relation to how the animals are raised (Animal Welfare Institute, 2012).

Types of Claims

Aside from *organic* and *natural,* an array of other labels fall within categories such as *100% organic, free-range, cage-free, without hormones, and grass-fed* (Cerro, 2013). Cerro (2013) continues and says this creates a challenge for the consumer to determine if the products are actually superior or if they are merely marketed that way (p. 27). Among the various claims, there are some which are certified, others that are unverified, and even others that may be meaningless or misleading. These labels are outlined by the Animal Welfare Institute:

> Certified Labels: Animal Welfare Approved, American Grass-Fed Certified, American Humane Certified, Certified Humane, Certified Organic, Food Alliance Certified, Global Alliance Partnership (Animal Welfare Institute, 2012, p. 1-2).

Unverified Claims: Cage Free, Free Range/Free Roaming, Free Range, Free Roaming, Grass Fed, Humanely Raised/Humanely Handled, No Added Hormones/No Hormones Administered, No Antibiotics Administered/Raised without Antibiotics, Pasture Raised/Pasture Grown/ Meadow Raised, Sustainably Farmed (Animal Welfare Institute, 2012, p. 2-3).

Meaningless or Misleading claims: Cage free, Halal, Kosher, Natural, Naturally Raised, No Added Hormones/No Hormones Administered, United Egg Producers Certified, USDA Process Verified, Vegetarian Fed (Animal Welfare Institute, 2012, p.4).

In regards to the antibiotic claims, "antibiotic free" is prohibited because the technology does not exist to validate that an animal has never had antibiotics. But if a producer can show documentation they did not administer antibiotics in the animal's lifetime, they may use "no antibiotics administered," "no antibiotics added," or "raised without antibiotics" (Animal Welfare Institute, 2012).

"Animal Welfare Approved" is the only USDA-approved third-party certification label and it promotes and encourages producers whose farm practices exhibit the highest welfare standards (Animal Welfare Institute, 2012). The designated standards outline the treatment of breeding animals, animals during transport and animals at slaughter; they also denote that pain relief is required for removal of horn buds in cattle and that beak trimming of poultry and tail docking of pigs are prohibited (Animal Welfare Institute, 2012, p.1).

Nutritional Value

As of right now, there is little to no scientific evidence which shows that organic foods contain more nutritional value than their conventional counterparts (Adams, 2012). Many

dieticians remain skeptical about their health benefits (Adams, 2012; Dangour, Allen, Lock & Uauy, 2010; Ojha, Amanatidis, Petocz & Samman, 2007).

Consumer Label Understanding

With all of the various label terms that have been mentioned, it easy to comprehend the possibility of consumer confusion. Without a high level of label knowledge, consumers misunderstand/misinterpret the claims that are being made (Samant, 2015). Therefore, it becomes important to ensure accurate label comprehension amongst consumers so that they understand what they are purchasing (Samant, 2015, p.2). There is previous research which suggests consumers will overestimate their personal label understanding; they do not understand the information as much as they think they do (Samant, 2015). If consumers have no knowledge of how these various labeled products differ, they could be buying products which have qualities for which they do not actually want to pay (Solano, 2008).

Many factors should be taken into account when giving label information to consumers; especially in regards to its source. Customers' response to information is highly dependent on the source from which it comes (Samant, 2015). The rise of social media and technology has made media a primary role in shaping consumer awareness toward food products or even changing their outlooks (Samant 2015).

Consumer Perceptions

The U.S. organic foods market is continually growing. While some research has been done, in the grand scheme of things, still little is known about consumers' perceptions of organic food products. A deeper understanding of this would help create future, more in depth organic nutrition education (Renaldi, 2014).

A survey released by the Whole Foods Market, showed 65% of Americans consuming organic goods in 2005 (Solano, 2008). Among those, 55% were purchasing organic to avoid genetically modified ingredients, 52.9% were buying organic because they thought it was better for their health, and 52.4% were buying organic because they thought it was better for the environment (Solano, 2008).

Berlin noted motivators for purchasing organic foods as being concerned with food safety and human health, environmental impacts, and farm animal welfare (Berlin, 2006). On the other hand, there are also barriers. Berlin said that one area which lacks research is if consumers should be concerned about bacterial or fungal contamination of organic products (Berlin, 2006, p.19).

After Oregon adopted the National Organic Program standards, a study was conducted in 2002-2003 which showed that consumers have positive word association with terms such as "organic" (Smith, 2010). Additionally, a 2008 study found various values that motivate consumers to purchase organic food. Among these beliefs were thoughts that organic farming is more small scale compared to conventional farming, organic food was associated with local food, organic food was associated with better welfare of the workers involved, and organic food was more attractive to consumers if they knew the person who produced it (Chan, 2008). Another reoccurring theme was that of an *organic ideology.* Among respondents, it was thought that organic farmers operated under a mindset which includes the supporting of biodiversity, ethical treatment of humans and animals, and using environmentally friendly and sustainable farming practices (Chan, 2008, p. 36).

Because of the varying consumer perceptions and understanding of labels, there have been various times where food companies may take advantage of consumer perception by

representing and packaging their products with terms that consumers do not understand (Cerro, 2013). One instance was in 2012, after General Mills was challenged to defend the accuracy of their natural labels. The lawsuit was started by two California mothers who believed General Mills should not have marketed their Nature Valley products as natural because they contained highly processed ingredients. One of the mothers, Amy McKendrick, said, "I've figured out now that something can say it is 100 percent natural on the outside and not be 100 percent natural. I want to make sure other people making purchases understand that, too" (Strom, 2012, para. 4).

Another case in the same year involved Breyers "all natural" ice cream. The lawsuit claimed the products should not be labeled "all natural" because they contained alkalized cocoa (a non-natural, man-made, processed ingredient). Breyers denied all wrongdoing, but still agreed to pay $2.5 million in restitution (Cerro, 2013).

Willingness to Pay

In general, any specialty product (such as organic or grass-fed) that requires a production cycle which is more costly – either in time or money – will in turn be more expensive at the store. This raises the question: when do the perceived benefits outweigh the added cost and vice versa? A consumer willingness study on Tennessee consumers found that approximately 24% of the total respondents were not willing to pay more for organic food, but most of respondents (75.3%) were willing to pay the price premium that accompanies organic products compared to the conventional option (Baryeh, 2015).

Another study over consumer reactions to food price premiums in the US found political ideology also played a role in determining which consumers buy organic food as well as how much those consumers are willing to pay for it (Smith, 2010). However, it was also shown consumers would be more willing to pay if the prices were not quite as high. In other words, if

there was a way to control the price of such products, the percent of consumers purchasing organic would be even higher than it already is (Smith, 2010).

A different study focused on the effect of definitions for organic and natural on willingness to pay a premium for chicken. Data was collected before any information was presented to the consumers and again after information was presented (Gifford, K., & Bernard, J., 2011). Before being provided with the information, almost two-thirds of the respondents inaccurately equated the requirements of organic to those of natural. After receiving information, 80% either increased or decreased the premiums they initially provided. The researcher concluded that consumer misunderstanding regarding organic and natural standards may, in fact, be having "substantial impacts on the two markets" (Gifford, K., & Bernard, J., 2011, p. 1).

A similar study on consumers from Delaware asked consumers how much they would be willing to pay for natural, organic, or conventional foods. The first time they asked was based on their background knowledge, and they second time they were given the definitions (Solano, 2008). The most significant finding was that bids for almost all of the organic products increased after the definitions were given. Solano also concluded, that altogether consumers have little factual knowledge of both natural and organic (Solano, 2008).

Methodology

For the purpose of this research study, data was collected using focus groups. Focus groups "can be used to collect shared understanding from several individuals as well as to get views from specific people" (Creswell, 2008, p. 226). The most advantageous attribute of collecting data through focus groups is participants can feed off of each other and the shared conversation can spark ideas and thoughts that may be skipped over in a one-on-one interview (Creswell, 2008). It is crucial the researcher monitor for individuals who are dominating the conversation and encourage each participant to take their turn sharing input (Creswell, 2008).

Participants/Sampling

The desired population for the study was undergraduate students at the University of Arkansas which equally represented the six colleges on campus. The focus group participants were recruited through an email which was distributed amongst two large enrollment courses for an enrollment of approximately 800 students (Appendix A). Participants completed a consent form prior to participating. Funding of $300 was secured, so participants received a small monetary award ($10 in the form of a gift card) to encourage plentiful and diverse participation.

Each focus group consisted of between 5 and 7 members per group – making this a pilot focus group study. The goal was to have focus groups of 7 or 8 because a range of 7-10 members is the most effective for a focus group (Marczak & Sewell, n.d.). However, due to participant schedules, four total focus groups were conducted which resulted in smaller sizes. Each focus group lasted 45 minutes to one hour.

Through group emails sent to two large enrollment, core science, University of Arkansas classes, 28 students responded as being interested and willing to participate. After sending out a

poll to those 28 students to determine availability times, four times were selected. Because of no shows or failure to sign up, 22 students officially attended and participated in the focus groups.

Among these 22 students, 17 were female and 5 were male. This was not viewed as a limitation because the 2018 U.S. Grocery Shopper Trends note that women are the larger majority of grocery shoppers in the current market (The Hartman Group, Inc., 2018). Ages of participants ranged from 18-27 and the average age of participants was 20.5. Of the participants, 5 were classified as freshmen, 7 were classified as sophomores, 2 were classified as juniors, 4 were classified as seniors, and 4 were classified as graduate students.

The intent of recruiting from large recruitment classes was to have a substantially even distribution of participants from among the six colleges on campus. There ended up being 8 students from the Dale Bumpers College of Agricultural, Food and Life Sciences; 5 students from the J. William Fulbright College of Arts and Sciences; 4 students from the College of Education and Health Professions; 3 students from the Sam M. Walton College of Business; and 2 students from the College of Engineering. While the largest representation of students was from the college of agriculture, only 2 participants noted they had a direct tie to agricultural production (one noted row crop production and another noted fruit production). Also notable, is only 2 participants stated they had been involved in 4-H or FFA.

Treatments/Instruments

Before beginning the focus group, participants were asked to complete a short survey (Appendix B). The survey was composed of multiple-choice questions designed to gauge each participant's past purchasing behavior of *natural,* organic, and conventional products. The survey began with a question which presented the three labels (Appendix C) that were created

(for the same product, at the same price, with the only difference being the labeling term), and each participant was asked to choose which he/she would purchase.

Focus groups were conducted in April 2019. The researcher received Internal Review Board (IRB) approval (protocol #1902175378) to complete the research (Appendix D). The focus groups followed a predesigned moderator guide (Appendix E) of questions designed to, but not limited to, guiding the group discussion. The questionnaire was reviewed by a panel of experts consisting of two agricultural communications faculty and one animal science faculty member.

The moderator guide was developed in three sections: introduction, discussion of perceptions, and key takeaways. The purpose of the introduction was to acquaint participants with the process that occurred during the approximately 1-hour focus group. Once familiar with the process, the moderator gave an overview of the research objectives. Then the discussion was led by the pre-designed questions. Once all questions had been discussed and all participants were provided an equal opportunity to participate, the moderator ended the discussion by asking about key takeaways. The moderator guide was reviewed by a group of experts which encompassed both agricultural communications and animal sciences.

Before focus groups were held, a pilot test group was conducted using graduate students to ensure credibility and trustworthiness of the moderator guide.

Data Collection

The researcher conducted face-to-face focus groups. The conversation included predeveloped, yet unstructured and open ended questions designed to provoke views and thoughts from the participants (Creswell, 2014). This type of qualitative data collection allowed the researcher to have control over the line of questioning and to ask follow-up questions if

needed (Creswell, 2014). The conversation during the multiple focus groups was recorded and field notes were taken to record participant body language and nonverbal cues.

Data Analysis

The collected data was analyzed using the (Merriam, 2009). The constant comparative method consists of comparing one portion of data with another to identify similarities and differences (Merriam, 2009). The overarching objective of this type of data analysis is to identify patterns within the collected data (Merriam, 2009).

Qualitative data is analyzed simultaneously with collecting data, interpreting the data, and writing reports (Anthony, 2014; Creswell, 2009; Rossman & Rallis, 1998). The researcher took this into consideration and saw data analysis as an ongoing process through each stage of the study.

Following the completion of the focus groups, all focus group recordings were transcribed from beginning to end. Each focus group interview was transcribed in entirety before moving on to the next interview recording to maintain the grouping according to their information source (Creswell, 2009). After each interview was transcribed and verified for accuracy by a faculty member, the process of formal data analysis began.

Using NVivo 12 software, the transcripts were uploaded to begin solidifying themes. The researcher then read through the compiled data to gain a broad sense of the information. While reading, the researcher took notes to begin open coding; the notes reflected on the ideas and tone of the participants (Creswell, 2009). Possible themes were also noted during this time. When multiple themes became evident, open codes from individual participants were grouped to narrow in on key themes through axial coding (Creswell, 2009; Tesch, 1990). If new categories

emerged while analyzing the rest of the data, adjustments were made to the themes (Creswell, 2009; Tesch, 1990).

Results and Findings

It should be noted that this research was conducted with current students at the University of Arkansas and cannot be generalized to the population as a whole. Therefore, the results and findings of this research study only pertain to students at the University of Arkansas.

Buying Frequency

Among all participants, their current buying patterns include buying chicken either once or twice a month. Once participant stated, "I usually get groceries twice a month so I typically get chicken both times when I shop. I usually get organic and fresh and then use what I want and just refreeze what I don't use."

Three participants noted that they purchase chicken as regularly as once per week. On the other hand, three participants noted that they did not purchase chicken at all but that is not because they dislike or do not eat chicken. All non-purchasers were in agreement that, "since I live on campus I'm not buying it right now, I'm just eating at dining halls. But when I'm at home or like next year when I'm living off campus normally I'd probably buy it at least once a month."

Perceptions of Organic and Natural

From the survey (taken before the focus group discussion), when all three products are offered at the same price, 10 participants selected organic as their first choice, seven participants selected natural as their first choice, and five participants selected conventional as their first choice. Within the focus group component, participants were able to explain why products labeled as organic or natural are more valuable in their opinion. A common theme was participants believing the two terms (organic and natural) were synonymous with each other.

However, they were asked to attempt to pinpoint their perceived differences between the two terms.

Participants believed organic meant there are no steroids, no antibiotics, no pesticides, or no hormones. Therefore, chickens are simply "fed well." For this question, there was a wide spectrum of answers. One participant said, "I literally do not know what organic means. But if I had to take a guess I would think maybe like less chemicals in it." While another participant was more detailed and said, "I think of the type of feed that the chickens get, you know like less chemicals or just the environment that they're raised in. I feel like I see pictures all the time of chickens in these tiny little cages and I don't know if that's the same as organic but I don't typically think of that when I see something that's has organic on it." Two participants stated their perceptions of the word organic were shaped by their enrollment in classes such as food safety and agricultural law. One of the participants stated because of her coursework she tries to make the better choice and "always buys organic."

Similarly to the question about organic, 4 participants were also unsure what natural meant with one participant saying, "For me, I really don't know a lot about how the chicken gets into this package versus this package. Like I don't know anything about the process, and so I really don't pay that much attention to it."

Additionally 13 participants thought that natural was very similar to organic and related both terms to a "more clean" method of production. To support that they are similar, one participant said, "I don't know the difference between what was organic and what was natural like if you were to switch the natural and organic I would think it was the same thing." Another participant, who is international and has roots in Bolivia, claimed he always looks for the phrase

natural when grocery shopping because "I've heard that here in the U.S. it is not one hundred percent natural and stuff like that. So I do check (for natural labels)."

A very common theme, however, was the belief that the natural labels actually lack meaning. One participant said, "I mean I know the idea is similar to putting organic on the package, but natural can kind of mean anything because like if it exists it is inherently natural. So I feel like that one's kind of a trick." Another participant claimed, "It's (natural) just a fluff word that people go 'oh it's the same as organic, so I'll buy that one because it's a little bit cheaper' but it doesn't actually mean anything."

Perceptions of Conventional Production

Not many participants had vocal opinion about their thoughts of traditional agricultural production. However, those who did state opinions (five participants) were in agreement their perceptions are negative in regards to traditional poultry production and it is overall not as good for the well-being of themselves or the animals. One participant said, "I guess the U.S. traditional agriculture, in terms of examining the products (quality assurance),I think it's very good and even better than my country. But I feel like there are some products that are being injected with chemicals and stuff like that, and I don't personally feel like it's healthy for the public or any person." Another participant stated the first thought that comes to mind is "mistreating the animals." This was echoed by another participant who said, "for me it's not really the mistreatment (of animals) even though I don't want them to be mistreated. But mine (reason for buying organic) is more of what chickens are eating and what I'm going to be consuming. That's kind of why I do organic."

Purchasing Influence

While there were many similarities amongst how often students are purchasing, when the conversation turned towards what influences those buying decisions, there was a broader scope. Answers varied from brand loyalty, to convenience, to appearance of the packaging, to the cut of meat, and of course to the factor that influences most decisions – price.

The two most common answers attributed to participant purchases was purchases based on the cheapest price or brand familiarity. One student related a local brand to trustworthiness and said, "Well usually I just go straight to Tyson." While another participant said, "My parents just always bought Tyson, so I never really look for other kinds (of chicken)." Similarly a third participant said, "I feel like if I know the brand I'm more likely to buy it. So if I've eaten this one brand my whole life – going to college I will buy that same brand that my parents bought just because I'm more drawn to it."

Other participants noted while they are conscious of the often overwhelming variety (brands, packaging differences, etc.) within the meat case, their need to be budget friendly is almost always the guiding factor. A participant said, "They can just change the label and the way it looks, but then because it looks better it's a higher price. So usually I can negotiate (with myself) and kind of go with the less appealing package unless like the product does not look like it's fresh. But usually appearance doesn't really matter to me as much (as price)." Another echoed this and said, "I only focus on price."

Four participants agreed the appearance of the package is, in fact, very important to them. A couple of participants even noted they have different perceptions when various colors are used within a packaging design. One of the participants said, "I want it to look nice and not just look sloppy or something. I think maybe something that plays into it when I'm looking at food

packaging might be the colors, because I kind of associate green with being more like natural products. I wouldn't want to just buy food that's black or grey, bland packaging." Another participant came to the conclusion that packaging is situational and said, "It honestly depends on what I'm buying. If I'm buying a toothbrush I don't really care, but if I'm buying something for my skin or for my face I kind of do care about the packaging because I feel like it represents what's inside the product."

Two participants said convenience is often the most important factor to them. Therefore, when there is a choice to buy food products that are individually packaged they are willing to, "just pay more and get them individually packed."

Another participant had a unique influence factor and explained her mother is a registered dietician and raised her with a strong emphasis on spending more money to receive a higher quality product. For that reason, "I'll look for it like on these for example (pointing to the organic label) these two little labels (organic certification) down here are something that I look for. The words like you said, organic, natural, and if I don't see that I immediately just like skim over it."

Change in Perceptions

Near the end of the focus groups, participants were read the definitions of organic and natural according to the USDA. Participants were then asked if hearing the specific definitions changed their perceptions or will change their buying decisions going forward. To summarize, the 10 participants who previously stated that they would select organic (when at the same price) kept their decision, however, the seven who previously selected natural first unanimously decided that they would now prefer the organic option for the sake of being able to trust in the USDA's certified organic program.

However, the most notable conclusion from this discussion incorporated the consumers' willingness to pay. One participant said, "Yeah I'd say if the prices are the same, sure I'll go with organic. But if it's even like a five cent difference I'd go with just the normal." Other participants stated that maybe if they were in a different, more mature stage of life they would choose organic, however, as college students now they are sticking with the cost friendly option. One participant stated, "Maybe eventually when I have a real job this will change my decisions. I will have more to spend on groceries and like I do care about the food, like the quality of the food I consume (now), but it just hasn't been worth it for me up until this point." A very similar statement was made in another group. "I feel like the scenarios are different. Right now if I was going to buy chicken breast, I probably would be with some buddies asking 'hey you want to grill something tonight?' We'd go to the store and buy the cheapest stuff we could find. But four or five years from now when on my own with a job or even later with a family and kids, I may buy another option," the participant explained.

Takeaways

When students were asked what they thought to be the most important part of the day's discussion, there were two themes. One theme was that if a person decides that organic food is important to them and what they want to purchase, then they should make sure that the verified USDA organic seal is present. A participant said, "I've always looked at the labels that said natural or organic, but what I'm going to look for is the verified label that you showed us. That's definitely what I'm going to see right now." The second theme was participants emphasizing the importance they now see in understanding labels. A participant said the biggest takeaway was "just being a more aware of what you're looking at and what you're buying." This was expanded upon by another participant who said, "for me I wouldn't associate organic and natural as the

same thing anymore. I kind of used them as synonyms for each other for the most part, but now I won't just because I now know that natural doesn't have as much regulation."

Conclusions and Recommendations

Conclusions

This research solidified the statement of the problem, and there did, in fact, appear to be a disparity between the reality of various food production processes and consumers' perceptions that lead to their buying decisions. There were only three respondents out of 22 who were aware that natural and organic are not synonymous based on their own background knowledge. For the remaining respondents, they either thought the terms were synonymous or simply did not know the meanings at all.

There were two participants who noted on their survey to have a direct connection to production agriculture (one to fruit production and the other to row crop production). However, there was not a relationship between that tie to production agriculture and an understanding of organic/natural food labels. There was a relationship, though, between a previous understanding of organic/natural food labels and enrollment in higher education coursework that is in the agricultural sector.

All participants left the focus group with an increased knowledge about the definitions of organic and conventional food production. The receptiveness of participants leads me to believe that consumers in general are interested in this topic. However, they may not always be willing to start the conversation themselves. This is where it becomes the agricultural industry's responsibility to tailor their marketing and educational strategies to better inform the public.

After participants were educated about the policy definitions of organic and natural terminology midway through the conversation, this sparked further questions and curiosity from nearly all participants. A participant brought up the topic of the newer label "no antibiotics ever", another participant was confused why "natural" is even permitted as a labeling term in the first

place, and another participant encouraged their peers in the room to take this conversation as motivation to take initiative into researching what is consumed.

While there are a wide array of factors that ultimately influence buying decisions (price, brand, packaging, convenience), the fact still remains – it is vital no matter what preferences are based upon, consumer choices should be based upon truth and understanding of what their dollar is going towards. That simple fact should be enough to motivate those in the agricultural industry to take initiative to tell the story of agriculture production to those who have no access to the industry.

Recommendations for Future Research

Going forward, the most prominent recommendation for future research is to use a larger sample size that can be more representative of a broader scope of consumers. While this study did encapsulate a broad demographic within its 22 respondents, there is always room for expansion.

Because this study revealed an innate interest from respondents to be more knowledgeable about their food, future studies could strive to assess what educational methods of communication would be most useful. This information could be a crucial component to helping the agriculture industry close the gap between the farmer and consumer.

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Appendix A

Below is the text from the recruitment email that was sent:

All,

My name is Kylee Sigmon and I am an honors student in the Bumpers College of Agricultural Food and Life Sciences. I am working on completing my honors thesis looking at perceptions college students have of certain food labeling terms (organic, natural, etc.). I need participants for the focus groups I am holding within the next month. This is only a 1-hour time commitment!

ALL participants will be thanked for their time with a $10 gift card at the conclusion of the focus group. If you're interested in participating please email me at kmsigmon@uark.edu and I will put you on the list and keep you updated with further information.

Thank you in advance!
Kylee

Appendix B

Survey for Research Participants

Study Title: Consumer Perceptions of Organic, Natural, and Conventional Products when provided at the same price.

Please complete the following demographic information:
Name: _____
Age: _____
Gender: Male Female
School Classification:

- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior
- ☐ Graduate Student

College:

- ☐ Dale Bumpers College of Agricultural, Food and Life Sciences
- ☐ Fay Jones School of Architecture and Design
- ☐ J. William Fulbright College of Arts and Sciences
- ☐ Sam M. Walton College of Business
- ☐ College of Education and Health Professions
- ☐ College of Engineering

Please answer the following questions in relation to your most common buying behaviors:

1. After evaluating the poultry labels placed before you, rank them below with "1", "2", or "3" based on the order you would purchase them in if they are all offered at the same price. (1 being most likely to purchase and 3 being least likely to purchase)

   ____ Conventional Chicken Breast (no wording on label)
   ____ Organic Chicken Breast
   ____ Natural Chicken Breast

2. How often do you purchase fresh chicken breasts at the store?
   - ☐ **Never**
   - ☐ **About once a month**
   - ☐ **About twice a month**
   - ☐ **About once a week**
   - ☐ **More than once a week**

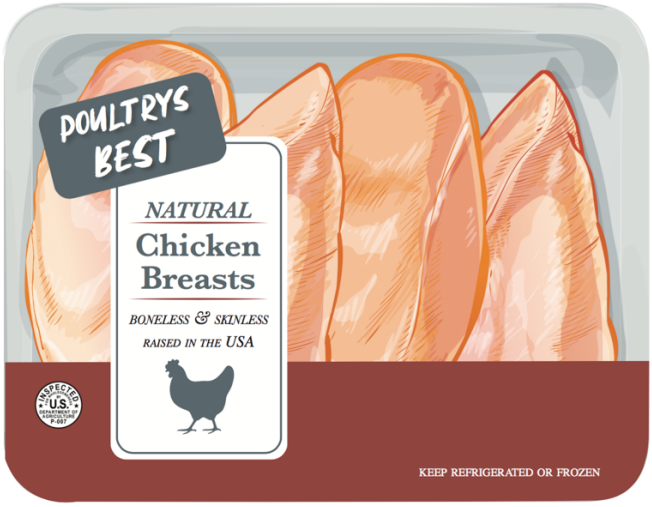
3. When purchasing your own groceries, do you often choose the organic option?
   - ☐ **Yes**
   - ☐ **Occasionally**
     - o **If occasionally, for what products? _____**

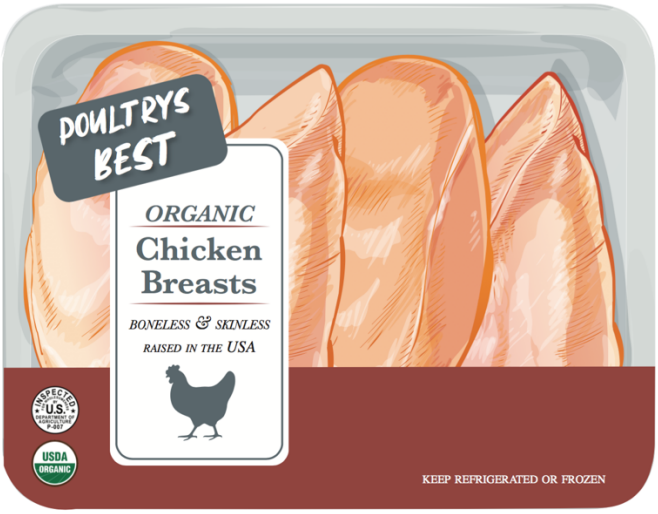
- ☐ **No**

4. In the past, have you ever been a member of any youth agriculture organizations such as 4-H and/or FFA?
   - ☐ **Yes**
   - ☐ **No**
5. Have you ever lived on or been heavily involved in a family farm operation?
   - ☐ **Yes**
   - ☐ **No**
   - **a.** If yes, what kind of farm?
     - ☐ **Livestock**
     - ☐ **Row Crop**
     - ☐ **Other:** _____
   - **b.** If yes, was this farm the family's primary source of income?
     - ☐ **Yes**
     - ☐ **No**

Appendix C


POULTRYS BEST
Chicken Breasts
BONELESS & SKINLESS
RAISED IN THE USA
KEEP REFRIGERATED OR FROZEN


POULTRYS BEST
NATURAL
Chicken Breasts
BONELESS & SKINLESS
RAISED IN THE USA
KEEP REFRIGERATED OR FROZEN


POULTRYS BEST
ORGANIC
Chicken Breasts
BONELESS & SKINLESS
RAISED IN THE USA
USDA ORGANIC
KEEP REFRIGERATED OR FROZEN

Appendix D

UNIVERSITY OF ARKANSAS

To:	Kylee M. Sigmon BELL 4188
From:	Douglas James Adams, Chair IRB Committee
Date:	04/04/2019
Action:	**Exemption Granted**
Action Date:	04/04/2019
Protocol #:	1902175378
Study Title:	Consumer Perceptions of Organic, Natural, and Conventional Products when provided at the same price.

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or irb@uark.edu.

cc: Jill Rucker, Investigator
Casandra Kay Cox, Investigator
Janeal Wyn Yancey, Investigator

Appendix E

Moderator Guide

Research Objectives

The objective of this study is to determine consumer preferences when given three identical food products, with the only variation being the language on the label – one reading "organic," one reading "natural," and one having a typical conventional label – and identify themes among their preferences. By presenting the identical products at the same price point, it can also be determined if consumers are making buying decisions based on the label or based on the price. Whether participant preferences are based on health concerns, the environment, animal welfare concerns, price point, or any other factors, it is always important that perceptions are based on truth.

Introduction

Good afternoon everyone, my name is Kylee Sigmon. Thank you all for coming today and offering your time to be a part of my honors thesis research. The purpose of this focus group is to discuss college students' perceptions of organic, natural, and conventional food products when provided at the same price. By presenting the identical products at the same price point, it can also be determined if consumers are making buying decisions based on the label or based on the price. If price point is the determining factor, the study is striving to narrow down if participant preferences are based on health concerns, the environment, animal welfare concerns, price point of any other factors.

Today's focus group should last approximately 1 hour. We will begin by showing you all three different food labels and asking you to rank the order of preference for purchasing you would have if they are all the same price. Then, there will be a quick written survey to get your thoughts flowing. After ranking your preferences and completing the survey which should take 10-15 minutes, we will begin a guided discussion to gauge each of your perceptions about the topic.

Today's entire focus group will be recorded. All answers given will be used for research, but will remain confidential and all names will remain anonymous. At this time, I am going to ask each of you to individually review and complete the consent form that I am now passing around to acknowledge you understand this discussion will be recorded and give permission for me to use your answers in my research.

Now, to begin, I am passing around the surveys. (once everyone has a survey) Displayed on the screen as well as on the table are three different labels for chicken breast products. Please take a couple of minutes to analyze the labels and then rank the products on your paper from most likely to buy to least likely to buy. Then you can proceed with marking your answers on the pre-discussion survey.

Discussion Guide

How often do you buy chicken breast (if ever)?

Think of a time when you went to the grocery store of your choice, when you approach the meat section and arrive at the fresh chicken breast options, what do you see?

Have you ever noticed that certain products or brands are more likely to grab your attention because of wording or packaging differences?

If so, what were those wordings or packaging specifics?
Why were they eye catching?

Have you ever found yourself purchasing a product simply because you like the product branding (for example, colors and/or logo design) better than the alternatives?

What does the term "organic" in regards to poultry mean to you?

What does the term "natural" in regards to poultry mean to you?

Do you prefer to buy chicken labeled as organic?

If so, why?
If not, why?

Do you prefer to buy chicken labeled as natural?

If so, why?
If not, why?

Do you prefer to buy chicken that is neither organic or "natural"?

If so, why?
If not, why?

If organic and natural chicken were the same price as conventional chicken, which would you purchase?

Why would you make this choice?

I am now going to read the definitions of the labeling terms organic and natural according to the USDA.

Organic: The United States Department of Agriculture (USDA) has strict requirements, which state a product claimed to be organic must meet the following guidelines (USDA Agricultural Marketing Service, n.d.).

- "Products must be produced without excluded methods (e.g., genetic engineering, ionizing radiation, or sewage sludge)."
- "Products must be produced using allowed substances" which can be found on the *National List of Allowed and Prohibited Substances.*
- "Products must be overseen by a USDA National Organic Program-authorized certifying agent, following all USDA organic regulations." (p. 1)

Natural: At the current time, there is no written definition of *natural.* However, the United States Food and Drug Administration (FDA) "considers the term *natural* to mean that nothing artificial or synthetic has been included in, or has been added to, a food that would not normally be expected to be in that food" (USDA FDA, p. 1).

After hearing these definitions, does this spark any changes to what you previously thought surrounding organic products?

After hearing these definitions, does this spark any changes to what you previously thought surrounding natural products?

Were you aware this was the regulation surrounding organic and natural products?

Will knowing these specifics, will your buying preferences be changed?

Conclusion

What is the most important thing we discussed?

Is there anything that you've learned today that was surprising to you?

Is there anything we missed that anyone would like to talk about?