

**LOCALLY PRODUCED FOOD PURCHASING THROUGH RETAIL GROCERY
CHANNELS: AN EVALUATION OF RELEVANT CUSTOMER AND STORE
ENVIRONMENT ATTRIBUTES**

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ABSTRACT

The study examines the phenomenon of purchasing locally produced foods in retail grocery stores. Theoretical foundations from the theory of planned behavior and from the stimulus-organism-response framework were used to support and test a model that hypothesized relationships between attitude, subjective norms, perceived consumer effectiveness, perceived product availability, intention to purchase, store atmospheric responsiveness, price consciousness, and extent of purchase behavior in a retail grocery setting.

An online survey methodology was used to collect 600 responses across the United States. A two-step approach to structural equation modeling was used to test the relationships. Confirmatory factor analysis with measurement model development supported the hypotheses of store atmospheric responsiveness as a multidimensional construct reflected in four specific dimensions (1) product assortment responsiveness, (2) display factors responsiveness, (3) customer service responsiveness, and (4) store promotions responsiveness. The construct of perceived consumer effectiveness (PCE) was found to highly correlate with attitude and PCE was subsequently dropped as an independent latent construct.

Results from analysis of the fitted structural model indicated that attitude and perceived product availability were significant positive indicators of intention to purchase, while subjective norms indicated a significant negative relationship to intention to purchase. A significant positive direct effect between intention to purchase and extent of purchase and a significant positive indirect effect through that of store atmospheric responsiveness was found, suggesting that store atmospheric responsiveness partially mediates the relationship. Consumer price consciousness was found to not significantly moderate the relationship between intention to purchase and extent of purchase. From the results, academic and managerial implications were

suggested. For future research directions, four distinct categories emerged; they included (1) a focus on store atmospherics, specifically store atmospheric responsiveness when shopping for locally produced foods, (2) analysis of group differences between shoppers of locally produced foods, (3) category analysis of locally produced food items, and (4) research on the pricing of locally produced foods.

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CHAPTER I INTRODUCTION

The past two decades have seen an increased focus by consumers on social issues relating to consumption. Books such as *An Inconvenient Truth* by Albert Gore (2006) suggested the continued need for a “green” movement by society in a number of different contexts. These contexts include factors relating to climate change, sustainable business practices, and the importance of environmental stewardship by businesses and individuals. With this focus in mind, changes in product choice (Rolfes, 2009; Binkley, 2009), a focus on the importance of food safety and climate change issues (Pirog & Rasmussen, 2008), and an increased awareness of the distance food travels from production to consumption (Weber & Matthews, 2008) have all contributed to consumers demand for more ecologically and sustainably produced items, particularly within the food and grocery segment. Norberg-Hodge, Merrifield, and Gorelick (2002) argue that “awareness is steadily growing that global food is altogether too costly – to our health and that of our children, to the environment, and to local economies everywhere” (pp.2-3).

Understanding Sustainable Food Products

The concept of sustainable food products can often mean various things to different consumers. As noted by Guptill and Wilkins (2002), “Whole health products, nutraceuticals, organic foods, natural body care products, and vitamin, mineral, and/or herbal supplements are now taken quite seriously by the conventional grocery industry” (p.42). Vermeir and Verbeke (2008) noted that consumers have a more favorable attitude toward organic foods than similar conventional products, citing taste, quality, safety, and health impact. Similarly, they also found that locally grown food products created positive images of freshness, quality, and regional

economic support in the minds of consumers. Crane (2001) suggested that consumers also consider terms such as fair trade, animal friendly, and environmentally friendly as important identifiers of sustainable products.

Sustainable food issues are continuing to be a major concern for farmers, particularly as the number of small farms disappear and give way to larger multinational corporations. Lyson (2007) noted that, in terms of size and scope, “the ten largest U.S. based multinational corporations control almost 60 percent of the food and beverages sold in the United States” (p.21). While large farms continue to leverage the advantages related to economies of scale, smaller and more civic-minded farms are beginning to establish a niche with the continued focus on high quality, fresh, and environmentally-friendly production practices demanded by consumers.

A number of alternative distribution channels are now available for consumers to purchase sustainable foods. Roadside markets once used to supply fresh and field-picked produce must now compete with farmers’ markets, community supported agriculture, agri-tourism, and retail grocery outlets for the consumer dollar (Hinrichs, 2000). As consumers continue to demand sustainable food items, larger food grocery channels seek to capture a bigger portion of the available market share; moving away from branded packaged goods and toward a greater focus on perishable items that are often more profitable and allow stores to cater more effectively to changing consumer needs (Guptill & Wilkins, 2002). As grocery stores attempt to better understand what designations are most important to consumers, they continue to offer a broad assortment of products that captures this growing segment of sustainability, particularly in the area of locally produced foods that are considered to have less environmental impact than their counterparts from other parts of the country or around the globe.

Defining Locally Produced Foods

The U.S. Department of Agriculture Economic Research Service (2010), in a study on local food systems, noted that while local food suggests a geographic definition, the production-consumption distance is not well conceptualized or defined. However, citing the 2008 Food, Conservation, and Energy Act, they determined that:

“...the total distance that a product can be transported and still be considered a locally or regionally produced agricultural food product is less than 400 miles from its origin, or within the State in which it is produced” (ERS.USDA.gov).

Local as a geographic boundary has been suggested in a variety of academic studies relating to sustainable consumption (Robinson & Smith, 2002; Darby, Batte, Ernst, & Roe, 2008; Hartman Group, 2008) and defined through print media as reflecting an aspect of “time” to the consumer (Sager, 2008). Other researchers, however, have conceptualized the term “local” within alternative contexts. For example, the idea of community food security, community food empowerment, sustainable agriculture and rural development are often associated with food production considered as local (Gottlieb & Fisher, 1996). Jarosz (2000), in describing agri-food systems, identified terms such as “social relations” and community “embeddedness” when conceptualizing local foods. The author also noted that small-scale sustainable production systems, organic food, farmers markets, food cooperatives, and community supported agriculture all comprise local food networks. Research by Milestad, Bartel-Kratochvil, Leitner, & Axmann (2010), extending the Jarosz (2000) study that reviewed local networks from a supplier, producer, worker, and consumer context, suggested that local networks and global networks must be considered a part of one another and not as independent entities. McMichael (2000) also denoted the importance of political and trade factors when discussing local foods, suggesting that counter social movements have helped further the cause for local production over large scale

corporate takeovers of food systems. The breadth of research into local networks has provided a number of possible conceptualizations of the “locally produced” term, yet none clearly encapsulates the manner in which consumers view the meaning of local and its importance in their decision-making process.

With the increase in interest by consumers for locally produced food items, retailers have sought to capture a portion of the market estimated to reach \$7 billion by 2011 (DeWeerd, 2009). Specialty food retailers such as Earth Fare now label shelves with ‘local’ icons reflecting products that are grown on small farms and within 100 miles of the store, thus catering each store’s assortment to support different local farms (Earth Fare, n.d.). National grocery chains such as Kroger provide website information regarding local product availability, while Safeway.com informs consumers that “roughly 30% of the produce sold by Safeway annually is local” (Safeway.com, n.d. para.2). As these companies continue to increase their support of small farms and local sources, they also must concern themselves with companies such as Wal-Mart that has recently turned its attention to this market segment. While the goal for locally grown produce has been set for 9% of the total assortment by the year 2015, “In emerging markets Wal-Mart has pledged to sell \$1 billion in food from small and medium farmers and will also provide training for the farmers and their laborers on how to choose crops that are in demand and on the proper application of water and pesticides” (Clifford, 2010, para.10). This focus on locally produced food by large multinational corporations has a number of implications for researchers to address. Does it alter the perception of locally produced foods by consumers? Will consumers change their purchasing behavior as more products become available within their usual grocery shopping channels? Unlike channels such as community supported agriculture and farmers’ markets that rely heavily on social relationships and information

exchange, can retail grocery stores make their shopping environments more appealing to shoppers who support and intend to purchase locally produced food when available? These questions have created an opportunity for this study to address factors relating to consumer attitudes, norms, and intentions to purchase local food along with retail grocery environmental factors that either support or hinder the purchasing behavior. To this end, the significance of the current study will be addressed.

SIGNIFICANCE OF THE STUDY

With numerous conceptualizations of the term *local* and consumer desire to seek out locally produced food items, an opportunity has been provided to researchers to further delve into those factors that drive consumption behavior. While prior studies suggest various motivations, consumer demographics, and values attributed to the locally produced food shopper, there is limited and insufficient research on the retail grocery stores as an emerging channel for locally produced foods. Moreover, empirical tests of the relationships regarding consumers, locally produced foods, and the grocery retailers have not addressed store related factors such as customer service, promotions, display and product assortment issues that impact consumption behavior. The current study will address this gap in literature by (1) extending Ajzen's (1985; 1991) theory of planned behavior to include the context of locally produced foods, (2) testing the importance of price for specific groups of locally produced food shoppers, and (3) help identify in-store atmospheric variables that may influence the link between intention-to-purchase locally produced foods and actual purchase behavior.

By extending the theory of planned behavior to include the context of locally produced foods, it is believed that the study's findings may suggest that certain key variables thought

important to the consumption process such as *social norms* and *perceived behavioral control* will be partially influenced by the context in which products are purchased, through that of the grocery store channel. Unlike other channels to purchase locally produced foods such as farmers' markets and community supported agriculture where social norms and attitudes may be highly influenced by the buying situation, grocery channels are generally considered to be more routine. It is important for researchers to consider the purchase context of locally produced foods. Would prior studies on sustainable consumption, using the proposed grocery context, produce similar results? If these studies produce different results, to what extent could they be generalizeable across all purchasing situations? Studies from Bissonnette and Contento (2001) and Vermeir and Verbeke (2008) utilized an adolescent and young adult sample when measuring variables such as attitude and intention regarding food consumption choice behaviors. However, other demographic characteristics such as household income, gender, and marital status may be more reflective of the locally produced food shopper (Jekanowski, Williams II, & Schiek, 2000; Wolf, 1997) which may not be adequately captured in a younger-aged sample. Therefore, the current study allows for a more representative sample of local food shoppers to be drawn and studied with greater generalization of the results. Additionally, the current study uses empirical measures and structural equation modeling (SEM) to test the relationships relating to locally produced foods, whereas prior studies on local foods are often qualitative or lack the ability to test relationships simultaneously.

Second, prior literature has not done a sufficient job of delineating between groups of consumers who define locally produced food in different ways. Consumers who view locally produced food under a lens of community and social concern may not purchase in the same manner as those who view local as a geographic designation only. Therefore, as marketers

continue to segment consumers and seek a better understanding of shopper marketing behavior, it becomes more important to understand the “a priori” attitudes and motivations that consumers bring to the shopping channel and how these translate into actual purchase behavior, particularly when factors such as price become more salient.

Finally, although a number of marketing studies on store atmospherics and in-store environmental variables have suggested these factors as important in the consumption process, prior studies have not considered the possible mediating influence of in-store atmospheric variables on consumption behavior once the consumers form an intention to buy. With locally produced foods being considered a high-involvement type of purchase, the current study will test whether consumer responsiveness to in-store atmospherics has a positive relationship with both intention-to-purchase locally produced foods and the extent to which that behavior is executed. The outcomes from empirical testing may suggest that changes to the shopping environment could positively support or negatively impact the actual purchase, and to what extent dimensions such as assortment, display factors, customer service and pricing & promotion will influence the behavior. To this end, it is believed that implications can be drawn and generalized across a number of contexts relating to environmentally or socially-conscious consumption.

PURPOSE OF THE STUDY

This study attempts to provide grocery retailers that carry locally produced foods as part of their assortment a means to understanding consumer attitudes, normative influences, perceived effectiveness of behavior, perceived product availability, purchase intentions, extent of purchase behavior and perceived influence of in-store atmospherics on shopper behavior. The current study will address the gap between traditional theoretical frameworks that consider the

relationships between attitude, intention, and purchase behavior for sustainable products with an updated framework that supports testing the relationships within a specific context, that of locally produced foods, along with the potential mediation of store atmospherics on the intention-to-behavior link. Toward a more comprehensive framework for understanding locally produced food purchasing, the research objectives of this study reflect the following:

1. To extend the theory of planned behavior developed by Ajzen (1985; 1991) to include the context of locally produced foods within grocery store channels
2. To investigate definitional variations of the phrase “*locally produced foods*” by consumers who shop for such items
3. To examine the relationship between consumer attitude toward purchasing locally produced foods and their purchase intention
4. To examine the relationship between perceived subjective (social) norms by consumers and their purchase intention toward locally produced foods
5. To examine the relationship between consumer perception of product availability, their perception of personal effectiveness in supporting the idea of local, and their purchase intention toward locally produced foods
6. To examine the relationship of purchase intention and extent of purchase behavior of locally produced foods
7. To investigate the concept of *store atmospherics* and determine if consumer responsiveness to store atmospherics partially mediates, fully mediates, or has no influence on the relationship between purchase intention of locally produced foods and the extent of purchase behavior
8. To examine if consumer *price consciousness* moderates the relationship between purchase intention of locally produced foods and the extent of purchase behavior

Operational definitions relating to the primary concept of locally produced food and specific constructs to be tested are provided in Table 1.

Table 1. Construct and Concept Definitions Previously Operationalized (or to be operationalized within this study)

Construct	Source	Operationalized Definition
Attitude toward purchase of locally produced foods	Ajzen (1991)	the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question (i.e., purchase of locally produced foods)
Perceived subjective norms regarding purchase of locally produced foods	Ajzen (1991)	the perceived social pressure to perform or not to perform the behavior (i.e., purchase locally produced foods)
Perceived behavioral control	Ajzen (1991)	people's perception of the ease or difficulty of performing the behavior of interest
Perceived product availability (PPA)	Vermeir & Verbeke (2008)	if a consumer feels s/he can easily obtain or consume a certain product
Perceived consumer effectiveness (PCE)	Antil (1984)	consumer's belief that their personal behavior could possibly have any effect on reducing environmental-resource problems
Intention to purchase locally produced foods	Ajzen (1991)	indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior (i.e., purchase locally produced foods)
Atmospherics	Kotler (1973-74)	the effort to design buying environments to produce specific emotional effects in the buyer that enhance his purchase probability
Store atmospheric responsiveness	Eroglu, Machleit, & Davis (2001; 2003)	the extent to which environmental characteristics influence consumers' decisions on where and how to shop as well as the outcomes of the shopping experience
Product assortment	Simonson (1999)	the total set of items offered by a retailer, reflecting both the breadth and depth of offered product lines
Display factors	Author	characteristics relating to the space in which products are made available to the consumer for purchase and may include dimensional, aesthetic, visual, and informational factors
Customer service	Dougherty & Murthy (2009) Author	the efforts exhibited by company agents or representatives to meet individual customer needs, resolve customer questions or problems, and provide customers with positive satisfying experiences
Store promotions	Author	the use of coupons, advertising, or free samples given by stores to help increase awareness and sales of specific products or services.
Extent of locally produced foods purchased	Author	the perceived relative amount of locally produced foods purchased, in relationship to other food categories (e.g., never buy vs. always buy)
Price consciousness	Lichtenstein, Ridgway, & Netemeyer (1993)	the degree to which the consumer focuses exclusively on paying low prices

DISSERTATION ORGANIZATION

The proposed dissertation will include five sections: the introduction, the literature review, research methods, analysis of the data with results, and finally discussion and

implications/recommendations for future research. In Chapter I, the concepts of sustainable and green consumption and locally produced food are discussed. The chapter also provides an overview for, significance to, and purpose of the current study. In Chapter II, a review of literature supports the introduction of prior theories and conceptual frameworks relating to locally produced foods. The chapter also introduces the constructs utilized within the current study and formulates the research hypotheses. In Chapter III, a discussion of the research methods used for model and hypotheses testing is provided. This includes a discussion of the research model to be tested, the specific research design, sampling, and data collection methods to be used, and measurement formulation. In Chapter IV, results of the data analysis and hypothesis testing will be provided. This includes review of sample data descriptives, the use of Confirmatory Factor Analysis (CFA) to ensure construct validity and reliability, and Structural Equation Modeling (SEM) for hypothesis testing and data fit analysis. Finally, in Chapter V the conclusions, implications of the study, limitations of the study, and future research directions will be addressed.

CHAPTER II

LITERATURE REVIEW

The opening section of this chapter includes the theoretical framework established for the study. Next, a literature review of previous research relating to “green” consumers, locally produced foods (including studies related to personal (consumer) attributes, product quality and price attributes, social attributes, and product availability and food miles), the relationship of store atmospherics and consumer behavior, and research related to store atmospheric responsiveness will be presented. Finally, hypotheses are developed from this literature review and synthesis.

THEORETICAL FRAMEWORKS

The current study is supported by two primary theoretical frameworks: (1) the theory of planned behavior (Ajzen, 1985; 1991), and (2) the stimulus-organism-response behavioral framework from Mehrabian and Russell (1974).

THEORY OF PLANNED BEHAVIOR FRAMEWORK

As a foundation for understanding the behavioral decision to purchase locally produced food items, the specific context of this current study, the theory of planned behavior (Ajzen, 1985; 1991) provides an important framework that includes factors relating to attitudes, norms, and perceived behavioral control and their effects on behavioral intentions and actions. In extending previous research by Ajzen and Fishbein (1977; 1980) which focused on the attitude-behavior link through a person’s intent to perform the behavior, the theory of planned behavior introduced the new concept of perceived behavioral control that accounted for an individual’s

evaluation of the ease or difficulty in performing the behavior in question. Ajzen (1991) clarifies the distinction of perceived behavioral control with Rotter's (1966) concept of *locus of control*, arguing that perceptions of behavioral control are more context-specific and variant than an individual's general internal locus relating to their own actions and desired behaviors. The idea of self-efficacy, or "judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p.122) is similar to that of perceived behavioral control; although Ajzen (1991) points to the distinction of perceived behavioral control as a more micro-level concept specifically focusing on beliefs, attitudes, intentions and behavior and not considering other aspects such as emotions or effort. Further development of the perceived behavioral control concept to distinguish inner control versus external difficulty factors (Sparks, Guthrie, & Shepherd, 1997), perceived product availability (Sparks & Shepherd, 1992; Vermeir & Verbeke, 2006; 2008) and perceived consumer effectiveness (Roberts, 1996; Vermeir & Verbeke, 2008) suggests multiple dimensions to the perceived behavioral control construct that can be tested in a number of contexts where product scarcity or highly involved products may have an overall impact to behavioral intention and subsequently purchasing behavior.

The theory of planned behavior has been tested within a number of different studies related to environmentally-friendly purchase intentions or purchase behaviors. These include willingness-to-pay (WTP) for environmentally friendly hotel rooms (Kim & Han, 2010), intention-to-purchase green energy (Hansla, Gamble, Juliusson, & Gärling, 2008), as well as intention-to-purchase environmentally-friendly products (Kalafatis & Pollard, 1999). Harland, Staats, and Wilke (1999) determined that personal norms were found to be more important in explaining pro-environmental behaviors by consumers than were subjective norms, and found that adding the *personal norms* construct to the theory of planned behavior helped better explain

behavioral intentions. However, the pro-environmental behaviors tested did not reflect food purchasing as a specific context. In later research, the theory was tested within the context of online grocery purchasing by Hansen, Jensen, and Solgaard (2004), who determined that the theory of planned behavior had better predictive power than that of the theory of reasoned action when a direct relationship between subjective (social norms) and attitude was included as part of the model. They noted the perceived risk of online purchasing and consumers' willingness to ask others for guidance as a possible explanation for this relationship. Within the context of sustainable food choices, Robinson and Smith's (2002) study evaluated consumer's attitudes, beliefs, self-identity, perceived behavioral control and social norms on their choices for sustainable food products such as locally produced, organically grown, and hormone-free. They found all but self-identity to be positively related to behavioral intentions. However, Cook, Kerr, and Moore (2002) within the context of genetically modified foods found a positive influence of attitude, social norms, and perceived behavioral control along with the construct of self-identity as being positively related to purchase intention. Results from the Bissonnette and Contento (2001) study mirrored those of Cook et al. (2002) in defining the importance of self-identity, but within a new sample, adolescents. Recent studies by Vermeir and Verbeke (2006; 2008), which also used a young-adult sample, found that attitude had a more significant influence on behavioral intentions than did any set of personal values relating to sustainable consumption. In substantiating the importance and positive relationships of attitudes, social influences, and perceived behavioral control on intention-to-purchase sustainable products, these studies support the use of the theory of planned behavior as an important framework in which to view a specific context of sustainable products; that of locally produced foods.

STIMULUS-ORGANISM-RESPONSE BEHAVIORAL FRAMEWORK

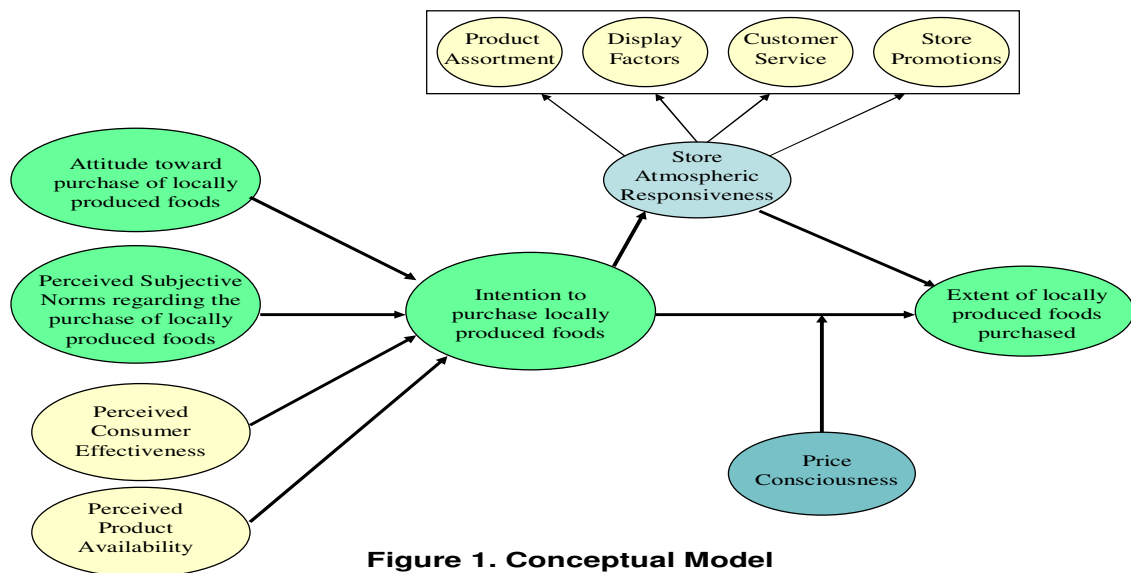
The seminal work by Mehrabian and Russell (1974) provided important context to the study of environmental psychology and to understanding the relationship between shopping behavior and store atmospherics. Holahan (1986) suggested that “environmental psychology studies the interrelationship between the physical environment and human behavior and experience” (p.381). This interrelationship in Mehrabian and Russell’s (1974) work included the environmental influence (Stimulus), the effect of the environment thru emotional responses by individuals (Organism), and behavioral actions (Response). This stimulus-organism-response paradigm introduced dimensions of emotional responses by the organism that included pleasure, arousal, and dominance (PAD) along with behavioral responses such as approach and avoidance. These various concepts became the foundation for later studies that attempted to understand consumer response to various environmental (atmospheric) stimuli under a number of situational conditions, including those where mediating psychological variables such as emotions can impact behavior (Lutz & Kakkar, 1975).

Within the retail context, Donovan and Rossiter (1982) utilized the Mehrabian-Russell Model to understand in-store issues such as enjoyment of shopping, perception of crowding, and measures relating to pleasure, arousal, or dominance during the store experience. Donovan and Rossiter concluded that cognitive factors may lead to choice of store and planned purchasing behavior, but that “emotional response induced by the environment within the store are primary determinants of the extent to which the individual spends beyond his or her original expectations” (p.54). This suggests that retailers may benefit from creating a store-shopping environment that helps to evoke pleasure and arousal for their customers. Creating this atmosphere, however, is often difficult; Markin, Lillis, and Narayana (1976) suggested that

conflicting atmospheric cues can easily create a level of consumer dissonance where certain stimuli lead to an undesirable shopping experience and subsequent lack of purchasing behavior.

Extending the stimulus-organism-response framework, Spies, Hesse, and Loesch (1997) identified variables such as mood state and information rate (the number and complexity of environmental stimuli) on purchasing behavior. They concluded that a pleasantly perceived store positively impacted an individual's mood, which was related to increased outcomes of amount of money spent for all purchases and for spontaneous non-planned purchases. Baker, Levy, and Grewal (1992) reviewed specific elements of the environment such as ambient and social factors and the effect on behavioral intentions. Their study supported the argument that store atmosphere can affect an individual's affective state, leading to consumer intent to purchase. They also noted the importance of consumer arousal from the store social environment, suggesting that customer service and interaction between employees and consumers can positively affect both perceived store experience and potential purchase behavior. Donovan, Rossiter, Marcoolyn, and Nesdale (1994) suggested that emotional states of shoppers, linked to their reaction to atmospheric and environmental variables, will help to predict purchase behavior when pleasure is created for the customer. However, they noted that situational variables or emotional states of the consumers before coming to the store may also have an impact on the affect of overall in-store atmospheric influence on shopper spending behavior. Studies related to price consciousness (Lichtenstein et al., 1993; Lichtenstein, Bloch, & Black, 1988) supported this notion that consumers "a priori" bring a pricing strategy or range with them when shopping as a means to defining price acceptability of each item, which may alter the impact of in-store factors as primary influences on behavior if deemed less important.

The concept of atmospheric responsiveness, however, becomes important to understand the influence of particular in-store factors on shopper behavior. The current study considers the impact of atmospheric factors within the retail grocery store on the shopper for locally produced foods. Specifically, how consumers perceive and respond to four types of in-store atmospheric conditions relating to (1) product assortment, (2) displays, (3) customer service, and (4) store promotions. The proposed conceptual model for this study is provided in Figure 1.



REVIEW OF PREVIOUS RESEARCH

The current study examines a perceived gap between traditional theoretical frameworks that consider the relationships between attitude, intention, and purchase behavior for sustainable products with an updated framework that supports testing these relationships within a specific context, that of locally produced foods. Retail grocery stores that carry locally produced foods will be the primary setting. Although grocery retailers may take a number of different forms (e.g., specialty stores, national stores, warehouse clubs), each provides a channel by which

consumers are exposed to various product assortments and in-store factors that may affect purchase behavior. Prior research on store atmospherics or store environment has identified a number of in-store characteristics that are proposed to affect consumer behavior. These include, but are not limited to, aesthetic factors (visual, olfactory), merchandising issues (fixtures, signage, displays, price), and interaction-based stimuli (other shoppers, store employees). Various store environment factors, and the subsequent responsiveness by consumers to these environmental variations, are a part of this research.

REVIEW OF PRIOR STUDIES

To better understand the concepts of green consumerism, locally produced foods, store atmospherics, store atmospheric responsiveness, and factors affecting consumer behavior including attitudes, normative influences, and intentions, a review and synthesis of the literature was completed across a number of academic and practitioner journals and publications. These included key journals from the Marketing, Retailing, Economics, Agriculture, Psychology and Sociology disciplines among others. The review was not constrained to specific dates, but did include seminal articles on store atmospherics by Kotler (1973-1974), on environmental psychology by Mehrabian and Russell (1974), the introduction of the theory of planned behavior by Ajzen (1985; 1991), and recent articles within the past two decades (after 1990) relating to sustainable and locally produced foods consumption behavior. Data from the United States Department of Agriculture relating to locally produced food channels and trends relating to locally produced food purchasing was also reviewed. A summary of the key literature used for this research is listed in Table 2.

Table 2. Key Literature and Findings for Research Relating to Store Atmospherics, The Theory of Planned Behavior, and Locally Produced Foods

Authors (Year), Journal / Book	Variables examined	Major findings
Kotler (1973-74), Journal of Retailing	store atmospherics, purchase behavior	This conceptual study identified and reviewed store atmospherics including dimensions of visual, aural, olfactory, and tactile and effects on purchase behavior. Considered marketing affects of atmospherics through attention-creation, message-creation, and affect-creation.
Mehrabian & Russell (1974), An approach to environmental psychology. The MIT Press.	environment, information rate, personality, emotional response, behavioral response	The framework suggested that environmental stimuli relating to social or physical characteristics has a direct influence on individual emotional states such as pleasure, arousal, or dominance which leads to behavior responses of approach or avoidance.
Donovan & Rossiter (1982), Journal of Retailing	attitude, intentions, approach-avoid intentions & behavior, information rate	Utilized Mehrabian & Russell framework to measure correlations of eight specific dimensions relating to in-store approach avoid behavioral attitudes and intentions. Determined significant correlation between pleasure and arousal emotional states on store approach-avoid behaviors including spending, time in store and willingness to interact with employees. However, dominance emotional state had little impact in-store.
Ajzen (1985, 1991), Organizational Behavior and Human Decision Processes	attitude, social norm, perceived behavioral control, intention, behavior	The conceptual paper introduced the theory of planned behavior. It considered an individual's attitude, response to social influence through social norms, and evaluation of control over their own actions through perceived behavioral control to form an intention to behave in a certain way. In certain cases, a positive evaluation of behavioral control directly leads to behavior.
Bitner (1992), Journal of Marketing	servicescape, store design, social interaction, pleasure & arousal emotions approach-avoid behavior, mood and situational factors	The study proposed that a servicescape, (a built environment) can affect consumer behavior. Considered the importance of social interaction, factors such as signs, symbols, spatial layout, and ambient conditions, as well as moderators to behavior such as mood or situational factors. Similar to Mehrabian & Russell, argued environment will affect individual emotional responses.
Baker, Levy, & Grewal (1992), Journal of Retailing	Store image, ambient cues, social cues, behavioral intention, willingness to buy, pleasure & arousal	Utilized experimental design approach to test Mehrabian-Russell Model in shopping atmosphere. Determined that store environment influenced the individual affective state of pleasure and arousal which in turn was related to the consumer's willingness to buy.
Sparks & Shepherd (1992), Social Psychology Quarterly	Attitude, subjective norms, perceived behavioral control, self identity, past consumption, behavioral intention	The study examined variables in the theory of planned behavior and tested whether self-identity and past consumption were independent factors in predicting intention to consume organic foods in the future. Suggested that self-identity may not be adequately conceptualized in attitude measures and that ethical considerations may also be important.

Table 2. (Continued)

Authors (Year), Journal / Book	Variables examined	Major findings
Bissonnette & Contento (2001), Journal of Nutrition Education	Beliefs, attitudes, motivations, social influence, self-identity, responsibility, intention & behavior	The study examined adolescent food choices using the theory of planned behavior framework for organic and locally grown items. Determined that social influence and attitude were best correlated with behavioral intention, but that strong beliefs or attitudes about environmental impacts of food production were minimal.
Guptill & Wilkins (2002), Agriculture and Human Values	grocery store typology, product offerings, local food perceptions and experiences	This qualitative study utilized open-ended interviews with grocery store owners and managers and suggested that consistency of product availability, packaging, and pricing of items were important factors to help meet increasing demand by customers. Also suggested locally produced items as “special or premium” not mainstream.
Darby, Batte, Ernst, & Roe (2008) American Journal of Agricultural Economics	product location, freshness guarantee, farm size & name, price, demographics, and harvest time	This experimental study examined several characteristics associated with local production of food and determined that definitions of local as a “state” boundary need further testing. Study also concluded that local food purchasers are willing to pay more for items, with direct market shoppers paying more than twice as much as grocery shoppers.
Vermeir & Verbeke (2008), Ecological Economics	Attitude, social norms, human values, perceived consumer effectiveness, perceived availability product confidence, intention	This study utilized the theory of planned behavior framework along with human values to predict behavioral intention to buy sustainable foods, using a young adult sample (19-22 years old). Determined that attitudes were main determinant when predicting intentions, and consumers with tradition based value systems (tradition, humility, devout) are most likely to purchase sustainable products. Concepts of perceived consumer effectiveness and perceived availability also important in predicting intentions.

Many of the concepts and constructs used in the current study were adapted from the previous literature listed above (along with other supportive literature). These included constructs of attitude, subjective norms, perceived behavioral control, purchase intention, and purchase behavior (Ajzen, 1985; 1991), store atmospheric responsiveness (Eroglu, et al., 2001; 2003), and the study of locally produced foods using perceived product availability and perceived consumer effectiveness (Vermeir & Verbeke, 2008; Bissonnette & Contento, 2001; Roberts, 1996). These studies and others reviewed store environment factors in a retail shopping context or purchase intention of locally produced foods in a generalized view. However,

research relating the importance of grocery store atmospheric factors and the effects on attitudes, intentions, and behaviors of the locally produced foods shopper has not been completed on a national scale and thus provides the impetus for the current research study.

Who are the “Green” Consumers?

In conceptualizing the “green consumer”, Connolly and Prothero (2008) suggested that “the concept of a consumer voluntarily engaging in consumer practices that are viewed as ‘environmentally friendly’ has emerged, and is now generally labeled the ‘green consumer’ by marketing agencies, marketing academics, political scientists, sociologists, and environmentalists” (p.118). Previous academic studies by Roberts (1996) that profiled the relationship between demographics and consumption attitudes of green consumers, and research by Gupta and Ogden (2009) that reviewed inconsistencies between attitude and behavior toward green product purchasing helped shed light on the issue that one’s attitude of environmental concern does not always lead to purchase behavior. Gupta and Ogden (2009) also implied that a multitude of factors influence the purchase decision, including that of referent group influence and perceived social pressure to focus on the collective rather than the individual benefit.

Prothero, McDonagh, and Dobscha (2010) suggested that, when considering society and environmental issues, “In many ways, environmental issues have become trendy, mainstream, and commodified. The media now regularly writes about environmental issues and terms such as global warming, carbon footprint, and climate change that have become a part of our daily language” (p.150). This has led to an increased awareness of environmental issues by consumers and also a greater willingness to act as part of a collective society, becoming better environmental stewards in some way that includes purchasing behavior. The social influence on

individuals engaging in green consumerism can be seen across a number of academic studies, particularly those relating to food choice behaviors (Sparks & Shepherd, 1992; Cook et al., 2002). Welsch and Kühling (2009) in a study on pro-environmental consumption suggested that homogeneous referent groups may help affect consumption of items such as organic foods, in that communication between like members will occur and potentially help to minimize risk or cost factors. Two specific studies, Bissonnette and Contento, (2001) and Vermeir and Verbeke (2008) highlighted the connection between attitudes, social influence, and intention to purchase a specific type of food product often considered both environmentally friendly and socially conscious; that of locally produced foods. It is through this lens of green consumerism for food items such as locally produced food that the current research study is viewed and tested empirically.

Locally Produced Foods Research

Personal Attributes

The motivation and reasons for purchasing local foods, different from traditional offerings at a grocery store, have been reviewed by Thilmany, Bond, & Bond (2008) and by Bond, Thilmany, & Keeling Bond (2008). The authors determined that for local purchases, motivation is a combination of both private and public attributes. Within these attributes, segmented clusters were formed; urban assurance seekers, price conscious consumers, quality/safety consumers, and personal value buyers. Thilmany et al. (2008) posited that each group has traits connected to both private and public, but vary in the strength or focus. What are characteristics associated with private and public attributes? Thilmany et al. (2008, p. 1303) suggested that “The sources and products are characterized by perceived attributes, some of

which tend to be privately appropriable in nature (e.g., convenience, cleanliness, travel costs, etc.) and some of which are quasi-public (e.g., locally sourced products, promoting environmentally friendly products, etc.)". Tropp's (2008) research confirmed the Thilmany studies suggesting that a good proportion of the shoppers surveyed are "motivated to purchase local food products directly from growers because of perceived superiority in food safety and quality" (p.1310). Tregear and Ness (2005) determined that attitudinal, situational, and demographic factors play a part in the reasons or motivations to shop for local foods. Conversely, Zepeda and Li (2006) argued that attitudes, demographics, or even environmentally related behaviors are not the reason that consumers shop for local foods. Rather, they determined that actual food type, shopping attitudes, and behaviors drive consumers to purchase local, particularly noted in the local food consumer's "love for cooking" that was also supported in the Zepeda (2009) research.

Product Quality and Price Attributes

Beyond research that has considered factors relating to demographic or personality traits of local food consumers and their attitudes or motivations to buy, prior research has also considered factors specific to the products themselves, particularly in areas of product quality, product freshness, and price related factors. Wolf (1997) surveyed consumers frequenting California farmers' markets and found that, within shoppers who frequent the markets at least once a year, product assortments and product perceptions were a key motivator. "Fresh looking", "fresh tasting", and "high quality" attributes were all highly desirable factors when influencing consumer motivation to attend these markets. Perceptions of high nutritional value, high quality, freshness of product, and lower use of chemicals in the methods by which the

product is grown have also been determined as important motivations for consumers (Zepeda & Li, 2006; Zepeda, 2009; Darby, Batte, Ernst, & Roe, 2006). Tregear and Ness (2005) concluded that ecology-based product features (e.g., origin of food, social welfare, the environment) rated more important for individuals choosing local foods. Wolf (1997) reviewed product advantages between supermarkets and farmers' markets, and found that appearance, taste, quality and value rated "Very to Extremely Desirable" for the farmers' markets. Supermarket advantages were convenience and accessibility based. The role of price as it relates to local food products has also been reviewed by Darby et al. (2006). The research determined that consumers of local foods were willing-to-pay (WTP) a "premium" for items purchased through direct retail channels such as farmers' markets. This premium was, in part, due to a perception of higher quality and better taste that local supply could provide with items being picked and delivered the same day. Similar research by Carpio and Isengildina-Massa (2009) estimated a 23% - 27% premium for locally grown animal products or produce, and included the consideration of consumer ties to agriculture as a possible factor for supporting local farmers. Finally, research on willingness-to-pay for local foods by Giraud, Bond, and Bond (2005) summarized that although the WTP premium does exist for local foods, other factors such as "convenient access to local specialty products can affect the premia, most likely through reducing transaction costs" (p.215).

Social Attributes

Another aspect of local foods research is that of social connections or embeddedness that occurs within the transactions between producers and consumers. Scholars have considered the shortening of the food-chain, environmental concerns, community vitality and ecological factors in explaining the continued movement toward local (Feagan, 2007; Hinrichs, 2007; Macias,

2008). Hinrichs (2000) discussed social embeddedness (depth of involvement) to explain the connection between the farmers and their consumers, and revealed a type of “shared experience” that occurs in the exchange, utilizing farmers’ markets and community supported agriculture as examples. Consumers attending farmers’ markets often experience a form of social learning that occurs through the interaction between themselves, the farmers, and other customers (Hinrichs, Gillespie, & Feenstra, 2004; Groc, 2008). While direct marketing has a distinct advantage for producers and sellers to exchange information and put a “face” to a product, particular within channels such as farmers’ markets and community supported agriculture, an opportunity does exist for retailer grocers if consumers can get adequate and salient information about the place in which the product originated and how small local farmers may benefit from such transactions.

Product Availability and Food Miles

As the industrial revolution continued within the United States post World War II, more and more of the smaller farms were giving way to larger agribusiness as people moved from rural to urban areas. This caused the need for farm products to travel further, thus creating a dependency on the bigger producers to transport products in a manner that was primarily cost effective and didn’t give concern to environmental factors (Norberg-Hodge et al., 2002). The idea of *food miles* had not been a discussion in research until the 1990’s, and is generally used to describe the distance food has traveled from its original production to the final state of consumption (Iles, 2005; Engelhaupt, 2008). Since then, the concept of *Locavore* as “someone who seeks out locally produced food, usually within a radius of 150 miles of where it is served” (Matorin (2008, p.28) has become more mainstream and associated with the food miles discussion. However, seasonality of product is often an issue with locally produced food items.

So, too, is that of the *food desert*, coined by British professor Tim Lang in the 1990's to describe the disappearance of local shops that would be replaced by supermarkets inaccessible to most (Gianville, 2001). This concept of the food desert has been applied to accessibility and affordability of healthy foods such as fresh fruits and vegetables (Wrigley, Warm, Margetts, & Whelan, 2002), typically the same items associated with locally produced food. Unfortunately, some areas cannot support year-round local products, and thus require channels like supermarkets to extend product availability by sourcing from other distant locations. When doing so, retail grocers use a variety of strategies and tactics to inform the consuming public that fresh foods are more available, including those strategies related to store atmospherics as discussed in the following sections.

The Relationship of Store Atmospherics and Consumer Behavior

Early research on the concept of store atmospherics can be traced to Kotler (1973-74), who defined atmospherics as “the effort to design buying environments to produce specific emotional effects in the buyer that enhance his purchase probability” (p.50). Kotler argued the importance of environments and space as important as the products themselves, and suggested that atmospheric effects will alter an individual's affective and information state, subsequently influencing their purchase behavior. Later work by Bitner (1992) narrowed the concept of atmosphere to focus on the built environment; the physical surroundings of a store in which consumers and employees interact and form a *servicescape* (p.58). Bitner argued that this servicescape would impact individual behaviors by either enhancing or inhibiting the goal directed tasks, and that perceived environmental factors within the store such as ambient factors,

spatial layout and displays, signage, and social factors such as customer service all had an important and holistic effect on individual responses to the environment.

The importance of store environmental factors on consumer behavior subsequently led researchers to consider specific cues not sufficiently addressed within the more generalized holistic approach taken in early studies. These include atmospheric cues of music (Areni, 2003), customer perceptions relating store environment with salespeople credibility (Sharma & Stafford, 2000), effects of product assortment in conventional and specialty grocery stores (Huddleston, Whipple, Mattick, & Lee, 2009) and the relationship of in-store displays and shelf space factors to overall store sales (Wilkinson, Mason, & Paksoy, 1982). Lichtenstein et al. (1993) reviewed consumer price perceptions and the effects of promotional activity on purchase evaluation and behavior within the store environment. Supporting Dickson and Sawyer's (1990) claim that "shoppers are very heterogeneous in terms of their attention and reaction to price and price promotions" (p.51), Lichtenstein et al. (1993) noted that price perception occurs on a multi-dimensional level that includes factors such as value and quality. Further research by Baker, Grewal, and Parasuraman (1994) also considered the quality component and its relationship with store environment. Their research supported the idea that ambient factors such as background music or lighting and social factors related to employees and customer service had a significant impact on customer perception of quality and potential patronage intentions. Subsequent research by Baker, Parasuraman, Grewal, and Voss (2002) integrated a number of concepts relating to store environment. These included social factors, ambient factors, and design factors from the Baker (1986) and Bitner (1992) studies along with additional factors relating to service, merchandise perceptions, and pricing perceptions. The results suggested patronage intentions to

a store are influenced by a number of environmental cues such as service and merchandise factors, but also through consistent design factors.

Given the varied amount of potential atmospheric variables to consider, Berman and Evans (1995) categorized atmospheric elements within four domains to include exterior variables, interior variables, layout and design variables, and point-of-purchase and decorative variables. Turley and Milliman (2000) added a fifth element; that of human variables to support factors such as customer service, crowding, and individual customer characteristics. All of these variables are considered to affect behavior in some way. These behaviors may include time spent in the stores, amount of purchase, and approach/avoid behavior. The current study focuses on consumer responsiveness to four specific atmospheric dimensions within their local grocery stores: product assortment, display factors, customer service, and store promotional activities in the context of shopping for locally produced food.

Store Atmospheric Responsiveness

Eroglu et al. (2001) defined the construct *store atmospheric responsiveness* as “...the tendency to base patronage and purchase decisions on the store’s physical qualities. Put differently, this trait is reflected in the extent to which environmental characteristics influence customers’ decisions on where and how to shop and how much time to spend shopping” (p.181). Citing prior work by McKechnie (1974) that constructed an environmental response inventory to measure how individuals and environments interact, Eroglu et al. (2001) suggested that atmospheric responsiveness may influence relations between shopping and an individual’s emotional state. Other studies such as Machleit, Meyer, and Eroglu (2005) considered shopper response to atmospheric factors that influences their choice of store and also shopping decisions

within the store. This suggests that store atmospheric responsiveness may play an important part in guiding customers' decisions of what, where, when, why, and how to shop.

The salience of store atmospheric cues on a customer's level of sensory involvement and affective states accrued within the shopping environment help to drive not only shopping behavior, but the extent in which the cues are perceived (Markin et al., 1976). The responsiveness by consumers to the store atmosphere may take a number of paths; from positive responses which may lead to an approach behavior or conversely negative responses that may lead to avoidance behavior (Mehrabian & Russell, 1974). Often times, these responses are situational in nature. For example, Grossbart, Hampton, Rammohan, and Lapidus (1990) reviewed atmospheric responsiveness factors relating to two factors; store design and crowding within a store. They determined that the tolerance for variety within the environment is reflective of the level of responsiveness. Specifically, customers seeking more variety in an environment reflect a lower level of atmospheric responsiveness to factors relating to design, crowding, and overall store condition than do customers reflecting a heightened response to those same factors. In crowding situations, a heightened responsiveness may preclude shoppers from being able to execute their shopping goals while less responsive shoppers may be less distracted by the crowding situation. Other research by Kotler (1973-74) and Obermiller and Bitner (1984) determined that atmospheric responsiveness is still a function of situational factors such as those relating to lifestyle preferences, product related issues, between store competition and the specific purchasing situation at hand for each consumer (Grossbart et al, 1990). In this manner, the current research looks at specific situational factors that may be attributed to in-store atmospheric responsiveness, including factors relating to product assortment, to product displays, to customer service, and to store promotions. Unlike the Grossbart et al. (1990) results, however,

the atmospheric responsiveness factors in the current study are perceived to entice rather than dissuade consumers from executing their intentions to purchase locally produced food items.

RESEARCH HYPOTHESES

With support from prior literature and empirical evidence, the following research hypotheses are derived from the relationships between attitudes, subjective norms, perceived behavioral control, intentions, and purchase behavior relating to the purchase of locally produced foods along with store atmospheric responsiveness and price consciousness by consumers.

Attitude Toward Purchase of Locally Produced Foods and Intention to Purchase

The theory of planned behavior (Ajzen, 1985; 1991) provides context in understanding the relationship between attitudes and intentions. Ajzen (1991) noted that the “importance of attitude, subjective norm, and perceived behavioral control in the prediction of intention is expected to vary across behaviors and situations” (p.188). Bagozzi, Baumgartner, and Yi (1989) suggested that, “for attitudes to cause behavior, one must decide or intend to perform the behavior” (p.36), thereby introducing the mediating relationship of intentions. Sparks and Shepherd (1992) reviewed attitude toward green consumerism and found that attitudes were correlated significantly with intentions to consume organic vegetables. Cook et al. (2002) considered the relationship between attitude and intention to purchase genetically modified food, and similarly found a significant relationship. Within the context of sustainable foods, Robinson and Smith (2002) and Vermeir and Verbeke (2008) also noted a significant positive relationship between attitudes toward and intentions to purchase sustainable foods. Given that locally

produced foods are considered to be sustainable items in terms of reduced environmental impact, it is hypothesized that:

H1: Attitude toward purchase of locally produced foods is positively related to intention to purchase locally produced foods

Perceived Subjective Norms Regarding the Purchase of Locally Produced Foods and Intention to Purchase

Ajzen (1991) defines subjective norms as “the perceived social pressure to perform or not perform a behavior” (p.188). Social pressure may come from family, friends, or referent groups by which the individual may consider himself or herself a part. Similar to attitudes, Ajzen (1985; 1991), Fishbein and Ajzen (1975), and Ajzen and Fishbein (1980) considered subjective norms as an important antecedent to intentions to perform a behavior. It should be noted, however, that an individual may have a strong attitude toward a behavior but due to influence of social pressure, may not intent to complete the behavior in question. Pro-environmental behavior, for which the purchase of locally produced foods is often considered, may include other relevant factors such as personal norms or an individual’s value orientation (Harland et al., 1999). Studies from Robinson and Smith (2002) Cook et al. (2002), Sparks and Shepherd (1992), Bissonnette and Contento (2001), and Vermeir and Verbeke (2008) found a significant relationship between subjective norms and the intent to purchase or consume sustainable products. Therefore, it is hypothesized that:

H2: Perceived subjective norms regarding the purchase of locally produced foods is positively related to intention to purchase locally produced foods

Dimensions of Perceived Behavioral Control

The concept of perceived behavioral control discusses individual evaluations regarding the likelihood or difficulty in performing a behavior, and whether these behaviors can be completed (Ajzen, 1985; 1991). It may include an internal control perspective (individual skills, abilities, or will) and an external perspective (time and dependency of others) depending on the situation (Ajzen, 1985; Sparks et al., 1997). However, as noted by Sparks et al. (1997), “there are likely to be behaviors which are perceived to be under personal control yet difficult to carry out” (p.420). This suggests that perceived behavioral control may have various dimensions that an individual must consider when evaluating certain behaviors.

“Green” buyers are more likely to believe that their pro-environment behaviors will make a difference (Gupta & Ogden, 2009). Cook et al. (2002), Robinson and Smith (2002), and Vermeir and Verbeke (2008) found a significant relationship between dimensions of perceived behavioral control, such as perceived consumer effectiveness and perceived product availability, and intention toward purchasing or consuming sustainable products. Prior research by Sparks et al. (1997) and Vermeir and Verbeke (2008) suggested the perceived behavioral control construct as multidimensional having both an internal and external dimension. Antil (1984) and Roberts (1996) identified perceived consumer effectiveness as one dimension, particularly when considering issues relating to environment and available resources. Both the Roberts (1996) and the Vermeir and Verbeke (2008) studies found a significant relationship between perceived consumer effectiveness and environmentally conscious behavior or behavioral intentions. Therefore, it is hypothesized that:

H3: Perceived consumer effectiveness is positively related to intention to purchase locally produced foods

Research by Sparks and Shepherd (1992) noted that, in terms of consumption of organically produced vegetables, “lack of availability in the shops was related significantly to perceived control” (p.395). Given that locally produced foods are often seasonal in nature and not available in all retail grocery stores, Vermeir and Verbeke (2008) found that consumers would consider these factors when determining their intent to shop for such items. The authors also noted that perceived consumer effectiveness and perceived product availability explained over 57% of the variance in behavioral intentions to buy sustainable food products. Therefore, it is hypothesized that:

H4: Perceived product availability is positively related to intention to purchase locally produced foods

Intention to Purchase Locally Produced Foods and Extent of Purchase Behavior

The theory of planned behavior (Ajzen, 1985; 1991) suggests a direct relationship between behavioral intention and the actual exhibited behavior. A meta-analysis by Sutton (1998) of health related intentions and behavior suggested that the theory of planned behavior as a direct predictor accounted for 19 - 38% of the variance in actual behavior, noting that this number, although significant in effect size, may be influenced by a number of factors. These factors may include the lack of specific decision making at the time of the survey, wording of the questionnaire, and other potential variables such as perceived behavioral control that have a direct independent impact on the behavior outcome (Sutton, 1998). Other studies relating to sustainable food choices such as Bissonnette and Contento (2001) found a significant positive relationship between behavioral intention and subsequent behavior for both organic and local food purchasing. The specialization of locally produced foods and seasonality issues do not

often provide year-round consumption. Thus, it is believed that consumers who shop for these items generally do so as a planned purchase with the intent to execute their behavior to a variety of extents based upon various product categories. Therefore, it is hypothesized that:

H5: Intention to purchase locally produced foods is positively related to extent of locally produced foods purchased

Intention to Purchase Locally Produced Foods and Store Atmospheric Responsiveness

Massara, Liu, and Melara (2010) suggested that situational factors such as having to make an unplanned purchase may negatively affect the consumer. They argued that, for consumers who were goal driven and had set tasks to complete, an emotional disturbance may occur when plans were altered due to incongruence with environmental factors. Academic research in the area of environmental psychology by Russell and Ward (1982) noted that an individual's prior plans helped to alter their environmental perceptions. In support of the Donovan and Rossiter (1982) research, Tai and Fung (1997) determined that customer emotional states created by the store environment help predict approach-avoid behaviors, and that these states will help direct consumers' effort as they move within the store. Bitner (1992) also suggested that *servicescapes* created by retailers within the store may either help or hinder the goal or purpose when shopping. Specifically, when the customer "is unable to carry out the purpose for entering the environment; here the servicescape directly inhibits the accomplishment of the goal" (p.61). When reviewing the relationship between intentions and atmospherics, Kotler (1973-74) suggested that "People walk around with many wants and buying intentions that don't materialize, until situational factors, such as motivating atmospherics, tip the scale in favor of purchase" (p.54). Kotler (1973-74) also noted that the manner in which a consumer perceives their atmospheric space and how this perception alters their cognitive and affective

states will ultimately help to impact overall purchase behavior. With this in mind, it is believed that consumers who seek specialty items such as locally produced foods will be highly responsive to in-store factors such as assortment and customer service when deciding to act on their a priori intentions. Therefore, it is hypothesized that:

H6: Intention to purchase locally produced foods is positively related to store atmospheric responsiveness

Dimensionality of Store Atmospheric Responsiveness

Store atmospheric responsiveness, having multidimensional characteristics, has been proposed and tested by Eroglu et al. (2003) in the context of online shopping and by Machleit et al. (2005) regarding recreational and task-oriented shopping behaviors. Grossbart et al. (1990) considered store atmospheric responsiveness dimensions relating to store crowding and physical design as important influences to consumer behavior. Sensitivity to décor (Eroglu et al., 2001), to other shoppers, store employees, and merchandise (Machleit et al., 2005), and to descriptors about the store environment (Gardner & Siomkos, 1985) may affect perceptions of product by consumers and subsequent decisions to purchase or not purchase. With this in mind, it becomes important to consider store atmospheric responsiveness to a number of relevant environmental attributes that may impact the grocery shopper for locally produced foods as they attempt to execute their behavior in-store. Therefore, it is hypothesized that:

H7: Store atmospheric responsiveness is a multidimensional latent construct positively reflected in four dimensions (product assortment responsiveness, display factors responsiveness, customer service responsiveness and store promotions responsiveness)

Product Assortment

As a dimension of store atmospherics, product assortment can be conceptualized as “the total set of items offered by a retailer, reflecting both the breadth and depth of offered product

lines” (Simonson, 1999, p.347). While a large product assortment will allow consumers various choices and can affect store selection (Hoch, Bradlow, & Wansink, 1999), small assortments may be preferred when choice of the specific products are salient to the consumer (Chernev, 2006). An example of this may include locally produced foods, when consumers, given their affinity to support local farmers or engage in sustainable consumption activities, choose to purchase from smaller assortments at the store. While large retail grocery stores generally carry a wider assortment than their specialty counterparts (Huddleston et al., 2009), niche markets (i.e., consumers of locally produced food items) may be more suited toward specialty- type stores (Gagliano & Hathcote, 1994). As product choices within the assortment match consumer situational needs and consumers take notice of these offerings, it is anticipated that responsiveness to these items will be great and consumers will exhibit lower switching costs that might normally accompany stock-out issues. Therefore, it is hypothesized that:

H7a: Product assortment responsiveness is a significant positive indicator of the latent construct store atmospheric responsiveness

Display Factors

Factors regarding the display of locally produced items may be thought of as characteristics relating to the space in which products are made available to the consumer for purchase and may include dimensional, aesthetic, visual, and informational factors. Early work by Chevalier (1975) within the grocery context determined that display adjustments, accompanied by price reductions, led to an increase of 572% in average sales, although certain product groups were more influenced than others. Wilkinson et al. (1982), in reference to the Chevalier study, also noted that “display effectiveness was greater for products in a mature product category and in a competitive structure in which no one brand has a clear market share

advantage” (p.73). Curhan (1974) analyzed a number of factors relating to grocery including product type, price, seasonality, and product class volume. The results indicated that increases in display size for seasonal items had a greater percent unit sales increase than for non-seasonal, particularly in categories such as fruit (i.e., apples, oranges, bananas) and vegetables such as corn, squash, or potatoes. Gagnon and Osterhaus (1985) determined that floor displays for high-volume grocery stores helped to generate greater sales than store shelves, particularly when the displays were located in a high-volume location. Turley and Milliman (2000) also suggested the importance of reviewing point-of-purchase displays as important in the study of consumer shopping behavior. Finally, Simonson and Winer (1992) determined that product displays can impact the overall decision making by consumers regarding product choice. Grocery retailers selling locally produced foods, therefore, may positively affect consumer responsiveness to the display if it is properly located in high traffic areas and the displays create an appealing emotional response that the consumers will notice and react to as part of the overall store atmosphere. Therefore, it is hypothesized that:

H7b: Display factor responsiveness is a significant positive indicator of the latent construct store atmospheric responsiveness

Customer Service

Academic literature on the relationship of customer service and shopping outcomes has been found in a variety of contexts including specialty vs. department stores (Huddleston et al., 2009) and prestige vs. discount ambiance stores (Sharma & Stafford, 2000). George (2005), in discussing attributes of customer service for supermarket shopping, suggested a disconnect between several measures of what customers identify as important customer service traits and how they believe their most frequented supermarket was performing. King and Ring (1980) in

comparing attributes of “knowledgeable” and “helpful” salesclerks between department and specialty stores concluded that specialty chains had performed better within these dimensions. Huddleston et al. (2009) determined that “sales associates play a critical role in customer patronage of and satisfaction with specialty stores” (p.77). Provided that consumers who perceive a high level of customer service within a grocery store will continue to shop that specific store and achieve a high level of satisfaction from the experience, it is believed that customer service will impact an individual’s purchasing outcomes by enhancing approach behaviors of customers (Mehrabian & Russell, 1974). Enhanced customer service will also help to reduce purchase uncertainty as employees communicate product information relevant to the consumer. Therefore, it is hypothesized that:

H7c: Customer service responsiveness is a significant positive indicator of the latent construct store atmospheric responsiveness

Store Promotions

In-store promotional activities may take a variety of forms. Research on in-store “instant” coupons has suggested that both brand sales and market basket totals are positively affected by this type of surprise promotion (Heilman, Nakamoto, & Rao, 2002). Bawa and Shoemaker (1987) classified shoppers into two groups relating to coupons; the activist group, who use more coupons than the average shopper, and the routinized shopper group, who respond less to coupons but may respond to “alternative promotions such as free samples, in-store displays or coupons with larger face values” (p.109). Lammers (1991) in a study on in-store sampling determined that consumers receiving free samples did respond by purchasing to a greater extent, but only up to a specific price point and not within the same variety of the item being sampled. This suggests that consumers may use in-store samples as a means to prime their

interest in a product category, but not always for a specific item and only to the extent that the price matches their pre-defined range of acceptability. In reviewing supermarket promotional activities for fruits and vegetables, Curhan (1974) suggested that “the novelty associated with seasonal products may be more important than price per se” (p.292). Estell and Casison (2002) noted that a majority of consumers (approximately 89%) feel better about their purchase of products when sampling ahead of time, and in combination with a promotional coupon approximately 85% of surveyed consumers reflected a greater likelihood of product purchase. Overall, while consumers of grocery items may find it difficult to determine reduced prices in promotional advertisements if reference prices are not provided (Zaichkowsky & Sadlowsky, 1991), it is believed that consumers who expect premium prices for locally produced foods will respond more favorably when coupons or other promotions are offered and consumers are able to sample the product to help reduce purchase risk. Therefore, it is hypothesized that:

H7d: Store promotions responsiveness is a significant positive indicator of the latent construct store atmospheric responsiveness

Store Atmospheric Responsiveness and Extent of Locally Produced Foods Purchased

Early work by McKechnie (1974) on environmental responsiveness conceptualized the idea of store atmospheric responsiveness to explain how consumers make purchase decisions based upon physical factors relating to the store. Later work by Eroglu et al. (2001) identified store atmospheric responsiveness as “reflected in the extent to which environmental characteristics influence customers’ decisions on where and how to shop and how much time to spend shopping” (p.181). Grossbart et al. (1990), in a study on consumer environmental influence, noted that atmospheric responsiveness was linked to predispositions of consumers who exhibited openness to environmental experience and stimulation. They also suggested that,

based upon prior research of Kotler (1973-74) and Obermiller and Bitner (1984), atmospheric responsiveness is “also a function of the buying situation, products/services in question, competitive stores and consumer lifestyles” (p. 237).

Donovan and Rossiter (1982) noted that “emotional responses induced by the environment within the store are primary determinants of the extent to which the individual spends beyond his or her original expectations” (p.54). Later work by Donovan et al. (1994) concluded that emotional states like pleasure, as a result of the store environment, help to predict actual behavior through factors such as increased time in store and a greater amount of expenditures. Therefore, as consumers shop for items such as locally produced foods, it is hypothesized that:

H8: Store atmospheric responsiveness is positively related to extent of locally produced foods purchased

Consumer Price Consciousness

Vanhuele and Drèze (2002) suggested that consumers utilize a priori knowledge about pricing before entering a retail store. They identified measurements of pricing related to specific price recall, recognition of price that meets expectations, and potential deal spotting for items that fall outside of a normal range. Wilkonson et al. (1982) noted the difficulty in reviewing pricing as a stand-alone cue, instead suggesting that multiple cue studies would be more effective. While consumers seek to obtain the best deal on products, Huddleston et al. (2009) suggested that type of store environment, such as specialty grocery versus conventional grocery, may also affect price elasticity with specialty shoppers being less elastic than their counterparts in a national grocery store environment.

Prior research also suggests that some consumers are more aware and concerned with pricing than others, which may affect their store experience (Evanschitzky & Wunderlich, 2006). Lichtenstein et al. (1993) identified price consciousness as “the degree to which the consumer focuses exclusively on paying low prices” (p.235), and found that price consciousness had a significant relationship to behavioral responses such as quantity of products purchased on sale, amount spent, and amount saved from the transaction. With prior research arguing that consumers are willing-to-pay more for locally produced foods (Darby et al., 2006, 2008; Brown, 2003), it is believed that consumers attribute the premium to various perceived benefits including the support of community, increased food quality or health benefits, and socially conscious consumption. These characteristics suggest a high level of product involvement by the consumer. Lichtenstein et al. (1988) considered the relationship of product involvement and price, and suggested that consumers who are price conscious will make tradeoffs if they believe extra product benefits exist. However, when price was tested as a potential moderating effect to product country of origin preferences, no significant effects were found (Cordell, 1991). Thus, the inconsistency between price effect on the willingness-to-pay a premium for locally produced food items and effect on product attributes such as country of origin create an opportunity to measure whether consumers who intend on purchasing locally produced foods will, in fact, do so when prices may not meet their pre-determined range of acceptability. Therefore, it is hypothesized that:

H9: Price consciousness moderates the link between intention to purchase locally produced foods and the extent of locally produced foods purchased; specifically, the link will be stronger for less price-conscious consumers than for more price-conscious consumers

SUMMARY

Within Chapter II, theoretical frameworks relating to the theory of planned behavior and stimulus-organism-response behavior were introduced and discussed. A literature review of previous research relating to “green” consumers, locally produced foods (including studies related to personal (consumer) attributes, product quality and price attributes, social attributes, and product availability and food miles), the relationship of store atmospherics and consumer behavior, and research related to store atmospheric responsiveness was presented. Next, research hypotheses were developed using prior academic literature to support the proposed relationships between attitudes, subjective norms, perceived behavioral control with sub-dimensions including perceived product availability and perceived consumer effectiveness, purchase intention, and store atmospheric responsiveness with sub-dimensions of product assortment, display factors, customer service, and store promotions with the outcome variable of extent of locally produced foods purchased.

CHAPTER III

METHODS

Within the study, eight research objectives will be addressed. First, the study will extend the theory of planned behavior to include the context of locally produced foods within retail grocery channels. Second, the study will address the definitional variations surrounding the phrase “*locally produced food*” by consumers who shop for such items. Third, the study will examine the relationship between attitude toward purchasing locally produced food and the intention to purchase. Fourth, the study will examine the relationship between perceived subjective (social) norms by consumers and their purchase intention toward locally produced food. Fifth, the study will investigate the relationship between consumer perception of product availability, their perception of personal effectiveness in supporting the idea of local, and purchase intentions of locally produced food. Sixth, the study will examine the relationship of purchase intention and actual purchase behavior of locally produced food. Seventh, the study will address the concept of *store atmospherics* and determine if consumer responsiveness to store atmospherics partially mediates, fully mediates, or has no influence on the relationship between future intention to purchase locally produced foods and actual purchase behavior. Finally, the study will examine the role of consumer *price consciousness* and determine if there is a moderation effect on the relationship between intention to purchase locally produced foods and the extent of locally produced foods purchased.

Three separate sections comprise this chapter. Within section one, the research model and subsequent hypotheses developed from the model in Chapter II will be presented and reviewed. In section two, the researcher presents a discussion regarding the research design to include sampling frame, data collection methods, research setting and procedures used in the

study. Finally, section three addresses instrument and construct development to include construct measurement procedures, content validity and construct reliability testing, and pilot testing of the specific measures.

RESEARCH MODEL

The current study tests the conceptual framework and proposed model relating to consumer attitudes, subjective (social) norms, perceived consumer effectiveness, perceived product availability, future purchase intentions, store atmospheric responsiveness as a multidimensional construct, the extent of purchase relating to locally produced foods within a retail grocery setting, along with potential moderating effects of consumer price consciousness. The research model, supported by Ajzen's (1985; 1991) theory of planned behavior, proposes direct relationships between attitude, subjective norms, perceived consumer effectiveness, and perceived product availability to purchase intention. Similarly, the model suggests a direct relationship between purchase intention and purchase behavior, also supported by the theory. The proposed model suggests that an indirect relationship of purchase intention and the extent of locally produced foods purchased may exist through that of store atmospheric responsiveness. The construct *store atmospheric responsiveness*, supported by the literature as a multidimensional construct, is conceptualized and tested with four specific dimensions relating to in-store shopping behavior. These include product assortment, display factors, customer service and store promotions. At an aggregate, store atmospheric responsiveness is proposed to have a positive direct relationship with the extent of locally produced foods purchased, and indirectly affect the intention-to-behavior link through the manner in which consumers perceive and respond to in-store atmospheric variables. Finally, the construct of consumer *price*

consciousness is conceptualized to have a moderating effect on the direct relationship between intention to purchase locally produced foods and the extent of locally produced foods purchased.

The research model is depicted with the proposed hypothesized relationships in Figure 2.

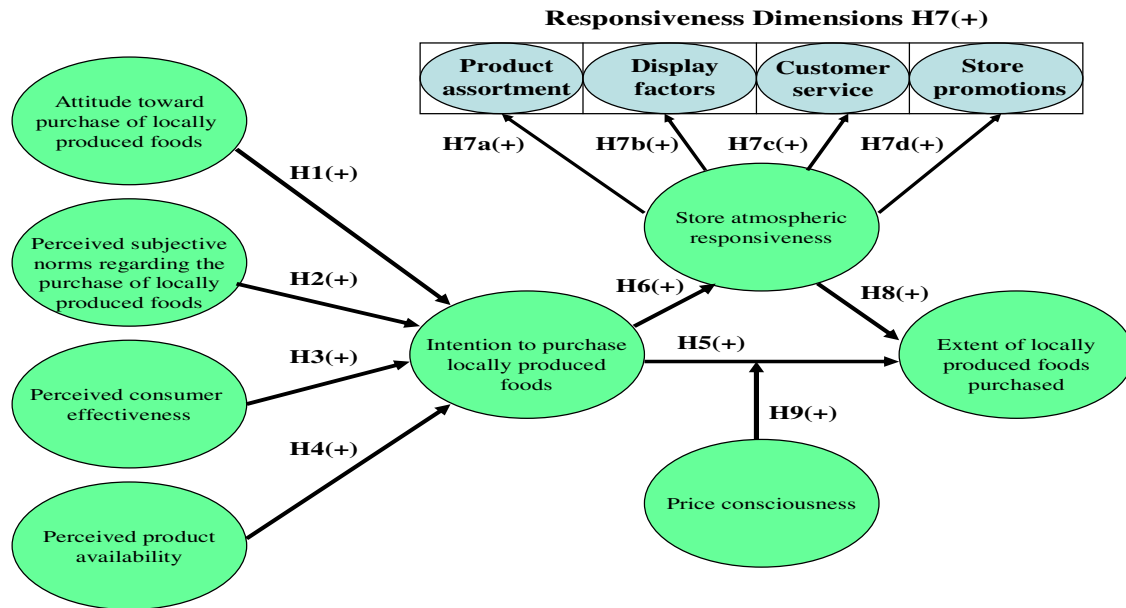


Figure 2. Research Model

HYPOTHEZED RELATIONSHIPS

The following hypotheses regarding the relationships among attitude toward purchase of locally produced foods, perceived subjective norms regarding the purchase of locally produced foods, perceived consumer effectiveness, perceived product availability, intention to purchase locally produced foods, store atmospheric responsiveness, extent of locally produced foods purchased, and consumer price consciousness are provided.

H1: Attitude toward purchase of locally produced foods is positively related to intention to purchase locally produced foods

H2: Subjective norms regarding the purchase of locally produced foods is positively related to intention to purchase locally produced foods

H3: Perceived consumer effectiveness is positively related to intention to purchase locally produced foods

H4: Perceived product availability is positively related to intention to purchase locally produced foods

H5: Intention to purchase locally produced foods is positively related to extent of locally produced foods purchased

H6: Intention to purchase locally produced foods is positively related to store atmospheric responsiveness

H7: Store atmospheric responsiveness is a multidimensional latent construct positively reflected in four dimensions (product assortment responsiveness, display factors responsiveness, customer service responsiveness and store promotions responsiveness)

H7a: Product assortment responsiveness is a significant positive indicator of the latent construct store atmospheric responsiveness

H7b: Display factor responsiveness is a significant positive indicator of the latent construct store atmospheric responsiveness

H7c: Customer service responsiveness is a significant positive indicator of the latent construct store atmospheric responsiveness

H7d: Store promotions responsiveness is a significant positive indicator of the latent construct store atmospheric responsiveness

H8: Store atmospheric responsiveness is positively related to extent of locally produced foods purchased

H9: Price consciousness moderates the link between intention to purchase locally produced foods and the extent of locally produced foods purchased; specifically, the link will be stronger for less price-conscious consumers than for more price-conscious consumers

RESEARCH DESIGN

The study employed a self-administered web-based survey to collect cross-sectional data. Strengths of the online survey methodology include low administration cost, the control, ease, and breadth of sampling, and speed and timeliness of responses (Evans & Mathur, 2005).

Similarly, online surveys may produce advantages to traditional postal surveys relating to a reduced incidence of missing demographic data (McDonald & Adam, 2003). For the respondent, online surveys allow for a self-paced completion at their convenience (Churchill & Iacobucci, 2005). With these advantages in mind, use of an online survey was considered desirable for the cross-sectional study completed.

SETTING

While the concept of locally produced foods may support various retail distribution channels including roadside market stands, community supported agriculture, farmers' markets, and "pick-your-own" operations, the study examined locally produced foods that are sold within a retail grocery store setting. Grocery stores include national grocery chains, specialty stores, supercenters, or warehouse clubs. The study is not category specific for any one type of locally produced food, and may include products that certain retail stores carry while others do not.

PILOT TESTING OF QUESTIONNAIRE

Thirty-five completed surveys were collected for the pilot test. Johanson and Brooks (2010), in discussing sample size for pilot studies, "suggest that 30 representative participants from the population of interest is a reasonable minimum recommendation for a pilot study where the purpose is preliminary survey or scale development" (p.399). Hill (1998) similarly noted that in pilot studies, a sample size of 10 to 30 is considered sufficient for internet survey research. Dillman, Smyth, and Christian (2009) noted the benefits of using a pilot study, including "to get an indication of whether individual questions and scales appear to be working as intended (i.e., measuring concepts in the manner expected)" (p. 229). The pilot test for this study was used to determine validity and reliability of the measures for the main study and to eliminate any

questions that were neither statistically reliable nor valid. The pilot-test questionnaire is provided in Appendix C.

LIST OF LOCALLY PRODUCED FOOD CATEGORIES

Within the retail grocery channel, numerous product categories exist that may support the concept of locally produced foods. For the study, an initial listing of locally produced food item categories was developed using prior research by Zepeda and Leviten-Reid (2004), Campbell, Costello, and Pfaffenberg (2010), Pirog (2004), and the USDA SIC Code database for grocery items. During pilot testing, consumers were provided a list of fourteen food item categories and asked to indicate the extent that they *Disagree* or *Agree*, based upon the grocery stores they most often shop in for locally produced foods, as to whether the categories within their stores contained the locally produced items. A seven-point Likert scale was used with responses ranging from (1) *Strongly disagree* to (7) *Strongly agree*, and means for each of the fourteen categories were calculated utilizing the statistical package SPSS 18.0. Six categories that reflected mean totals greater than 5.0 were included in the main survey as separate questions relating to the extent to which consumers shop for locally produced foods in a grocery store (e.g., When you buy vegetable items in a grocery store, to what extent do you buy locally produced vegetable items?). A list of the original fourteen categories, the pilot-test means, and the top six category measurement items developed are provided in Table 3.

Table 3. Pilot-Test Item Means for Grocery Categories

Category	Pilot-Test Means (n = 35)	Main Study Measurement
Vegetables	6.31 *	When you buy vegetable items at a grocery store, to what extent do you buy locally produced vegetable items?
Fruits	5.80 *	When you buy fruit items at a grocery store, to what extent do you buy locally produced fruit items?
Eggs	5.66 *	When you buy eggs at a grocery store, to what extent do you buy locally produced eggs?
Bread	5.26 *	When you bread items at a grocery store, to what extent do you buy locally produced bread items?
Baked Products	5.20 *	When you buy baked products at a grocery store, to what extent do you buy locally produced baked products?
Milk	5.03 *	When you buy milk at a grocery store, to what extent do you buy locally produced milk?
Jellies / Jams / Honey	4.86	
Yogurt / Ice Cream	4.60	
Cheese	4.29	
Meat	3.94	
Sauces / Condiments	3.80	
Candy / Nuts/ Confectionery	3.42	
Beer	3.17	
Fish & Shellfish	2.09	

* Included in Main Survey

** A seven-point Likert scale was used with responses from (1) *Strongly disagree* to (7) *Strongly agree*

DEFINITION OF LOCALLY PRODUCED FOODS

The concept of *locally produced foods* has been defined by academics and practitioners in a number of different contexts. A 2008 study by consumer researchers, The Hartman Group, noted that community proximity, items being produced within a 100 mile boundary, and local small-business support as popular definitions cited by consumers of locally produced foods. Darby et al. (2006) suggested that the concept of *local* be extended to state boundaries, while

Tregear, Kuznesof, and Moxey (1999) found that consumers described regional foods within a locale, socio-economic and customs perspective. As retailers struggle to market locally produced foods to a broad range of consumers, understanding key definitional concepts becomes increasingly important so as not to exclude potential consumers who might otherwise consider the concept of local differently. Therefore, to further seek a more comprehensive understanding of the concept of locally produced foods, two questions concerning respondent definitions of locally produced foods were included to take into consideration both geographic dimensions and environmental /sustainable considerations as perceived by the respondents. The first question asked respondents to choose the option that best fits their definition of the term *Locally Produced Foods*, and provided geographic categorical response options (i.e., within my community of residence, within 100 miles of my residence, within the United States). The second question, “I consider locally produced foods to be: (Select all that apply)”, provided categorical responses including social dimensions (e.g., socially responsible foods), sustainable dimensions (e.g., sustainably produced and distributed foods), and the ability for respondents to write in their own conceptualization of locally produced foods (e.g., other, please specify).

SAMPLING FRAME

The population for this study is comprised of consumers who purchase locally produced food items at a grocery store. The consumer panel utilized to support the overall sampling frame (Worldwide Panel) was accessed in partnership with C&T Marketing Group, a market research company noted for their experience in online consumer surveys. The Worldwide Panel includes a database of approximately 1.5 million consumers segmented on a number of characteristics relating to demographics, consumer behavior, and shopping patterns. C&T Marketing Group

utilizes screening and validating methods tied into consumer PayPal accounts, where consumers are provided small monetary incentives to complete surveys and helps to ensure respondents are unique and do not enter surveys more than once. They also profile their panels across more than five-hundred (500) unique attributes, which allows for better targeting of consumers and a higher incidence rate (CTMarketingGroup.com). For this study, the sample was created from grocery store shoppers which included, but was not limited to, shoppers at national grocery stores (e.g., Kroger), specialty stores (e.g., Whole Foods) supercenters (e.g., Wal-Mart) and warehouse clubs (e.g., Costco). The targeted respondents were U.S. consumers over the age of 18 who have purchased locally produced food items through a retail grocery channel within the past twelve months prior to the start of the survey. A total of six-hundred (600) completed responses were solicited.

DATA COLLECTION

In cooperation with C&T Marketing Group, data were collected for four days starting on March 29 and closing on April 01, 2011 utilizing the Worldwide consumer panel as the target population, and a survey platform established on Zoomerang.com. Invitations via e-mail were sent out to qualified panelists from C&T Marketing Group seeking participation. Each participant who completed the survey received from C&T Marketing Group a nominal financial reimbursement to be paid through PayPal.

SAMPLE

The sample for this study included a number of different demographic characteristics including age, ethnicity, gender, annual household income, marital status, employment status, size of city or town, and number of persons in household (if applicable). The sample was

purposive in that only consumers who have shopped for locally produced foods at a grocery store within the past twelve months were evaluated. However, the methodology utilized a national online survey that did not seek specific information identifiable to a specific individual or person, allowed responses to exhibit randomized characteristics. Those respondents not meeting the screening criteria were not included in the final analysis and were prevented from continuing the survey.

PROCEDURES

At the start of the main survey (Appendix D) in the introductory two paragraphs, the respondents were provided contact information for both the researcher and for the market research company used, that of C&T Marketing Group. The next paragraph included one screening question as to whether the respondents had purchased locally produced foods within the past twelve months at a grocery store. If the respondents selected “no” they were thanked for their time and the survey ended without further questions asked. The screening question was used to ensure that the sample being studied are only those consumers who have shopped for locally produced foods within the past twelve months in a retail grocery setting, and also helped to minimize issues surrounding loss of memory or recall of the shopping trip.

Upon selection of “yes” to the screening question, respondents were then asked two questions relating to their definition of locally produced foods. The first question required the respondents to choose the option that best fits their definition of the term “locally produced foods”, with response choices reflecting a geographic designation (e.g., within 50 miles of my residence). The second question asked respondents to consider various definitional descriptions of locally produced foods and to select all that apply (e.g., foods that are environmentally safe;

foods produced by my neighbor). The placement of these questions helped to ensure that consumers have this definition in mind and frame their responses when completing the remainder of the survey. The remaining survey included questions regarding attitude, social influence, behavioral control, intentions, store atmospherics, price consciousness and purchasing behavior related to locally produced foods along with general demographic descriptors. The survey instrument contained seven items for attitude, five items for perceived subjective norms, three items each for perceived product availability and perceived consumer effectiveness, three items for intention to purchase, and fifteen total items relating to consumer responsiveness to store atmospherics. The fifteen measurement items for consumer responsiveness to store atmospherics included three items for product assortment, three items for display factors, four items for customer service, and five items measuring store promotions including two items related to coupons, two items related to product sampling, and one general question regarding in-store promotions. Four items measured consumer price consciousness. Seven total items measured the dependent variable, the extent of locally produced food purchased. The survey also included fourteen demographic descriptive items. The online survey was expected to take approximately fifteen minutes to complete.

INSTRUMENT DEVELOPMENT

The measurement scales used for the current study were obtained and modified from prior literature on store atmospherics, sustainability, purchasing of environmentally friendly products, and the theory of planned behavior and subsequently adapted to the context of locally produced foods and grocery shopping. The measurement items included in the study were

adapted from prior literature and modified using survey responses of thirty-five consumers during pilot testing.

MEASUREMENT DEVELOPMENT

The observed adapted measures support the following concepts to be studied: attitude toward purchase of locally produced food, perceived subjective (social) norms regarding the purchase of locally produced foods, perceived behavioral control (comprised of independent constructs of perceived product availability and perceived consumer effectiveness), intention to purchase locally produced foods, consumer responsiveness to store atmospherics (comprised of responsiveness to four specific dimensions including product assortment, display factors, customer service, and store promotions), consumer price consciousness, and extent of locally produced foods purchased. Also, measurements relating to consumer definition of locally produced foods and demographic information from the respondents are included. The original scales used to support the current study are provided in Appendix A with the adapted scale measurement items listed in Appendix B.

Measurement of Attitude Toward Purchase of Locally Produced Foods

To measure attitude toward purchase of locally produced foods, a total of seven items were adapted from Bissonnette and Contento's (2001) study and Vermeir and Verbeke's (2008) study on food choice behaviors and sustainable food consumption. Four items from the Bissonnette and Contento (2001) study were used and measured on a seven-point Likert scale ranging from (1) *Strongly disagree* to (7) *Strongly agree*, with questions from the original study (e.g., It is important to me personally that food is grown nearby; It is important that people should have more locally grown food available to them) adapted slightly to include the context

of purchasing foods (e.g., It is important to me that food I purchase is grown nearby). The remaining three items were adapted from the Vermeir and Verbeke (2008) study with original items (e.g., Buying Le Fermier products is) being altered by replacing “Buying Le Fermier products” with “Purchasing locally produced foods” (e.g., Purchasing locally produced foods is). A seven-point semantic differential scale was used for the three items with bipolar adjectives such as *Negative/Positive*, *Useless/Meaningful*, and *Unwise/Wise*.

Measurement of Subjective Norms Regarding the Purchase of Locally Produced Foods

Measurements of subjective (social) norms regarding the purchase of locally produced foods were adapted from Vermeir and Verbeke’s (2008) study on sustainable food consumption. Five total items were used and measured on a seven-point Likert scale ranging from (1) *Strongly disagree* to (7) *Strongly agree*, and adapted from the original scale (e.g., My family thinks I should buy sustainable food products; People who are important to me think I should buy sustainable food products) by removing “sustainable food products” and replacing it with “locally produced foods” (e.g., My family thinks I should buy locally produced foods; People who are important to me think I should buy locally produced foods).

Measurement of Perceived Product Availability and Perceived Consumer Effectiveness

The concept of perceived behavioral control as a multidimensional construct has been identified in the prior literature to include factors relating to inner-control and difficulty in exercising the behavior (Sparks et al., 1997; Vermeir & Verbeke, 2008). Specifically, Sparks and Shepherd (1992) noted that “lack of availability in the shops was related significantly to perceived control” (p.395), suggesting that consumers may perceive it difficult to purchase environmentally sustainable items due to availability concerns. Perceived consumer

effectiveness was first conceptualized by Kinnear, Taylor, and Ahmed (1974) to explain how consumers view their individual efforts as effective in sustainable actions such as pollution abatement. Roberts (1996), in profiling green consumers, operationalized perceived consumer effectiveness to explain a “subject’s judgment in the ability of individual consumers to affect environmental/resource problems” (p.224). Borrowing from research completed by Antil (1978), Roberts (1996) noted that perceived consumer effectiveness can successfully help to differentiate types of green consumers (high vs. low). With these studies in mind, the construct of *perceived behavior control* for this research was conceptualized as having two specific and separate dimensions to be tested as independent constructs; that of *perceived product availability* and of *perceived consumer effectiveness*. Three items for each separate construct (6 total items) were measured utilizing a seven-point Likert scale ranging from (1) *Strongly disagree* to (7) *Strongly agree*. The items measuring perceived product availability were adapted from the original measures (e.g., I believe I can acquire Le Fermier products) and modified to the context of purchasing locally produced foods (e.g., I believe I can purchase locally produced foods). Similarly, the latent construct perceived consumer effectiveness was also adapted from the original measures (e.g., When I buy products, I try to consider how my use of them will affect the environment and other consumers), and modified to include the context of purchasing locally produced foods (e.g., When I buy locally produced foods, I try to consider how my use of them will affect the environment and other consumers).

Measurement of Intent to Purchase Locally Produced Foods

Measures of the intent to purchase locally produced foods were adapted from Vermeir and Verbeke’s (2008) study on sustainable food consumption. Three items utilizing bipolar

adjective measures and a seven-point scale were used, ranging from (1) *Highly unlikely* to (7) *Highly likely*; (1) *Highly uncertain* to (7) *Highly certain*; and (1) *Very little* chance to (7) *Excellent* chance. The phrase “Le Fermier products” (e.g., The likelihood that I will buy Le Fermier products in the future is) was replaced with “locally produced foods” for all three measures (e.g., The likelihood that I will buy locally produced foods in the future is).

Measurement of Store Atmospheric Responsiveness as a Multiimensional Construct

Measures related to store atmospheric responsiveness were adapted from prior studies by Kotler (1973-74), Markin et al. (1976), Donovan and Rossiter (1982), and Bitner (1992) that considered the use of atmospherics in marketing and their effects on consumer psychology and behavior. Extending this research, Berman and Evans (1995) and Turley and Milliman (2000) divided a number of proposed atmospheric variables into categories such as external variables, general interior variables, layout and design variables, point-of-purchase/decoration variables, and human variables that may affect the shopping response behavior. McKechnie (1974) and Eroglu et al. (2001; 2003) reviewed consumer influence by store atmospherics and identified the *store atmospheric responsiveness* trait as influencing shopping choice and outcomes. Store atmospheric responsiveness as a multidimensional construct was suggested by Grossbart et al. (1990) to include an increased sensitivity to factors relating to customer crowding and physical design of store, while Eroglu et al. (2001) suggested responsiveness as sensitivity to décor or social distractions. From the five distinct categories suggested by Berman and Evans (1995), and given the large number of possible atmospheric variables to consider, this study conceptualized consumer responsiveness to include four specific applicable dimensions. These dimensions support the overall latent construct of store atmospheric responsiveness that is believed to affect

consumers within the retail grocery store environment: 1) product assortment, 2) display factors, 3) customer service, and 4) store promotions.

To test whether the latent construct of store atmospheric responsiveness was multidimensional and included the proposed four dimensions, a total of fifteen measures were utilized. Three questions adapted from the Huddleston et al. (2009) study reviewed product assortment effects. Three items from Bloch, Brunel, and Arnold (2003) were utilized to measure display factors. Four total measures of customer service were utilized, with three measures adapted from the Sharma and Stafford (2000) study and one additional author-developed measure relating to customer perceptions of ‘salesperson knowledge’ of locally produced foods. Five total items measuring store promotions were adapted from the following: Vanhuele and Drèze’s (2002) marketing study on consumer price knowledge (one general measure), two measures relating to coupon proneness from the Lichtenstein et al. (1993) study, and two author developed measures focusing on consumer response to in-store sampling. All measures for store atmospheric responsiveness utilized a seven-point Likert scale ranging from (1) *Strongly disagree* to (7) *Strongly agree*.

Measurement of Extent of Locally Produced Foods Purchased

Measures related to the extent of locally produced food purchased were adapted from Gupta and Ogden’s (2009) study on “green” buying (one item), and from Chase’s (2007) Iowa State University Extension Office report regarding quantity estimates for locally grown items being purchased by consumers (six items). Each of the six specific categories within the main study (eggs, milk, bread, vegetables, fruit, and baked goods) were developed from the top six category responses in the pilot test to the previous question, “Consider the store that you most

often shop for locally produced foods and indicate the extent that you ‘*Agree*’ or ‘*Disagree*’ whether their categories contain locally produced items”. The seven total items related to the extent of locally produced foods purchased were measured using a seven-point Likert scale anchored with bipolar adjectives of (1) *Never* and (7) *Always* as utilized in the Gupta and Ogden (2009) study.

Measurement of Price Consciousness

Measures related to price consciousness were adapted from the Lichtenstein et al. (1993) study on price perceptions and shopping behavior within a grocery store context. Four items were measured using a seven-point Likert scale ranging from (1) *Strongly disagree* to (7) *Strongly agree*. From the original scales for price consciousness (e.g., I will grocery shop at more than one store to take advantage of low prices; I am not willing to go to extra effort to find lower prices), modifications were made to include the context of shopping for locally produced foods at a grocery store (e.g., I will shop at more than one grocery store to find low prices for locally produced foods; I will go to extra effort to find lower prices for locally produced foods at a grocery store).

Demographic Information

Within the questionnaire, the final section sought respondent information regarding the number of different grocery stores shopped, name of grocery stores most often shopped for both regular groceries and locally produced foods, purchase frequency of locally produced foods, the outlets used to purchase locally produced foods (i.e., national grocery stores, farmers’ markets, supercenters), gender, relationship status, age, ethnicity, occupational status, household income, highest level of education completed, number of persons in household, and area of residence

description. Response options were categorical with the data being nominal (grocery store names, outlets for locally produced foods, respondent gender, relationship status, ethnicity, occupational status, education, area of residence) and ordinal (number of different stores shopped, purchase frequency, age, income, number of persons in household). Information on respondent demographic characteristics for the main study is provided in Table 4.

Table 4. Respondent Demographic Information

Demographics (N = 600)		Frequency	Percentage
Gender	Female	303	50.5%
	Male	297	49.5%
Age	Under 25	9	1.5%
	25-34	78	13.0%
	35-44	124	20.7%
	45-54	169	28.2%
	55-64	157	26.1%
	65 or over	63	10.5%
Relationship Status	Married	350	58.3%
	Never Married	125	20.8%
	Divorced	59	9.8%
	Partnership	40	6.7%
	Widowed	21	3.6%
	Separated	5	0.8%
Ethnicity	White (Caucasian)	513	85.5%
	African American	30	5.0%
	Asian	25	4.2%
	Hispanic (includes Latino or Spanish)	23	3.8%
	American Indian	2	0.3%
	Other	7	1.2%
Occupational Status	Full-Time Employed	293	48.8%
	Retired	113	18.8%
	Homemaker	79	13.2%
	Part-Time Employed	73	12.2%
	Unemployed	37	6.2%
	Student	5	0.8%
Household Income	Under \$25,000	93	15.5%
	\$25,000 - \$49,999	175	29.2%
	\$50,000 - \$74,999	136	22.7%
	\$75,000 - \$99,999	96	16.0%
	\$100,000 - \$124,999	41	6.8%
	\$125,000 - \$149,999	26	4.3%
	\$150,000 or more	33	5.5%
Highest Level of Education	Less than high school graduate	8	1.3%
	High school (diploma or GED)	105	17.5%
	Some college or associates degree	218	36.3%
	Bachelor's degree	184	30.7%
	Graduate or professional degree	81	13.5%
	Other	4	0.7%

Table 4. (Continued)

Demographics (N = 600)		Frequency	Percentage
Persons in Household	One	109	18.1%
	Two	238	39.7%
	Three	105	17.5%
	Four	97	16.2%
	More than four	51	8.5%
Area of Residence	Population less than 2,500	105	17.5%
	Population between 2,500 to 49,999	127	21.2%
	Population between 50,000 to 99,999	110	18.3%
	Population between 100,000 to 249,999	90	15.0%
	Population above 250,000	168	28.0%

ASSESSING MEASUREMENT PROPERTIES

Assessing measurement properties was accomplished through the use of graduate students and retail faculty at The University of Tennessee, Knoxville. A total of eleven doctoral students and two academic research professors in The Department of Retail, Hospitality, and Tourism Management reviewed the questionnaire and evaluated the measurement items for issues relating to content, readability, grammar, and question clarity. From this review, it was determined that the single question asking for the respondent definition of locally produced foods needed to be expanded into two separate questions; one seeking a single response that best fits the respondent's definition relating to geographic distance and a second question asking the respondent to select "all that apply" in relation to various conceptualizations of locally produced foods. Next, it was determined that certain sections of the questionnaire had all scale points labeled, while others had only anchor points. From this, the survey was formatted to using only anchor points for all seven-point scale items. It was also determined that three questions would need reverse scoring of responses, and therefore were reworded (taking out the words "not" and "never") to ensure consistency in responses. The question order was also changed to prevent

response carryover order-effects (Dillman et al., 2009). Finally, one section added the description “most often” in the instructions to ensure respondents only considered a single grocery store when answering the corresponding questions. A summary of the key questionnaire revisions is provided in Table 5.

Table 5. Key Revisions to Questionnaire

Subject	Initial Item	Revised Item(s)
Locally produced foods definition	• Please choose the option that best fits your definition of the term ‘Locally Produced Foods’	• Please choose the option that best fits your definition of the term ‘Locally Produced Foods’ • I consider Locally Produced Foods to be: (Select all that apply)
Scale points	• All scale points labeled	• Only anchor points labeled
Reverse scored items	• The money saved by finding low prices for locally produced foods at a grocery store is usually not worth the time and effort. • I am not willing to go to extra effort to find lower prices for locally produced foods at a grocery store. • I would never shop at more than one grocery store to find low prices for locally produced foods.	• The money saved by finding low prices for locally produced foods at a grocery store is usually worth the time and effort • I will go to extra effort to find lower prices for locally produced foods at a grocery store. • I will shop at more than one grocery store to find low prices for locally produced foods.
Wording of Question	• The following statements relate to the GROCERY STORE(S) in which you shop for locally produced foods. Please rate your level of disagreement or agreement:	• The following statements relate to the GROCERY STORE(S) in which you MOST OFTEN shop for locally produced foods. Please rate your level of disagreement or agreement:

PILOT TEST

A pilot test using a convenience sample was administered to thirty-five qualified individuals eighteen years of age or older who have shopped for locally produced foods at a

grocery store within the past twelve months (Appendix C). The sample respondents were drawn from a population of individuals across the United States that has purchased locally produced foods in the past through farmers' markets, grocery stores, and other available channels. This sample included adults from the states of Tennessee, Texas, Ohio, South Carolina and California that either received hand-delivered surveys or were mailed surveys with a returned self-addressed stamped envelope attached. The primary objectives of the pilot test were to check for content validity issues within a sample more familiar with locally produced food and to refine measurement items for the main survey. To help ensure survey responses were consistent and reliable for items measuring the same concept and that the constructs achieved unidimensionality, Cronbach's coefficient alpha was calculated. Kline (2005) noted that "If internal consistency reliability is low, the content of the items may be so heterogeneous that the total score is not the best possible unit of analysis for the measure" (p.59), thus requiring a reanalysis of the effect of each specific measure on their respective constructs. The range of construct reliabilities for all measures, except that of perceived consumer effectiveness, was from .637 to .928 as shown in Table 6.

Table 6. Construct Reliabilities (Pilot Test; n = 35)

Construct	Number of Items	Reliability (Cronbach's alpha)
Store atmospheric responsiveness	15 *	0.788
Product assortment responsiveness	3	0.678
Display factors responsiveness	3	0.637
Customer service responsiveness	4	0.842
Store promotions responsiveness	5	0.736
Attitude	7	0.802
Extent of purchase	6	0.718
Subjective norms	5	0.798
Price consciousness	4	0.848
Purchase intention	3	0.928
Perceived product availability (PPA)	3	0.736
Perceived consumer effectiveness (PCE)	3	0.165

* includes dimensions of product assortment, display factor, customer service, and store promotions.

Two proposed dimensions of store atmospheric responsiveness (product assortment and display factors), reflected reliability coefficients of .678 and .637 respectively. Although general cutoff limits for acceptable reliabilities have been suggested as .70 or higher (Kline, 2005; Peterson 1994), Schmitt (1996) asserted that other important measurement properties, “such as meaningful content coverage of some domain” (p.352), could allow researchers to use a set of measures reflecting a lower reliability coefficient between them. When combining all of the measures for store atmospheric responsiveness, the alpha coefficient increased to .815. This led the researcher to keep all of the proposed measurement items for the main survey.

For perceived consumer effectiveness (PCE), the reliability coefficient of .165 was decidedly lower than the other construct measurement items used in the study. While all three PCE measures were adapted from prior studies on sustainable consumption where the reported reliability was above the .70 threshold (e.g., $\alpha = .72$ in the Roberts 1996 study), none of the tested pairs of the three items within the current study were considered to exhibit acceptable reliability (Table 7).

Table 7. Pairwise Comparisons of Items Measuring “Perceived Consumer Effectiveness” (Pilot Test; n = 35)

Construct/Items	Pair of Items	Reliability
Perceived Consumer Effectiveness		
PCE1: When I buy locally produced foods, I try to consider how my use of them will affect the environment and other consumers. PCE2: Since one person cannot have an effect on sustainability issues such as locally produced foods, it doesn’t make a difference what I do.* PCE3: Each consumer’s behavior can have a positive effect on society by purchasing locally produced foods sold by socially responsible food retailers.	PCE1 and PCE2	-.133
	PCE2 and PCE3	-.006
	PCE1 and PCE3	.458
	PCE1 and PCE2*	.117
	PCE2* and PCE3	.005

* indicates measure that needed reverse scoring of responses.

One of the measures, “Since one person cannot have an effect on sustainability issues such as locally produced foods, it doesn’t make a difference what I do” appeared to require reverse scoring of responses. However, this was not considered problematic by the researcher or during the content validity testing with other retail experts before pilot test implementation. Even with reverse scoring of responses, the group reflected poor overall reliability ($\alpha = .289$). Given the importance of the perceived consumer effectiveness construct to the research and the prior use of the measures in research concerning green behavior and sustainable food consumption, it was determined that the three measures would be retained for the main study. A final listing of all of the measures utilized for the main study is reflected in Table 8.

SUMMARY

This current chapter detailed the research methodology employed to test both the research model and the accompanying research hypotheses. Section one of this chapter proposed the research model and restated the prior research hypotheses that were previously detailed in Chapter II. Section two of this chapter described the current research design and methodology including topics such as research setting, sampling frame, data collection procedures, and a discussion of local food categories. The last section detailed procedures used for instrument development. These procedures included development of the latent constructs in the model (attitude, subjective norms, perceived product availability, perceived consumer effectiveness, purchase intention, store atmospheric responsiveness, product assortment responsiveness, display factors responsiveness, customer service responsiveness, store promotions responsiveness, extent of purchase and price consciousness). Finally, information regarding demographics, grocery shopping descriptives, content validity testing, and pilot testing were detailed with results presented and discussed.

Table 8. Summary of Final Construct Measures for Main Study

Construct	Measures
Attitude toward purchase of locally produced foods	AT1: It is important to me that food I purchase is grown nearby.
	AT2: It is important that people should have more locally grown product available to them.
	AT3: I am worried that local farms are going out of business because most food purchased in grocery stores is grown on larger, faraway farms
	AT4: It is important that I can purchase my favorite locally produced foods all year long.
	AT5: Purchasing locally produced foods is negative (positive).
	AT6: Purchasing locally produced foods is useless (meaningful).
	AT7: Purchasing locally produced foods is unwise (wise).
Subjective norms regarding purchase of locally produced foods	SN1: People who are important to me think I should buy locally produced foods.
	SN2: People who influence my buying behavior think I should buy locally produced foods.
	SN3: Friends think I should buy locally produced foods.
	SN4: Society thinks I should buy locally produced foods.
	SN5: My family thinks I should buy locally produced foods.
Perceived product availability (PPA)	PPA1: I believe I can purchase locally produced foods.
	PPA2: I can find locally produced foods in my neighborhood.
	PPA3: I believe that locally produced foods are easily available.
Perceived consumer effectiveness (PCE)	PCE1: When I buy locally produced foods, I try to consider how my use of them will affect the environment and other consumers.
	PCE2: Since one person cannot have an effect on sustainability issues such as locally produced foods, it doesn't make a difference what I do. *
	PCE3: Each consumer's behavior can have a positive effect on society by purchasing locally produced foods sold by socially responsible food retailers.
Intention to purchase locally produced foods	IP1: The likelihood that I will buy locally produced foods in the future is: (Highly unlikely / Highly likely)
	IP2: The certainty that I will buy locally produced foods in the future is: (Highly uncertain / Highly certain)
	IP3: The chance that I will buy locally produced foods in the future is: (Very little / Excellent)
Extent of purchase	EP1: When you buy food items at a grocery store, to what extent are you "loyal" to locally produced foods?
	EP2: When you buy eggs at a grocery store, to what extent do you buy locally produced eggs?
	EP3: When you buy milk at a grocery store, to what extent do you buy locally produced milk?
	EP4: When you buy bread items at a grocery store, to what extent do you buy locally produced bread items?
	EP5: When you buy vegetable items at a grocery store, to what extent do you buy locally produced vegetable items?
	EP6: When you buy fruit items at a grocery store, to what extent do you buy locally produced fruit items?
	EP7: When you buy baked goods at a grocery store, to what extent do you buy locally produced baked goods?
Price consciousness	PC1: I will grocery shop for locally produced foods at more than one store to take advantage of low prices.
	PC2: I will shop at more than one grocery store to find low prices for locally produced foods.
	PC3: I will go to extra effort to find lower prices for locally produced foods at a grocery store.
	PC4: The money saved by finding low prices for locally produced foods at a grocery store is usually worth the time and effort.

* The item is reverse scored.

Table 8. (Continued)

Construct	Measures
Store atmospheric responsiveness	
Product assortment responsiveness	PAR1: I notice stores that have the right merchandise selection of locally produced food products.
	PAR2: The store(s) offer(s) the assortment of locally produced food products I am looking for.
	PAR3: I notice stores that have an extensive assortment of locally produced food products.
Display factors responsiveness	DFR1: I enjoy seeing displays of locally produced food products that have superior designs.
	DFR2: I see things in grocery displays of locally produced foods that other people tend to pass over.
	DFR3: The design of a locally produced food display is a source of pleasure for me.
Customer service responsiveness	CSR1: When shopping for locally produced foods, I notice if there are enough store employees to service my needs.
	CSR2: When shopping for locally produced foods, I notice if store employees are friendly to me.
	CSR3: When shopping for locally produced foods, I notice if store employees are helpful to me.
	CSR4: The store(s) employees seem to be knowledgeable about locally produced foods.
Store promotions responsiveness	SPR1: When provided by the grocery store(s), I like to sample locally produced foods before buying.
	SPR2: I pay attention to in-store promotions for locally produced foods.
	SPR3: I would enjoy using coupons for locally produced foods, regardless of the amount I save by doing so.
	SPR4: Redeeming coupons for locally produced foods would make me feel good.
	SPR5: It is important to sample locally produced foods in a grocery store before spending the money to buy them.

CHAPTER IV

DATA ANALYSIS AND RESULTS

Within the current chapter, data collected from the proposed methodology are analyzed and results of hypotheses testing, previously introduced in Chapter II, are discussed. Preliminary and sample descriptive analysis was completed using SPSS Statistical Software 18.0. The overall research model and supporting hypotheses were tested through a two-step approach of structural equation modeling (Anderson & Gerbing, 1988), using AMOS 18.0. In step one, Confirmatory Factor Analysis (CFA) was completed to determine if the observed measurement items were representative of the latent constructs they were proposed to measure. After completion of the CFA, step two included the specification of a structural model to review causal relationships between the latent constructs and to test the effects of price consciousness on the relationship of intention to purchase locally produced foods and the extent of locally produced foods purchased. The structural model was assessed using a variety of diagnostic tools including the chi-square (χ^2) test, a test of the ratio of chi-square to degrees of freedom (χ^2/df), a comparative fit index (CFI) statistic, the normed fit index (NFI), and the root mean square error of approximation (RMSEA).

Section I summarizes the preliminary analyses including the mean, standard deviation, minimum values, maximum values, skewness, and kurtosis of the main survey data. Section II reviews descriptive analysis related to the grocery and locally produced food shopping patterns of the respondents. Section III reviews and discusses the CFA measurement model and examines issues related to the unidimensionality of each measure, reliability, validity of each construct, and fit statistics associated with each. Section IV reviews and discusses the structural model. This includes evaluation of the overall model, a discussion of results stemming from

hypotheses testing, and any potential revisions to the structural model. Finally, section V tests and discusses possible indirect effects of store atmospheric responsiveness on the relationship between intention to purchase and extent of purchase.

PRELIMINARY ANALYSIS

Preliminary analysis using SPSS 18.0 included review of descriptive statistics derived from the measurement items. These statistics, shown in Table 9, include item minimum and maximum values, means, standard deviations, and the skewness and kurtosis values for each of the measurement items. Using a 7-point Likert scale, the mean values ranged from a low of 3.02 for one item of perceived consumer effectiveness (PCE2) to a high of 6.10 for one measure of attitude, “Purchasing locally produced foods is negative /positive” (AT5). As an entirety, the three items measuring ‘purchase intention for locally produced foods’ reflected high means (IP1 = 5.99; IP2 = 5.84; IP3 = 5.94) while the four items measuring customer service responsiveness reflected the lowest group means (CSR1 = 4.28; CSR2 = 4.71; CSR3 = 4.70; CSR4 = 4.53). Standard deviations of the measures ranged from 1.083 (AT5) to 1.806 (PCE2).

Table 9. Measurement Item Descriptive Statistics

Construct	Item	min	max	mean	STD	skew	kurtosis
Attitude toward purchase of locally produced foods	AT1	1	7	4.63	1.451	-.311	-.119
	AT2	1	7	5.56	1.309	-.779	.387
	AT3	1	7	5.26	1.514	-.672	-.133
	AT4	1	7	5.01	1.428	-.639	.302
	AT5	1	7	6.10	1.083	-1.317	2.019
	AT6	1	7	5.90	1.218	-1.211	1.596
	AT7	1	7	5.91	1.288	-1.494	2.729
Subjective norms regarding purchase of locally produced foods	SN1	1	7	4.28	1.703	-.267	-.527
	SN2	1	7	4.08	1.787	-.181	-.792
	SN3	1	7	4.12	1.786	-.174	-.754
	SN4	1	7	4.38	1.632	-.271	-.359
	SN5	1	7	4.24	1.792	-.242	-.749
Perceived product availability (PPA)	PPA1	1	7	5.64	1.243	-.810	.418
	PPA2	1	7	5.08	1.507	-.639	.050
	PPA3	1	7	4.76	1.438	-.339	-.249
Perceived consumer effectiveness (PCE)	PCE1	1	7	4.59	1.705	-.425	-.442
	PCE2	1	7	3.02	1.806	.552	-.726
	PCE3	1	7	5.45	1.368	-.728	.187
Intention to purchase locally produced foods	IP1	1	7	5.99	1.217	-1.127	.904
	IP2	1	7	5.84	1.289	-1.006	.651
	IP3	1	7	5.94	1.216	-1.025	.503
Extent of Purchase	EP1	1	7	4.70	1.478	-.519	.071
	EP2	1	7	4.56	1.738	-.458	-.557
	EP3	1	7	4.62	1.743	-.501	-.491
	EP4	1	7	4.47	1.785	-.397	-.684
	EP5	1	7	5.16	1.406	-.767	.667
	EP6	1	7	4.99	1.487	-.683	.300
	EP7	1	7	4.71	1.687	-.538	-.356
Price consciousness	PC1	1	7	4.94	1.636	-.612	-.206
	PC2	1	7	4.85	1.754	-.567	-.456
	PC3	1	7	4.90	1.663	-.613	-.232
	PC4	1	7	5.13	1.495	-.626	.134

Table 9. (Continued)

Construct	Item	min	max	mean	STD	skew	kurtosis
Store atmospheric responsiveness							
Product Assortment Responsiveness	PAR1	1	7	4.94	1.481	-.534	-.025
	PAR2	1	7	4.88	1.406	-.419	-.101
	PAR3	1	7	4.89	1.567	-.465	-.450
Display factors responsiveness	DFR1	1	7	5.12	1.431	-.561	.002
	DFR2	1	7	4.39	1.638	-.245	-.489
	DFR3	1	7	4.62	1.603	-.415	-.317
Customer Service Responsiveness	CSR1	1	7	4.28	1.706	-.191	-.717
	CSR2	1	7	4.71	1.688	-.450	-.494
	CSR3	1	7	4.70	1.677	-.460	-.440
	CSR4	1	7	4.53	1.571	-.355	-.281
Store Promotions Responsiveness	SPR1	1	7	4.76	1.675	-.488	-.360
	SPR2	1	7	5.30	1.462	-.886	.624
	SPR3	1	7	5.36	1.478	-.832	.404
	SPR4	1	7	5.50	1.501	-.996	.631
	SPR5	1	7	4.26	1.723	-.186	-.674

Analysis of the skewness and kurtosis of the data was completed to identify potential issues regarding univariate and multivariate normality. The range of absolute values for skewness ranged from .174 to 1.494, while the kurtosis absolute values ranged from .002 to 2.729. Kline (2005) noted that absolute values of skewness greater than 3.0 and absolute values of kurtosis greater than 10.0 may suggest normality problems with the data that need further investigation. However, the current results suggest that both univariate and multivariate normality of data can be inferred.

Measure of Internal Consistency & Reliability (alpha)

The individual items proposed to measure each underlying construct were analyzed using SPSS Statistical Software 18.0 to check for internal consistency, a measure of relatedness of the items as an entirety. Kline (2005) suggested the importance of testing responses to ensure effects from random measurement error do not alter the relationship of each individual item to the construct or to other similar items within the group. Cronbach's coefficient alpha, a commonly used and reported statistical measure of internal consistency reliability (Kline, 2005) that is considered to be a "lower bound of reliability" (Cortina, 1993, p.101), was calculated for each of the proposed constructs relating to attitude, subjective norms, perceived product availability, perceived consumer effectiveness, intention to purchase, store atmospheric responsiveness, product assortment responsiveness, display factors responsiveness, customer service responsiveness, store promotions responsiveness, extent of locally produced foods purchased and price consciousness (Table 10). The overall range was from .501 to .956. Similar to the pilot test, the latent construct PCE reflected low reliability in the main study with item PCE2 remaining problematic. By removing measure PCE2, the reliability coefficient alpha for the pair of measures PCE1 & PCE3 increased to .685. With this in mind, measurement item PCE2 was removed from further analysis within the measurement model and structural model.

Table 10. Construct Reliabilities (Main Study; N =600)

Construct	Number of Items	Reliability (Cronbach's alpha)
Store atmospheric responsiveness	15 **	0.941
Product assortment responsiveness	3	0.885
Display factors responsiveness	3	0.847
Customer service responsiveness	4	0.897
Store promotions responsiveness	5	0.833
Attitude	7	0.890
Extent of purchase	7	0.912
Subjective norms	5	0.922
Price consciousness	4	0.915
Purchase intention	3	0.956
Perceived product availability (PPA)	3	0.815
Perceived consumer effectiveness (PCE)	3 *	0.501
Perceived consumer effectiveness (PCE1 & PCE3 only)	2	0.685

* reverse scoring of item PCE2

** includes dimensions of product assortment, display factor, customer service, and store promotions

SAMPLE DESCRIPTIVE ANALYSIS

Descriptive analysis of the sample was completed regarding responses to two questions relating to how consumers define and conceptualize the term “Locally Produced Foods” and four questions relating to grocery shopping habits of the respondents. Question 1, “Please choose the option that best fits your definition of the term ‘Locally Produced Foods’”, reflected a good distribution of responses across four definitions. Responses were equal (N = 139) for “Within my county of residence” and “Within 50 miles of my residence”. The next set of responses included “Within my state of residence” (N = 122) and “Within my community of residence” (N = 115). Only a handful of respondents (N = 8) suggested that local be defined as “Within the United States”. The frequencies and percentages by definition are listed in Table 11.

Table 11. Geographic Definitions of “Locally Produced Foods”

Channel Type	Frequency (N = 600)	Percentage
Within my county of residence	139	23.2%
Within 50 miles of my residence	139	23.2%
Within my state of residence	122	20.3%
Within my community of residence	115	19.2%
Within 100 miles of my residence	53	8.8%
Within my region of residence	24	4.0%
Within the United States	8	1.3%

Question 2 asked respondents to indicate all of the conceptualizations that they may have for locally produced foods (e.g., “I consider locally produced foods to be: Select all that apply”). Most (N = 345) considered “Foods produced by my neighbors” as part of local, while almost half (N = 297) suggested that “Foods that come from community supported agriculture memberships” was part of their conceptualization. “Foods that are environmentally safe” (N = 230) and “Sustainably produced and distributed foods” (N = 214) were also cited frequently. Almost 1/3 of respondents (N = 198) suggested “Foods that are organically grown” was also part of their conceptualization of locally produced foods, while 183 respondents identified the concepts of “socially responsible” and “local government support” with locally produced foods. The frequencies and percentages by conceptualization are listed in Table 12.

Table 12. Conceptualizations of “Locally Produced Foods”

Channel Type	Frequency (N = 600)*	Percentage**
Foods produced by my neighbors	345	57.5%
Foods that come from community supported agriculture memberships	297	49.5%
Foods that are environmentally safe	230	38.3%
Sustainably produced and distributed foods	214	35.7%
Foods that are organically grown	198	33.0%
Foods grown and supported by local government	183	30.5%
Socially responsible foods	183	30.5%
Other	33	5.5%

* Total frequency is greater than N = 600 as respondents could select more than one answer

** Total percentage is greater than 100% as respondents could select more than one answer

The first question relating to shopping habits, “How many different stores do you typically shop for all of your locally produced foods?” reflected that 2 stores (N = 205) and 3 stores (N = 202) were the most common responses, followed by 1 store (N = 86), 4 stores (N = 64), 5 or more stores (N = 36), with 7 respondents citing “Other”. Respondents were also asked to indicate the name of the grocery store(s) they most often shop. The most frequently shopped stores were Wal-Mart (N = 121), Kroger (N = 51), Publix (N = 34), Shop Rite (N = 28) and Safeway (N = 26), with other large stores such as Target, Sam’s Club, and Giant Eagle reflecting a total of 11 each. Responses to, “What is the name of the grocery store(s) that you most often shop for locally produced foods?”, also supported large grocery store chains such as Wal-Mart (N = 36) and Kroger (N = 34) but also included Whole Foods (N = 25), Publix (N = 18), Trader Joe’s (N = 17) and places like Sprouts, Piggly Wiggly, Fred Meyer and Hy-Vee (N = 6 for each). Shopping descriptives relating to the frequency of stores shopped and specific names of stores is listed in Table 13.

Table 13. Shopping Descriptor Frequencies

Measure	Frequency (N = 600)		
How many different stores do you typically shop in for all of your groceries?	2 stores = 205 3 stores = 202 1 store = 86 4 stores = 64 5 or more stores = 36 Other = 7		
What is the name of the grocery store(s) that you MOST OFTEN shop?	Wal-Mart = 121 Albertson's = 20 Ralph's = 14 Kroger = 51 Meijer = 17 Aldi's = 14 Publix = 34 Stop & Shop = 16 Top's Markets = 14 Shop Rite = 28 Trader Joe's = 16 Wegmans = 13 Safeway = 26 Winn-Dixie = 14 HEB = 12 (Target, Sam's Club, & Giant Eagle had a total of 11 each)		
What is the name of the grocery store(s) that you MOST OFTEN SHOP for LOCALLY PRODUCED FOODS?	Wal-Mart = 36 Safeway = 13 Top's Markets = 10 Kroger = 34 HEB = 12 Food Lion = 8 Whole Foods = 25 Wegmans = 12 Shop Rite = 8 Publix = 18 Albertson's = 11 Giant Eagle = 7 Trader Joe's = 17 Meijer = 10 Stop & Shop = 7 (Sprouts, Piggly Wiggly, Fred Meyer, and Hy-Vee had a total of 6 each)		

Respondents were also asked to consider the stores that they most often shop for locally produced food and indicate the extent that they *Agree* or *Disagree* that categories within their store carry locally produced food items. Using a 7-point Likert scale from (1) *Strongly disagree* to (7) *Strongly agree*, responses reflected that categories such as Vegetables (N = 369), Fruits (N = 320), Eggs (N = 271), Baked Products (N = 270), and Milk and Bread (N = 243 each) were highly represented categories within their chosen stores. Contrary to these categories, others such as Fish & Shellfish (N = 194), Candy/Nuts/Confectionery (N = 187), and Beer (N = 227) may be less represented categories within each chosen store. Mean response statistics for each of the fourteen product categories are listed in Table 14.

Table 14. Product Category Descriptives (means)

Product Category	Means (N = 600)*
Vegetables	5.64
Fruits	5.39
Eggs	5.10
Baked Products	5.02
Milk	4.89
Bread	4.82
Cheese	4.47
Yogurt / Ice Cream	4.33
Jellies / Jams / Honey	4.32
Sauces / Condiments	4.04
Meat	4.00
Fish & Shellfish	3.72
Candy / Nuts / Confectionery	3.54
Beer	3.40

*Means were calculated from a seven-point Likert scale, with responses ranging from (1) *Strongly disagree* to (7) *Strongly agree*

Finally, respondents were asked to indicate all of the places in which they purchase locally produced foods. The most often cited channels were national grocery stores such as Kroger, Publix, or Safeway (N = 381), followed by farmers' markets (N = 340), supercenter stores such as Wal-Mart, Target, or Meijer (N = 226), specialty food stores such as Whole Foods, Earth Fare, or Trader Joe's (N = 198), warehouse clubs such as Sam's Club or Costco (N = 100), community supported agriculture (N = 78), and "Other" (N = 90). The frequencies and percentages of responses for each of the seven categories of shopping channels are listed below in Table 15.

Table 15. Shopping Channels for Locally Produced Foods

Channel Type	Frequency* (N = 600)	Percentage**
National grocery stores (i.e., Kroger, Publix, Safeway)	381	63.5%
Farmers' markets	340	56.7%
Supercenters (i.e., Wal-Mart, Target, Meijer)	226	37.7%
Specialty grocery stores (i.e., Whole Foods, Earth Fare, Trader Joe's)	198	33.0%
Warehouse clubs (i.e., Sam's Club, Costco)	100	16.7%
Other	90	15.0%
Community supported agriculture	78	13.0%

* Total frequency is greater than N = 600 as respondents could select more than one answer

** Total percentage is greater than 100% as respondents could select more than one answer

MEASUREMENT MODEL EVALUATION

Using Anderson's and Gerbing's (1988) methodology of a two-step approach to structural equation modeling, step one included the use of Confirmatory Factor Analysis (CFA) on the latent variables and creation of a measurement model prior to testing the proposed structural model. This step includes the evaluation of issues related to validity and reliability of the constructs and measures, along with overall fit of the proposed model. CFA was first completed on each individual latent construct, followed by the creation of a measurement model where all individual measures were loaded on their proposed latent constructs and subsequently correlated to one another for review and modification (if necessary). Maximum likelihood (ML) was used to estimate the parameters in both the measurement model and structural model, given that ML is considered a robust estimation technique (Kline, 2005). Byrne (2001) noted four conditions that must be present for ML estimation. They include: 1) large sample size, 2) a multivariate normal distribution, 3) a valid hypothesized model, and 4) use of a continuous scale

for measuring observed variables. It was determined by the researcher that each of these conditions was met, given the current data, hypothesized model, and observed measures utilized.

To adequately assess the fit of the models, a number of diagnostic statistics were reviewed. The χ^2 statistic, which Byrne (2001) defined as “the discrepancy between the unrestricted sample covariance matrix and the restricted covariance matrix”(p.79), provides a means to reviewing the difference between the proposed model with a number of parameter constraints to one which is unconstrained. The degrees of freedom (df), which indicates the number of parameters allowed to vary, is also utilized to help calculate model fit (Byrne, 2001). The χ^2 / df ratio, suggested as less than 5.0 to indicate reasonable fit (Bollen, 1989; Kline, 2005), adjusts for sample size differences within the data. The comparative fit index (CFI) and normed fit index (NFI) are considered incremental indexes that compare the hypothesized model with a baseline model, and values above .90 are considered reasonably good fit (Kline, 2005; Bentler, 1992). Finally, the root mean square error of approximation (RMSEA) is affected by model complexity and supports parsimony. Values of .08 or less suggest reasonable approximation (Browne & Cudeck, 1993; Kline, 2005), while Hu and Bentler (1999) suggest a .06 cutoff for good fit of the model and the observed data. Based upon the above literature, the model fit criteria for the current study was as follows: χ^2 / df ratio < 5, CFI > .90, NFI > .90, RMSEA < .08, $p > .05$. In situations where the χ^2 statistic does not meet the required threshold of $p > .05$, other fit statistics such as CFI and RMSEA will be used to analyze model fit.

INDIVIDUAL CONSTRUCT CFA

Prior to development of the final measurement model, individual CFA for each of the twelve constructs were completed. These included store atmospheric responsiveness, attitude,

purchase extent, store promotions responsiveness, subjective norms, customer service responsiveness, price consciousness, display factors responsiveness, product assortment responsiveness, purchase intention, perceived consumer effectiveness and perceived product availability. The fit statistics for each of the individual measurement models are listed in Table 16. Statistics resulting from individual construct analysis, from constructs with three or less measurement items such as display factors responsiveness, product assortment responsiveness, purchase intention, perceived consumer effectiveness and perceived product availability, indicated no degrees of freedom and a zero chi-square statistic using AMOS 18.0.

Table 16. Initial Fit Statistics for Individual Constructs

Construct	Number of items	$\chi^2 (df)$	χ^2/df^1	CFI ²	NFI ³	RMSEA ⁴
Store atmospheric responsiveness (2 nd order factor)	15	982.017 (86)	11.419	0.867	0.857	0.132
Attitude toward purchase	7	449.470 (14)	32.105	0.826	0.822	0.228
Extent of purchase	7	502.877 (14)	35.920	0.833	0.829	0.241
Store promotions responsiveness	5	327.851 (5)	65.570	0.790	0.788	0.328
Subjective norms	5	24.363 (5)	4.873	0.992	0.990	0.080
Customer service responsiveness	4	19.306 (2)	9.653	0.989	0.987	0.120
Display factors responsiveness	3	N/A	N/A	N/A	N/A	0.656
Product assortment responsiveness	3	N/A	N/A	N/A	N/A	0.745
Intention to purchase	3	N/A	N/A	N/A	N/A	1.035
Perceived product availability	3	N/A	N/A	N/A	N/A	0.594
Perceived consumer effectiveness	2	N/A	N/A	N/A	N/A	0.578

¹ < 5 indicates acceptable fit level (Wheaton et al., 1977), < 2 = good fit (Bollen, 1989)

² ≥ 0.80 = acceptable fit, ≥ 0.90 = good fit

³ ≥ 0.80 = acceptable fit, ≥ 0.90 = good fit

⁴ < 0.05 = very good, < 0.08 = acceptable, < 0.10 = mediocre, ≥ 0.10 = poor errors of approximation (Byrne, 2001).

Improvement of Model Fit for Individual Construct CFA

The improvement to each CFA model was based upon criteria such as regression weight estimate significance, standardized regression weight values, standardized residual covariances and modification indices. When interpreting the standardized regression weight coefficients, Bollen (1989, p.138) suggested values of .2 as “weak”, .4 as “moderate”, and .9 as “strong” while Kline (2005) noted that “standardized path coefficients with absolute values less than .10 may indicate a ‘small’ effect; values around .30 a ‘typical’ or ‘medium’ effect; and ‘large’ effects may be indicated by coefficients with absolute values $\geq .50$ ” (p.122). Byrne (2001) noted that standardized residuals “represent estimates of the number of standard deviations the observed residuals are from the zero residuals that would exist if model fit were perfect” (p.80), and covariance values between observed variables greater than absolute 2.58 are suggested as “large” and in need of investigation (Jöreskog & Sörbom, 1988; Byrne, 2001). Using the criteria listed above, modifications to each model were completed. Measurement items with low standardized regression coefficients, high standardized residual covariances, or high modifications indices were reviewed to determine whether the measurement items would be kept in the model or eliminated. For those latent constructs with three or less observed measures and no χ^2 , CFI, or NFI statistics available in AMOS 18.0, the researcher chose to include the constructs within the measurement model despite large RMSEA values. Chen, Curran, Bollen, Kirby, and Paxton (2008) reviewed fixed cutoff points of RMSEA in structural equation modeling and concluded that minimal empirical support for use of a RMSEA cutoff currently exists, and that multiple indices should be utilized. They also noted that size and complexity of the model along with human judgment should be factored into decisions regarding potential model misspecification. With this in mind, the researcher decided to keep these latent constructs within the measurement

model for further testing and analysis. For latent constructs where changes were made, a brief discussion of the modifications is listed below. Revised and improved fit statistics for the individual construct CFA are listed in Table 17.

Store Atmospheric Responsiveness (2nd order factor)

Store atmospheric responsiveness (SAR) was hypothesized as a second order factor reflected by four latent indicators; product assortment responsiveness (PAR), display factors responsiveness (DFR), customer service responsiveness (CSR), and store promotions responsiveness (SPR). The initial CFA model included all fifteen measurement items. The fit indices suggested an unacceptable fit and in need of revision. Modification indices indicated that the following pairs of measurement items needed investigation: SPR4 & SPR3, SPR1 & SPR5, SPR5 & SPR2, and CSR2 & CSR3. Responses suggested that measures of store promotions responsiveness are highly associated with one another, specifically SPR3 & SPR4 that measure coupon usage and SPR5 & SPR1 that measure in-store sampling behavior. Customer service responsiveness measures related to personality characteristics such as friendliness and helpfulness (CSR2 & CSR3) were also highly related. After adding error covariances between these pairs of measures, the final overall model exhibited good fit.

Attitude Toward Purchase

The standardized residual covariances and modification indices between item pairs AT1 & AT4, AT1 & AT2, AT1 & AT3, AT2 & AT3, AT2 & AT4, and AT3 & AT4 all appeared high and suggested this group of four measures were related and cross-loaded. Three of the four measures (AT1, AT2, & AT4) discussed the importance of locally produced foods while all four measures also suggested the importance of availability or access. The modification indices for

AT1 & AT4 were especially high (135.362). After covarying the error terms between AT1, AT2, AT3, & AT4, the overall model fit improved significantly.

Extent of Purchase

Standardized residual covariances for items EP5 & EP6 and EP4 & EP7 warranted investigation. Modification indices for items EP5 & EP6 (211.959) and EP4 & EP7 (128.417) were especially high and suggested covarying the error terms since these items were cross-loaded. Item pairs EP5 & EP1 and EP6 & EP1 also warranted investigation. Respondents appeared to consider “loyalty” to local foods as being associated with fruit and vegetable food items, and associated fruit and vegetable items as similar as well as bread and baked goods. As these items conceptually appeared to be related, changes were made by covarying the error terms as the researcher wanted to avoid eliminating any of the specific item category variables from further analysis. Changes resulted in a significant model fit improvement.

Store Promotions Responsiveness

Standardized residual covariances and the modification indices for items SPR1 & SPR2, SPR1 & SPR5, and SPR2 & SPR5 suggested covarying the error terms as these items were cross-loaded. Respondents appeared to consider the two questions relating to product samples as similar and together related to their view of in-store promotions. As these pairs of items appeared conceptually related and were considered as part of store promotions, changes were made to improve the model fit.

Customer Service Responsiveness

Modification indices for items CSR2 & CSR3 suggested covarying the error terms.

Respondents appeared to consider the idea of “friendly” and “helpful” sales clerks to be related.

After covarying the error terms, model fit improved.

Table 17. Revised Fit Statistics for Individual Constructs

Construct	Observed Measures	Error terms covaried	$\chi^2 (df)$	χ^2/df^1	CFI ²	NFI ³	RMSEA ⁴
Store atmospheric responsiveness (2 nd order factor)	15	CSR2,CSR3 SPR1,SPR5 SPR2,SPR5 SPR3,SPR4 SPR1, SPR2	381.775 (82)	4.656	0.956	0.944	0.078
Attitude toward purchase	7	AT1,AT2 AT1,AT3 AT1,AT4 AT2,AT3 AT2,AT4 AT3,AT4	13.238 (8)	1.655	0.998	0.995	0.033
Extent of purchase	7	EP1,EP5 EP1,EP6 EP4,EP7 EP5,EP6	43.569 (10)	4.357	0.989	0.985	0.075
Store promotions responsiveness	5	SPR1,SPR2 SPR1,SPR5 SPR2,SPR5 SPR3, SPR4	5.282 (5)	2.641	0.998	0.997	0.052
Subjective norms	5		24.363 (5)	4.873	0.992	0.990	0.080
Customer service responsiveness	4	CSR2, CSR3	19.306 (2)	9.653	0.989	0.987	0.120
Display factors responsiveness	3		N/A	N/A	N/A	N/A	0.656
Product assortment responsiveness	3		N/A	N/A	N/A	N/A	0.745
Intention to purchase	3		N/A	N/A	N/A	N/A	1.035
Perceived product availability	3		N/A	N/A	N/A	N/A	0.594
Perceived consumer effectiveness	2		N/A	N/A	N/A	N/A	0.578

¹ < 5 indicates acceptable fit level (Wheaton et al., 1977), < 2 = good fit (Bollen, 1989)

² ≥ 0.80 = acceptable fit, ≥ 0.90 = good fit; ³ ≥ 0.80 = acceptable fit, ≥ 0.90 = good fit

⁴ < 0.05 = very good, < 0.08 = acceptable, < 0.10 = mediocre, ≥ 0.10 = poor errors of approximation (Byrne, 2001).

MEASUREMENT MODEL

Confirmatory Factor Analysis (CFA) was completed for the proposed 11 construct measurement model containing 42 observed variables. Similar to the analysis of the individual CFA models, fit criteria was assessed using: χ^2 statistic, χ^2 / df ratio < 5, CFI > .90, NFI > .90, RMSEA < .08, $p > .05$. Fit statistics for the initial measurement model are shown in Table 18.

Table 18. Fit Statistics for the Initial Measurement Model

Fit Statistics	
$\chi^2 (df)$	2906.459 (780) *
χ^2 / df	3.726
CFI	0.901
NFI	0.871
RMSEA	0.067

* $p < .001$

Improvement of CFA Model Fit

All of the items had standardized loadings (lambda weights) above .40 and reflected significant regression weights. Overall, the model exhibited moderate fit based upon the χ^2 / df , CFI, and RMSEA fit statistics and previously suggested correlated error terms for the individual constructs ($\chi^2 = 2906.459$, χ^2 / df ratio = 3.726, CFI = .901, NFI = .871, RMSEA = .067). However, several standardized residual covariances for items AT5 and measures such as CSR1, DFR2, PPA1, PCE1 along with covariances for item SPR5 and measures such as AT5, IP3, PPA1, AT1 & AT4 were above the 2.58 threshold which suggested these measures as potential covariance problems. Similarly, SPR5 reflected high modification indices with error terms of CSR, PAR, DFR1, DFR2, & PPA1 while AT5 reflected high modification indices with IP1, PPA1, & PCE1. From this information, the researcher first decided to remove measurement item

SPR5 which was similar to measurement item SPR1 concerning consumer views on product samples. Improvement to the model fit was minimal. A subsequent review of the modification indices suggested that the errors for EP2 & EP3 (MI = 45.130), covary EP3 & EP4 (MI = 21.279), covary PPA3 & PAR2 covary (MI = 35.125), AT7 & AT6 covary (MI = 23.465), and AT3 & PCE1 (MI = 26.429). For sake of parsimony and lack of significance, error covariances between EP1 & EP5 and EP1 & EP6 were subsequently dropped. A matrix of correlations between each of the constructs, after modifications were made to the model, is listed in Table 19.

Table 19. Correlation Matrix of Constructs

Construct		1	2	3	4	5	6	7
1.	Store atmospheric responsiveness	1.00						
2.	Attitude	.631	1.00					
3.	Subjective norms	.754	.529	1.00				
4.	Perceived consumer effectiveness	.880	.870	.841	1.00			
5.	Perceived product availability	.650	.659	.614	.775	1.00		
6.	Intention to purchase	.544	.796	.443	.705	.673	1.00	
7.	Extent of purchase	.811	.633	.713	.820	.709	.607	1.00

The measurement model included a total of 11 latent constructs that were measured by a total of 41 observed variables. The model fit was acceptable ($\chi^2 = 2516.607$, $df = 739$, χ^2 / df ratio = 3.405, CFI = .916, NFI = .885, RMSEA = .063). The regression weight estimates for all of the items ranged from .658 to 1.354, standardized path estimates ranged from .567 to .979, and all of the paths were significant at $p < .001$.

Initial Construct Validity

Convergent and discriminant validity were assessed for the construct relationships as shown in Table 20 below. Kline (2005) noted that convergent validity is achieved when the variables used to measure the construct reflect moderate intercorrelations. This was tested by measuring the average variance extracted (AVE) for each latent construct, suggested by Fornell and Larker (1981) as larger than .50 to infer convergent validity. The data ranged from .722 to .938, suggesting the condition of convergent validity was met. Discriminant validity, noted by Kline (2005) as variables that should measure different constructs not reflecting high intercorrelations, was also tested by comparing the AVE to the shared variances between each construct, indicated by squared correlation coefficients (Fornell and Larker, 1981). From the data listed in Table 20 below, perceived consumer effectiveness reflected a higher squared correlation coefficient with attitude (.757) compared to the AVE coefficient of attitude (.722). This infers that perceived consumer effectiveness and attitude, as measured, are highly related. These results also suggested that these two constructs may not be practically different from one another within the context for shopping for locally produced foods at a grocery store, therefore requiring further analysis within the proposed CFA model.

Table 20. Initial Construct Validity of the Final Measurement Model

Construct		1	2	3	4	5	6	7
1.	Store atmospheric responsiveness	0.790						
2.	Attitude	0.397	0.722					
3.	Subjective norms	0.569	0.280	0.846				
4.	Perceived consumer effectiveness	0.774	0.757	0.707	0.726			
5.	Perceived product availability	0.423	0.434	0.377	0.601	0.766		
6.	Intention to purchase	0.296	0.634	0.196	0.497	0.453	0.938	
7.	Extent of purchase	0.658	0.401	0.508	0.672	0.503	0.368	0.748

Diagonal entries reflect the average variance extracted (AVE) for each construct

Off-diagonal entries reflect the variance (squared correlations) shared between constructs

Final Measurement Model Fit

Given the results from the convergent and discriminant validity testing, the final measurement model was adjusted by deleting perceived consumer effectiveness and loading its observed variables (PCE1 and PCE3) on attitude. The standardized loadings of PCE1 (.691) and PCE3 (.772) on attitude as well as their t-value significance (15.150; 16.652) at $p < .05$ suggested that the items adequately represented the construct. Other changes were suggested from the revised model. The error covariance between AT1 and AT3 was removed based upon an insignificant relationship. Item AT5 reflected a high standardized residual covariance with a number of other items, including SN2 (4.556), AT6(5.051), AT7(4.484), CSR1 (5.145) as well as high modification indices with AT6 (93.819), AT1 (28.716), and PCE1 (67.001). Measurement item AT5 was subsequently dropped from the model. The error covariances between items AT1, AT2, AT3 and AT4 were removed for both parsimony and lack of significance. An error covariance between EP3 & EP7 was added as the modification indices (31.59) suggested these correlate, while AT6 and PCE3 also had the error terms covary based upon modification indices (24.578). Items SN1 & SN4 also suggested covarying error terms (MI

= 23.967) as did items AT2 and PPA1 (MI = 23.315). The final model displayed good fit to the data ($\chi^2 = 2095.986$, χ^2 / df ratio = 2.956, CFI = .932, NFI = .901, RMSEA = .057). All regression weight estimates for all of the items ranged from .681 to 1.689, standardized path estimates ranged from .587 to .979, and all of the paths were significant at $p < .001$. Construct modifications for the measurement model is listed in Table 21.

Table 21. Construct Modifications for Final Measurement Model

Construct	Modifications (based high standard residual covariances or modification indices)
Store atmospheric responsiveness	• Dropped SPR5 • Correlated error variances of SPR3 and SPR4 • Correlated error variances of CSR2 and CSR3 • Correlated error variances of PAR2 and PPA3
Attitude	• Dropped AT5 • Added measurement items PCE1 and PCE3 • Correlated error variances of AT6 and AT7 • Correlated error variances of AT2 & PPA1 • Correlated error variances of AT6 and PCE3
Subjective norms	• Correlated error variances of SN1 and SN4
Perceived consumer effectiveness	• Dropped construct from final measurement model • Measures PCE1 and PCE3 part of construct 'Attitude'
Perceived product availability	• Correlated error variances of PPA1 and AT2 • Correlated error variances of PPA3 and PAR2
Extent of purchase	• Correlated error variances of EP2 and EP3 • Correlated error variances of EP3 and EP4 • Correlated error variances of EP3 and EP7 • Correlated error variances of EP4 and EP7 • Correlated error variances of EP5 and EP6

The final measurement model was comprised of 10 constructs and a total of 40 observed variables. A correlation matrix of the final measurement model is listed in Table 22, and the construct validity coefficients for the final measurement model are reflected in Table 23. A

complete listing of the measurement items, standardized factor loadings, t-values, and composite reliabilities of the 10 constructs in the final measurement model is listed in Table 24.

Table 22. Final Correlation Matrix of Constructs in Measurement Model

Construct		1	2	3	4	5	6
1.	Store atmospheric responsiveness	1.00					
2.	Attitude	.799	1.00				
3.	Subjective norms	.757	.785	1.00			
4.	Perceived product availability	.654	.739	.625	1.00		
5.	Intention to purchase	.544	.696	.445	.669	1.00	
6.	Extent of purchase	.817	.805	.717	.716	.612	1.00

Table 23. Updated Construct Validity of the Final Measurement Model

Construct		1	2	3	4	5	6
1.	Store atmospheric responsiveness	0.790					
2.	Attitude	0.638	0.725				
3.	Subjective norms	0.573	0.616	0.849			
4.	Perceived product availability	0.428	0.546	0.391	0.768		
5.	Intention to purchase	0.296	0.484	0.198	0.448	0.937	
6.	Extent of purchase	0.667	0.648	0.514	0.513	0.375	0.743

Diagonal entries reflect the average variance extracted (AVE) for each construct

Off-diagonal entries reflect the variance (squared correlations) shared between constructs

Table 24. Item Factor Loadings and Fit Statistics for Final Measurement Model

Construct	Scale Items	Standardized Factor Loading	t-value	Composite Reliability
Store Atmospheric Responsiveness				0.958
	PAR1: I notice stores that have the right merchandise selection of locally produced food products.	0.884	*	
	PAR2: The store(s) offer(s) the assortment of locally produced food products I am looking for.	0.797	24.904**	
	PAR3: I notice stores that have an extensive assortment of locally produced food products.	0.854	27.929**	
	DFR1: I enjoy seeing displays of locally produced food products that have superior designs.	0.783	22.433**	
	DFR2: I see things in grocery displays of locally produced foods that other people tend to pass over.	0.806	23.423**	
	DFR3: The design of a locally produced food display is a source of pleasure for me.	0.835	*	
	CSR1: When shopping for locally produced foods, I notice if there are enough store employees to service my needs.	0.790	21.602**	
	CSR2: When shopping for locally produced foods, I notice if store employees are friendly to me.	0.811	31.269**	
	CSR3: When shopping for locally produced foods, I notice if store employees are helpful to me.	0.827	*	
	CSR4: The store(s) employees seem to be knowledgeable about locally produced foods.	0.812	22.424**	
	SPR1: When provided by the grocery store(s), I like to sample locally produced foods before buying.	0.639	16.220**	
	SPR2: I pay attention to in-store promotions for locally produced foods.	0.880	*	
	SPR3: I would enjoy using coupons for locally produced foods, regardless of the amount I save by doing so.	0.645	16.381**	
	SPR4: Redeeming coupons for locally produced foods would make me feel good.	0.633	15.992**	

Table 24. (Continued)

Construct	Scale Items	Standardized Factor Loading	t-value	Composite Reliability
Attitude				0.897
	AT1: It is important to me that food I purchase is grown nearby.	0.836	*	
	AT2: It is important that people should have more locally grown product available to them.	0.782	22.600**	
	AT3: I am worried that local farms are going out of business because most food purchased in grocery stores is grown on larger, faraway farms.	0.644	17.262**	
	AT4: It is important that I can purchase my favorite locally produced foods all year long.	0.783	22.564**	
	AT6: Purchasing locally produced foods is useless (meaningful).	0.649	17.405**	
	AT7: Purchasing locally produced foods is unwise (wise).	0.587	15.359**	
	PCE1: When I buy locally produced foods, I try to consider how my use of them will affect the environment and other consumers.	0.750	21.183**	
	PCE3: Each consumer's behavior can have a positive effect on society by purchasing locally produced foods sold by socially responsible food retailers.	0.730	20.408**	
Subjective Norms				0.927
	SN1: People who are important to me think I should buy locally produced foods.	0.901	36.530**	
	SN2: People who influence my buying behavior think I should buy locally produced foods.	0.872	33.759**	
	SN3: Friends think I should buy locally produced foods.	0.925	*	
	SN4: Society thinks I should buy locally produced foods.	0.649	18.925**	
	SN5: My family thinks I should buy locally produced foods.	0.868	33.323**	
Perceived Product Availability				0.812
	PPA1: I believe I can purchase locally produced foods.	0.744	17.917**	
	PPA2: I can find locally produced foods in my neighborhood.	0.785	*	
	PPA3: I believe that locally produced foods are easily available.	0.774	18.691**	

Table 24. (Continued)

Construct	Scale Items	Standardized Factor Loading	t-value	Composite Reliability
Intent to Purchase				0.956
	IP1: The likelihood that I will buy locally produced foods in the future is: (Highly unlikely / Highly likely)	0.923	43.497**	
	IP2: The certainty that I will buy locally produced foods in the future is: (Highly uncertain / Highly certain)	0.949	*	
	IP3: The chance that I will buy locally produced foods in the future is: (Very little / Excellent)	0.940	46.430**	
Extent of Purchase				0.895
	EP1: When you buy food items at a grocery store, to what extent are you “loyal” to locally produced foods?	0.837	*	
	EP2: When you buy eggs at a grocery store, to what extent do you buy locally produced eggs?	0.770	21.498**	
	EP3: When you buy milk at a grocery store, to what extent do you buy locally produced milk?	0.662	17.464**	
	EP4: When you buy bread items at a grocery store, to what extent do you buy locally produced bread items?	0.664	17.597**	
	EP5: When you buy vegetable items at a grocery store, to what extent do you buy locally produced vegetable items?	0.826	23.734**	
	EP6: When you buy fruit items at a grocery store, to what extent do you buy locally produced fruit items?	0.784	21.884**	
	EP7: When you buy baked goods at a grocery store, to what extent do you buy locally produced baked goods?	0.628	16.390**	
Fit Statistics				
χ ² (df)		2095.986 (709)		
χ ² / df		2.956		
CFI		0.932		
NFI		0.901		
RMSEA		0.057		

* Path set to 1.0 within AMOS model

** Significant at $p < 0.001$.

STRUCTURAL MODEL EVALUATION

Upon revising and finalizing the measurement model, the structural model was specified to test the hypothesized relationships between the constructs. The overall fit indices were as follows: ($\chi^2 = 2533.334$, $df = 715$, χ^2 / df ratio = 3.543, CFI = .910, NFI = .880, RMSEA = .065). A review of the standardized residual covariances and of the modification indices suggested that no further model improvement changes, supported by theoretical underpinnings, were necessary. Results from the proposed hypotheses are provided in Table 25.

Table 25. Structural Model: Hypotheses Testing and Fit Statistics

Hypothesis		Structural Path	Standardized Estimate	Standard Error	t-value	Result
H₁ (+)		Attitude → Intention to purchase	0.662	0.073	9.090**	Supported
H₂ (+)		Subjective norms → Intention to purchase	-0.285	0.041	-5.109**	Not supported
H₃ (+)		Perceived consumer effectiveness → Intention to purchase	N/A	N/A	N/A	Not supported
H₄ (+)		Perceived product availability → Intention to purchase	0.375	0.060	6.451**	Supported
H₅ (+)		Intention to purchase → Extent of purchase	0.256	0.037	6.977**	Supported
H₆ (+)		Intention to purchase → Store atmospheric responsiveness	0.566	0.044	13.951**	Supported
H₇ (+)		Store atmospheric responsiveness multidimensional construct reflected in four dimensions (product assortment, display factors, customer service, and store promotions)				Supported
H₇	H_{7a} (+)	Store atmospheric responsiveness → product assortment responsiveness	0.920	0.040	22.915**	Supported
	H_{7b} (+)	Store atmospheric responsiveness → display factors responsiveness	0.980	*	*	Supported
	H_{7c} (+)	Store atmospheric responsiveness → customer service responsiveness	0.892	0.046	20.352**	Supported
	H_{7d} (+)	Store atmospheric responsiveness → store promotions responsiveness	0.848	0.041	20.497**	Supported
H₈(+)		Store atmospheric responsiveness → Extent of purchase	0.669	0.042	14.967**	Supported
H₉(-)		Price consciousness moderates Intent to purchase → Extent of purchase link; Link stronger for less price-conscious consumer				Not supported

* Path set to 1.0 within AMOS model ** $p < 0.001$

HYPOTHESES TESTING

The proposed research model from Chapter III is shown below (in Figure 2), with a brief discussion of the results for each hypothesis:

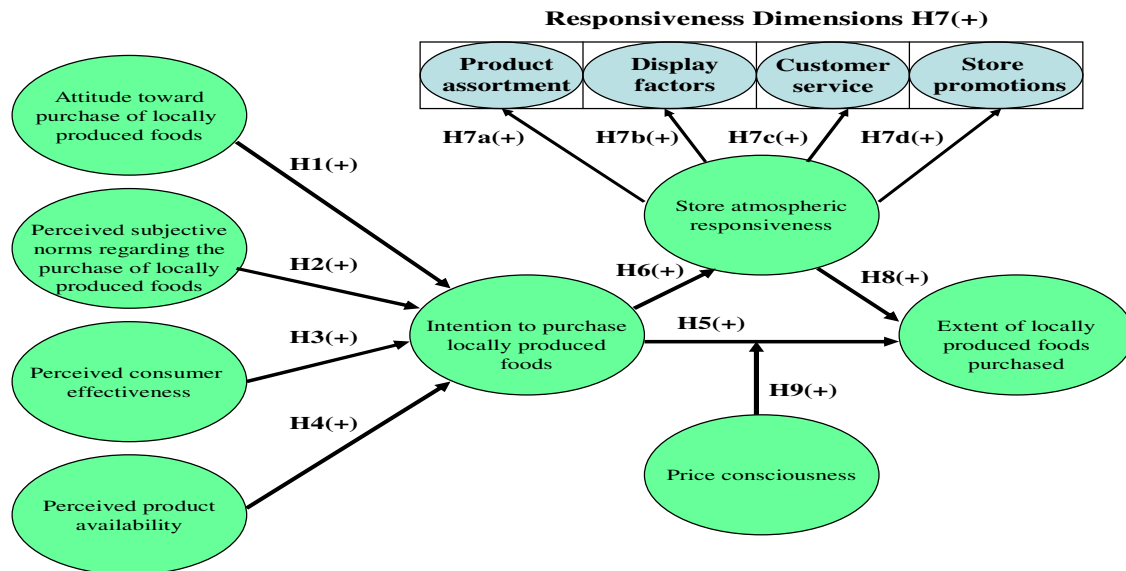


Figure 2. Research Model

H1: Attitude toward purchase of locally produced foods is positively related to intention to purchase locally produced foods

The relationship between attitude toward purchase of locally produced foods and intention to purchase locally produced foods was positive and significant ($\beta = 0.662$, $p < .001$), which supported H1.

H2: Subjective norms regarding the purchase of locally produced foods is positively related to intention to purchase locally produced foods

Although the relationship between subjective norms regarding the purchase of locally produced foods and intention to purchase locally produced foods was significant ($\beta = -0.285$, p

$< .001$), it was not in accordance with the hypothesized positive direction (it was negative).

Therefore, H2 is not supported.

H3: Perceived consumer effectiveness is positively related to intention to purchase locally produced foods

The measures for perceived consumer effectiveness were highly correlated with the latent construct attitude (squared correlation = 0.757) and loaded significantly on the attitude construct ($\beta = 0.743$ for PCE1 and $\beta = 0.732$ for PCE3). Given that the latent construct perceived consumer effectiveness was eliminated from the final measurement and structural models, H3 was not supported.

H4: Perceived product availability is positively related to intention to purchase locally produced foods

The relationship between perceived product availability and intention to purchase locally produced foods was positive and significant ($\beta = 0.375$, $p < .001$), which supported H4.

H5: Intention to purchase locally produced foods is positively related to extent of locally produced foods purchased

The relationship between intention to purchase locally produced foods and extent of locally produced foods purchased was positive and significant ($\beta = 0.256$, $p < .001$), which supported H5.

H6: Intention to purchase locally produced foods is positively related to store atmospheric responsiveness

The direct relationship between intention to purchase locally produced foods and store atmospheric responsiveness was positive and significant ($\beta = 0.566$, $p < .001$), which supported H6.

H7a-d: Store atmospheric responsiveness is a multidimensional latent construct positively reflected in four dimensions (product assortment responsiveness, display factors responsiveness, customer service responsiveness and store promotions responsiveness)

As a second order factor, store atmospheric responsiveness was found to be positively and significantly reflected in the proposed dimensions of product assortment responsiveness, display factors responsiveness, customer service responsiveness, and store promotions responsiveness. Results from the measurement model ($PAR\beta = 0.924$, $DFR\beta = 0.979$, $CSR\beta = 0.891$, $SPR\beta = 0.845$, $p < .001$) supported H7 and H7a-d.

H8: Store atmospheric responsiveness is positively related to extent of locally produced foods purchased

The direct relationship between store atmospheric responsiveness and the extent of locally produced foods purchased was positive and significant ($\beta = 0.669$, $p < .001$), which supported H8.

H9: Testing the moderating effect of price consciousness on the relationship between intention to purchase locally produced foods and the extent of purchase

To test for a potential moderation effect, multi-group analysis was completed by first creating two subgroups based upon responses to four questions relating to price consciousness (e.g., “I will shop at more than one grocery store to find low prices for locally produced foods”, “I will go to extra effort to find lower prices for locally produced foods at a grocery store”). The four questions were measured on a 7-point Likert scale from (1) *Strongly disagree* to (7) *Strongly agree*. The responses were totaled and a mean score of 4.955 indicated the data being moderately skewed toward price-conscious consumers. A median split of price-conscious consumers was completed by ranking the total scores of the four variables and using a value of 20 as the median point. Consumers scoring over 20 ($N = 282$) were placed in a “More price-

conscious” group while those scoring 20 or less ($N = 318$) were placed in a “Less price-conscious” group.

Structural invariance was tested using the median split of price-conscious consumers. Baseline models for each of the two groups were tested independently for fit, as well as a nested model with both groups tested simultaneously (Byrne, 2001). For the “More price-conscious” group, all regression paths were significant at $p < .01$ and all covariances were significant at $p < .001$ except between items AT2 & PPA1 ($p < .05$). For the “Less price-conscious” group, all regression paths were significant at $p < .01$ except for the path between Subjective Norms and Intention to Purchase, which was significant at $p < .05$. All error covariances were significant at $p < .01$. Within the nested model, all regression paths and covariances were significant at $p < .01$ for both groups, although the error covariance of items AT2 & PPA1 ($p = .013$) was significant at $p < .05$ for the “More price-conscious” group.

To test the hypothesis that price consciousness moderates the relationship of intention to purchase and extent of purchase, a second nested group model was created and constrained as equal across the two price-conscious groups. Equality constraints between the groups were placed on all factor loadings, all factor variances, all factor covariances, and all error covariances prior to completing a chi-squared difference test (Byrne, 2001). The fully constrained model reflected the following fit of the data: ($\chi^2 = 3745.743$, $df = 1485$, χ^2 / df ratio = 2.522, CFI = .869, NFI = .801, RMSEA = .050). Next, the structural path from intention to purchase $\rightarrow$ extent of purchase was allowed to freely estimate, keeping all other paths constrained as equal. The resulting model reflected the following: $\chi^2 = 3745.285$ with $df = 1484$. The chi-squared difference test between the fully constrained model and the model where the path of intention to purchase $\rightarrow$ extent of purchase was allowed to freely estimate reflected a minimal change ($\Delta\chi^2 =$

0.458, $\Delta df = 1$, $p = .499$), not significantly different at $p < .05$. Therefore, no significant moderation effect was found between price-conscious groups on the relationship between intention to purchase and extent of purchase and H9 was not supported.

A second test for moderation was also completed using the prior methodology but instead of a median split for the two groups, a quartile-based split was completed. Using the total scores of the four price-conscious variables, a “More price conscious” group was established at the score of 24 or higher ($N = 182$) and a “Less price conscious” group was established at a score of 16 or lower ($N = 177$). Results from the chi-squared difference test between the fully constrained model and the model where the path of intention to purchase $\rightarrow$ extent of purchase was allowed to freely estimate reflected a minimal change ($\Delta\chi^2 = 0.009$, $\Delta df = 1$, $p = .924$), not significantly different at $p < .05$. Therefore, no significant moderation effect was found between price-conscious groups on the relationship between intention to purchase and extent of purchase and H9 was not supported, which confirmed the earlier findings from the median-split technique.

Test for Mediation of Store Atmospheric Responsiveness

To test for potential mediation effects of the construct store atmospheric responsiveness on the extent of purchase, the bootstrapping procedure in AMOS structural equation modeling was utilized. While bootstrapping as a technique is often utilized with large sample sizes and non-normal data (Yung & Bentler, 1996), it can also be used to help estimate indirect, direct, and total effects of latent variables (Cheung & Lau, 2008). Mediation effects (indirect effects) occur when there is a reduction in the regression coefficient of one predictor variable on a dependent variable (e.g., $X_1 \rightarrow Y$) as effects of a second predictor variable (e.g., X_2) are controlled (Baron & Kenny, 1986; Cheung & Lau, 2008). In this study, intention to purchase was considered a

direct predictor of extent of purchase, and store atmospheric responsiveness was tested as the “controlled” second predictor variable through which an indirect effect on the extent of purchase was believed.

Following the methods and procedures in the Cheung and Lau (2008) research, the bootstrap ML procedure for the current study was run in AMOS seeking indirect, direct, and total effects, using 1000 bootstrap samples, a bias-corrected confidence level and intervals, and a recommended Bootfactor of 1. Cheung and Lau (2008) also noted that a minimum of 500 bootstrap samples should be created, and that as sample size reaches 200 or more, the Type 1 error rate (rejection of a null hypothesis that is actually true) becomes close to expected. Results from testing of indirect effects by store atmospheric responsiveness, using the bootstrapping procedure, are listed in Table 26.

Table 26. Test of Indirect Effects by Store Atmospheric Responsiveness

Structural Path	Direct Effect*	Indirect Effect*	Total Effect*	95% Biased-Corrected Confidence Interval for Indirect Effect	Two-tailed Significance for Indirect Effect
Intention to purchase → Extent of purchase	0.256	0.379	0.635	0.292 - .467	.003**

*Effects reported are standardized effects **Significant at $p < .01$

Using the 95% bias-corrected confidence interval, it is noted that the standardized indirect effect of .379 was significant using the two-tailed test ($p = .003$). After controlling for the indirect effect of store atmospheric responsiveness, the standardized direct effect of intention to purchase on extent of purchase was .256 ($p = .001$), thus satisfying the requirement for a partial mediation effect. The effect of intention to purchase and extent of purchase remained significant in both cases. As a secondary test of indirect effects, the direct path from intention to purchase and extent of purchase was constrained to zero and the model run. Standardized

regression weight estimates for the paths, Intention to purchase $\rightarrow$ 'Store atmospheric responsiveness' ($\beta = 0.596, p < .01$) and for Store atmospheric responsiveness $\rightarrow$ Extent of purchase ($\beta = 0.830, p < .01$) also suggested significant mediation. From these results, we can conclude that there is a significant partial mediation effect of store atmospheric responsiveness on the relationship between intention to purchase and extent of purchase.

SUMMARY

The current chapter presented data analysis of the proposed methodology and reported results from the proposed hypotheses testing introduced in Chapter II. Section I of the chapter included sample descriptive analysis of shopper definitions and conceptualizations of locally produced foods, information regarding grocery stores shopped for 1) regular grocery items and 2) locally produced food items, and a review of responses related to locally produced food product categories carried by the respondents' preferred grocery stores. In section II, preliminary analysis of the main study data was discussed. In section III, a review and discussion of the measurement model using CFA was completed that included overall data fit information ($\chi^2 = 2095.986, \chi^2 / df \text{ ratio} = 2.956, CFI = .932, NFI = .901, RMSEA = .057$). Section IV reviewed the proposed structural model using SEM and tested each of the proposed hypotheses. The overall fit of the data in the structural model suggested a reasonably good fit ($\chi^2 = 2533.334, \chi^2 / df \text{ ratio} = 3.543, CFI = .910, NFI = .880, RMSEA = .065$). Most of the proposed hypotheses were supported with the exception of H2, H3, and H9. H2, although significant, reflected a negative relationship and was therefore rejected. Perceived consumer effectiveness as an independent construct could not be adequately discriminated from, and was highly correlated to, the latent construct attitude. It was therefore removed from the measurement and structural

models as an independent construct which caused H3 to not be supported. Results from moderation testing of price consciousness on the relationship between intention to purchase and extent of purchase were not significant, resulting in H9 being rejected. Finally, in section V indirect effects of store atmospheric responsiveness on the relationship between intention to purchase and extent of purchase were analyzed and discussed, suggesting that store atmospheric responsiveness partially mediates the relationship within the context of grocery store shopping for locally produced foods.

CHAPTER V

DISCUSSION, IMPLICATIONS, AND FUTURE RESEARCH

The purpose of the study was to provide grocery retailers that carry locally produced foods as part of their assortment a means to understanding the attitudes, normative influences, behavioral control, future intentions, purchasing behavior and perceived influence of in-store atmospherics on consumers. To this end, the study proposed a framework and model that tested the proposed relationships including the mediation effects of store atmospherics on the intention-to-behavior link and potential moderation of price consciousness on the intention-to-behavior link. This chapter reviews and discusses the overall findings of the study in section I, presents both academic and managerial implications of the findings in section II, notes limitations to the study in section III, suggests future research directions in section IV, and concludes by summarizing the key points of the study in section V.

REVIEW AND DISCUSSION OF FINDINGS

In review of the theory of planned behavior framework (Ajzen, 1985; 1991) and the stimulus-organism response behavioral framework (Mehrabian & Russell, 1974), eight research objectives to this study were specified: (1) to extend the theory of planned behavior to include the context of locally produced foods within grocery store channels; (2) to investigate definitional variations of the phrase “*locally produced foods*” by consumers who shop for such items; (3) to examine the relationship between consumer attitude toward purchasing locally produced foods and their purchase intention; (4) to examine the relationship between perceived subjective (social) norms by consumers and their purchase intention toward locally produced foods; (5) to examine the relationship between consumer perception of product availability, their

perception of personal effectiveness in supporting the idea of local, and their purchase intentions toward locally produced foods; (6) to examine the relationship of purchase intention and extent of purchase behavior of locally produced foods; (7) to investigate the concept of “*store atmospherics*” and determine if consumer responsiveness to store atmospherics partially mediates, fully mediates, or has no influence on the relationship between purchase intention of locally produced foods and the extent of purchase behavior; and (8) to examine if consumer price consciousness moderates the relationship between purchase intention of locally produced foods and the extent of purchase behavior.

RESEARCH MODEL

The research model within this study was developed using constructs proposed in the theory of planned behavior (Ajzen, 1985; 1991), dimensions relating to store atmospherics (Kotler, 1973-74) and store atmospheric responsiveness (Eroglu et al., 2001; 2003), along with constructs relating to product availability and consumer effectiveness tested by Vermeir and Verbeke (2008) within the context of locally produced foods.

Anderson’s and Gerbing’s (1988) methodology of a two-step approach to structural equation modeling was utilized for the study. In step one, development and analysis of the measurement model highlighted a high correlation between the latent constructs of perceived consumer effectiveness (PCE) and attitude toward purchase (AT). Specifically, poor discriminant validity was reflected between the two constructs as the shared variance between the constructs was higher than the average variance extracted for “attitude toward purchase”, noted by Fornell and Larker (1981) to be a problematic condition. Thus, the two observed measures for PCE were subsequently included as measures for attitude toward purchase and PCE

as an independent latent construct was dropped from future analysis. Overall, the final measurement model exhibited good fit to the data ($\chi^2 = 2095.986$, χ^2 / df ratio = 2.956, CFI = .932, NFI = .901, RMSEA = .057) and included 10 latent constructs with 40 observed variables. Development of the hypothesized structural model as part of step two also exhibited acceptable fit ($\chi^2 = 2533.334$, χ^2 / df ratio = 3.543, CFI = .910, NFI = .880, RMSEA = .065). While all structural paths were statistically significant at $p < .01$, not all proposed hypotheses were supported.

Results from model fitting of the research model indicate that the model may be useful in explaining consumer behavior in shopping for locally produced foods through retail grocery channels, which had not been previously addressed within the literature. While consumer attitudes toward purchasing locally produced foods and perceived product availability were identified as antecedents to intention to purchase and showed positive significant relationships, the construct *subjective norms* was not positively related to intention to purchase and perceived consumer effectiveness was not an independent construct as previously hypothesized. Intention to purchase locally produced foods had a significant positive relationship with extent of purchase, both directly and indirectly through that of store atmospheric responsiveness. This suggests that customer responsiveness to in-store factors, such as those relating to displays, product availability, customer service and store promotions may play an important role in getting customers to execute their intended behavior.

Relationship Between Attitude and Intention to Purchase

Similar to the results discussed by Ajzen (1985; 1991) in the theory of planned behavior, attitude was found to have a strong positive and antecedent relationship with that of intention. A

high standardized estimate ($\beta = 0.662$, $p < .001$) suggests that understanding a person's attitude is important when trying to predict their purchase intentions, particularly when measuring purchasing behaviors of green or sustainable products such as locally produced foods. Prior studies by Robinson and Smith (2002) and Vermeir and Verbeke (2008) that found a positive relationship between attitudes and intentions to purchase sustainable foods can now be extended to these types of foods in a grocery store setting. Research findings also support the Vermeir and Verbeke (2006; 2008) studies that suggested attitude as the most important predictor of behavioral intentions, more so than any set of personal values relating to sustainable consumption. The findings imply that if marketers can positively increase consumer attitude toward sustainable or health-related product categories such as locally produced, organically grown, or all natural, a strong intention to purchase may follow.

Relationship Between Subjective Norms and Intention to Purchase

Within the study, the relationship between subjective norms regarding the purchase of locally produced foods and intention to purchase locally produced foods was found to be significant ($\beta = -0.285$, $p < .001$) but not positive. These results differ from the Vermeir and Verbeke (2008) study that found a significant and positive relationship between subjective norms and intention to purchase within the context of sustainable food purchasing. For that study, the sample was in question because Vermeir and Verbeke used a young-adult sample that may have been more influenced by peer, social, or family pressure to purchase environmentally friendly products and be perceived as "eco-friendly". The context of the current study, however, was grocery shopping, which may be less impacted by social or normative factors and more influenced by situational factors such as time, money, or shopping context. Product type or

brand may also impact how subjective norms will influence consumer behavior of sustainable or environmentally-friendly products such as clothing. For food products within a grocery store, however, effects of brand attributes may be negligible as locally produced food products such as fruits, vegetables, and milk are less brand oriented.

Relationship Between Perceived Consumer Effectiveness and Intention to Purchase

Based upon prior studies by Antil (1984), Roberts (1996), and Vermeir and Verbeke (2008) relating to environmentally conscious behaviors, perceived consumer effectiveness (PCE) was hypothesized to have a significant positive relationship with intention to purchase. As “green” buyers are more likely to believe that their pro-environment behaviors will make a difference (Gupta & Ogden, 2009), it was believed that PCE would be an antecedent to intention to purchase. However, a high correlation with the construct *attitude* and subsequent loading of the PCE observed measures on attitude suggests that these two latent constructs are not materially different for locally produced foods within a retail grocery context. An explanation may be the measures themselves; the observed measure “Each consumer’s behavior can have a positive effect on society by purchasing locally produced foods sold by socially responsible food retailers” might indicate an attitude relating to positive impacts made by purchasing locally produced foods. It might also indicate an attitude that retailers who sell locally produced foods are considered “socially conscious”. In both cases, marketers should consider ways to create an emotional connection between producer and consumer, supporting the notion that purchasing locally produced foods impacts more than just the individual but also society in economical and sustainable ways.

Relationship Between Perceived Product Availability and Intention to Purchase

The study determined that a significant positive relationship exists between perceived product availability and intention to purchase ($\beta = 0.375, p < .001$). Grocery store customers are often aware of the seasonality of products, particularly fruits and vegetables that are usually associated with locally produced food items. Some areas of the country, dependent upon climate, are able to carry certain locally produced foods for an extended period of time. Grocery store shoppers in Florida, California, or Texas may have more access to locally produced citrus fruits than shoppers in northern states such as Minnesota or New York. Similarly, states such as Wisconsin known for dairy products may be able to produce and distribute locally produced food categories such as dairy all year round. Marketers and particularly grocery stores across the United States may benefit by reminding consumers of when locally produced items are in season or may be available, along with the specific products that will be offered.

Relationship Between Intention to Purchase and Extent of Purchase

Prior research from Bissonnette and Contento (2001) found a significant positive relationship between behavioral intention and subsequent behavior for both organic and local food purchasing. This study supports the notion that an individual's intentions to behave will have a significant positive relationship to their extent of behavior ($\beta = 0.256, p < .001$). Marketers can capitalize on this relationship by making sure the store atmospherics, first introduced by Kotler (1973-74), supports the intention to buy and creates an environment where consumers will be able to easily execute their intentions to purchase. In particular, retail grocery stores should continue to create a shopping environment that entices an "approach" behavior rather than an "avoid" behavior (Mehrabian & Russell, 1974). This may include training

employees on offering superior customer service and enhancing knowledge of locally produced foods, creating new and exciting locally produced foods displays for customers to shop, or offering in-store promotions that will validate the customer's decision and intention to purchase these products. Pricing and in-stock factors may also be an important dimension to ensuring that customers who enter the store with the intention to purchase are able to execute their planned behavior.

Relationship Between Intention to Purchase and Store Atmospheric Responsiveness

Prior academic research by Russell and Ward (1982) in the area of environmental psychology noted that an individual's prior plans helped to alter their environmental perceptions. Within a retail grocery store environment, a number of situational factors may arise that would help the consumer to notice or find the products they intended to purchase. These may include new or updated signage, factors relating to displays, product location, or employees within the store. Customers may engage in grocery shopping with various motivations in mind; some taking a more utilitarian approach to shopping and are time constrained, while others having increased time within the store and shop in a more hedonic manner...trying samples, comparing product attributes, and looking through the aisles. Results from the study indicated that a significant positive relationship existed between intention to purchase and store atmospheric responsiveness ($\beta = 0.566$, $p < .001$). One explanation may be the seasonal nature of the products reviewed. Customers, taking into account seasonality, product type, and health related food choices, may be more sensitive to these items when available. They could also be more inclined to compare products, features, or displays when locally produced foods within their specified category are offered by their grocery store. Similarly, customers who can see bright

and prominent displays of locally produced food items, accompanied by signage that discusses the grower and where and how the products were grown, provide an opportunity for marketers to highlight these items and create responsiveness to the product. As customers enter the grocery store with the intention to purchase locally produced foods when available, it becomes important for the store staff to ensure that finding such products is an easy process and supports the customer goals to purchase.

Store Atmospheric Responsiveness as a Multidimensional Construct

Law, Wong, and Mobley (1998) argued that “Empirically, a multidimensional construct categorized as a latent model may be operationalized as the common factor underlying its dimensions” (p.754). Prior literature by Eroglu et al. (2003) in the context of online shopping, Machleit et al. (2005) when reviewing both recreational and task-oriented shopping behaviors, and Grossbart et al. (1990) when considering store physical design and in-store crowding all suggested a multidimensional component to store atmospheric responsiveness. Store atmospheric responsiveness was found to be positively and significantly reflected in the four proposed dimensions of product assortment responsiveness ($\beta = 0.924$), display factors responsiveness ($\beta = 0.979$), customer service responsiveness ($\beta = 0.891$), and store promotions responsiveness ($\beta = 0.845$) within the structural model ($p < .001$). These four dimensions were selected and hypothesized by the researcher to be important aspects to the shopping environment. Within the context of locally produced food shopping at a grocery store, the results also provide an opportunity for marketers to enhance the shopping experience through an increased focus on these dimensions. As customers notice and continue to expect enhanced assortments, appealing displays, better customer service and stores that will actively promote their products, retail

grocers must also continue to focus on a wider set of store environmental factors to captivate and encourage purchase behavior. While display factors responsiveness reflected the strongest dimensional component ($\beta = 0.980$), each of the other three dimensions were also highly representative of store atmospheric responsiveness. Therefore, focus on one at the expense of the others may not provide the expected result of increased purchase behavior and would force grocery retailers to do a better job of understanding their core customer for locally produced foods.

Relationship Between Store Atmospheric Responsiveness and Extent of Purchase

Results from the study ($\beta = 0.669$, $p < .001$) indicate that a significant positive relationship exists between store atmospheric responsiveness and the extent of purchase. Early research on emotional responses to in-store environment by Donovan and Rossiter (1982) noted that these responses are primary determinants of the extent to which customers will spend beyond their original expectations. Retailers often attempt to create an inviting and exciting atmosphere for customers to shop. They also seek to create an environment that keeps customers in the store longer, in hopes that it will translate into more purchases. Work by Donovan et al. (1994) concluded that pleasure resulting from the store environment could help predict actual behavior through factors such as increased time in store and a greater amount of expenditures. Retailers who carry locally produced foods as part of their assortments may be able to create an environment where customers not only notice the displays, but are able to see who produces their food. Marketing strategies of enhanced signage with pictures and information may allow consumers to put a face to the product they are purchasing and prompt them to purchase extra, if they believe it will benefit the farmer. The research, by determining a direct and positive link

exists between store atmospheric responsiveness and extent of purchase, suggests that store managers who invest in locally produced foods in a meaningful way and are able to highlight these products in-store will have a competitive advantage in behavioral outcomes such as increased sales and product demand.

The Mediating Effect of Store Atmospheric Responsiveness

Along with being a multidimensional construct, store atmospheric responsiveness was also found to partially mediate the relationship of intention to purchase and extent of purchase within the study. Prior studies on store atmospheric responsiveness by Eroglu et al. (2001; 2003) suggested a moderating effect on approach-avoid behaviors while Grossbart et al. (1990) posited store atmospheric responsiveness as an outcome variable of environmental dispositions and demographic factors. In the Grossbart et al. (1990) study, levels of responsiveness within the dimensions of store design and in-store crowding were found to influence the ability of shoppers to execute their shopping goals. A number of in-store factors may prevent customers from executing their goals, including situational or time constraints. Borrowing from theory on environmental psychology, this study determined that store atmospheric responsiveness is important in the link between intention to purchase and extent of purchase, but not completely necessary for consumers who will execute their plans no matter what the store environment dictates. For others who are more responsive, in-store environmental factors can have a significant and positive influence on behavior if they match consumer expectations or provide some sense of emotional response that supports the purchase of locally produced foods. The results suggest that an appealing environment by which customers respond could be important

for those customers whose intentions may not be to purchase locally produced foods on a specific trip but end up doing so due to promotions, displays, or effective customer service.

The Moderating Effect of Price Consciousness

The effect of price consciousness on the relationship between intention to purchase and purchase extent was tested for two groups of consumers, a “More price-conscious” group and a “Less price-conscious” group. Results indicated that no significant differences between the groups existed on that relationship. Prior work by Darby et al. (2006; 2008) determined that consumers of locally produced foods are willing to pay more for those types of items. A priori, shoppers may conclude that price is less of an issue given the health and social related benefits often associated with locally produced foods and would be willing to pay a little more. They may also weight the availability of the items or store related factors in determining how much to pay. However, results from the pricing questions reflected a moderate tendency toward higher price consciousness by consumers (mean = 4.955). Current macroeconomic conditions may help to explain part of this tendency, as consumers weigh rising prices for food and energy and make daily decisions on what to purchase and how much to spend. Consumers, may, however, make certain tradeoffs related to this category; spending more if they believe it is important for their community or their health while conversely spending less on other categories that they deem to be discretionary in nature.

ACADEMIC & MANAGERIAL IMPLICATIONS

Academic Implications

A number of key academic implications can be drawn from the research study. First, by extending the theory of planned behavior to include the context of locally produced food

purchasing, researchers may now be able to better understand the relationship between attitude, subjective norms, and intention to purchase through grocery store channels. Of particular note is the relationship between subjective norms and intention to purchase. Previous studies such as Vermeir and Verbeke (2008) on sustainable food purchasing determined that a significant positive relationship existed between these two constructs, although this study found a significant negative relationship. This suggests that grocery store shoppers may utilize different criteria when making food purchasing decisions, and do not consider influential factors relating to family, friends, or society. Other local food channels not part of this study, however, may reflect different results. Channels such as farmers' markets often create a more social environment that allows for shopping with friends and family, which could result in a positive relationship between subjective norms and intention to purchase. Determining the hierarchy of decision making criteria may be of importance to academics when researching "green-related" products, particularly if certain criteria continuously rank at the top across a wide range of channels such as farmers' markets, specialty stores, national grocery stores, or other retail outlets.

Second, the inability of the independent latent construct, perceived consumer effectiveness, to adequately discriminate from that of attitude within this study suggests that researchers may need to consider a deeper and more concise understanding of the characteristics of perceived consumer effectiveness. For example, do consumers define PCE through a lens of problem solving of natural resource problems as suggested by Roberts (1996)? Do they believe they can "make a difference" by purchasing sustainable products, even if these products come from large corporations? By understanding the context in which PCE becomes salient, researchers may be able to better conclude the conditions which can trigger this belief.

Third, results from the study indicating store atmospheric responsiveness as a mediating and multidimensional construct now allows researchers to test this construct across a number of different contexts within the marketing and retail disciplines. In determining whether mediating or moderating effects are more evident, researchers now have a framework by which to compare, that of sustainable food purchasing. Four specific dimensions were identified as store atmospheric responsiveness; product assortment, display factors, customer service, and store promotions. Further analysis of the importance of these dimensions across other retail contexts could provide a better understanding of environmental dispositions that customers exhibit when shopping for various types of products, both food and other.

Managerial Implications

As retail grocery stores continue to source and offer locally produced foods as part of their assortment, opportunities exist to better understand the customer segment that purchases these items. With a significant positive relationship between perceived product availability and intention to purchase being shown within this study, retail grocers and marketers must ensure that they effectively communicate to their target consumers that locally produced foods are available and in-stock during the appropriate times of the season. This may entail sourcing through more than one local farm, bringing in a variety of products from which the customers may choose, and analyzing often purchased categories such as fruits, vegetables, or dairy which are seasonally specific for each region of the country. Marketing and advertising of locally produced items is often limited to in-store signage or displays, although many large grocery retailers utilize newspaper circulars as a means to bring customers into the store for other key items. A meaningful attempt by grocery retailers to communicate their locally produced foods

assortment may not only bring customers into the store with the intention to purchase, but may also allow the retailers to effectively gain margin if customers continue to show a willingness to pay more for local foods as suggested by Darby et al. (2006).

Store atmospheric responsiveness was found to be a significant mediator of intention to purchase and extent of purchase. Although the four proposed dimensions of store atmospheric responsiveness (product assortment, display factors, customer service and store promotions) are within the control of the grocery store, factors such as a customer's environmental disposition may not be. Customer environmental disposition, or "traits that guide transactions with the physical environment" (Grossbart et al., 1990, p.227) often play an important role in whether customers will be affected by store atmospherics within certain contexts, situations, and places (Grossbart, Amedeo, & Chinchin, 1979; Grossbart et al., 1990). Although these traits are often brought into the store, as are situational factors such as time or money, grocery stores can still create a positive effect on customers via a number of store atmospheric variables. These include easily accessible displays with a variety of products to choose from, helpful associates who are willing to engage customers and answer any questions that may arise regarding locally produced foods, or in-store promotions such as samples that will heighten customer-employee interactions and get the customers to try these products. Information regarding the local farms or farmers may also increase responsiveness by customers who can now associate the product with the producer. Grocery stores who invest in the in-store experience and environment will continue to see the benefits as customers look forward to the store trips and consider them a "want to" rather than a "have to".

Although the study did not find price consciousness to be a moderating factor between intention to purchase and extent of purchase, grocery retailers are still cognizant of the

importance of price to consumers, particularly in challenging macroeconomic times. Grocery retailers who typically operate on low margins must be aware that any increase in price related to sourcing and logistics of locally produced foods must be addressed. Small farms may not be able to handle large orders and therefore may price goods higher so as to offset cost of production. Larger farms, while having economies of scale, may incur significant shipping costs to the various grocery stores. States such as Texas, California, or Florida are large in total area, but could still fall under the definition of locally produced that retailers utilize. Although Darby et al. (2006) suggested a *price premium* that consumers sometimes pay for locally produced foods, reaching upwards of 20-30%, this may not hold true in a grocery store setting. A store focus on other salient product attributes such as health benefits, social benefits, and freshness may offset price concerns by consumers and create a level of “trade-off” where consumers may purchase locally produced food items in lieu of other options. Effective balancing of price for locally produced foods vs. other product category options may not guarantee new customers, but may prevent current locally produced food shoppers from trading down if the prices do not match their expectations or current budget.

LIMITATIONS

With this research, results from the study note limitations that suggest a cautious approach to interpretation. First, the lack of independence of the perceived consumer effectiveness construct and inability to test the proposed hypothesis relating to intention to purchase should be noted. Prior studies from Roberts (1996) and Vermeir and Verbeke (2008) determined a significant positive relationship between perceived consumer effectiveness and intention to purchase. Adapting the observed measures to the context of locally produced foods

resulted in the elimination of one measure (PCE2) and including two others measures (PCE1 & PCE3) as part of the measurement and structural model, even though the reliabilities on these measures were suspect ($\alpha = .685$). These results suggest the importance and need for future measurement item development for perceived consumer effectiveness within the context of locally produced food purchasing.

Second, it is important to note that the sample collected, although nationally represented, cannot be described as random but rather included only consumers who indicated they have purchased locally produced foods through retail grocery channels and were members of the research panel. In using a more purposive sample, the researcher cannot generalize the findings to all grocery shoppers nor can the findings be used to predict how consumers who don't typically shop for locally produced foods in grocery stores (or at all) may respond to in-store atmospheric stimuli. In this regard, different research methodology that would include field observations may be better suited for comparing shopper attitudes, intentions, and purchase behavior.

Third, the sample was collected by an online marketing research company and utilized online market panel consumers who may not fully represent the locally produced foods consumer segment. From this sample, it should also be noted that while an even distribution across demographic characteristics was desired and often achieved, certain demographics such as ethnicity reflected a high proportion of Caucasian respondents (85.5%) while the question relating to occupational status reflected a less than 50% full time employment (48.8%). A more representative sample across ethnicity for comparison purposes along with better understanding of shopping habits for persons working full-time may help to understand situational factors that can affect shopping behavior for locally produced foods.

Fourth, the moderating effect of price consciousness was tested solely on the path between intention to purchase and extent of purchase. The current macroeconomic environment continues to suggest that a recession within the U.S. is ongoing, making consumers more price conscious than ever. While results from the study indicated that significant group differences between “More price-conscious” and “Less price-conscious” consumers did not exist, the findings did suggest that consumers reflected a tendency to be more aware of prices when shopping based upon the observed measures. Use of a median-split technique to separate responses into two groups within this study, or the few amount of responses on the lower end of the scale reflecting a lack of price consciousness may have negatively affected the results.

Fifth, the study utilized a self-report methodology that may be less representative of actual shopping behavior than that of a field survey or observational study. Respondents were asked to remember specific category information and to judge their responsiveness to in-store atmospheric factors, which may create recall inaccuracies regarding the product assortments within the grocery stores or discount other factors that could have influenced their behavior.

Finally, while the observed measures for each construct displayed adequate reliability with the exception of those for ‘perceived consumer effectiveness’, many of the measures were borrowed from other marketing or retail studies not related to grocery retailing. In particular, continued refinement of the store atmospheric responsiveness construct to include other possible dimensions relating to grocery retailing or locally produced foods purchasing may be in order to strengthen the validity of the findings.

FUTURE RESEARCH DIRECTIONS

Results from the study provide great opportunities for future research, particularly for locally produced foods within the retail grocery context. As retail grocers continue to expand their assortments and carry more locally produced foods, academics can review those salient features relevant to consumers that may tip the scale in favor of purchase. From this study, four distinct categories for future research have emerged; they include (1) a focus on store atmospherics, specifically store atmospheric responsiveness when shopping for locally produced foods, (2) analysis of group differences between shoppers of locally produced foods, (3) category analysis of locally produced food items, and (4) effects of pricing of locally produced foods.

Store Atmospherics & Store Atmospheric Responsiveness

Store atmospheric responsiveness was tested and confirmed as having mediating properties within this study, which suggests further investigation into the conditions by which it will mediate, moderate, or act as the outcome variable as previously conceptualized (Eroglu et al., 2001, 2003; Grossbart et al., 1990). Will certain retail shopping conditions create a heightened responsiveness to store atmospheric variables? How does the level of atmospheric responsiveness vary across retail types or customer types? Further testing of the level of responsiveness may also prove beneficial if certain thresholds must first be reached prior to executing purchase decisions.

It is also reasonable to conclude that store atmospheric responsiveness, as a multidimensional construct, may have other dimensions yet to be tested. Aside from the four dimensions selected for this study, testing additional dimensions related to factors such as responsiveness to other customers in a non-crowding environment or responsiveness to store

layout may provide useful information on customer purchase behavior for retailers looking to make changes within the store. It may also give grocery retailers a better understanding of which categories are more vulnerable to in-store changes than other product categories.

Within the study, it was conceptualized that store atmospheric responsiveness was reflected in four specific dimensions, rather than those dimensions forming that construct. In making store atmospheric responsiveness into a formative construct, it must be theoretically supported that the four dimensions or indicators “cause” the latent construct and a change in any one of the four indicators would materially cause a change in the latent construct (Diamantopoulos & Winklhofer, 2001). Of particular note is the condition of formative indicators whereby omitting any of the indicators would substantially alter the construct (Bollen & Lennox, 1991) while reflective indicators may have indicators omitted without affecting the construct they are proposed to measure (Diamantopoulos & Winklhofer, 2001). Of interest, then, would be a future study that reviewed conditions through which store atmospheric responsiveness could be considered a formative construct and each of the indicators as antecedent causes of the construct. These antecedent indicators, if found significant, could then be tested directly on the outcome variable “extent of purchase” or through the mediating effect of store atmospheric responsiveness.

Finally, it would also be important to examine other shopping channels for locally produced foods, both formal and informal, to better understand the impact of atmospheric variables. For example, is there a perceived difference in customer responsiveness to product assortments or display factors at a farmers’ market versus a grocery store? Do potential differences exist between specialty stores and national chain grocery stores on consumers’ perceptions of atmospheric variables? Do certain variables such as customer service become

most important in channels such as farmers' markets or community supported agriculture? Further investigation into the importance of each atmospheric variable would allow a deeper understanding of the conditions through which they become most relevant.

Group Differences between Shoppers of Locally Produced Foods

Although prior literature regarding locally produced food consumers considered attitudes, motivations, and intentions to purchase, there was a lack of literature support for reviewing group differences. Specifically, whether the manner by which consumers define locally produced foods has an effect on their purchasing behaviors. For example, do consumers who view locally produced foods as socially responsible consumption behave differently than consumers who only see locally produced foods through a geographical lens? How can marketers and grocery retailers better segment the locally produced food shoppers, other than grouping them as "green consumers"? Future studies should continue to define and better understand the individual differences that make up the locally produced food shopper, and seek to find common element that can be marketed to in a meaningful manner. This may also necessitate a continued look at potential ethnic, gender, or cultural differences both within the United States and abroad.

Category Analysis for Locally Produced Foods

The study confirmed that grocery store shoppers for locally produced foods consider categories such as vegetables, fruits, and eggs as most often found in their preferred stores. Future studies on other categories such as meat, fish, or beer that were less associated with locally produced may be important to grocers who wish to expand these categories or have a natural competitive advantage and are seeking to differentiate themselves versus the competition.

Further understanding of why consumers do not view these items as “locally produced” may help retailers in their advertising or marketing strategies to close this gap.

It may also become beneficial to review product categories in terms of concepts such as “locally made”, “locally produced”, “locally grown” or “locally manufactured” to better understand how consumers interpret such nomenclature to certain products. Would consumer behavior change if a person viewed a specific product such as applesauce as “locally manufactured” versus having the apples “locally grown”? A continued refinement for the term *local* may be the first step in understanding the impact to individual product categories.

Effects of Pricing of Locally Produced Foods

An opportunity exists to review pricing as it relates to locally produced foods. While certain channels such as farmers’ markets may be able to command a price premium, grocery stores and other retail channels may not. Future research should test the impact of pricing or price consciousness on other possible relationships, including that of attitude toward purchase and intention to purchase, to determine if consumers factor price “a priori” or upon shopping within the specific grocery stores. Also, testing if price consciousness will moderate the relationship between intention to purchase, store atmospheric responsiveness, and extent of purchase may be helpful to grocery retailers trying to balance margin concerns with customer demand and product availability. Longitudinal research in this regard may also help to determine if price consciousness is a reflection of macroeconomic concerns, situational concerns, or if it is category specific.

CONCLUSION

The expansion of locally produced foods into retail grocery assortments has provided an opportunity to review a multitude of factors affecting consumer behavior, including those related to individual characteristics such as attitude and those related to external variables such as store atmospherics. Results from the study suggest that, in the case of locally produced food purchasing, strong positive relationships exist between customer attitudes, perceptions, intentions to purchase, and the extent of purchase. The effects of in-store atmospheric factors and consumer response to these factors, within the context of locally produced foods purchasing, imply that a high level of interest with this product category continues to exist. Grocery retailers can now begin to better manage this product category by offering more inviting displays, wider assortments, excellent customer service and promotions to create better customer awareness and loyalty to both the category and the store.

The research also extends the theory of planned behavior to include two specific contexts lacking from much of the previous literature; that of locally produced foods and within the retail grocery store. It is the first known study to test store atmospheric responsiveness as a mediating variable between purchase intention and extent of purchase, and suggests that factors within a retail grocery store setting may have important implications as to how customers execute their purchase intentions for locally produced food products. It may also provide a strong basis for future research across a number of other product categories within retail grocery and beyond.

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APPENDIXES

APPENDIX A

Original Scale Items

Variables	Items	Reliability (α)	Source
Attitude toward organic food (& locally grown foods)	• It is important to me personally that food is grown nearby. • It is important that people should have more locally grown food available to them. • I am worried that local farms are going out of business. • It is important that I can eat my favorite foods all year.	.60 to .80 for all constructs	Bissonnette and Contento, (2001), Journal of Nutrition Education
Attitude toward buying Le Fermier sustainable dairy products	• Buying Le Fermier products is negative (positive). • Buying Le Fermier products is unwise (wise). • Buying Le Fermier products is useless (meaningful).	.80	Vermeir and Verbeke, (2008), Ecological Economics
Social norms regarding buying of sustainable food products	• People who are important to me think I should buy sustainable food products. • My family thinks I should buy sustainable food products. • Society thinks I should buy sustainable food products. • Friends think I should buy sustainable food products. • People who influence my buying behavior think I should buy sustainable food products.	.61	Vermeir and Verbeke, (2008), Ecological Economics
Perceived Behavioral Control (measured through Perceived Availability of Le Fermier sustainable dairy products & Perceived Consumer Effectiveness regarding sustainable products)	• I believe I can acquire Le Fermier products. (PA) • I can find Le Fermier products in my neighbourhood. (PA) • To what degree are Le Fermier products easily available? (PA) • When I buy products, I try to consider how my use of them will affect the environment and other consumers. (PCE) • Since one person cannot have an effect upon pollution and natural resource problems, it doesn't make any difference what I do. (PCE) • Each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies. (PCE)	.69 (PBC) .80 (PA) .72 (PCE)	Vermeir and Verbeke, (2008), Ecological Economics Roberts, (1996), Journal of Business Research

Variables	Items	Reliability (α)	Source
Extent of organic, sustainable, or locally grown products purchased	• In the past 2 months I have bought organic foods. • In the past 2 months I have asked the food shopper in my home to buy organic foods.	.60 to .80 for all constructs	Bissonnette and Contento, (2001), Journal of Nutrition Education
	• When you buy light bulbs, to what extent do you buy CFL's? • When you buy light bulbs, to what extent are you "loyal" to CFL's?	.909	Gupta and Ogden, (2009), Journal of Consumer Marketing
	• Write the individual product and quantity estimate for each locally grown product you are currently purchasing. • List the products you would consider if available	Not Provided	Chase, (2007), Prepared Report by Iowa State University Extension Office for Northeast Iowa Food & Farm Coalition
Price consciousness	• I will grocery shop at more than one store to take advantage of low prices • I would never shop at more than one store to find low prices • I am not willing to go to extra effort to find lower prices • The money saved by finding low prices is usually not worth the time and effort	.84	Lichtenstein, Ridgway, and Netemeyer, (1993), Journal of Marketing Research

APPENDIX B

Adapted Scale Items for Main Study

Variables	Items	Reliability (α)	Source
Attitude toward purchase of locally produced foods	• It is important to me that food I purchase is grown nearby. • It is important that people should have more locally grown food available to them to purchase. • I am worried that local farms are going out of business because most food purchased in grocery stores is grown on larger, faraway farms. • It is important that I can purchase my favorite locally produced foods all year long.	.60 to .80 for all constructs	Bissonnette and Contento, (2001), Journal of Nutrition Education
	• Purchasing locally produced foods is negative (positive). • Purchasing locally produced foods is unwise (wise). • Purchasing locally produced foods is useless (meaningful).	.80	Vermeir and Verbeke, (2008), Ecological Economics
Subjective (social) norms regarding purchase of locally produced foods	• People who are important to me think I should buy locally produced foods. • My family thinks I should buy locally produced foods. • Society thinks I should buy locally produced foods. • Friends think I should buy locally produced foods. • People who influence my buying behavior think I should buy locally produced foods.	.61	Vermeir and Verbeke, (2008), Ecological Economics
Perceived Product Availability	• I believe I can purchase locally produced foods. (PPA) • I can find locally produced foods in my neighborhood. (PPA) • I believe that locally produced foods are easily available. (PPA)	.80 (PA)	Vermeir and Verbeke, (2008), Ecological Economics
Perceived Consumer Effectiveness	• When I buy locally produced foods, I try to consider how my use of them will affect the environment and other consumers. (PCE) • Since one person cannot have an effect on sustainability issues such as locally produced foods, it doesn't make a difference what I do. (PCE) • Each consumer's behavior can have a positive effect on society by purchasing locally produced foods sold by socially responsible food retailers. (PCE)	.72 (PCE)	Roberts, (1996), Journal of Business Research

Variables	Items	Reliability (α)	Source
Store Atmospherics Responsiveness (measured through product assortment responsiveness, display factor responsiveness, customer service responsiveness and store promotions responsiveness)	• I pay attention to in-store promotions for locally produced foods. • I would enjoy using coupons for locally produced foods, regardless of the amount I save by doing so. • Redeeming coupons for locally produced food would make me feel good. • When provided by the grocery store, I like to sample locally produced foods before buying. • It is important to sample locally produced foods in a grocery store before spending the money to buy.	Not Reported Not Reported N/A	Vanhuele and Dreze, (2002), Journal of Mkt. Lichtenstein et al. (1993), Journal of Mkt. Research Author
Extent of locally produced foods purchased	• When you buy food items at a grocery store, to what extent are you “loyal” to locally produced foods?	.909	Gupta and Ogden, (2009), Journal of Consumer Marketing
Note: The six product categories resulted from pilot-test mean responses relating to locally produced food categories that consumers believe are available in their preferred grocery stores	• When you buy eggs at a grocery store, to what extent do you buy locally produced eggs? • When you buy milk at a grocery store, to what extent do you buy locally produced milk? • When you buy bread items at a grocery store, to what extent do you buy locally produced bread items? • When you buy vegetable items at a grocery store, to what extent do you buy locally produced vegetable items? • When you buy fruit items at a grocery store, to what extent do you buy locally produced fruit items? • When you buy baked goods at a grocery store, to what extent do you buy locally produced baked goods?	Not Reported	Chase, (2007), Prepared Report by Iowa State University Extension Office for Northeast Iowa Food & Farm Coalition
Price consciousness	• I will grocery shop for locally produced foods at more than one store to take advantage of low prices. • I would never shop at more than one grocery store to find low prices for locally produced foods. • I am not willing to go to extra effort to find lower prices for locally produced foods at a grocery store. • The money saved by finding low prices for locally produced foods at a grocery store is usually not worth the time and effort.	.84	Lichtenstein, Ridgway, and Netemeyer, (1993), Journal of Marketing Research

APPENDIX C

Pilot-Test Questionnaire

“LOCALLY PRODUCED FOOD PURCHASING THROUGH RETAIL GROCERY CHANNELS”

Thank you for your participation in this survey. The survey will take approximately 15 minutes to complete. Your participation in this study is voluntary; you may decline to participate without penalty. If you wish to withdraw from the survey before data collection is completed, your data will be destroyed. All responses will be held in confidence by the researcher, Jeffrey Campbell.

If you have questions about your rights as a survey participant, please contact the Office of Research Compliance at 865-974-3466. If you have questions at any time about the study or the survey procedures, you may contact the researcher, Jeffrey Campbell, at 1215 West Cumberland Avenue, 233-C Jessie Harris Building, University of Tennessee, at 865-974-1848 or at home at 865-288-4135.

Do you agree to participate? (selecting “Yes” constitutes your consent)

☐ Yes		
☐ No		

Have you purchased locally produced foods within the past twelve months at a GROCERY STORE? (Note: By answering "No", your answers will not be counted in the final survey)

☐ Yes		
☐ No		

Please choose the option that BEST FITS your definition of the term ‘Locally Produced Foods’ :

☐ Within my community of residence		
☐ Within my county of residence		
☐ Within 50 miles of my residence		
☐ Within 100 miles of my residence		
☐ Within my state of residence		
☐ Within my region of residence		
☐ Within the United States		

The following questions relate to the EXTENT in which you shop for locally produced foods in a GROCERY STORE. Please indicate from 'Never' to 'Always' the following:

	Never						Always
When you buy food items at a grocery store, to what extent are you "loyal" to locally produced foods?	☐	☐	☐	☐	☐	☐	☐
When you buy meat items at a grocery store, to what extent do you buy locally produced meat items?	☐	☐	☐	☐	☐	☐	☐
When you buy dairy items at a grocery store, to what extent do you buy locally produced dairy items?	☐	☐	☐	☐	☐	☐	☐
When you buy bread items at a grocery store, to what extent do you buy locally produced bread items?	☐	☐	☐	☐	☐	☐	☐
When you buy vegetable items at a grocery store, to what extent do you buy locally produced vegetable items?	☐	☐	☐	☐	☐	☐	☐
When you buy fruit items at a grocery store, to what extent do you buy locally produced fruit items?	☐	☐	☐	☐	☐	☐	☐

You are almost finished!!! Please continue with the survey.

This set of questions will be for descriptive purposes only. Please answer the following:

How many different stores do you typically shop in for all of your groceries?

What is the name of the grocery store(s) that you MOST OFTEN shop?

What is the name of the grocery store(s) that you MOST OFTEN shop for LOCALLY PRODUCED FOODS?

Please list all of the outlets that you purchase locally produced foods

(Check all that apply):

☐	National grocery stores (i.e., Kroger, Publix)		
☐	Specialty grocery stores (i.e., Whole Foods, Earth Fare)		
☐	Farmers' markets		
☐	Community supported agriculture		
☐	Warehouse clubs (i.e., Sam's Club, Costco)		
☐	Other (Please specify)		

On average, how frequently do you purchase locally produced foods at a grocery store?

☐	Once per week		
☐	Twice per week		
☐	Once per month		
☐	Only in season		
☐	Other (Please specify)		

What is your gender?

☐	Female		
☐	Male		

What is your relationship status?

☐	Never Married		
☐	Partnership		
☐	Married		
☐	Separated		
☐	Divorced		
☐	Widowed		

What is your age?

☐	Under 25		
☐	25-34		
☐	35-44		
☐	45-54		
☐	55-64		
☐	65 or Over		

What is your ethnicity?

☐	White (Caucasian)		
☐	African American		
☐	Hispanic (includes Latino or Spanish)		
☐	Asian		
☐	American Indian		
☐	Other (Please specify)		

What is your current occupational status?

☐	Unemployed		
☐	Part-Time Employed		
☐	Full Time-Employed		
☐	Retired		
☐	Student		
☐	Homemaker		

How many persons are in your current household (including yourself)?

☐	One		
☐	Two		
☐	Three		
☐	Four		
☐	More than four		

What is your household income?

☐	Under \$25,000		
☐	\$25,000 - \$49,999		
☐	\$50,000 - \$74,999		
☐	\$75,000 - \$99,999		
☐	\$100,000 - \$124,999		
☐	\$125,000 - \$149,999		
☐	\$150,000 or More		

What is your highest level of education completed?

☐	Less than high school graduate		
☐	High school (diploma or GED)		
☐	Some college or associates degree		
☐	Bachelor's degree		
☐	Graduate or professional degree		
☐	Other (Please specify)		

What best describes the area in which you reside?

☐	Metropolitan Statistical Area with population above 250,000 people		
☐	Metropolitan Statistical Area with population between 100,000 to 249,999 people		
☐	Urbanized Area with population between 50,000 to 99,999 people		
☐	Urban Cluster that has at least 2,500 people but fewer than 50,000		
☐	Small city or town with less than 2,500 people		

THANK YOU FOR YOUR TIME IN COMPLETING THIS SURVEY!!!!

APPENDIX D

Main Study Questionnaire

Locally produced food study

Dear participant,

Thank you for your participation in this survey. The survey will take approximately 15 minutes to complete. Your participation in this study is voluntary; you may decline to participate without penalty. If you wish to withdraw from the survey before data collection is completed, your data will be destroyed. All responses will be held in confidence by the researcher, Jeffrey Campbell.

If you have questions about your rights as a survey participant, please contact the Office of Research Compliance at The University of Tennessee at 865-974-3466. If you have questions at any time about the study or the survey procedures, you may contact CT Marketing Group at ctmarketinggroup.com or the researcher, Jeffrey Campbell, at 1215 West Cumberland Avenue, 233-C Jessie Harris Building, University of Tennessee, at 865-974-1848. Thank you.

Do you agree to participate? (selecting "Yes" constitutes your consent)

- ☐ Yes
☐ No

Have you purchased locally produced foods within the past twelve months at a GROCERY STORE?

- ☐ Yes
☐ No

Please choose the option that BEST FITS your definition of the term 'Locally Produced Foods' :

- ☐ Within my community of residence
☐ Within my county of residence
☐ Within 50 miles of my residence
☐ Within 100 miles of my residence
☐ Within my state of residence
☐ Within my region of residence
☐ Within the United States

I consider Locally Produced Foods to be:

(SELECT ALL THAT APPLY)

- ☐ Foods produced by my neighbors
☐ Socially responsible foods
☐ Foods that come from community supported agriculture memberships
☐ Foods that are environmentally safe
☐ Foods that are organically grown
☐ Foods grown and supported by local government
☐ Sustainably produced and distributed foods
☐ Other, please specify
-

The following statements help to understand your overall views concerning locally produced foods. Please indicate your level of disagreement or agreement:

[illegible]

Please indicate the response that most closely resembles your feelings to the following statements concerning your ATTITUDES and INTENTIONS relating to locally produced foods:

Purchasing locally produced foods is:

Negative 2 3 4 5 6 Positive

☐ ☐ ☐ ☐ ☐ ☐ ☐

[illegible][illegible]

The likelihood that I will buy locally produced foods in the future is:

Highly unlikely 2 3 4 5 6 Highly likely

The certainty that I will buy locally produced foods in the future is:

Highly uncertain 2 3 4 5 6 Highly certain

☐ ☐ ☐ ☐ ☐ ☐

The chance that I will buy locally produced foods in the future is:

Very little 2 3 4 5 6 Excellent

☐ ☒ ☐ ☐ ☐ ☐ ☐

The following two pages contain a total of 26 items to rate. Please do your best to read and respond to each item.

The following statements relate to the GROCERY STORE(S) in which you MOST OFTEN shop for locally produced foods. Please rate your level of disagreement or agreement:

[illegible]

Consider the store that you MOST OFTEN shop for locally produced foods and indicate the extent that you 'Agree' or 'Disagree' whether their categories contain locally produced items:

[illegible]

The following questions relate to the EXTENT in which you shop for locally produced foods in a GROCERY STORE. Please indicate from 'Never' to 'Always' the following:

[illegible]

You are almost finished!!! Please continue with the survey.

How many different stores do you typically shop in for all of your groceries?

What is the name of the grocery store(s) that you MOST OFTEN shop?

What is the name of the grocery store(s) that you MOST OFTEN shop for LOCALLY PRODUCED FOODS?

On average, how frequently do you purchase locally produced foods at a grocery store?

- ☐ Once per week
- ☐ Twice per week
- ☐ Once per month
- ☐ Twice per month
- ☐ Only in season
- ☐ Other, please specify

Please list all of the places in which you purchase locally produced foods:

(SELECT ALL THAT APPLY)

- ☐ National grocery stores (i.e., Kroger, Publix, Safeway)
- ☐ Specialty grocery stores (i.e., Whole Foods, Earth Fare, Trader Joe's)
- ☐ Supercenters (i.e., Wal-Mart, Target, Meijer)
- ☐ Farmers' markets
- ☐ Community supported agriculture
- ☐ Warehouse clubs (i.e., Sam's Club, Costco)
- ☐ Other, please specify

The following data is only collected to group responses. Answers are not connected to any individual survey taker.

What is your gender?

- ☐ Male
- ☐ Female

What is your relationship status?

- ☐ Never Married
- ☐ Partnership
- ☐ Married
- ☐ Separated
- ☐ Divorced
- ☐ Widowed

What is your age?

- ☐ Under 25
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65 or Over

What is your ethnicity?

- ☐ White (Caucasian)
 - ☐ African American
 - ☐ Hispanic (includes Latino or Spanish)
 - ☐ Asian
 - ☐ American Indian
 - ☐ Other, please specify
-

What is your current occupational status?

- ☐ Unemployed
- ☐ Part-Time Employed
- ☐ Full Time-Employed
- ☐ Retired
- ☐ Student
- ☐ Homemaker

What is your household income?

- ☐ Under \$25,000
- ☐ \$25,000 - \$49,999
- ☐ \$50,000 - \$74,999
- ☐ \$75,000 - \$99,999
- ☐ \$100,000 - \$124,999
- ☐ \$125,000 - \$149,999
- ☐ \$150,000 or more

What is your highest level of education completed?

- ☐ Less than high school graduate
 - ☐ High school (diploma or GED)
 - ☐ Some college or associates degree
 - ☐ Bachelor's degree
 - ☐ Graduate or professional degree
 - ☐ Other, please specify
-

How many persons are in your current household (including yourself)?

- ☐ One
- ☐ Two
- ☐ Three
- ☐ Four
- ☐ More than four

What best describes the area in which you reside?

- ☐ Metropolitan Statistical Area with population above 250,000 people
- ☐ Metropolitan Statistical Area with population between 100,000 to 249,999 people
- ☐ Urbanized Area with population between 50,000 to 99,999 people
- ☐ Urban Cluster that has at least 2,500 people but fewer than 50,000
- ☐ Small city or town with less than 2,500 people

VITA

Jeffrey Michael Campbell was born in Indiana in 1968 and graduated in 1987 from Plymouth High School, Plymouth, IN. He attended Valparaiso University in Valparaiso, IN and received his Bachelor of Science degree in Business Administration in 1991. He worked three years as a civilian employee with the Naval Air Warfare Center, Aircraft Division Indianapolis as a Purchasing Agent and Contracting Officer prior to beginning his career in retail. From 1995 until 2000, Jeffrey was employed at Gadzooks, Inc., a specialty juniors retail apparel shop. His positions included store management and Inventory Control Analyst. In October of 2000, he began an eight year career at JCPenney, Inc. in the Planning and Allocation Department, which included positions of Merchandise Allocator, Merchandise Planner, and Store Planner. In December of 2005, while still employed at JCPenney, he finished his Masters of Business Administration at The University of Texas at Arlington. In the fall of 2008, Jeffrey was admitted to the Ph.D. program at The University of Tennessee, Knoxville in the Retail, Hospitality, and Tourism Management Department. During his time in the Ph.D. program, Jeffrey worked as a Graduate Teaching Assistant and also helped to develop retail technology course curriculum within the department. His research included topics of locally produced foods, sustainability, consumer behavior, retail strategy and small business management. Jeffrey has published in professional journals and presented at multiple conferences. In August 2011, he received his doctoral degree in Retail, Hospitality, and Tourism Management with a minor in Marketing. He also began teaching and researching as an Assistant Professor of Retailing with The University of South Carolina in Columbia, SC starting in August 2011.