

ORGANIC DINING: EXPLORING STUDENT ACCEPTANCE OF ORGANIC
FOODS IN UNIVERSITY FACILITIES

A Thesis presented to the Faculty of the Graduate School
University of Missouri

In Partial Fulfillment
of the Requirements for the Degree

Master of Science

by
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JULY 2015

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ORGANIC DINING: EXPLORING STUDENT ACCPETANCE OF ORGANIC
FOODS IN UNIVERSITY FACILITIES

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ACKNOWLEDGMENTS

I have been blessed with many gracious individuals in my life that have supported me along this journey; without them I would not be where I am today.

First and foremost, I would like to thank my advisor, Dr. James Groves for accepting me as his advisee during my graduate career. Your continuous support, knowledge and encouragement were exactly what I needed to complete my thesis. I can't thank you enough for your help and I wish you luck in retirement. I would also like to thank Dr. Alexander for her dedication to bettering my thesis and myself. She was always there when I needed her and she provided constant motivation along the way, which is greatly appreciated. Also, I'd like to thank Dr. Tracy Kitchel and Dr. Dae-Young Kim for serving on my committee and providing me with statistics help and research knowledge.

A special thanks goes out to my family, who have supported me every step of the way. I am so grateful to have a family who provides endless encouragement, motivation and humor to get me through. My parents, Kris and Nadine, and my siblings, Kristin and Joel Gantz and Drew and Ashley Robbins, have shaped me into the person I am today and I could not have done this without them. My grandparents, Jan and Dale Wiley also deserve a special recognition for their continuous support and help throughout my entire college career.

Lastly, my friends should not go unrecognized and I would like to extend my gratitude and special thanks to them. They kept me sane by listening to my rants, providing me with advice and extended a hand when I needed it. I am thankful for everything you all have done for me. Therefore, I dedicate this thesis to my family and friends.

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CHAPTER 1 INTRODUCTION

1.1 Background of the Study

Organic refers to the entire process in which agricultural food products are produced, handled, and processed without the use of artificial pesticides, fertilizers, hormones, etc. The production of organic foods is also based on a farming system that maintains and replenishes soil fertility (Liu, 2011). Production began as a small niche market emphasizing the benefits for small businesses and local farmers. With the increasing want and need of consumers for healthy, better quality food, the organic food market quickly took off. For some consumers, *organic* has even replaced the synonym *natural* to describe higher quality food (Hartman Group, 2006).

To obtain the “organic” label, strict standards must be followed to ensure the appropriate processes were used. However, because production of organic products is labor intensive, increasing the overall cost, a particular price premium can be rightly assumed upon purchasing organic foodstuff. While this can be seen as a negative connotation to organic foods, the organic market has all but subsided. Not only has the organic food market developed into a global business economy, but it has also become one of the fastest growing marketing sectors throughout the world (Liu, 2011).

Interestingly, the increase in the organic market has brought about the use of organic food products into foodservice operations including restaurants and institutions; so much, in fact, that two-thirds of fine-dining restaurant operations began including organic items on their menus in 2005 (MarketResearch.com, 2006). Additionally, to encourage healthier eating habits, more hospitals have reported integrating organic food options into staff and patient meals (Liu, 2011). The added presence of organic food in

foodservice operations has influenced some colleges and universities to offer them as well.

The increasing demand for organic food has become prevalent in university campuses, as the \$16 billion organic industry has reached more than 4,200 colleges nationwide (Horovitz, 2006). Because college students were raised during the growing organic market, they too have been demanding more organic and local options in on-campus dining facilities (York, 2008). One study found that higher levels of education lead to an increase in a consumer's likelihood to purchase organic (Dettman, 2009). These younger generations are more likely to pay a higher price for organic food options. The Nielsen's Global Health and Wellness Survey found that 41% (out of 30,000 consumers in 60 countries) are willing to pay a premium price for healthier products (Horovitz, 2015). Whether the organic options come from food vendors or local farmers, the \$4.6 billion college food service industry is responding to the student's demand by finding ways to serve organic food. To initiate this first step toward major impact on organic purchasing, educational institutions must adopt a set of purchasing goals and guidelines and stick to them (Barlett, 2011). However, at this point in time no major Midwest University offers organic products in on-campus dining facilities.

Therefore, an appropriate research topic is understanding and evaluating college students' perceptions of organic food and intention to consume organic food if offered in campus dining facilities. Unfortunately, there are many factors that influence college students' perceptions of organic food that alter their acceptance of and intention to consume organic foodstuff. This study aims to discover which factors most influence

student's acceptance of organic food, their intention to consume organic food, and the use of organic food in university dining facilities.

1.2 Problem Statement

What factors influence college student's acceptance of and intention to consume organic foods?

1.3 Research Purpose and Objectives

1.3.1 Purpose of the Study

Given the rapid growth of the organic food industry and economic contributions of the industry, the current study intends to explore student acceptance of organic foods in campus dining facilities at a major Midwest University with the employment of a modified version of the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980) and the Expanded Rational Expectations Model (ERE) (Sapp, 1991; Sapp & Harrod, 1989). The purposes of this study include:

1. To explore student acceptance of organic foods in dining facilities at a major Midwest university;
2. To explore factors that influence college students acceptance of and intention to consume organic foods;
3. To examine the relationships that exist between factors that influence college student's acceptance of and intention to consume organic foods.

1.3.2 Objectives of the Study

The objectives of the study include the following:

1. To describe the socio-demographic characteristics (age, gender, education, ethnicity, environment reared in, living-status, financial dependency) of the student consumers;
2. To describe organic food preferences of college students;
3. To identify the factors that influence college students acceptance of and intention to consume organic foods;
4. To examine the relationships between factors that influence college students acceptance of and intention to consume organic foods.

1.4 Hypotheses

The hypotheses were developed as a result of the review of Theory of Reasoned Action, Expanded Rational Expectations Model and other studies that focused on acceptance of organic foods and intention consume them. Intention is utilized as the dependent variable in the research. The following hypotheses were evaluated:

H1: A significant relationship will exist between knowledge and acceptance of and intention to consume organic foods.

H2: A significant relationship will exist between acceptability and acceptance of and intention to consume organic foods.

H3: A significant relationship will exist between subjective norms and acceptance of and intention to consume organic foods.

1.5 Significance of the Study

The implications of this study will be beneficial for college institutions, local organic food farmers, and organic food marketers. In addition, the university campus facilities are able to better understand their student's demands and appropriately address them.

1.6 Outline of Subsequent Chapters

The following chapters include the Literature Review, Methodology, Results and Discussion. In Chapter 2, the Literature Review, previous studies and literature on the organic food industry and the use of organic food in university dining facilities are reviewed. The methodology utilized to complete the study is discussed in detail in Chapter 3. Chapter 4 presents and explains the results and data analysis of the study. The Discussion section, Chapter 5, includes a brief summary of the study and results, along with implications and suggestions for future research.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

A thorough review of literature has been conducted in regards to the organic food industry and the use of organic foods in university dining facilities, along with a brief discussion of relevant theories in the research framework. The influential factors in regards to acceptance of and intention to consume organic foods are also discussed.

This chapter is divided into six main sections:

1. Organic foods and the increasing market
2. Use of organic foods in the foodservice industry
3. Factors that influence acceptance of organic food
4. College students as a target market
5. Theory of reasoned action
6. Expanded rational expectations model

The proposed research framework and hypotheses are then presented in the following section. The hypotheses and research framework were developed as a result of the review of literature.

2.2 Organic Foods and the Increasing Market

In order to understand the meaning of organic, we must address that organic is a labeling term to identify a process in which the food is produced and handled. The National Organic Program established the standards required before products are verified and labeled organic for farms grossing over \$5,000 per year. According to the National Organic Standards Board of the US Department of Agriculture (USDA) the term organic

is the process of “using materials and practices that enhance the ecological balance of natural systems and that integrate the parts of the farming system into an ecological whole.” This includes the absence of artificial pesticides and fertilizers, genetic engineering and modification, antibiotics, hormones, and irradiation (Ahmad & Judhi, 2008). It is important to understand the difference between local and organic producers, as there is often confusion. Even with the possibility for overlap, where a local farm is certified organic, research has shown that only about 5 percent of local food farms are certified organic food producers (Low, 2015).

The rise in the organic farming industry began in the 1990s with the USDA’s Organic Food Production Act, which built restrictive standards to ensure uniformity for all producers. One of the most significant barriers for consumers to purchase organic food is distrust in the organic labeling and certification claims (Padel & Foster, 2005). To ease the distrust from consumers, the USDA inspects each aspect of organic farming from the farm to the processor, even the distributors and traders. This, and the increasing market have lead to the amplified consumption of organic products globally. Since 2002, the global market has expanded by 170 percent in 2011 and estimated sales were approximately 63 billion dollars (Willer, Lernoud, & Home, 2013). This research also indicates the demand for organic products mainly appear in two regions: North America and Europe, comprising more than 90 percent of sales. Ultimately, the United States encompasses the single largest organic market.

From 1997 to 2005, the annual growth rate of organic sales in the US averaged 18.4 percent. Although organic sales only represent 2.5 percent of retail food sales, it has increased from .81 percent since 1997 (Klonsky, 2007). The progression of the US

organic market is so great; in fact, that it outperformed the total sales growth of conventionally produced foods by 4.8 percent in 2011 (Haumann, 2013). As the industry grows, however, a reoccurring problem is the lack of supply. The expanding sales growth is a result of high demand, but because of this high demand farmers are struggling to provide an adequate supply (Dimitri & Oberholzter, 2008). To assist in the quickly depleted supply, the government has provided some monetary assistance to improve the organic market. According to the Senate Agriculture, Nutrition, and Forestry Committee, the 2008 Farm Bill funded the organic sector with millions of dollars to expand the market and collect data (Harkin, 2008). Additionally, the recent Farm Bill in 2014 increased the funding by \$35 million hoping to attract more farmers, specifically small-scale producers (USDA, 2014).

Of all the states in the US, Missouri is the 24th largest organic acreage production with a total market value of approximately \$3.8 million in 2007 (USDA, 2007). Additionally found in the Census, almost 36% of Missouri's organic sales occur locally, within 100 miles of the farm in which they were grown. In 2007, three of the top counties for organic sales in Missouri are Audrain, Callaway, and Boone, all of which are within 100 miles from the University of Missouri (See Table 1).

2.3 Use of Organic Foods in the Foodservice Industry

As the organic industry continues to grow, the foodservice industry has responded to increasing consumer demands by offering organic options in restaurants, hospitals, educational institutions and more. In 2006, the United States was among the world leaders of organic dining (Global Industry Analysts, 2006). Further, Americans are

Table 1

Top Missouri Organic Producing Counties

Area	Organic Farms	Acreage	Sales
Audrain*	7	1,352	\$319,000
Pettis*	5	699	\$179,000
Sullivan	9	600	\$164,000
Vernon	10	787	\$149,000
Holt	3	764	\$144,000
McDonald	6	362	\$89,000
Linn	8	584	\$86,000
Lafayette	9	297	\$64,000
Gentry	7	704	\$63,000
Carroll	5	305	\$53,000
Callaway*	9	298	\$29,000
Boone*	10	356	\$28,000
Maries*	7	134	\$13,000
Clinton	12	346	\$4,000

2007 Census of Agriculture

* Within 100 miles of University of Missouri

seeking healthier menu options; in one study around 50% of participants expressed positive feelings toward consuming organic food and beverages in restaurants (Decision Analyst, 2006). Locally grown and organic produce was even considered the hottest menu trend in the coming years according to more than 1600 professional chefs across the country found in a 2008 National Restaurant Association survey.

The use of organic foods in university facilities has also become an increasing trend in the foodservice industry. In 2010, a survey conducted of 138 college and university dining services administrators were more likely to practice other sustainable measures including recycling oils and cardboards than they were to serve organic foods (Chen, Arendt, & Gregoire, 2010). Part of this can be attributed to the higher price for

organic foods. Some colleges have reported an increase in food cost; however, one survey found that only 33 of 146 institutions that responded passed on these cost differences to their customers (Barlett, 2011). However, nearly 53 percent of Americans aged 18 to 29 are seeking out organic foods (Riffkin, 2014). Therefore, more colleges and universities have begun introducing organic products into their dining facilities. Among these colleges are University of California, Berkeley, Yale University, Duke University, and St. Olaf College.

2.4 Factors that Influence Acceptance of Organic Food

There are many factors that influence the acceptance of organic food. The increasing demand for organic food has been attributed to the growing concern for personal health, the environment and genetically modified foods (Chang, Wei, Wei, & Shih, 2007). In addition, health, availability and education positively influence consumers' attitudes toward organic foods (Paul & Rana, 2012). Based on the questionnaire for this study, the factors being measured are price, environmental concerns and ethical practices, taste and perceived healthiness. This section provides a review of literature for each factor and their influence on the acceptance of organic food.

2.4.1 Price

The influence of price is a major factor for most purchase decisions, including organic foods. Because of the rigorous and labor intensive process in producing organic food, the price to produce organic food costs more than conventional foods (Greene, Dimitri, Lin, McBride, Oberholzter, & Smith, 2009). Due to the increase in labor and

production expenses, the price of organic food becomes significantly more than conventional, commercially processed foods. This is a major concern for organic food growers, as they have to fight to remain a competitor in the market.

Although both men and women feel that price has a significant influence on their perceptions of organic food (Beaudreault, 2009), due to the varying results of studies, it can be assumed that consumers vary in their willingness to pay for a higher priced food item (Krystallis, Fotopoulos, & Zotos, 2006; Henryks, Cooksey, & Wright, 2014; Lim, Yong, & Suryadi, 2014). Some consumers are willing to pay more than half of the conventional product price and are willing to buy more organic food if the price were to reduce in the future (Ahmad & Juhdi, 2010). In addition, one study showed that organic food consumers are just as price sensitive as non-organic consumers (Lockie, Lyons, Lawrence, & Mummery, 2002).

However, when environmental friendliness, health, food quality and safety are taken into consideration, consumers are more likely to pay the price premium for organic foods (Angulo, Gil, & Tamburo, 2003; Smed & Jense, 2003; Canavari, Nocella, & Scarpa, 2003). This can be assumed because of the perceived health benefits of consuming organic foods and the consumers' motivation to protect the environment. Thus, the factor of price can be greatly influenced by other factors of organic purchase intentions.

2.4.2 Environmental Concerns and Ethical Practices

Environmental concerns and ethical practice of raising and caring for animals are also important attributes of organic product purchases. Products that are environmentally

friendly are becoming more popular among consumers. Because consumers are more aware about protection of the environment and ethical practices, they take more responsibility in reducing environmental damage by recycling and purchasing more ecologically sound products (Paladino & Baggiere, 2008). The more concerned people are with environmental and animal right issues, the more their attitudes will be influenced by these concerns resulting in them being more likely to consume organic food (Honkanen, Verplanken, & Olsen, 2006; Ahmad *et al*, 2010). Organic users typically attach environmental attributes to their purchase intentions of organic products and seek these benefits from organic foods (Mondelaers, Verbeke, & Huylenbroeck, 2009; Paul *et al*, 2012). Further, the protection of the environment and animal welfare plays an important role in purchasing decisions for more regular consumers of organic foods and adolescents (Aertsens, Verbeke, Mondelaers, & Huylenbroeck, 2009).

2.4.3 Taste

An obvious factor of food choice is taste. For years, taste has played an important role in whether a person chooses to consume an item or not (Pollard, Kirk, & Cade, 2002; Drewnowski, 1997; Carrillo, Varela, Salvador, & Fiszman, 2011). Due to the difference in production of organic foods they are perceived to have a better, fresher taste than conventionally produced foods. This common claim of better taste, however, has been associated with the higher price of organic foods (Hill & Lynchehaun, 2002; Fillion & Arazi, 2002). Additionally, organic food sensory evaluations have yielded inconsistent results. In a sensory study conducted by Fillion *et al* (2002), they found that consumer's preferred organic orange juice over its conventional counterpart. However, they found no

significant difference between organic and conventional milk. Zhao and associates (2007) also found that consumers could not find sensory differences between organic and conventionally grown vegetables. Thus, the better taste claim cannot be considered valid for all organic food categories. Even with the ambiguity from sensory studies, consumers still consider taste an important attribute of organic food consumption (Paul *et al*, 2012; Lockie *et al*, 2002).

2.4.4 Perceived Healthiness

In 1990, nutritional food labels became mandatory in the United States as part of the Labeling and Education Act (NLEA). This law required information on labels regarding nutritional content and standard serving size to effectively evaluate health claims placed on foods. Because organic foods are produced without the use of artificial fertilizers and pesticides, they are perceived as healthier than the alternative conventionally produced foods. As the rise in concern for healthier food options continue consumers are buying more organic food simply for their perceived health benefits (Shepard, Magnuson, & Sjoden, 2005). Health concerns are often found to be the most important factor in motivating organic food purchase (Magnuson, Arvola, Hursti, Aberg, & Sjoden, 2003; Chen, 2007). Unfortunately, there is limited evidence proving that nutrition-related health benefits in humans are attributed to the consumption of organically produced foods (Dangour, Lock, Hayter, Aikenhead, Allen, & Uauy, 2009). Even with the lack of evidence, however, health is still an important motivation for consumer's to purchase organic food products (Ahmad *et al*, 2010; Paul *et al*, 2012; Lim *et al*, 2014).

2.5 College Students as a Target Market

College students are demanding more organic and local options due to their increasing concern with the source and quality of their food (York, 2008). One study showed that younger people are more likely to recognize the organic label and express positive attitudes toward organic foods (Dahm, Samonte, & Shows, 2009); thus, they feel strongly about having organic options available to them. It has also been proven that those who are more educated are more likely to purchase organic food (Keebaugh, Escoffery, Lu, & Marcus, 2011; Dettman, 2009). The younger generations are also not as affected by the higher price because of the environmental responsibility and health consciousness connected with organic food and are more likely to pay a higher price for organic food options. In addition, one study showed that even without previously purchasing or consuming organic products students supported the use of organic products in campus dining facilities and would actually purchase those organic options (Dahm *et al*, 2009).

As the organic market continues to grow, so does the demand for organic food in the college food service industry. Interest in organic food options and environmental responsibility has increased in college students (Dahm *et al*, 2009). Offering organic food options in on-campus dining facilities has become an increasing movement in the U.S. and colleges and universities are trying to respond to these interests. In 2006, more than 4,200 university campuses offered organic food options in their campus dining facilities (Horovitz, 2006). However, because organic food options are relatively more expensive, some universities are hesitant to meet the demand from students.

In order to offset these costs, schools are finding out that either they aren't as costly as assumed or they create ways to reduce costs. Yale created a student-run garden and a composting program on campus (King, 2003) and also has a local purchasing program to bring in more local and organic food options to campus dining facilities (Pino, 2008). University of California – Berkeley found other ways to save so the increasing produce cost didn't affect student meal plan prices (Horovitz, 2006). Also, the C&U Census, which included respondents from 155 colleges across the nation, reported that 92% of colleges purchase some of their food products locally (Schilling, 2014). Thus, universities have responded to the student demands for organic foods. Nevertheless, as the demand continues to grow more colleges and universities should consider offering organic food options in their dining operations.

2.6 Theory of Reasoned Action

Many studies have been conducted using the TRA model for food related issues including consuming genetically engineered foods (Sparks, Shepherd, & Frewer, 1995), schools providing healthier menus (Corney, Eves, Kipps, & Noble, 1998), fast food restaurant consumption (Bagozzi, Wong, Abe, & Bergami, 2014), predicting online grocery buying intention (Hansen, Jensen, & Solgaard, 2004), and more. The Theory of Reasoned Action, developed by Martin Fishbein and Icek Ajzen (1975, 1980), is used in research studies to understand, explain, predict, and influence human behavior. They propose that the consumer's intention is better understood by examining two constructs: one's attitude toward the behavior, and the subjective norms in which they are susceptible

to the influences of those close to them. When measuring those two constructs, however, there are four additional components in effectively using the TRA model.

Belief strength and belief evaluation are two key measurements in determining a consumer's attitude, which is also known as the Summative Model of Attitude (Hale, Householder, & Greene, 2002). The summative model uses three components of attitude: the measurement of importance for the attribute, the content or evaluation of the beliefs and the role of the belief strength. Ultimately, the goal of this model is to determine which beliefs about an object are most prominent in determining one's attitude. Knowing this, we are able to determine the importance of certain attributes that create an alteration in the consumer's behavior toward organic foods.

The subjective norm component is a function of the next two additions: normative belief and motivation to comply with the normative belief. A normative belief can be defined as the perceived expectation of referent others regarding the behavior. Meanwhile, motivation to comply is relative to the pressure the consumer feels for their behavior to match the perceived expectation of their referent others (Hale *et al*, 2002). Using these variables we are able to gain a greater understanding of why an individual engages in specific behaviors.

The constructs of the TRA assist in measuring a person's behavioral intention or willingness to act, which is much simpler to predict than the behavior. In this study, all parts of the TRA model are used to measure acceptance of organic foods: beliefs, subjective norms, intention, behavior and referent others.

2.6.1 Beliefs

Beliefs can be defined in a variety of ways. Ajzen and Fishbein (1975) defined beliefs as “the subjective probability of a relation between the object of the belief and some other object, value, concept, or attribute.” They are the characteristics that aid in determining whether a person’s attitude toward an object or behavior is good or bad. Beliefs are thought to be one of the best indicators of the decisions one will make and links an object to some attribute of that object (Bandura, 1986; Ajzen *et al*, 1975). Beliefs can be formed by direct experience, observation, or implied from an outside source. As one of the constructs of the TRA, the belief variable helps to predict the attitudes consumer’s will have in regards to organic foods.

2.6.2 Subjective Norms

In the TRA model, subjective norm is influenced by the referent others construct. According to the theory, subjective norms are the direct predictors of intentions. Subjective norm is based on the definitions of what is right and wrong according to the participant’s closest friends and family. This construct measures an individual’s perception of what those important people think about the behavior under investigation (Rivera Jr., 2004). Using this component in the proposed model will assist the researchers in understanding what the individual feels that others think they should do in regards to organic food consumption.

2.6.3 Intention

Ajzen defines intention as an indication of a persons' readiness to perform a given behavior, and it can be assumed that intentions are the immediate antecedent of behavior (Ajzen, 1988, 1991; Ajzen, 2006). Intention is ultimately whether an individual decides to engage or not engage in a specific behavior. They also capture the motivational factors that influence a behavior. Thus, how hard an individual is willing to try and how much effort they are planning to exert in order to perform the behavior (Ajzen, 1991); in this case, acceptance of organic foods. The simplest way to determine an individual's intention, according to Ajzen and Fishbein (1975, 1980), is to ask them if they intend on engaging in that behavior.

There are two ways in which an individual's intention to perform a behavior can be presented: choice intention and conditional intention. The first form, choice intention, occurs when a person chooses to engage in a behavior by deciding from a variety of choices which alternative is the most appealing (Liu, 2009; Rivera Jr., 2004). Conditional intention is a person's intention to engage or not based on a set of conditions associated with the behavior and measures the attempt to increase the accuracy of longer range predictions using those outside factors (Adams, 1997; Ajzen *et al*, 1980; Fishbein *et al*, 1975).

2.6.4 Behavior

Behavior is observable acts that are studied in their own right (Fishbein *et al*, 1975). Based on the theoretical framework outlined by Ajzen and Fishbein in the theory of reasoned action (1980), behavioral predictions are a result of the complex interaction

between a set of variables: beliefs, attitudes, referent others, subjective norm and intentions. The relationship between each of these variables is important in determining an individual's behavior.

Behavior can be classified into three categories according to Ajzen and Fishbein (1975). First, behavior is a one time engagement referred to as a single-act behavior. The second classification focuses on the repetition of a single act across a number of experiments. Lastly, the third explanation of behavior states some behaviors may involve multiple acts (Ajzen *et al*, 1975). Any one of these classifications, or a combination of the three, can be used to predict future behaviors given the criteria shares the same four elements of action, target, context and time. When measuring the context of a behavior, it must be done in relation to these four factors, as it is with measuring an individual's intention to perform a behavior (Ajzen *et al*, 1980).

2.6.5 Referent Others

According to Ajzen (1991), referent others are specific individuals who are important to the participants. It has also been defined as others that are close to the subject who impose standards for the behavior in the form of norms or values (Kelley, 1952; Shibutani, 1955). It can be assumed that parents, siblings, and friends are all constituted as referent others (Kagan, 1971). Research has shown that families have the most influence on students' perceptions of organic foods (Beaudreault, 2009) and most consumers come into contact with organic food from recommendations from their families and friends (Lim *et al*, 2014). The construct of referent others aids in predicting the influence of subjective norms on the particular behavior under investigation. The

proposed model for this study includes the construct of referent others to determine if those people important to them influence or alter their intention to consume organic foods.

2.7 Expanded Rational Expectations Model

An expansion of the TRA, the Expanded Rational Expectations Model, was developed by Stephen Sapp to assist in the measurement of consumers' beef consumption behavior (Sapp, 1991). According to Sapp (1991), multi-attribute models assist in furthering our understanding of the role of nutritional knowledge in food choice and the impact it may have on intentions and behaviors. This expanded model includes the additional constructs of social acceptability and knowledge, insinuating that other people's opinions will effect the consumer's perceptions and intentions (Liu, 2009). Social acceptability helps measure the extent to which consumer food choices are driven by opinions, fads, and fashions of the society (Sapp & Harrod, 1989). Also, knowledge is included because a relationship is believed to exist between knowledge, attitude formation, and behavior (Gussow & Contento, 1984). Over time knowledge is acquired implying a possible connection exists between the levels of knowledge consumers have and the decisions they make (Berger & Mitchel, 1989).

2.7.1 Social Acceptability

Social acceptability refers to the extent in which an individual feels the society in which they live would approve of the behavior being investigated (Sapp, 1991); in this case, acceptance and intention to consume organic food. The role of this construct within

the Expanded Rational Expectations model is to help further explain human behavior by focusing on the opinions others have regarding engagement of the behavior when surrounded by referent others in either a public or private setting (Rivera Jr., 2004).

According to Sapp and Harrod (1989), an individual's intention to eat a certain food may be influenced by the individual's evaluation of the social acceptability of consumption of that food. In the same study Sapp and Harrod found that, in fact, college students' food choices are subject to popular opinion (1989). By adding this construct to the proposed model for this study, the researchers are able to gain further insight into social aspects of consumer food behaviors in college students.

2.7.2 Knowledge

Knowledge can be defined as the level of correct or incorrect factual recall an individual displays in relation to the behavior under investigation (Brucks, 1985). As previously stated, knowledge was added as an additional construct to the expanded model because studies have shown an existing relationship between knowledge, attitude formation, and behavior (Gussow *et al*, 1984; Raju, Lonial, & Mangold, 1995). Because of this relationship, the knowledge an individual has obtained regarding the behavior could influence the decisions they make.

Knowledge is an important construct when exploring food product intentions because product information can be stored into memory and affect the overall decision-making process. Consumers can develop product knowledge through experience, search and use of available information (Howard and Sheth, 1969). There are two types of product knowledge: subjective knowledge and objective knowledge. Subjective

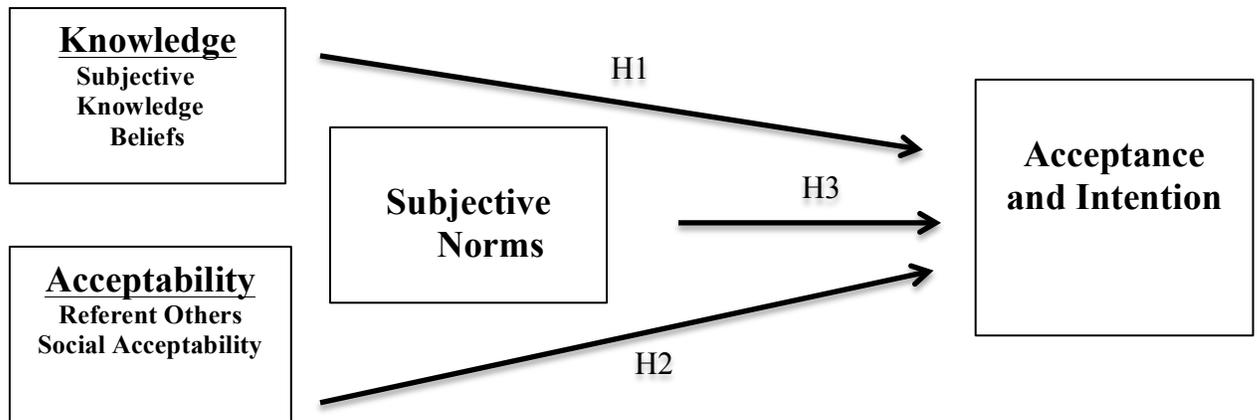
knowledge is based on the consumer's current interpretation of what they already know or what they think they know, while objective knowledge is the amount of recollection an individual retains about the product (Brucks, 1985; Alba & Hutchinson, 1987). For measurement purposes, subjective product knowledge was only included in this study.

2.8 Research Framework

With the understanding of these two theoretical models and their constructs, the diagram in Figure 1 is the proposed model for this study. The model combines some of the constructs for measurement purposes. Knowledge and belief constructs are depicted in the diagram as *knowledge*, because knowledge can be treated as a species of belief (Schwitzgebel, 2015). Also, beliefs are referred to as an individual's knowledge, attitude, or personal feelings (Lumpe, Haney, & Czerniak, 1998). Social acceptability and referent others are also combined into one construct labeled *acceptability*. Together, they measure how an individual believes their actions are altered by the opinions of societal institutions and others (Rivera Jr., 2004). They are both also, with the inclusion of subjective norm, considered to be normative beliefs because they measure the effect of other peoples' opinions on a person's perceptions (Adams, 1997). Finally, the behavior construct was

Figure 1

Proposed Research Framework



combined with the intention construct because the behavior we are exploring is intention and acceptance of organic foods; this was labeled *acceptance and intention*.

As a result of the review of literature and the adaption of the theory of reasoned action and expanded rational expectations model, the following hypotheses were developed:

H1: A significant relationship will exist between knowledge and acceptance of and intention to consume organic foods.

H2: A significant relationship will exist between acceptability and acceptance of and intention to consume organic foods.

H3: A significant relationship will exist between subjective norms and acceptance of and intention to consume organic foods.

2.9 Summary

This chapter reviewed the literature on the increasing organic food market and their use in foodservice settings, along with the importance of college students as a target market. Also included was a brief discussion of theories that may explain how intention to consume and food choices are made. The influential factors in regards to intention to consume organic foods were also discussed.

This chapter was divided into six main sections:

1. Organic food market
2. Organic food in the foodservice industry
3. Influential factors on acceptance of organic food
4. College students as a target market
5. Theory of reasoned action
6. Expanded rational expectations model

The proposed research framework was then presented in the following section.

The hypotheses and research framework were developed as a result of the review of literature.

CHAPTER 3 METHODOLOGY

3.1 Introduction

This chapter discusses the methodology that was utilized to conduct this study. The second section reviews the purposes of the study. Section three presents that research design. In section four the population and sampling techniques are discussed, trailed by the review process required by the Campus Institutional Review Board in section five. Section six presents the instrumentation including discussion of measurement and validity. Data collection procedures are presented in section seven. Conclusively, section eight provides an analysis of the data.

3.2 Purpose of the Study

The purposes of the this study are:

1. To analyze factors influencing acceptance of organic foods.
2. To explore the use of organic products, including but not limited to dairy, produce, meat, and baking ingredients, in a major Midwest University on-campus dining facilities.
3. To describe the demographic characteristics (age, gender, education, environment reared in, living-status on campus, and university meal plans) of the student consumers.

3.3 Research Design

This study utilized an exploratory research design to examine student acceptance of organic food use in on-campus dining facilities. It is an appropriate design since this

method will allow the research to summarize characteristics of the student consumers and measure the significance of knowledge, social acceptability, and subjective norms in regards to the consumer's acceptance and intention to consume organic foods.

3.4 Population and Sampling

3.4.1 Population

The population of this study is college students attending a major university who participate in the campus dining meal program offered by that university in order to eat in on-campus dining facilities. Due to limitations, the accessible population includes students from the agricultural, food, and natural resources department of one major Midwest University. Because the university has enrolled roughly 34,600 students each year for the past four years (2014), it is assumed that the number of student's participating in the campus dining program is approximately 60,000; thus, the population includes all students dining in facilities on campus.

3.4.2 Sample Frame

The sample frame consists of students from the University of Missouri College of Agriculture, Food and Natural Resources (CAFNR). Further, the college is divided into fifteen different departments, each offering a different major. The departments selected for the study were Hospitality Management, Food Science, Agricultural Education and Leadership, and Parks, Recreation, and Tourism. With approval from all faculty and staff within those departments, the survey was distributed to the students in those departments.

3.4.3 Sample

A combination of probabilistic sampling techniques were used, a cluster sampling method was used first to divide members by their department within the College of Agriculture, Food and Natural Resources. Within each selected department cluster, a convenience sample was completed. It is important to reiterate the sample will only include students who participate in the campus dining meal program. The convenience sample of college students will be collected online via an e-mailed questionnaire using techniques derived from Dillman-Tailored research methods.

3.4.4 Sampling Error

To reduce sampling errors all students enrolled within the selected departments were sampled. If the students did not meet the specific criterion (i.e. did not dine in on-campus dining facilities), their questionnaires were not included in the data analysis.

3.4.5 Selection Error and Frame Error

Selection and frame error are reduced for this research study by using the most current student directory from the secretaries of each department. Each directory is updated by the secretaries to reduce the amount of duplicate names or email addresses in the list-serv.

3.5 Institutional Review Board

In order to protect all human subjects involved in research, The University of Missouri and federal regulations requires that all research projects obtain approval before

the research can begin. After submitting an application, The University of Missouri IRB reviewed and accepted the proposal to complete this research project.

3.6 Instrumentation

3.6.1 Description

Dillman Tailored research methods have proven to guarantee at least a 75-80% return rate when followed correctly (Dillman, 2007). The basic principle behind Dillman's survey is repeated contact with respondents to improve response rates. For Internet and online survey's, the typical timing between notice and reminders is shortened, where 8-10 working days is sufficient time for the respondent. There was up to three contacts with the respondents that include the survey itself, a thank you for responding or requesting that they respond soon and a final contact repeating the second, if necessary. In addition, it is important to personalize the emails sent to respondents as it is supported the more personable you are with your respondents, the more likely they are to complete the survey (Dillman, 2007).

Specific principle guidelines for creating a web survey are applied to this survey to reduce the amount of unanswered questions to limit the amount of error. Using a modified version of Dr. Ming Liu's survey, an online questionnaire has been developed that consists of five different evaluative sections:

- The beliefs and subjective knowledge of the student consumer,
- The social acceptability and influence of referent others on student intention to consume and accept organic food,

- Subjective norms influencing student intention to consume and accept organic food,
- The acceptance and intention of the student consumer, and
- Identifying the demographics of the student consumers.

3.6.2 Measurement

The beliefs, subjective knowledge, social acceptability, influence of referent others and subjective norm questions will consist of statements measure on a 7-point Likert scale, “1 = strongly disagree to 7 = strongly agree”. Demographic questions are multiple choice/multiple selection where the student can respond accordingly.

Furthermore, the questionnaire was created using a database (Qualtrics) in order to keep data private and the identity of the participants anonymous.

3.6.3 Validity

The questionnaire was already valid due to its use in Dr. Ming Liu’s survey, where they established validity using Cronbach’s coefficient alpha and the factor analysis (Liu, 2009). Because a few changes were made to the survey, it was important to re-establish validity of the questionnaire In order to establish validity, a panel of experts consisting of four scholars, was utilized to evaluate the questionnaire. Face and content validity were reached through the expert’s knowledge in the hospitality industry, previous research experience and a statistical background. In addition, Cronbach’s alpha coefficient was tested post-test. After reviewing the questionnaire, the experts provided recommendations to improve the understanding of the questions and to ensure they were

correctly measuring the evaluative sections. Moreover, corrections were made and the survey revision process was completed.

3.7 Data Collection

The participants were contacted through the departmental listserv from the secretary of the department. The email content was provided by the researcher to ensure exactness and that each participant received the same email. The survey was conducted using the Qualtrics system provided by the university. Qualtrics provides an individual web link for each participant to reduce the possibility of duplicated responses and further decreases the likelihood the email was sent to the junk-mail inbox. Online questionnaires are becoming a new trend due to its lower cost and a quicker response rate (Ilieva, Baron, & Healey, 2002).

The email that participants received extended a personal invitation for the student to be included in the study. Included in the invitation was a brief explanation of the study, contact information to resolve any questions or concerns, an explanation of anonymity, the ability to opt-out, and an incentive for participating individuals. To decrease any risk associated with the study, all responses were kept anonymous keeping names, emails, IP addresses, or tracking numbers independent from responses. When the respondent accepted the invitation and clicked the individual web link provided to them, their browser was redirected to the questionnaire where instructions are provided.

Those who chose to participate in the study were offered an incentive; even if they did not complete the survey, as long as it was started the individual was still eligible to win the incentive. Once the questionnaire was completed, the participant was then

redirected to another website where they were provided the option to be entered into the drawing by providing their personal information including name, email address, and mailing address. The information collected from the incentive drawing on the second website was not linked to the first one to eliminate any possibility of identification; further, protecting the anonymity of the participants. Reasons for offering the incentive were to increase and encourage responses to the questionnaire, and to show appreciation for the individual's participation in the study. Response rates for online questionnaires when an incentive is offered are between 17-25%, with higher response rates corresponding to shorter questionnaires (Duetskens, Ruyter, Wetzels, & Oosterveld, 2004).

The total number of individuals that were contacted was approximately 1,105. The questionnaire was available from April 13, 2015 through May 11, 2015. On April 13th, the first email was sent to Hospitality Management and Food Science students, with a follow-up email sent a week after. This second reminder e-mail was repeated for all departments. Agricultural Education and Leadership students were contacted on April 27th, followed by Parks, Rec, and Tourism students on April 29th. There were 213 questionnaires that were completed, but only 80 of the responses could be utilized. 116 of the questionnaires were eliminated based upon the student not participating in the campus dining meal program, while the remaining 17 were eliminated due to incompleteness. This equivocates to a 19.3% overall response rate, with a 7.2% usable response rate.

3.8 Data Analysis

The data analysis of the study followed the following statistical procedures; SPSS 22.0 was utilized to complete the tasks. Approximately 1,105 students were reached through the departmental listservs. The number may vary slightly if a student has dual enrollment of the departments selected, however, the Qualtrics software eliminates the chances of dual responses so the sample is still valid. Questionnaires were eliminated based upon incompleteness and lack of participation in the campus dining meal program. The remaining responses ($n = 80$) are then analyzed first by descriptive statistics to describe the socio-demographic characteristics of the respondents. Further, descriptive statistics were used to describe the organic food preferences of the student respondents. The analysis included mode values and mean values that resulted in a ranking of organic preferences based on willingness to pay increased price, intention to consume if offered in dining facilities, and importance of offering organic food options.

Also in the analysis is a description of the data including mean and standard deviation scores, as well as Cronbach's alpha for each group of variables. Each variable was treated like a psychological construct that consisted of 3-7 questions that are then averaged; thus calculating a grand mean to measure each variable. Finally, a step-wise regression was calculated to test the hypotheses. Using a step-wise regression will provide the researchers with the variables that contribute most to the prediction of the dependent variable.

3.9 Summary

This chapter discussed the methodology that was utilized to conduct this study. The second section of the chapter reviewed the purposes of the study. Section three presented the research design. The fourth section discussed the population and sampling techniques, including sample and selection error. Section five discussed the review process required by the Campus Institutional Review Board, followed by the explanation of instrumentation in section six. The seventh section presented the data collection procedures used. Lastly, section eight discussed the statistical procedures adopted for data analysis.

CHAPTER 4 RESULTS

4.1 Introduction

This chapter discusses the statistical analysis of the data. The socio-demographic characteristics are presented in the second section of this chapter, followed by the respondent's organic food preferences in section three. Factors that effect college student's intention to consume organic foods are addressed in section four. Lastly, the fifth section tests the hypotheses and includes results from step-wise regression tests.

4.2 Socio-Demographic Characteristics of Subjects

Research objective one was proposed to describe the socio-demographic characteristics (age, gender, education, ethnicity, environment reared in, living-status, financial dependency) of the college student consumers.

As table 2 shows, of the respondents 72.5% ($n = 58$) were female and 27.5% ($n = 22$) were male. Of them, 28.7% ($n = 23$) were 22 years of age or above, 20% ($n = 16$) were 21 years old, 18.8% ($n = 15$) were 20 years old, 21.3% ($n = 17$) were 19 years old, and 11.2% ($n = 9$) were 18 years of age. In regards to education, 26.3% ($n = 21$) were freshmen, 15% ($n = 12$) were sophomores, 26.3% ($n = 21$) were juniors, 18.8% ($n = 15$) were seniors and 13.8% ($n = 11$) were graduate students. The majority of the respondents, 85% ($n = 68$) were Caucasian, 10% ($n = 8$) were Asian/Pacific Islander, 2.5% ($n = 2$) were African-American, 1.25% ($n = 1$) were Hispanic and the remaining 1.25% ($n = 1$) were other.

Table 2

Socio-Demographic Characteristics of Respondents

Characteristic	<i>n</i>	%	Mode
Gender			Female
Male	22	27.5	
Female	58	72.5	
Age			22+ years
18	9	11.3	
19	17	21.3	
20	15	18.8	
21	16	20.0	
22+	23	28.7	
Education			Freshman/Junior
Freshman	21	26.3	
Sophomore	12	15.0	
Junior	21	26.3	
Senior	15	18.8	
Graduate	11	13.8	
Ethnicity			Caucasian
Caucasian	68	85	
African-American	2	2.5	
Asian	8	10.0	
Hispanic	1	1.25	
Other	1	1.25	
Financially Dependent			Yes
Yes	55	68.8	
No	25	31.2	
Live on Campus			No
Yes	32	40.0	
No	48	60.0	
Environment Reared In			Suburban
Suburban	45	56.3	
Urban	16	20.0	
Rural	32	40.0	

**n* = 80

Also shown in table 2, over half of the respondents, 56.3% ($n = 45$) were reared in a suburban environment, followed by 40% ($n = 32$) in a rural environment and 20% ($n = 16$) in an urban environment. It's important to note, the students were allowed to select more than one option for this question; thus the total is greater than 100%. In regards to living status, 60% ($n = 48$) do not live on campus and the remaining 40% ($n = 32$) do live on campus. Interestingly, 68.8% ($n = 55$) of students are financially dependent on their parents, where 31.2% ($n = 25$) are not.

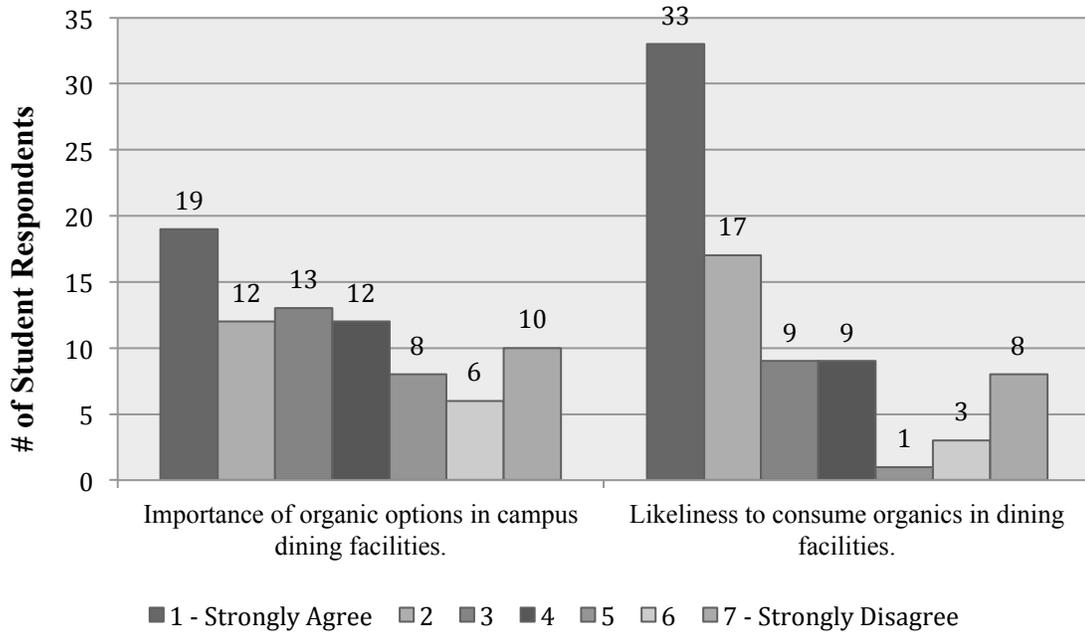
4.3 Organic Food Preferences of Students

Objective two sought to describe organic food preferences of college students. Figure 2 illustrates an overview of respondents organic food preferences. The participants were asked if they had ever consumed organic food. Of the respondents, 85% ($n = 68$) have consumed organic foods and 15% ($n = 12$) have not. They were also asked whether they would like to see more organic food options on campus. 58.8% of the respondents ($n = 47$) would like to see more organic food options, while 32.5% ($n = 26$) had no preference and 8.8% ($n = 7$) would not like more organic options on campus.

In regards to importance of offering organic food in dining facilities, the respondents were given a 7-point Likert scale to rate the strength of their belief. Figure # illustrates an overview of respondents organic food preferences. The mean of the responses ($n = 80$) was 3.45; thus, offering organic food in dining facilities is relatively important to the students. In addition, students were asked how likely they would be to consume organic food if it was offered in dining facilities on campus. A majority of the respondents were likely to consume the organic food options. On a 7-point Likert scale

Figure 2

Organic Food Preferences of Students



the mean of the responses ($n = 80$) was 2.61 where 41.3% of the respondents ($n = 33$) strongly agreed and 32.6% ($n = 28$) agreed.

In regards to past behavior, few college students consume organic food in a foodservice setting (i.e. restaurants) where 66.4% ($n = 53$) have not consumed any or very little, and the remaining 33.8% ($n = 27$) have consumed some or a lot. The statistics are different, however, in a non-foodservice setting (i.e. at home) where only 48.1% ($n = 38$) have not consumed any or very little and the remaining 51.9% ($n = 42$) have consumed some or a lot.

4.4 Factors that Influence College Students' Acceptance of Organic Food

Objective three of the study is to identify factors that influence college student's acceptance of and intention to consume organic foods. This section reports the mean, standard deviation and Cronbach's alpha coefficient of each variable measured in the survey including subjective knowledge, belief strength, belief evaluation, referent others strength and motivation to comply, social acceptability strength and motivation to comply, subjective norms and intention. However, because the alpha value of subjective knowledge did not reach above .650 it is not included.

As shown in table 3, beliefs strength group mean score was 3.33, indicating a positive influence on college student's intention to consume organic food products. Beliefs strength mean score regarding freshness (2.69), ethical (3.05), healthiness (3.14), taste (3.15) and having organic options on campus (3.45) of organic food products were higher on a scale range from 1-7; while beliefs strength means scores of environmentally friendliness (3.85) and price (3.99) were lower. Beliefs evaluation group mean score was 2.10, indicating college students are favorable toward organic food products. All belief evaluation mean scores were high, except for price (4.70); thus indicating college students are not in favor of the higher price of organic foods.

The referent others groups mean scores of strength (3.58) and motivation to comply (4.04) denote the influence of those important individuals on college students' intention to consume organic food is low. Of the important individuals measured (parents, closest sibling, and best friend) parents had the highest mean score for strength (4.20) and motivation to comply (3.41), indicating college students decisions are mostly influenced by their parents, however, their families are not favorable toward organic

foods. The social acceptability group mean scores for strength and motivation to comply were 3.58 and 5.08, indicating college students' intention to consume organic food is not strongly influenced by societal opinions and fads. College students indicate that society is favorable toward organic food, however, their decisions based on organic food are not influenced by society. The results show that if they were to be influenced by society it would be mostly from environmental groups (4.84) or the media (4.85). In regards to strength, college students believe environmental groups (2.45), celebrities (3.18) and the media (3.25) are the most favorable toward organic food; whereas government agencies (4.04), most people (4.24) and their university (4.34) are the least favorable.

Subjective norm mean score was 4.68, demonstrating a relatively low influence on college students' intention to consume organic foods.

4.5 Testing the Hypotheses

Chapter 1 presented research objective 4 which sought to examine the relationships between factors that influence college student's acceptance of and intention to consume organic foods (Hypotheses 1, 2, & 3). In this section, a step-wise regression test was used to address the research objectives and test the hypotheses. Results are shown in table 4.

Results showed that in the first step belief strength was a significant predictor of intention ($F(1, 78) = 127.69; p < .01$). The multiple correlation coefficient was .788, indicating that 62.1% of the variance of intention to consume organic food could be accounted for by belief strengths. In the second step referent others strength was also

Table 3

Summary Means and Standard Deviations of the Variables

Construct/Question	Mean	Standard Deviation	Cronbach's Alpha
Belief - <i>Strength</i>	3.33	1.708	.950
Freshness	2.69	1.79	
Taste	3.15	2.001	
Healthy	3.14	1.791	
Environmentally Friendly	3.85	1.956	
Ethical	3.05	1.909	
Having Organic Options on Campus	3.45	2.043	
Price	3.99	2.126	
Belief - <i>Evaluation</i>	2.10	.666	.670
Freshness	1.89	1.283	
Taste	1.24	.716	
Healthy	1.35	.769	
Environmentally Friendly	1.53	.849	
Ethical	1.65	1.069	
Having Organic Options on Campus	2.34	1.567	
Price	4.70	1.504	
Referent Other - <i>Strength</i>	4.59	1.834	.925
Parents	4.20	2.065	
Closest Sibling	4.84	1.945	
Best Friend	4.73	1.889	
Referent Other - <i>Motivation to Comply</i>	4.04	1.440	.772
Parents	3.41	1.628	
Closest Sibling	4.18	1.854	
Best Friend	4.52	1.721	
Social Acceptability - <i>Strength</i>	3.58	1.325	.873
Media	3.25	1.747	
Environmental Groups	2.45	1.404	
University	4.34	1.653	
Government Agencies	4.04	1.824	
Celebrities	3.18	1.712	
Most People	4.24	1.827	
Social Acceptability - <i>Motivation to Comply</i>	5.08	1.750	.950
Media	4.85	2.044	
Environmental Groups	4.84	2.003	
University	5.05	1.993	
Government Agencies	5.21	1.921	
Celebrities	5.30	1.958	
Most People	5.23	1.821	

Construct/Question	Mean	Standard Deviation	Cronbach's Alpha
Subjective Norm	4.68	1.428	.755
Most People Think I Should	4.44	1.683	
Most People Consume	4.93	1.499	
Intention	2.87	1.841	.932
Intention	3.45	2.018	
Willingness	2.54	1.902	
Planning on Campus	2.61	1.965	

*Scale of all measures

found to be a predictor of intention ($F(2, 77) = 70.50; p < .05$). The multiple correlation coefficient was increased slightly with a value of .804, indicating that 64.7% of the variance of intention to consume organic food could be accounted for by belief strengths and referent others strength; thus, 1.9% of the variance can be accounted for by referent others strength. Belief evaluation ($t = 1.807, p > .05$), referent others motivation to comply ($t = .476, p > .05$), social acceptability strength ($t = -.451, p > .05$), social acceptability motivation to comply ($t = -.384, p > .05$) and subjective norms ($t = .702, p > .05$) scores did not enter into the equation at step 2 of the analysis; thus, they did not add anything statistically meaningful to the regression.

4.6 Summary

This chapter presented the statistical analysis of the data. The socio-demographic characteristics are presented in the second section of this chapter. The organic food preferences of college students, including the mode of the respondents was included in section three. The fourth section summarized the factors that influence college student's acceptance of organic foods and included the mean and standard deviations of each variable. Lastly, the fifth section tests the hypotheses and included results from multiple one-way analysis of variance tests and linear regression.

Table 4

Step-Wise Regression Results

Variable	B	t	Sig.
Belief Strength	.642	7.019	.000*
Belief Evaluation	.185	1.807	.075
Referent Other Strength	.218	2.381	.020**
Referent Other Motivation to Comply	.037	.476	.636
Social Acceptability Strength	-.036	-.451	.653
Social Acceptability Motivation to Comply	-.035	-.384	.702
Subjective Norms	.088	.702	.485

n = 80

p* < .01, *p* < .05

CHAPTER 5 DISCUSSION

5.1 Introduction

This chapter includes the discussion, implications and limitations of the study. The findings of the study are divided into two main sections: organic food preferences of the students and the factors influencing their intention to consume organic foods, and testing the model. Industry and academic implications and recommendations are developed from the discussion of the results, presented in section three and four. Finally, the limitations of the study are revealed in section five.

5.2 Conclusion

5.2.1 Socio-Demographic Profile of College Student Consumers

The findings of the research provided a glimpse of the socio-demographic profile of the college student consumers who participate in on-campus meal programs in order to dine in university operated facilities. As the results indicate, the typical student consumer is female, 22 years of age or older, is currently enrolled in their freshman year of college, was reared in a suburban environment, does not live on campus, and is financially dependent on their parents.

5.2.2 Organic Food Preferences and Influencing Factors

The research showed that a majority of the students have consumed organic food at least once in their lifetime, mostly in a non-foodservice setting. They believe it is relatively important to offer organic food and over half would like to see more organic

food options offered on campus. In the result organic food is offered on campus, the students are likely to consume those options.

The factors that influence student's acceptance of and intention to consume organic food were measured. According to the results, college students believe eating organic food makes their diet tastier and healthier. They also believe eating organic food supports a better environment and an ethical practice of raising animals. In addition, students believe eating organic food adds fresh, unchanged food to their diet. For all of these factors, their intention was positively influenced. Price is one factor that the students were most unfavorable of; thus, they are negatively influenced by price and are not willing to pay the higher price for organic foods.

Further, college student's intention to consume organic food is not influenced by referent others or social acceptability. The students indicate their parents have the most influence on their decisions, however, not enough to alter their intention to consume organic foods. The results also showed that if the student's decision to consume organic food were influenced by society it would be from environmental groups and/or the media, however, scores were even lower than parents.

Lastly, subjective norms had a relatively low influence on college student's intention to consume organic foods.

5.2.3 Testing the Model

Table 5 is a summary of the hypotheses on whether or not it was supported. Overall, two of the three main hypotheses were supported but only for specific variables included in the model. Hypothesis 1, which stated that knowledge will have a significant

Table 5

Summary of Hypotheses Test

Hypothesis	Supported
H1 Knowledge will have a significant effect on intention to consume organic foods.	YES
H1.1 Beliefs strength will have a significant effect on intention.*	YES
H1.2 Beliefs evaluation will have a significant effect on intention.*	NO
H2 Acceptability will have a significant effect on intention to consume organic foods.	YES
H2.1 Referent others strength will have a significant effect on intention to consume organic foods.*	YES
H2.2 Referent others motivation to comply will have a significant effect on intention to consume organic foods.*	NO
H2.3 Social acceptability strength will have a significant effect on intention to consume organic foods.*	NO
H2.2 Social acceptability motivation to comply will have a significant effect on intention to consume organic foods.*	NO
H3 Subjective norms will have a significant effect on intention to consume organic foods.	NO

* Modifications made to test each component by it's individual variables

effect on acceptance of and intention to consume organic foods, was supported by the significance of the beliefs strength variable. Hypothesis 2, which stated that acceptability will have a significant effect on acceptance of and intention to consume organic foods, was supported by the significance of the referent others strength variable. The last hypothesis, which stated that subjective norms will have a significant effect on acceptance of and intention to consume organic foods, was not supported.

5.3 Implications

5.3.1 Understanding College Students' Organic Consumption

The literature has proven that college students are a prime target market for organic food given their increasing concern for healthier options and positive attitudes toward organics. Results from this study showed similar findings, as the students believe it is important to offer organic food in dining facilities and a majority of them would like to have organic food options on campus.

Also in the literature, many factors were addressed that influence student consumption of organic foods. Results showed that students' are positively influenced by taste, health, environmental concerns and ethical practices, however, are not willing to pay a higher price for organic foods. Further, their parents have the most influence on their decisions, but the influence is not strong enough to alter their intention to consume organic foods.

Based on the proposed framework for this study, there were parts of the Theory of Reasoned Action and Expanded Rational Expectations Model that were supported by this study, however, not all constructs could be supported. After combining variables to create new constructs, results showed that a significant relationship exists between knowledge and intention, and acceptability and intention. Upon separation of the variables, it is apparent that beliefs and referent others are the two variables that contributed significant influence on the students' intention to consume organic foods; thus, supporting those two constructs of the Theory of Reasoned Action.

5.3.2 Local Farmers and Universities

With the increasing organic acreage and ever growing market, it is in the interest of farmers to make connections with local businesses. Not only will it improve the overall local economy, but travel expenses and the potential of decaying product are decreased as well. Almost half of Missouri's organic sales occur locally, within 100 miles of the farm in which they are grown. Many of the top organic producing counties in Missouri are within 100 miles of the university; therefore, it is a very large business that has yet to make any connections with local organic farmers.

From the results it is apparent that students are interested in having organic options in campus dining facilities and would eat them if they were offered. Their intention is mostly effected by their beliefs regarding organic foods, but is also effected by those important to them and what those people think about consuming organic foods. Although price was a factor that the students did not agree on, most of the students are financially dependent on their parents so the increased costs would only indirectly effect them.

The first step for the university toward making a major impact in organic purchasing would be to adopt a set of purchasing goals and guidelines. Colleges and universities across the nation have found ways to offset the increasing costs; some have even found that the costs were manageable and did not increase the meal plan price for students. Due to the interest of the students, it is recommended that the university search for local, organic options to serve in the dining facilities. Start small by looking into purchasing a few organic items and work forward from there. Currently the university

purchases some products locally, so my suggestion is to expand the local purchasing initiative to organic farms as well.

5.4 Recommendations for Future Study

Future studies may seek to acquire a more diverse sample frame, including all colleges within the university, in an attempt to increase the response rate. By allotting more time, it is suggested to collect the data in person by standing near the dining facilities rather than collecting the data via email, also to help increase the response rate. A future study may also seek to acquire responses from university staff and employees who dine in campus facilities to provide valuable insight for overall organic demand on campus.

This study only briefly addressed each belief factor (price, health, taste, etc.). Future studies may seek to investigate these factors further to better understand how each factor effects students overall intention to consume organic foods. Also, the results showed that student's intention was not effected by societal opinions, fads and fashions. Therefore, future studies should look further into referent others and which people effect their intention the most whether it is parents, friends, siblings, or other.

Further research in this topic area can help increase the limited body of knowledge and to further success in the industry. Purchasing local organic food options is beneficial for the people in the community, the environment, and the local economy. Not only will the findings be beneficial for the local economy and the organic market, but also for the hospitality industry as well, allowing for the billion-dollar industry to prosper.

5.5 Limitations

This study made contributions to the hospitality industry; more specifically findings were found in regards to organic foods, but suffered from a few limitations. The questionnaire was distributed electronically to 1,105 with only 213 completing the questionnaire. Of the 213 questionnaires submitted, only 80 of the responses could be utilized; 116 of the questionnaires were eliminated based upon the student not participating in the campus dining meal program, while the remaining 17 were eliminated due to incompleteness. Also, the sample frame of the study only included a few departments from one college within the university. The specific sample frame did not allow for a diverse sample across all of the colleges in the university and ultimately limited the number of responses possible. A small response rate is one of the major limitations of the study.

Another limitation of the study was the question that asked respondents what year in college they were. The respondents were given five responses to choose from: freshman, sophomore, junior, senior, graduate student. Given that the majority of the students were age 22 or older, it does not seem probable that the majority of the students would be freshmen. The question may have been confusing for the respondents, so the results may not be a direct reflection of the age and education level of the students.

APPENDIX A

Invitation Email to Participants

Good afternoon,

My name is Cassandra Robbins; I am a Master's candidate in the Food Science - Hospitality Management department at The University of Missouri. My current research is exploring student acceptance of organic food in university dining facilities.

You have been selected to participate in a quick, 10-minute survey regarding your opinion on organic foods. Your participation is voluntary. Further, we will not be collecting any identifiers with the survey so your identity will remain anonymous.

After completion of the study, you can provide your information to be entered into a drawing for one of many **\$25 Visa Gift Cards!!** Winners will be notified at the end of the data collection period.

Thank you in advance for your help. Have a great day!

Cassandra Robbins
Graduate Assistant
University of Missouri Food Science - Hospitality Management
cjrn83@mail.missouri.edu

https://missouri.qualtrics.com/SE/?SID=SV_8Agfon1Tmgofyt

Project Number: 2001743

If you have questions or comments regarding this study or about your rights as a participant in this study, please do not hesitate to contact James Groves (phone: 573-884-7816; email: grovesj@missouri.edu) or Cassandra Robbins (phone: 785-424-3456; email: cjrn83@mail.missouri.edu). If you have any concerns about your rights in this study, you may contact the University of Missouri IRB at 573-882-9585 or email umcresearchcirb@missouri.edu.

Questionnaire for College Students

Project Number: 2001743

Researchers:

Dr. James Groves, Associate Professor

Cassandra Robbins, M.S. Food Science candidate, Research Assistant

We are asking you to participate in a research survey on organic foods in campus dining facilities. With the increasing demand for organic foods, the current trend is introducing organic products in school foodservice systems. If you chose to participate, you will be asked questions regarding your beliefs, consumption, and preference of organic foods. The survey will take about 10 minutes. Participation is voluntary.

We will not be collecting any identifiers with the survey. **If you are interested in being entered into a drawing for one of several \$25 Visa gift cards there will be a place for your contact information but it will not be associated with your responses.**

If you have questions or comments regarding this study or about your rights as a participant in this study, please do not hesitate to contact James Groves (phone: 573-884-7816; email: grovesj@missouri.edu) or Cassandra Robbins (phone: 785-424-3456; email: cjr83@mail.missouri.edu). If you have any concerns about your rights in this study, you may contact the University of Missouri IRB at 573-882-9585 or email umcresearchcibrb@missouri.edu.

Thank you for your participation in this study.

Please note:

The purpose of this study is to explore acceptance of organic foods. There is **no intention** of the university to introduce organic foods in the dining facilities. This study is completely independent from campus dining and in no way reflects the opinions or attitudes of the campus dining staff. Thank you for your understanding.

The study will begin on the next page.

Do you currently dine in university dining facilities?

Yes No

How many meals do you eat a week in a university dining facility?

Do you live on campus?

Yes No

I have eaten organic food before.

Note: Organic is defined as growing, handling, and processing food without the use of artificial pesticides, fertilizers, genetic engineering and modification, antibiotics, hormones, and irradiation.

Yes No

Choose the circle that best indicates your opinion.

	Extremely Good						Extremely Bad
Eating fresh, unchanged food is:	<input type="radio"/>						
Eating tasty food is:	<input type="radio"/>						
Eating healthier food is:	<input type="radio"/>						
Being environmentally friendly is:	<input type="radio"/>						
Supporting ethical practice of raising animals is:	<input type="radio"/>						
Having organic food options on campus is:	<input type="radio"/>						
The price of organic food compared to conventional food is:	<input type="radio"/>						

Choose the circle that best represents your opinion.

Note: Expert is defined as one who is very knowledgeable of the topic.

	Strongly Agree						Strongly Disagree
I do not feel very knowledgeable about organic food.	<input type="radio"/>						
Among my circle of friends, I am one of the "experts" on organic food.	<input type="radio"/>						
Most people whose opinions I value think I should consume organic food.	<input type="radio"/>						
Most people who are important to me consume organic food.	<input type="radio"/>						

Choose the circle that best represents your opinion.

	Strongly Agree						Strongly Disagree
By eating organic food I am adding fresh, unchanged food to my diet.	<input type="radio"/>						
My eating organic food makes my diet healthier.	<input type="radio"/>						
My eating organic food supports ethical practice of raising animals.	<input type="radio"/>						
My eating organic food makes my diet tastier.	<input type="radio"/>						
My eating organic food supports a better environment.	<input type="radio"/>						
I am willing to pay more for organic food options over conventional foods.	<input type="radio"/>						
It is important to me that organic food options are offered in the dining facilities.	<input type="radio"/>						

Choose the circle that best represents your opinion.

	Strongly Agree						Strongly Disagree
My parents think I should consume organic food.	<input type="radio"/>						
My closest sibling thinks I should consume organic food.	<input type="radio"/>						
My best friend thinks I should consume organic food.	<input type="radio"/>						
Generally, I do what my parents think I should do.	<input type="radio"/>						
Generally, I do what my closest sibling thinks I should do.	<input type="radio"/>						
Generally, I do what my best friend thinks I should do.	<input type="radio"/>						

Choose the circle that best represents your opinion.

	Not At All						Frequently
In the past six months, how frequently have you consumed organic food at food service settings? (Restaurants, Dining Halls, etc.)	<input type="radio"/>						
In the past six months, how frequently have you consumed organic food at non-foodservice settings? (At Home, Grocery Stores, etc.)	<input type="radio"/>						

Choose the circle that best represents your opinion.

	Strongly Agree						Strongly Disagree
I intend to consume organic food in the next month.	<input type="radio"/>						
During the next month, I would be willing to eat organic food.	<input type="radio"/>						
If organic food options were offered in the dining facilities, I would eat them.	<input type="radio"/>						

Choose the circle that best represents your opinion.

	Strongly Agree						Strongly Disagree
The media conveys that I should consume organic food.	<input type="radio"/>						
Environmental groups advocate that I should consume organic food.	<input type="radio"/>						
The University community conveys I should consume organic food.	<input type="radio"/>						
Government agencies convey that I should consume organic food.	<input type="radio"/>						
Celebrities convey that I should consume organic food.	<input type="radio"/>						
Most people indicate that I should consume organic food.	<input type="radio"/>						

Choose the circle that best represents your opinion.

	Strongly Agree						Strongly Disagree
The media influences the amount of organic food I consume.	<input type="radio"/>						
Environmental groups influence the amount of organic food I consume.	<input type="radio"/>						
The University community influences the amount of organic food I consume.	<input type="radio"/>						
Government agencies influence the amount of organic food I consume.	<input type="radio"/>						
Celebrities influence the amount of organic food I consume.	<input type="radio"/>						
The opinions of most people influence the amount of organic food I consume.	<input type="radio"/>						

My gender is:

Male Female

My age is:

18 19 20 21 22+

My ethnic origin is:

White/Caucasian African-American American Indian
Asian or Pacific Islander Hispanic Other

What environment did you grow up in? (Click all that apply).

Rural Suburban Urban

What year in college are you?

Freshman Sophomore Junior Senior Graduate Student

I depend on my parents financially.

Yes No

Would you like to see more organic food options on campus?

Yes No I have no preference

How satisfied are you with current food options on campus?

0 1 2 3 4 5 6 7 8 9 10

Your response has been recorded. My team and I would like to thank you for participating in this study. Upon the completion of the data collection period, the winners of the gift cards will be notified. Thank you!

*Dr. James Groves
Advisor
Assistant Professor
University of Missouri
Hospitality Management*

*Cassandra Robbins
Graduate Student
University of Missouri
Hospitality Management*

Incentive Questionnaire

Enter to win a \$25 Visa Gift Card!

Please provide your full name.

Please provide your e-mail address.

Please provide your address (Street, apt #, city, state, zip)

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