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The Role of Utah Farmers in Farm to School Programming

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THE ROLE OF UTAH FARMERS IN FARM TO SCHOOL PROGRAMMING

by

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ABSTRACT

The Role of Utah Farmers in Farm to School Programming

by

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Many studies have observed the involvement of stakeholders in farm to school (FTS) programming to further understand their role, yet no study had previously assessed the role of Utah farmers in FTS programming. As a result, the purpose of this research was to describe Utah farmers' role in FTS programming and their interest in institutional marketing of local foods. The researcher sent an online descriptive survey to 5,470 farmers belonging to Utah Farm Bureau. The survey used Dillman's Tailored Design Method. Of the 184 survey responses received, 143 surveys were usable.

The theory of planned behavior was the theoretical framework for the study. Respondents reported a positive attitude toward FTS programming, although a majority (83.6%) had not participated. They indicated that building relationships with community members and increasing awareness of local food were top benefits associated with FTS programming. Top barriers to participation in FTS programming included a lack of information about schools seeking to purchase local products and restriction of growing

seasons. Respondents indicated that they intended to host farm tours for students and food service personnel. Their training and resource needs related to FTS programming included small business assistance. Demographics characteristics revealed a majority of respondents were male and had more than 22 years of farming experience. The subjective norm and perceived behavioral control components of the theory of planned behavior statistically predicted the intention of respondents to participate in farm to school programming. Theory components, including attitude, accounted for 67.2% of the variance in intention to participate in FTS programming. These findings suggest other influences contributed to the intention of respondents to participate in FTS programming.

One future research recommendation for FTS programming includes conducting similar studies with different groups of farmers. The researcher recommends continued use of the theory of planned behavior as a theoretical framework for studies assessing involvement in FTS programming. Variables not included in this study may discover further influences on farmers' intention to participate in FTS programming. One recommendation is to increase outreach and marketing to farmers who may be interested in FTS programming.

(107 pages)

PUBLIC ABSTRACT

The Role of Utah Farmers in Farm to School Programming

John L. Hawley

This purpose of this study was to describe Utah farmers' role in farm to school (FTS) programming and their interest in institutional marketing of local foods. The researcher sent a survey to farmers belonging to the Utah Farm Bureau to discover the role they play in FTS in Utah.

Respondents held positive attitudes toward FTS programming and agreed that building relationships with community members and increasing awareness of local food were benefits. They cited a lack of information about schools seeking to purchase local products and restriction of growing seasons as barriers to their participation in FTS. They displayed their willingness to host farm tours for students and food service personnel. Respondents also indicated they are interested in training and resources related to small business assistance. The majority of respondents were male and had more than 22 years of farming experience. Subjective norms and perceived behavioral control, components of the theory of planned behavior, statistically predicted the intention of respondents to participate in farm to school programming. The results of this study suggest that other factors influenced respondents' intention to participate in FTS programming.

Additional research should discover the role of farmers in FTS in other states and regions. One suggestion was for stakeholders to increase outreach and marketing to farmers who may be interested in FTS programming. A broader understanding of the role

of farmers' in FTS programming may allow stakeholders to more effectively work with farmers.

DEDICATION

This work is dedicated to those growing up without a father or mother. You can accomplish anything you work hard enough for.

ACKNOWLEDGMENTS

Since a young age, I have sought to learn more about man's greatest pursuit—agriculture. This project has been the pinnacle of my learning. None of this would be possible without the grace of my Lord and Savior, Jesus Christ. In some small way, I hope this work glorifies you.

I would like to acknowledge the love and patience of my wife, Jamie. I know I would not be completing this project without her companionship and support. Having her in my life is the greatest blessing.

Many others have taken the time to mentor and care for me, but none measure close to Heather Medley. Her guidance and care have been essential to my personal, professional, and academic success for almost 6 years. In far too many instances to count, she has been the support I needed to believe in myself. I know that without her motivation and encouragement, I would not be where I am today.

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I would also like to acknowledge one of the most motivating forces in my life—music. Whenever I went without family support or motivation, I knew I could turn on my stereo and remember that “it’s all worth reaching for.” A special thank you goes to my favorite band, Underoath.

I would also be remiss if I did not make a special note to thank my loyal feline, Perry. On days where it seemed nothing could go right, you were always there to jump on my lap, roll around on the floor, or remind me that it is foolish to leave anything (especially flash drives) on the counter when you are alone at the house.

Last, I would like to thank my committee and the amazing support systems I have at Utah State and Texas Tech. I would like to give a special thank you to Dr. Kelsey Hall. Without her guidance, I would not be completing this project. Thanks to the effort of many, I have learned more than I could ever have imagined.

John L. Hawley

CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Farm to school (FTS) programs aim to increase the consumption of locally sourced agricultural products and increase student knowledge of and engagement with agriculture, nutrition, and health (Schafft, Hinrichs, & Bloom, 2010). FTS programs are defined by three major objectives: (1) procurement of local food for school meals; (2) education-related activity, addressing agriculture, nutrition, and local food systems; and (3) school gardening activity, including hands-on learning through gardening (Izumi, Wright, & Hamm, 2010; National Farm to School Network, 2016).

FTS programs have existed in the U.S. since 1997 (National Farm to School Network, 2016). Through the operation of workshops and public events, the FTS movement expanded exponentially in the late 1990s and early 2000s (Vallianatos, Gottlieb, & Hasse, 2004). A record 42,587 schools were in FTS programming in 2016, serving more than 23.6 million students (National Farm to School Network, 2016).

Many factors played a role in the creation and growth of FTS programming (Bagdonis, Hinrichs, & Schafft, 2009). With the effects of poor nutrition expanding in adulthood, growing industrialization in the U.S. food system, and an increasing distance from modern food supplies, the interest in and development of FTS programming has increased (Bagdonis et al., 2009). The rising prominence of these programs could also attribute their growth to demands for fresh, safe, and local food. Bagdonis et al. identified economic benefits and increased community identity with local products as contributing factors increasing interest in FTS programming.

Various programs and practices targeting American youth have engaged the topic of childhood obesity, with consumption of healthy foods or increasing exercise being the primary focal points (Joshi, Azuma, & Feenstra, 2008). Both state and federal legislatures have mandated wellness programs (Bagdonis et al., 2009). According to the National Farm to School Network (2016), 40 states have wellness policies and health initiatives supportive of FTS programming. Utah is among 10 states that has not enacted policies supportive of FTS programming (National Farm to School Network, 2016).

Programs instituted at the federal level have similarly played a role. Federal legislation created the National School Lunch Program, one of the nation's largest nutrition programs, which intermeshes with existing FTS programs to form a network of both producers and distributors of school food (Conner, King, Koliba, Kolodinsky, & Trubek, 2011). The primary goals of the National School Lunch Program and FTS programs are identical: enhance childhood nutrition while providing market support for U.S. agricultural products (Conner et al., 2011). Another federal effort directed by the U.S. Department of Agriculture is the Know Your Farmer Know Your Food Initiative. Launched in 2009, the program attempts to unite U.S. Department of Agriculture resources and efforts related to local food systems and provide federal support for FTS programming (U.S. Department of Agriculture, 2016).

In some instances, regional advocates seeking to start new programs in schools work to establish FTS programming (Winston, 2011). Groups within many states and regions attempt to unite various stakeholders with interest in FTS programming. For example, the Utah State Board of Education procured a U.S. Department of Agriculture

Farm to School grant to connect various school officials and other stakeholders, such as farm to school advocates and food service managers, with farmers through a training workshop solely focused on FTS programming and education (U.S. Department of Agriculture, 2015). County-based teams, consisting of local organizations, farm to school advocates, and extension professionals, work to connect farmers to FTS programs (Hanson et al., 2011). In some instances, these partnerships have greatly increased sales of local foods through FTS programs.

Success of FTS programs is often predicated by mutual interest among various stakeholders, including farmers, professionals, nutritionists, health and agriculture advocates, educators, and policy makers (Izumi, Rostant, Moss, & Hamm, 2006; Joshi et al., 2008). Support from these stakeholder groups is critical for the success of FTS programs and eventual economic benefits coming to farmers (Feenstra & Ohmart, 2010; Izumi et al., 2006; Joshi et al., 2008).

Statement of the Problem

The U.S. Department of Agriculture Farm to School Census (2015) reported that 35% of school districts in Utah participated in FTS programming. This percentage accounted for 349 schools and 220,881 students. Despite the number of schools participating, few studies have sought to examine the perspectives of primary stakeholders, such as farmers, in FTS programming (Izumi, Wright, & Hamm, 2010; Joshi et al., 2008). Lack of literature on the role of farmers in FTS programming presents a problem for stakeholders interested in program creation and success. Without

understanding the roles of all stakeholders involved in FTS programming, the relationships between groups such as farmers and food service directors may not occur and involvement in FTS programs may not increase (Izumi, Alaimo, & Hamm, 2010). This study addressed a gap in the literature by analyzing the role Utah farmers have in FTS programming. By surveying Utah farmers, the researcher attempted to discover the attitudes, barriers, benefits, resources, and farm characteristics relevant to involvement in FTS programming. Survey results provided information on how to involve farmers more effectively in the Utah State Board of Education's farm to school initiative. This information would help Utah's Farm to Fork task force increase the amount of locally sourced products in school systems, expand educational activities in the classroom, and establish more school gardens.

Purpose and Research Objectives

The purpose of this study was to describe respondents' role in FTS programming and their interest in institutional marketing of local foods. Additionally, the researcher examined the attitudes and willingness of farmers to participate in FTS programming. Research objectives addressing the purpose of the study were as follows.

1. Describe' attitudes toward farm to school participation.
2. Identify respondents' perceptions of the benefits associated with farm to school programming.
3. Identify respondents' perceptions of the barriers associated with farm to school programming.
4. Explain the subjective norms that influence respondents' participation in farm to school programming.

5. Describe respondents' participation in farm to school activities.
6. Describe respondents' perceived behavioral control toward farm to school participation.
7. Discover respondents' intention to participate in farm to school programming.
8. Explore respondents' interest in resources and training needs in farm to school programming that could enable them to work with K-12 schools.
9. Describe respondents in terms of their demographic and farm characteristics.
10. Test the theory of planned behavior and describe the relationship between respondents' attitude, subjective norms, and perceived behavioral control in predicting intentions to participate in farm to school programming.

Limitations of the Study

The instrument was an online survey where participants could skip questions, which could result in random errors of measurement. Electronic communications sent via email were a concern as email blocking systems or errors with email addresses can represent barriers to contact potential participants. The researchers conducted a pilot test to address this limitation. Additionally, the quantitative nature of this study did not allow participants to provide additional information or further explain their answers. Because the researcher collected data by survey, the findings only represented the period during which the survey was completed. Data collected from this study is limited to those who responded and are not generalizable.

Basic Assumptions

The following basic assumptions were made during this study.

- Each participant filled out the questionnaire with honesty.

- Those in the sample knew how to use computers and the internet.
- Those in the sample did not need to have experience or interest in farm to school programming.

Significance of the Study

The importance of understanding current participation, non-participation, or termination of participation can be critical for developing pathways to include farmers of all backgrounds in the FTS movement (Thornburg, 2013). To complement existing research on farmers' experiences, motivations, perceptions, and practices related to FTS programming, this study examined not only participating farmers, but also those who had not engaged in FTS programming. By accounting for all perspectives, the potential exists to create opportunities in FTS programming for more farmers in Utah.

Another important factor representing the significance of this study were the numerous studies exploring the involvement of other stakeholders aside from farmers in FTS programming (Conner et al., 2012; Feenstra & Ohmart, 2010; Izumi, Wright, & Hamm, 2010; Joshi et al. 2008). Few studies have included the perspective of farmers (Izumi, Wright, & Hamm, 2010; Joshi et al. 2008); yet, farmers are the most vital components of FTS programs (Conner et al., 2012). Without the participation of farmers in FTS programs, the full benefits provided through their adoption would not come to fruition (Conner et al., 2012).

No study existed examining the perceptions of farmers involved in Utah FTS programming. Understanding the perceptions of all stakeholders involved in FTS programming can provide a broader picture of the phenomenon and contribute by

exploring gaps highlighted in previous literature.

Definition of Terms

Attitudes: Represented by a summation of psychological objects captured by individuals in such attribute dimensions as good-bad, harmful-beneficial, pleasant-unpleasant, and likable-dislikable (Ajzen, 2001).

Behavior: The intention of individuals to make decisions predicted by three main components: attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). As detailed in the theory of planned behavior, the direct factor associated with an individual's behavior is their intention to engage in the behavior.

Decision: Occurs when individuals engage in activities that lead to a choice to either accept or reject an innovation (Rogers, 2003).

Diffusion of innovations: Popularized by Everett M. Rogers, diffusion of innovation theory explains the movement of innovations throughout social systems and a detailed diffusion process (Rogers, 2003).

Farm to School (FTS): According to the Farm to School Network (2016), FTS programs enrich the connections communities have with providing fresh, healthy food and local products. This occurs through changes to food purchasing and education practices at schools and preschools. FTS programs differ by location, but always include at least one of the following: procurement, education, or school gardens.

Hybrid social ecological model: A modified social ecological model used to develop an evaluation framework for FTS programming (Joshi, Henderson, Ratcliffe, &

Feenstra, 2014).

Intention: Intention is the culminating factor detailed in TPB and can be explained as an individual's perception of the ease of performing a specific behavior (Fielding, Terry, Masser, & Hogg, 2008).

Perceived behavioral control: The third factor detailed in TPB defined by an individual's perceived ease or difficulty in taking part in a specific behavior (Ajzen, 1991).

Perceptions: Subjective evaluations derived from personal experience and a crucial component for explaining behavior (Rogers, 2003). Individual's perceptions of innovations impact rates of adoption.

Subjective norms: A factor in the theory of planned behavior that measures individuals' decisions to accept or reject a behavior based on perceived social pressure (Hrubes, Ajzen, & Daigle, 2001).

Theory of planned behavior: A theory developed by Icek Ajzen to predict the intent of individuals to act on specific behaviors. Three independent variables are identified by the theory: attitude, subjective norms, and perceived behavioral control (PBC; Ajzen, 2001).

U.S. Department of Agriculture: The U.S. Department of Agriculture (USDA) is an entity of the U.S. Federal Government providing leadership on food, agriculture, natural resources, rural development, nutrition, and related issues based on sound public policy, the best available science, and efficient management (U.S. Department of Agriculture, 2015).

Utah Farm to Fork Task Force: A group of stakeholders consisting of educators, nutrition professionals, and other Utah leaders with a vested interest in the development and expansion of FTS programs in Utah schools (Jonas, 2017).

CHAPTER II

REVIEW OF LITERATURE

The theoretical framework for this study was the theory of planned behavior. The diffusion of innovation theory and the hybrid social ecological model provided the conceptual framework. While the conceptual framework did not directly relate to the study's research objectives, the researcher used it to analyze and understand the findings of the research. A literature review expanded on farmer participation in FTS programming, the barriers and benefits associated with farmers' involvement in FTS programming, resource and training needs, and farm and farmer characteristics.

Theoretical Framework

First introduced by Icek Ajzen, the theory of planned behavior (TPB) seeks to explain how beliefs develop the foundations that determine behavior (Ajzen, 2011). Although beliefs may come from a lack of knowledge, inaccuracy, or bias, they nevertheless play a key role in determining behavior (Ajzen, 2011).

As an extension of the theory of reasoned action, TPB exhibits a central focus on an individual's intention to display a certain behavior. Volitional control, the ability of an individual to act on a behavior, is a necessary component of TPB (Ajzen, 1991). Three factors (attitude, subjective norms, and perceived behavioral control) are included in TPB as the precursor to behavior as seen in Figure 1. These items interact with one another to form intent, eventually leading to the behavioral outcome in question (Ajzen, 1991).

Attitude represents an individual's summary evaluation of psychological concepts

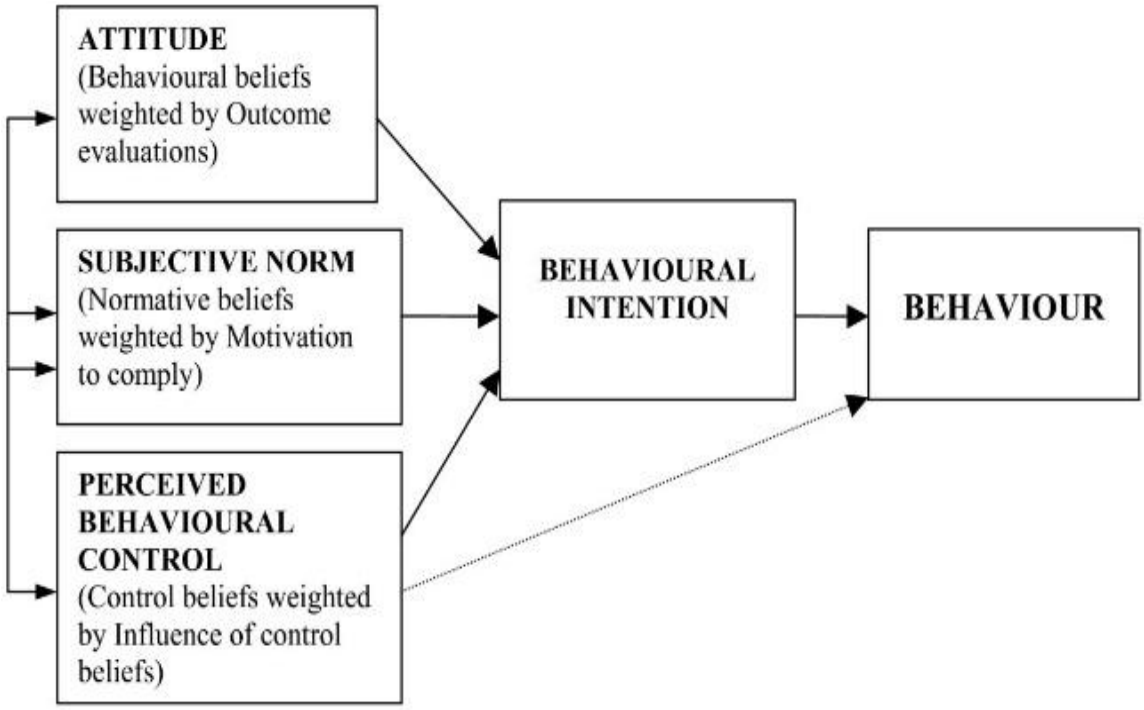

Figure 1. Theory of planned behavior (Ajzen, 1991) Reprinted with permission (see Appendix E).

or objects described in such paradigms as good-bad, harmful-beneficial, pleasant-unpleasant, and likable-dislikable (Ajzen, 2001). Individuals exhibit certain attributes associated with specific behaviors (Ajzen, 1991). When those attributes link to the specific behavior in question, individuals develop a positive or negative attitude toward the behavior (Ajzen, 1991).

Subjective norms, the second factor in TPB, are described as the perceived social pressures influencing individuals to act on a behavior one way or another (Ajzen, 1991). Evidence exists to support the impact of subjective norms on the intention of individuals to act on specific behaviors (Sheeran, Norman, & Orbell, 1999).

The third factor detailed in TPB is perceived behavioral control (PBC). Perceived behavioral control is described as an individual's perceived ease or difficulty in taking

part in a specific behavior (Ajzen, 1991). This factor is associated with experiences and the expected complications of performing a new behavior (Ajzen, 1991). Although described as an attribute contributing to the formation of intention, PBC also plays a key role in affecting behavior directly (Ajzen, 1991).

The culminating factors associated with TPB (attitude, subjective norms, PBC) form behavioral intention. Behavioral intention is an individual's perception of the ease of performing the behavior in question (Fielding et al., 2008). A general assumption regarding the theory is that the more favorable the attitudes and subjective norms are in relation to a behavior, and the higher PBC, the chances that the individual engages in the behavior becomes greater (Ajzen, 1991).

The factors detailed in TPB were a critical component of this study. These factors attempt to explain the influences made on farmers and the intentions they develop to engage in FTS programming. The theory of planned behavior describes the connection between intent and behavior. The choice of farmers to act on their intentions and engage in FTS programming is a function of attitude, PBC, and subjective norms (Ajzen, 1991).

Conceptual Framework

Diffusion of Innovation Theory

The innovation decision process is a key component of diffusion of innovation theory, which explains the process individuals go through before adopting an innovation or behavior change (Rogers, 2003). In the innovation decision process, individuals gain initial knowledge concerning the innovation, form attitudes toward the innovation, make

a decision to adopt or reject the innovation, implement the innovation, and then confirm their decision (Rogers, 2003). Additionally, participants in this process may expand beyond individuals when other decision-making units in a social system, such as a professional organization or business, become involved.

The first stage of the innovation decision process, knowledge, occurs when individuals (or other decision-making units in a social system) are exposed to the existence of an innovation and obtain an understanding of how it functions (Rogers, 2003). A visual representation of the innovation decision process can be seen in Figure 2.

Persuasion is the second stage in the innovation decision process and occurs when individuals (or other decision-making units in a social system) develop favorable or unfavorable attitudes towards an innovation (Rogers, 2003).

The third stage of innovation decision process, decision, occurs when individuals (or other decision-making units in a social system) participate in activities that lead to acceptance or rejection of an innovation (Rogers, 2003).

Implementation is the fourth stage of the innovation decision process and occurs when individuals (or other decision-making units in a social system) put an innovation into practice (Rogers, 2003).

The fifth stage of the innovation decision process, confirmation, occurs when individuals (or other decision-making units in a social system) desire support from others concerning the innovation decision already made (Rogers, 2003). The individual or decision-making unit may alter their previous decision if feedback from others concerning the innovation is conflicting (Rogers, 2003).

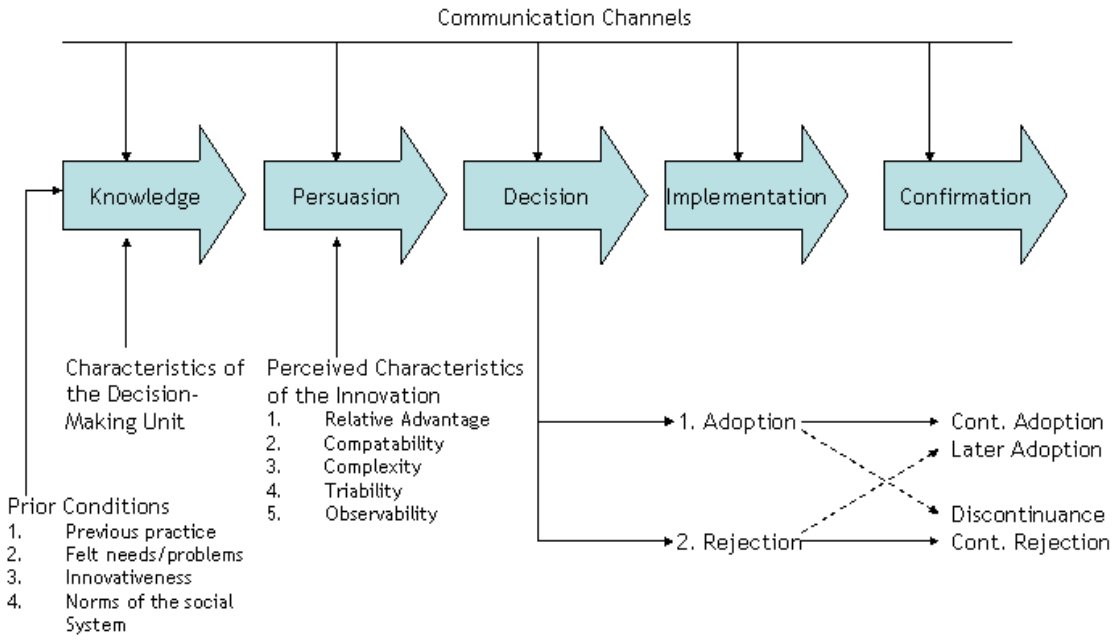

Figure 2. The innovation decision process (Rogers, 2003) Reprinted with permission (see Appendix E).

The Hybrid Social Ecological Model

The social ecological model focuses on the nature of an individual's interactions with their physical and sociocultural environments (Stokols, 1992). These interactions can affect the emotional, physical and social well-being of individuals. Both long and short-term exposure to certain physical and sociocultural environments can have varying impacts on an individual and their behavior (Stokols, 1992).

The Farm to School Network modified the social ecological model to develop an evaluation framework for FTS programming (Joshi et al., 2014). FTS programming could support public health, community economic development, education, and environmental quality outcomes on the multiple levels of the social ecological model. The hybrid model includes categories that predict how intrapersonal, interpersonal, organizational

environments, community, and public policy factors interact with an individual's behavior related to FTS programming.

As seen in Figure 3, the intrapersonal level of influence within the model includes biological and psychological influences and seeks to define the activity of individuals that may be influenced by physical ability or daily patterns leading to specific behaviors (Cassel, 2010; Sallis, Owen, & Fisher, 2008). Demographics, such as location and years of experience, socioeconomic status, and family dynamics, contribute to this level of the model (Sallis et al., 2008).

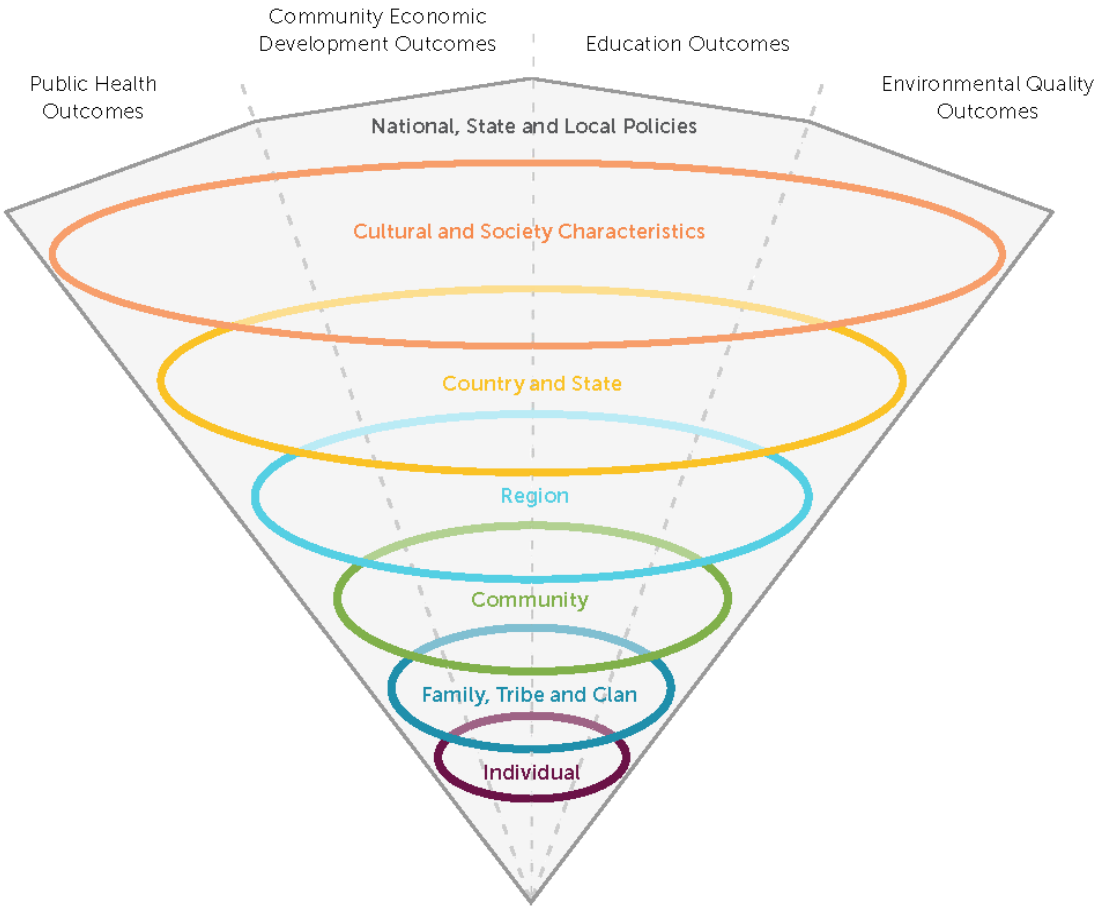

Figure 3. Hybrid social ecological model (Joshi et al., 2014) Reprinted with permission (see Appendix E).

Interpersonal levels within the model include social and cultural influences, including social support from peers and an individual's engagement in social activities within a community (Sallis et al., 2008). The development of relationships with peers and the influence of those relationships on behavior is also an important component of this level (Joshi et al., 2014).

Organizational environments within the model include business practices, philosophy, and factors such as regulation (Sallis et al., 2008), and the availability and use of certain food products at a school or business could be observed by this component of the model (Joshi et al., 2014). Advocacy on the part of organizations in favor of a behavior change, such as use of local food at a school, is also a key factor (Sallis et al., 2008).

The influence of community within the model includes expectations and availability of resources (Joshi et al., 2014). Local food availability within schools, availability of farmers willing to sell products to schools, and recreational and educational activities contribute to the community component of this model (Sallis et al., 2008).

Last, the policy level of the model includes factors influencing individual and institutional behavior (Joshi et al., 2014) and includes local regulations on food safety and investment and support of local initiatives by local entities, an important factor as they influence the growth and development of programs (Sallis et al., 2008).

Relevant Literature

Participation in Farm to School Programming

Farmers have participated in FTS programming by directly selling products to schools and engaging with stakeholders such as principals, teachers, and food service managers (Erpelding, Pinard, & Yaroch, 2011; Joshi et al., 2008). Farmers have also been involved in FTS program activities, including taste testing, guided farm tours, school visits, classroom educational activities, and community outreach events (Erpelding et al., 2011; Feenstra & Ohmart, 2010; Joshi et al., 2008). Although obstacles to participation exist, farmers are generally interested in participating in FTS programming if they find it feasible to do so (Erpelding et al., 2011).

Attitudes of Farmers Involved in Farm to School Programs

One study described farmers' engaged in FTS programming as pragmatic or lacking attitude (Izumi, Wright, & Hamm, 2010). The study assessed farmers' involvement in FTS as an effort to diversify their production, although they may not necessarily be supportive of FTS programming (Izumi, Wright, & Hamm, 2010). Another study used TPB to assess conservation behaviors in different groups of farmers (Beedell & Rehman, 2000). The study found that farmers not previously engaged in conservation behavior unsurprisingly had a less positive attitude toward the efforts. The attitudes of farmers not engaged in conservation behaviors not as heavily influenced by others (Beedell & Rehman, 2000).

Subjective Norms of Farmers Involved in Farm to School Programs

Beedell and Rehman (2000) found that farmers feel an obligation to carry out conservation-like behaviors. Although they feel obligated, social pressures to engage in conservation behaviors held little importance to them. The study assessed that the subjective norms of farmers are less important than their own internal obligation to engage in the behaviors they believe to be beneficial (Beedell & Rehman, 2000). Conversely, Hinrichs (2000) found that social pressures influenced farmer involvement in local food systems, including from family and friends. However, the study warned that social pressures would not necessarily preclude instrumental behaviors or the economic influence on farmers' considering engagement in production and sales of local foods (Hinrichs, 2000).

Barriers to Implementing Farm to School Activities

Farmers have faced barriers to participation in FTS programming, related to a lack of marketing, resources, facilities training, liability, and adherence to food safety standards (Hanson et al., 2011). However, Erpelding et al. (2011) found the inability of farmers to offer products year-round was the foremost barrier preventing sale of products and involvement in FTS programming. Other barriers include delivery of products, food processing (chopping and cutting vegetables), pricing, size of school districts (too small or large), and volume (Erpelding et al., 2011).

Benefits to Implementing Farm to School Activities

Previous studies have found expanding markets and promotion of local food consumption as top benefits to farmers involved with FTS programming (Hanson et al., 2011; Thompson et al., 2014). Additionally, further benefits include educating children about food systems, building relationships, protecting the environment, and selling leftover product to schools. Through FTS programs, participants could benefit from fresh, healthy, local produce while farmers generated new revenue (Hanson et al., 2011; Thompson et al., 2014). Certain benefits could potentially increase the willingness of farmers considering engagement in FTS programming. For example, an increased customer base could encourage farmer involvement in FTS programming.

Perceived Behavioral Control of Farmers in Farm to School Programs

Beedell and Rehman (2000) reported that farmers with previous experience engaging in activities similar to FTS programming found them to be neither too difficult nor too easy. Other studies have reported that farmers have found difficulty participating in FTS programming due to their inability to process products or provide them at an adequate quality (Erpelding et al., 2011; Hanson et al., 2011). Many of these difficulties arise because farmers are unable to provide necessities to schools such as food processing and refrigeration.

Intention to Participate in Farm to School Programs

A variety of factors influence farmers' participation in FTS programming,

including farm characteristics, direct relationships, economic factors, and social factors (Conner et al., 2011; Erpelding et al., 2011; Feenstra & Ohmart, 2010; Joshi et al., 2008). In FTS programs, with only a small number of farmers involved, profit increased as sales per farmer were higher (Joshi et al., 2008). While farmers involved in FTS programs have reported income from participation, they have been consistently modest and represent less than 5% of their total revenue (Joshi et al., 2008). Despite conservative profits, Joshi et al. reported that many farmers displayed enthusiasm from the existence and operation of FTS programs, with some farmers increasing their involvement in educational activities, such as farm tours and informational presentations.

Direct relationships between farmers and school administrators have proven to be successful in some cases (Feenstra & Ohmart, 2010). These relationships have resulted in increased sales and profits for local farmers. Significant observations have been made that reflect the willingness of farmers to become involved in FTS programming based on the improved relationships or "synergy" between educational institutions, agriculture, and communities (Joshi et al., 2008). These findings reflect the overall hopes of farmers to gain from another potential benefit in the form of increased sales (Joshi et al., 2008).

Finally, economic and social factors were critical for determining the involvement of farmers in FTS programming (Conner et al., 2011). Farmers with higher economic and social motivation to become involved in FTS programming were more willing to alter or adapt their production practices to meet program needs. Market-orientated farmers were the group most likely to become involved in FTS programming. The views and perceptions of farmers toward FTS programming were also important, as they were more

likely to adapt if viewing schools as customers and not charities (Conner et al., 2011). However, farmers were not willing to increase acreage on their farms or change their crop mix to meet the demands of FTS programming (Erpedling et al., 2011).

Resources and Training Needs

A few studies have identified farmers' training needs for improving implementation of FTS programming (Gemlo, 2010; Mississippi Farm to School Interagency Council, 2014). Minnesota farmers requested additional information and training to improve their understanding of liability insurance, small business assistance, and education about farm to school market (Gemlo, 2010). The needs identified by Minnesota farmers reflected the unique factors affecting their involvement in FTS programming. Similarly, stakeholders involved with FTS programming believed educational opportunities and resources about topics such as regulation targeting Mississippi farmers might help to start more programs and improve those already in existence (Mississippi Farm to School Interagency Council, 2014).

Delivery and execution of training programs related to FTS programming could include several components designed to connect and help stakeholders start or improve programs (Gemlo, 2010). A Minnesota Extension program offered workshops that included informational meetings and manuals for farmers and other stakeholders involved with or interested in FTS programming (Gemlo, 2010). Networking sessions and connections to Extension educators, Farmers Union, Farm Bureau and fruit and vegetable grower associations were desired (Gemlo, 2010). Workshops for FTS programming could address the need for coordinating volunteer efforts and using resources designed to aid

programs. Similarly, a Mississippi study found 34 percent of farmers would be willing to participate in FTS programming if they were more comfortable with how to do so (Mississippi Farm to School Interagency Council, 2014).

Demographic Characteristics of Farmers in Farm to School Programming

Farmers identified in previous studies addressing FTS programming have reported shared demographic characteristics. These farmers have supported local food systems, desiring to reduce transportation logistics and cost whenever possible (Izumi, Alaimo, & Hamm, 2010). A South Carolina study identified farmers involved in FTS programming as wide-ranging in age, anywhere from 18 to 80 (Thompson et al., 2014). The study identified many participants as having less than 10 years of farming experience. These farmers often operated with limited resources and obtained income from other employment outside of their farm (Thompson et al., 2014). Spouse operations were common as well, with either one or both spouses operating as the primary managers of the farm (Thompson et al., 2014).

Characteristics of Farms Participating in Farm to School Programming

Farmers involved with FTS programming were often engaged in diverse production practices (Izumi, Alaimo, & Hamm, 2010). Farms endeavored in a wide variety of practices that often overlapped, included organic, hormone-free, pasture-raised, and pesticide-free (Erpelding et al., 2011).

Erpelding et al. (2011) reported farmers underwent annual inspections from a

variety of reporting agencies, including federal, state, and third-party. Additionally, farmers have received certifications in Hazard Analysis and Critical Control Points and insurance policies for general operations, including coverage for field trip participants (Erpelding et al., 2011). Many farmers involved in FTS programming have no food safety certifications or training (Mississippi Farm to School Interagency Council, 2014).

Past research has described delivery of products by farmers engaged in FTS programming. Farmers owned vehicles used for delivery of products used in FTS programming, but often lacked a staff driver (Erpelding et al., 2011). Farmers preferred delivering products no more than 85 miles at a rate of two deliveries per week (Erpelding et al., 2011).

Thompson et al. (2014) identified farms involved in FTS programming in South Carolina. The researchers selected these farms for their size, family-owned status, and direct sale practices. They were no more than 100 acres, with the majority being less than 10 acres in size (Thompson et al., 2014). Many of the farms were not providing 100 percent of their operator's income, and a majority had been in production for a relatively short period of time. The majority of farms that engaged in FTS programming also preferred business conducted via email and telephone (Erpelding et al., 2011). The primary markets for these farms were community supported agriculture programs, farmers' markets, farm stands, direct restaurant sales, and wholesale (Thompson et al., 2014). Similarly, many Nebraska farms involved with FTS programming obtained their income from farmers' markets more than any other source (Erpelding et al., 2011).

Farms involved in FTS programming have produced a variety of products

(Thompson et al., 2014; Erpelding et al., 2011). Additionally, farms involved in FTS programming often produced a high number of specialty crops (Thompson et al., 2014; Erpelding et al., 2011). Products offered to schools through FTS programming have included eggs, meats, dairy, herbs, plants, grains, and baked goods (Erpelding et al., 2011). Fruits and vegetables are often the most common items sold to schools for FTS programming (Erpelding et al., 2011; Grace, 2010). Popular fruit and vegetable items sold to schools for FTS programming included lettuce, tomatoes, apples, carrots, cucumbers, broccoli, onions, peppers, grapes, watermelon, pears, and strawberries (Grace, 2010).

Summary

In this chapter, the researcher addressed theoretical and conceptual frameworks of this study including theory of planned behavior, diffusion of innovation, and the hybrid social ecological model. The researcher defined each and discussed the components applicable to this study. Other topics explored included past and present participation, willingness to participate, barriers and benefits to participation, resource and training needs, and characteristics applicable to farmers and farms involved in FTS programs.

CHAPTER III

PROCEDURES

The purpose of this study was to explore Utah farmers' role in FTS programming and their interest in institutional marketing of local foods. Lack of prior literature on the role of Utah farmers in FTS programming presents a problem for stakeholders with a stake in the creation of programs or the success of programs already in existence.

The identified objectives of this study were as follows.

1. Describe respondents' attitudes toward farm to school participation.
2. Identify respondents' perceptions of the benefits associated with farm to school programming.
3. Identify respondents' perceptions of the barriers associated with farm to school programming.
4. Explain the subjective norms that influence respondents' participation in farm to school programming.
5. Describe respondents' participation in farm to school activities.
6. Describe respondents' perceived behavioral control toward farm to school participation.
7. Discover respondents' intention to participate in farm to school programming.
8. Explore respondents' interest in resources and training needs in farm to school programming that could enable them to work with K-12 schools.
9. Describe respondents in terms of their demographic and farm characteristics.
10. Test the theory of planned behavior and describe the relationship between respondents' attitude, subjective norms, and perceived behavioral control in predicting intentions to participate in farm to school programming.

Research Design

This study used an online descriptive survey administered via Qualtrics. Online

survey research is quantitative in nature and effective for collecting, organizing, and analyzing data (De Vaus, 2013). Advantages include low cost, lack of geographic limitations, lack of time constraints on participants, and flexibility in data collection (Wimmer & Dominick, 2014). For researchers seeking certain types of factual, descriptive information, quantitative online survey research has been useful (De Vaus, 2013).

Selection of Participants

Approximately 5,470 voting members belonging to the Utah Farm Bureau were the census for this study. The Utah Farm Bureau is the largest organization representing the state's farmers and ranchers "for the purposes of addressing problems and formulating action to achieve educational improvement, economic opportunity and social advancement and, thereby, to promote the national well-being" (Utah Farm Bureau, 2016, para. 3). The Utah Farm Bureau is affiliated with the American Farm Bureau, the largest agriculture advocacy group in the nation working to protect farmers and other agriculturalists through the advocacy of policy positions (Utah Farm Bureau, 2016).

Instrumentation

A researcher-developed questionnaire, adapted from past literature (Conner et al., 2012; Erpelding et al., 2011; Hanson et al., 2011; Izumi, Alaimo, & Hamm, 2010; Thompson et al., 2014) was administered online (Appendix A). The questionnaire included a letter of information, letting participants know the study's purpose,

procedures, new findings, risks, confidentiality, benefits, explanation and offer to answer questions, compensation, voluntary participation, IRB approval statement, and investigator statement. Participants could download a PDF version of the letter of information. Participants responded to a question that certified they read the letter of information and agreed to participate in the survey: (a) "Yes I am over the age of 18 and agree to participate in this study;" OR (b) "No I am not over the age of 18 or I do not agree to participate in this study." If participants certified they were over 18 years old, they answered questions about their attitudes toward FTS programming. Respondents were sent to the end of the survey if they did not agree to participate in the study or were younger than 18.

Section one determined the attitudes of respondents towards FTS programming. The rating scale was a bipolar adjective measurement, with 7 representing the most positive attitudes and 1 representing the most negative. Participants selected appropriate reactions describing their attitude toward eight statements about FTS programming. This section aligned with the attitude component of theory of planned behavior by requiring individuals to evaluate FTS programming in a paradigm such as positive and negative (Ajzen, 1991).

Section two used items from previous instruments to measure the benefits to farmers participating in FTS programming (Conner et al., 2012; Thompson et al., 2014). Using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), participants rated their level of agreement with six statements. The real limits set for the benefits scale were 1.00-1.49 = *strongly disagree*, 1.50-2.49 = *disagree*, 2.50-3.49 =

neutral, 3.50-4.49 = *agree*, and 4.50-5.00 = *strongly agree*.

Section three identified the barriers preventing respondents from involvement in FTS programming, based on research findings from Erpelding et al. (2011); Hanson et al. (2011); and Thompson et al. (2014). Using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), participants rated their level of agreement with nine statements. The real limits set for the benefits scale were 1.00-1.49 = *strongly disagree*, 1.50-2.49 = *disagree*, 2.50-3.49 = *neutral*, 3.50-4.49 = *agree*, and 4.50-5.00 = *strongly agree*.

Section four measured the subjective norms that influence respondents' participation in FTS programming—a component of the theory of planned behavior (Ajzen, 2002). Using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), participants rated their level of agreement with five statements.

Section five determined the previous experiences of respondents' with FTS programming. Using a yes-or-no question, participants indicated if they had ever participated in FTS programming. Participants indicated what FTS programming activities they were involved with if they had been involved in the past. Respondents who had not participated in FTS programming answered open-ended questions indicating the reasons why they had not. Answer options from this section were on previous research (Erpelding et al., 2011; Izumi, Alaimo, & Hamm, 2010).

Section six discovered the perceived behavioral control of respondents relevant to FTS programming, which addressed the perceived behavioral control component of theory of planned behavior (Ajzen, 2002). Using a 5-point Likert scale ranging from 1

(*strongly disagree*) to 5 (*strongly agree*), participants rated their level of agreement with five statements related to perceived behavioral control.

Section seven measured the intention of to participate in FTS programming, which is a component highlighted in the theory of planned behavior (Ajzen, 2002). Using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), participants rated their level of agreement with nine statements.

Section eight measured the interest respondents have in resources and training related to FTS programming, based on research from Conner et al. (2012) and Erpelding et al. (2011). The rating scale of these six items ranged from 1 (*not at all interested)* to 4 (*very interested*). Questions regarding delivery preference of resources and training were addressed by requesting participants to rank their preferences on a scale of one to six.

Section nine identified the demographic and farm characteristics of respondents including gender, age, years of farm experience, and occupation. Farm characteristics included acreage in production, products sold, markets where products are sold, preference for placing orders, involvement with the USDA Fresh Fruit and Vegetable Program, production practices, insurance, and inspections. Answer options from this section were based on research findings from Erpelding et al. (2011) and Thompson et al. (2014).

Validity

A panel of experts from faculty in agricultural education and communications and professionals in Utah's Farm to Fork taskforce with knowledge of FTS programming reviewed the items in the instrument to determine face and content validity.

Reliability

The 30 executive board members and regional leaders at the Utah Farm Bureau participated in a pilot test of the study. This group was not part of the final study. To ensure consistency of scale items within the survey, Cronbach's alpha was used for item scores with a range of values, including Likert and bipolar attitude scales. Reliability scores for the attitude construct were .88. Scores were .72 for the perceived behavioral control construct and .86 for the subjective norm construct. Scores for the intention construct were .71. Post hoc reliability scores for the final constructs were .96 for attitude, .88 for perceived behavioral control, .87 for subjective norms, and .91 for intention.

Collection of Data

Dillman (2011) highlights the effectiveness of the Tailored Design Method (TDM) for obtaining a high response rate with online surveys. The TDM includes multiple contacts with participants to achieve a higher response rate (Dillman, 2011). With online surveys, three emails are often customary, including an introduction and two reminders.

Utah Farm Bureau does not permit third-party access to membership information, including names, phone numbers, mailing addresses, and email addresses. Therefore, the Vice President of the Utah Farm Bureau sent the first email to participants on March 29, 2017 (Appendix B). The first email introduced the study, requested their participation, explained why they were selected, how to access the survey, ensured the voluntary and

confidential nature of the study, privacy rights, explained the compensation, included researcher contact information, and thanked them for their time. A clickable link to the survey was included. To encourage participation, participants could have voluntarily chosen to enter their name into a drawing for 1 of 4 Amazon Fire Tablets ($50 retail value).

The first email reminder was sent on April 3, 2017, 5 days after the initial email contact (Appendix C) to remind participants of the study and thank them for their time. A link to the survey was again included. The final email reminder was on April 9, 2017, 12 days after the initial email contact (Appendix D). The email informed participants that data collection was concluding in the near future, thanked them for their time, and included a link to the survey. The researcher obtained an approval letter for the study from the Institutional Review Board (Appendix F).

A total of 184 online survey responses were recorded with 143 completed. The researcher accounted for nonresponse error by comparing early and late respondents (Lindner, Murphy & Briers, 2001). Early respondents were those who responded before the first reminder email, and late respondents were those who responded afterwards. The researcher used the chi-square test to compare respondents based on gender, length of time farming, and age. Length of time farming was recoded as 0-17 years and more than 17 years. Age was also recoded as 18-50 years and 51 years and older. Using a predetermined significance level of $\alpha = .05$, no significant differences existed between early and late respondents, as seen in Table 1.

Table 1

Demographic Characteristics of Early and Late Survey Respondents

	Early respondents		Late respondents			
Demographic characteristic	*n*	%	*n*	%	$X^2(1)$	*p*
Gender						
Male	23	60.5	41	65.1	0.212	.645
Female	15	39.5	22	34.9		
Years farming						
0-17 years	12	42.9	16	57.1	0.389	.533
More than 17 years	26	36.1	46	63.9		
Age						
18-50	18	40.9	26	59.1	0.359	.549
51 and older	20	35.1	37	64.9		

Data Analysis

To address objective one, respondents' attitudes toward FTS programming, a bipolar adjective scale measured the attitudinal component of TPB. The overall mean and mode frequencies were reported. Scoring was reversed for these items: good-bad, beneficial-harmful, valuable-worthless, and relaxing-tense. After recoding, the lower numbers were on the negative side to represent a negative attitude. The numbers 1 and 7 indicated a very strong feeling, while numbers 2 and 6 indicated a strong feeling. Numbers 3 and 5 indicate a fairly weak feeling, and number 4 indicates a neutral feeling. (McCroskey & Richmond, 1989).

Mean and standard deviation were reported for objective two, respondents' perceptions of the benefits associated with FTS programming, and objective three,

respondents' perceptions of the barriers associated with FTS programming. Subjective norms, perceived behavioral control, and intention components of TPB, represented by objectives four, the subjective norms that influence respondents' participation in FTS programming, objective six, respondents' perceived behavioral control toward FTS programming, and objective seven: respondents' intention to participate in FTS programming, had the overall mean and standard deviation reported for the construct, as well as the frequencies and percentages for each item in the construct. For objective five, respondents' participation in FTS programming, central tendency and variability were calculated, and the researcher evaluated open-ended questions by finding common themes and calculating frequencies for the answers. Frequencies were calculated for participants' interest in resources and training related to FTS programming measured by objective eight. For objective nine, respondents' demographic and farm characteristics, central tendency and variability were reported. Objective ten used a multiple linear regression model to determine whether attitude (section 1), subjective norms (section 4), and perceived behavioral control (section 6) predict farmers' intention to participate in FTS programming (section 7).

Summary

This chapter outlined each section of the survey used for this study. The researcher discussed information about the research design, population, and selection of participants. The chapter concluded with a review of the data collection process and analysis of data relevant to the study.

CHAPTER IV

RESULTS AND FINDINGS

The purpose of this study was to explore Utah farmers' role in FTS programming and their interest in institutional marketing of local foods. The study used the theory of planned behavior as a framework through assessment of attitude, subjective norms, perceived behavioral control, and intention. One-hundred and forty-three respondents participated in the study.

Objective One: Describe Respondents' Attitudes Toward Farm to School Participation

Attitude toward FTS programming was measured with eight items using a 7-point bipolar attitudinal scale with the following anchors: good/bad, negative/positive, beneficial/harmful, useless/useful, valuable/worthless, difficult/easy, relaxing/tense, and uncertain/secure. The numbers 1 and 7 indicated a very strong feeling, while numbers 2 and 6 indicated a strong feeling. Numbers 3 and 5 indicated a weak feeling, while 4 indicated participants were undecided or did not understand the adjectives (McCroskey & Richmond, 1989). The researcher created a summated overall mean for items. Respondents reported a slightly positive overall mean of 5.79 (n = 143, SD = 1.16) for their attitude toward FTS programming. Five of the eight dichotomous pairs had a mode of 7, the most positive response possible. The only pairs that did not have a mode of 7 were difficult/easy, tense/relaxing, and uncertain/secure, each of which had a mode of 4, correlating with a neutral or undecided attitude. These data are displayed in Table 2.

Table 2

Semantic Differential Scales Associated with Attitude Toward Farm to School Programming

Negative item	1		2		3		4		5		6		7		Positive item
	f	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	
"For me to participate in Farm to school programming is…"															
Bad	0	0.0	0	0.0	1	0.8	13	9.8	10	7.6	23	17.4	**85**	**64.4**	Good
Negative	0	0.0	0	0.0	0	0.0	11	8.9	12	9.8	18	14.6	**82**	**66.7**	Positive
Harmful	0	0.0	0	0.0	2	1.6	10	8.0	16	12.8	16	12.8	**81**	**64.8**	Beneficial
Useless	1	0.8	2	1.7	1	0.8	8	6.7	20	16.7	19	15.8	**69**	**57.5**	Useful
Worthless	0	0.0	1	0.8	3	2.4	7	5.5	18	14.2	18	14.2	**80**	**63.0**	Valuable
Difficult	2	1.7	2	1.7	11	9.4	**37**	**31.6**	29	24.8	10	8.5	26	22.2	Easy
Tense	0	0.0	2	1.7	8	6.7	**49**	**41.2**	23	19.3	16	13.4	21	17.6	Relaxing
Uncertain	3	2.4	5	4.1	5	4.1	**41**	**33.3**	26	21.1	14	11.4	29	23.6	Secure

Note. Modal responses are in bold.

Objective Two: Identify Respondents' Perceptions of the Benefits Associated with Farm to school programming

The real limits scale measuring the six benefits associated with FTS programming were 1.00-1.49 = *strongly disagree*, 1.50-2.49 = *disagree*, 2.50-3.49 = *neutral*, 3.50-4.49 = *agree*, and 4.50-5.00 = *strongly agree*. Respondents agreed five out of the six items were benefits. Respondents agreed benefits to their participation in FTS programming included building relationships with community members ($M = 4.12$, $SD = 0.99$) and an increase in awareness of local food ($M = 4.01$, $SD = 0.97$). Table 3 displays the benefits to participation in FTS programming.

Objective Three: Identify Respondents' Perceptions of the Barriers Associated with Farm to School Programming

To measure barriers associated with FTS programming, eight items were included on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The

Table 3

Benefits to Participation in Farm to School Programming ($n = 115$)

Activity	*M*	*SD*
Build relationships with community members	4.12	0.99
Increase awareness of local food	4.01	0.97
Promote local food consumption	3.82	0.96
Protect the local environment	3.72	0.98
Expand the market for my farm products	3.62	1.02
Provide financial benefits to my farm	3.42	1.00

Note. Scale: 1 = strongly disagree, 2 =disagree, 3 = neither agree nor disagree, 4 =agree, and 5 = strongly agree.

researcher reported the real limit means. As seen in Table 4, respondents agreed that a lack of information about schools seeking to purchase local products (M = 3.77, SD = 0.76), restrictions of growing seasons (M = 3.76, SD = 0.74), and liability (M = 3.50, SD = 0.88) were barriers.

Objective Four: Explain the Subjective Norms that Influence Respondents' Participation in Farm to School Programming

Five subjective norms influencing respondents to participate in FTS programming were measured a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Overall, respondents indicated they neither agreed nor disagreed that these individuals would want them to be involved in FTS programming (n = 120, M = 3.30, SD = 0.65). The majority of respondents were neutral about school officials wanting them to be involved in FTS programming (n = 73, 61.9%; see Table 5).

Table 4

Barriers to Participation in Farm to School Programming (n = 115)

Activity	*M*	*SD*
Lack of information about schools seeking to purchase local products	3.77	0.76
Restriction of growing seasons (seasonality of food products)	3.76	0.74
Liability (food safety and handling)	3.50	0.88
Food processing (chopping lettuce, cutting carrots, washing produce)	3.48	0.77
Volume	3.43	0.64
Size of school district	3.42	0.80
Delivery of products	3.37	0.83
Pricing	3.33	0.75

Note. Scale: 1 = strongly disagree, 2 =disagree, 3 = neither agree nor disagree, 4 =agree, and 5 = strongly agree.

Table 5

Subjective Norms Influencing Respondents' Participation in Farm to School

	Strongly disagree		Disagree		Neither agree nor disagree		Agree		Strongly agree	
Subjective Norm	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Family members want me to be involved in farm to school programming.	3	2.5	7	5.8	67	55.8	33	27.5	10	8.3
Other farmers I know want me to be involved in farm to school programming.	2	1.7	10	8.5	68	57.6	26	22.0	12	10.2
Policy makers (city and county level officials, local, state and federal agencies, etc.) want me to be involved in farm to school programming.	3	2.5	10	8.4	71	59.7	26	21.8	9	7.6
School officials (board members, principals, teachers, etc.) want me to be involved in farm to school programming.	3	2.5	9	7.6	73	61.9	27	22.9	6	5.1
Other agricultural professionals (extension agents, agricultural educators, etc.) want me to be involved in farm to school programming.	2	1.7	8	6.8	56	47.9	42	35.9	9	7.7

Note. Scale: 1 = strongly disagree, 2 =disagree, 3 = neither agree or disagree, 4 =agree, and 5 = strongly agree.

Objective Five: Describe Respondents' Participation in Farm to School Activities

A total of 21 respondents (17.4%) have participated in FTS programming. Fifteen of these respondents (12.5%) indicated they had visited a classroom to discuss farming or other local food topics and (n = 13, 10.8%) indicated they had hosted a guided farm tour. Table 6 displays the previous experiences of respondents in FTS programming. Other experiences with FTS programming included FFA activities, animal demonstrations, and

Table 6

Previous Experiences of Respondents' in Farm to School Programming

Experiences	*f*	%
Visited a classroom to discuss farming or other local food topic	15	12.5
Hosted a guided farm tour	13	10.8
Provided food products for classroom activities (not including meals)	9	7.5
Sold food products to schools for profit	4	3.3
Participated in a school taste test	4	3.3
Helped with tending a school garden	2	1.7
Other	7	5.8

"Farm Field Days." A majority of farmers had not participated in FTS programming (*n* = 100, 82.6%). Those who indicated no participation had not heard about FTS programming (*n* = 33, 36%), lacked awareness (*n* = 24, 26%), and did not think it was offered in their area (*n* = 9, 10%). Twenty-five respondents (28%) indicated other reasons for not participating in FTS programming such as not raising food products, volume, liability, and seasonal production.

Objective Six: Describe Respondents' Perceived Behavioral Control Toward Farm to School Participation

The researcher described respondents' perceived behavioral control toward participation in FTS programming using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The overall mean for the construct was 3.25 (*n* = 112, *SD* = 0.68). Fifty-five respondents (49.1%) agreed that they were confident they could participate in FTS programming with 16 (14.3%) strongly agreeing. Many respondents

also agreed they were confident in their ability to help students develop a school garden (n = 53, 47.3%) with 13 respondents (11.6%) strongly agreeing. Table 7 displayed the perceived behavioral control of respondents toward FTS programming.

Objective Seven: Discover Respondents' Intention to Participate in Farm to School Programming

Respondents' intention to participate in FTS programming was determined with nine statements measured on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The overall mean for the construct was 3.20 (n = 113, SD = 0.76). As shown in Table 8, the majority of respondents either agreed or strongly agreed to visit classrooms and talk about their farm products and how they are grown (n = 72, 64.3%).

Table 7

Perceived Behavioral Control Toward Participation in Farm to School Programming

	Strongly Disagree		Disagree		Neither		Agree		Strongly Agree	
Item	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
I am confident that if I want, I could sell locally grown food to schools for profit.	6	5.3	37	32.7	45	39.8	21	18.6	4	3.5
I am confident that if I want, I could participate in FTS programming activities.	2	1.8	10	8.9	29	25.9	55	49.1	16	14.3
I am confident that if I want, I could participate in helping students develop a school garden.	0	0.0	10	8.9	36	32.1	53	47.3	13	11.6
The decision to sell locally grown food is within my control.	11	9.8	28	25.0	44	39.3	21	18.8	8	7.1

Note. Scale: 1 = strongly disagree, 2 =disagree, 3 = neither agree nor disagree, 4 =agree, and 5 = strongly agree.

Table 8

Intention to Participate in Farm to School Programming

Item	Strongly Disagree		Disagree		Neither		Agree		Strongly Agree	
	f	%	*f*	%	*f*	*f*	%	*f*	%	*f*
Sell locally grown foods to schools for profit.	14	12.4	27	23.9	46	40.7	22	19.5	4	3.5
Offer low-cost or free taste tests for school food service personnel.	13	11.6	23	20.5	40	35.7	32	28.6	4	3.6
Provide taste tests for students.	12	10.7	20	17.9	38	33.9	36	32.1	6	5.4
Allow food service personnel to tour my farm.	5	4.5	11	9.8	32	28.6	51	45.5	13	11.6
Allow students to tour my farm.	3	2.7	8	7.1	24	21.4	57	31.0	20	17.9
Visit classrooms and talk with students about my farm products and how they are grown.	2	1.8	8	7.1	30	26.8	46	41.1	26	23.2
Help students develop a school garden.	4	3.6	15	13.4	41	36.6	35	31.5	17	9.2
Join a farmer's consortium to sell in bulk to schools.	11	9.8	23	20.5	47	42.0	23	20.5	8	7.1
Grade, wash, and package produce.	16	14.3	29	25.9	45	40.2	16	14.3	6	5.4

Note. Scale: 1 = strongly disagree, 2 =disagree, 3 = neither agree nor disagree, 4 =agree, and 5 = strongly agree.

Objective Eight: Explore Respondents' Interest in Resources and Training Needs in Farm to school programming that Could Enable Them to Work with K-12 Schools

To explore respondents' interest in resources and training related to FTS programming, six items were measured on a scale ranging from 1 (*not at all interested)* to 4 (*very interested*). Fourteen respondents (13.2%) were very interested and 26

respondents (24.5%) were interested in resources and training about small business insurance. Thirty-seven respondents (34.6%) were not at all interested in resources and training about how to sell to Utah schools, while 34 respondents (31.8%) were somewhat interested. Table 9 illustrates the interest Respondents had in resources and training needs related to FTS programming.

Objective Nine: Describe Respondents in Terms of Their Demographic and Farm Characteristics

The researcher described demographic and farm characteristics of respondents through a series of questions concerning their background and production practices. The

Table 9

Interest in Resources and Training Needs for Farm to School Programming

	Not at all interested		Somewhat interested		Interested		Very interested	
Item	*f*	%	*f*	%	*f*	%	*f*	%
List of schools interested in obtaining local foods.	31	29.2	43	40.6	22	20.8	10	9.4
Resources and training about how to sell products to Utah schools.	37	34.6	34	31.8	27	25.2	9	8.4
Resources and training about farm to school activities.	18	17.0	42	39.6	34	32.1	12	11.3
Resources and training about regulations associated with FTS programming.	26	24.5	40	37.7	30	28.3	10	9.4
Resources and training about liability insurance associated with FTS programming.	28	26.4	37	34.9	29	27.4	12	11.3
Resources and training about small business assistance.	27	25.5	39	36.8	26	24.5	14	13.2

majority of respondents were male (n = 64, 63.4%) with the largest age group being 61 or older (n = 36, 35.6%).

A majority of respondents had more than 22 years of farming experience (n = 64, 63.4%). Sixty-six respondents (65.3%) reported having an occupation outside of farming, and a majority indicated that they lived in a rural area (n = 58, 57.4%). Table 10 illustrates the demographic characteristics of respondents in this study.

Table 10

Demographic Characteristics

Characteristic	*n*	%
Gender		
Male	64	63.4
Female	37	36.6
Age		
18-20	0	0.0
21-30	6	5.9
31-40	19	18.8
41-50	19	18.8
51-60	21	20.8
61 or older	36	35.6
Years Farming		
Less than 3 years	5	5.0
3-7 years	8	7.9
8-12 years	7	6.9
13-17 years	8	7.9
18-22 years	8	7.9
More than 22 years	64	63.4
Occupation Outside of Farming		
Yes	66	65.3
No	30	29.7
Residence		
Metro Urban Area (greater than 200,000 in population)	4	4.0
Urban (greater than 50,000-199,999 in population)	12	11.9
Urban Cluster (more than 2,500-49,999 in population)	25	24.8
Rural (less than 2,500 in population)	58	57.4

The total acreage in production ranged from 1 acre to 4,000 acres with a mean of 409 acres (n = 47, SD = 759.26). Conventional production practices were the most common reported by respondents (n = 73, 61.3%). Other production practices included pasture-raised (n = 29, 24.4%), grass fed (n = 25, 21.0%), free range (n = 16, 13,4%), integrated pest management (n = 13, 10.9%), and other (n = 9, 7.6%). Products produced by respondents included meat/poultry (n = 63, 52.9%), grains and flour (n = 23, 19.3%), other food (n = 21, 17.6%), vegetables (18, 15.1%), eggs (n = 14, 11.8%), fruits (13, 10.9%), and dairy (n = 12, 10.1%).

When asked about the markets they sold products to, respondents' most frequent response was "other" markets (n = 57, 47.5%), including direct-to-consumer (n = 11, 6.1%), other farmers/ranchers (n = 7, 3.5%), livestock auctions (n = 4, 2%), feedlots (n = 2, 1%), and cattle brokers/buyers (n = 2, 1%). Markets sold to also included wholesale (n = 29, 24.4%), farmers' markets (n = 12, 10.1%), and community supported agriculture programs (n = 8, 6.7%). Table 11 illustrates the farm characteristics of this study.

No respondents (n = 102, 100%) sold their products to the USDA Fresh Fruit and Vegetable Program. When asked if they had general liability coverage on their farm, 48 respondents (48.5%) were not sure, with 27 respondents (27.3%) indicating they did, and 24 respondents (24.2%) indicating they did not. A majority of respondents were not Good Agricultural Practices certified (n = 86, 90.5%) and did not have a HACCP Plan (n = 85, 89.5%).

The most preferred way for schools to place orders with the respondents for their products was email (n = 28, 23.5%), followed by phone call (n = 26, 21.8%), text (n = 13,

Table 11

Farm Characteristics

Characteristic	*n*	%
Production practice		
Conventional	73	61.3
Pasture-raised	29	24.4
Grass-fed	25	21.0
Free-range	16	13.4
Integrated pest management	13	10.9
Pesticide free	11	9.2
GMO-free	8	6.7
Synthetic chemical free	8	6.7
Organic	7	5.9
Certified naturally grown	5	4.2
Certified organic	4	3.4
Hydroponic	0	0.0
Other	9	7.6
Products produced		
Meat/Poultry (beef, chicken, turkey, pork, lamb, goat, etc.)	63	52.9
Grains & Flour (wheat, corn, sorghum, etc.)	23	19.3
Vegetables	18	15.1
Eggs	14	11.8
Fruits	13	10.9
Dairy	12	10.1
Herbs	4	3.3
Plants or trees	4	3.4
Value-added or processed products (jams, honey, sauces, etc.)	3	2.5
Other Food	21	17.6
Current markets sold to		
Wholesale	29	24.4
Farmers' markets	12	10.1
Community supported agriculture (CSA)	8	6.7
Roadside stands	7	5.9
Restaurants	3	2.5
Institutions (schools, hospitals, prisons)	1	0.8
Other	57	47.5

10.8%), website (n = 7, 5.9%), and fax (n = 2, 1.7%). Sixty-four respondents (53.8%) selected 'not applicable.' The distance respondents were willing to travel for delivering each order ranged from 0 miles to 400 miles, with a mean of 53 miles (n = 52, SD = 71.40).

Objective Ten: Test the Theory of Planned Behavior and Describe the Relationship between Respondents' Attitude, Subjective Norms, and Perceived Behavioral Control in Predicting Intentions to Participate in Farm to School Programming

Multiple linear regression examined the ability of attitude, subjective norms, and perceived behavioral control to predict respondents' intention to participate in FTS programming. The regression model was significant and indicated good fit, with F = 29.60, p < .001. Table 12 displays the results of the regression model.

The three variables accounted for 67.2% of the variance in influence on the intention of respondents to participate in FTS programming (Adjusted R^2 = 46.0%). The subjective norm variable significantly predicted the intention of respondents to

Table 12

Multiple Regression Analysis Summary for TPB Variables Predicting Intention to Participate in FTS Programming

Variable	*B*	*SE B*	95% *CI*	*β*	*t*	*p*
Constant	- 0.071	0.379	[-0.82, 0.68]		-0.186	.852
Attitude	0.071	0.053	[-0.03, -0.18]	.09	1.347	.181
Subjective norms	0.518	0.085	[0.35, 0.69]	.46	6.117	.000
Perceived behavioral control	0.400	0.087	[0.23, 0.57]	.35	4.613	.000

Note. R^2 = .45 (n = 113, p < .001). *CI* = confidence interval for *B*.

participate in FTS programming, $t(112) = 6.12$, $p < .001$. The positive beta value (0.518) revealed that as the influence of subjective norms increased so did intention to participate in FTS programming. The perceived behavioral control variable also significantly predicted the intention of respondents to participate in FTS programming, $t(112) = 4.61$, $p < .001$. The positive beta value (0.400) revealed that as the influence of perceived behavioral control increased so did intention to participate in FTS programming.

Summary

In this chapter, the positive attitudes of respondents toward FTS programming were explained. The benefits associated with respondents' participation in FTS programming included an increase in awareness of local food and building relationships with community members. The researcher discussed barriers faced by respondents to participation in FTS programming, including a lack of information about schools seeking to purchase local products and restriction of growing seasons. The subjective norm and perceived behavioral control of respondents' toward FTS programming successfully predicted their intention to participate in FTS programming. The researcher explained the previous experiences of respondents with FTS programming and their limited interest in FTS resources. The intention of respondents to participate in FTS programming was analyzed as respondents indicated their intention to participate in FTS programming activities including farm tours and classroom visits. The researcher reported respondents' demographic and farm characteristics and the similarities to previous research. A multiple regression analysis highlighted that the subjective norm and perceived behavioral control

components of the theory of planned behavior successfully predicted intention to participate in FTS programming.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The theoretical framework for this study was the theory of planned behavior. The conceptual framework was diffusion of innovations and the hybrid social ecological model. The conceptual frameworks were not directly related to research objectives, but were used to further analyze findings.

To address four components of the theory of planned behavior, respondents reported their attitude toward FTS programming, the subjective norms influencing their decisions, their perceived behavioral control toward involvement, and their actual intention to participate. Respondents were also asked to indicate the benefits and barriers associated with involvement in FTS programming. Utah famers' interest in training and resources related to FTS programming was assessed. Farm and demographic characteristics were reported. This chapter explains the results of the data, the limitations of the study, and offers recommendations for future research and practice.

Conclusions

Objective One

Objective #1 stated, *"Describe respondents' attitudes toward Farm to School."* Participation Respondents held a positive attitude toward FTS programming with an overall mean of 5.79 (n = 143, SD = 1.16). Considering the majority of respondents to this study had not previously participated in FTS programming, it is significant to note their positive attitudes. Previous research has described farmers as pragmatic or lacking

attitudes toward FTS programming (Izumi, Wright, & Hamm, 2010). Among respondents, this was not the case and the results of this study may indicate changing attitudes toward FTS programming.

Assessing these findings with diffusion of innovations as a conceptual framework, it can be understood that some respondents are in the persuasion stage of the innovation decision process because they have formed a positive attitude toward FTS programming (Rogers, 2003). This positive attitude was despite their lack of involvement. As decision-makers in a social system, some respondents have already begun developing specific attitudes toward an innovation (FTS programming; Rogers, 2003). This stage of the innovation decision process is critical as it influences their decision to participate. Although these findings indicate that some respondents are in the persuasion stage of the innovation-decision process, a majority have not reached the knowledge stage as they indicated they were unaware of FTS.

Objective Two

Objective #2 stated, *"Identify respondents' perceptions of the benefits associated with Farm to School programming."* Building relationships with community members ($M = 4.15$, $SD = 0.97$) and increasing awareness of local food ($M = 4.02$, $SD = 0.97$) were benefits respondents associated with involvement in FTS Programming. Previous research studies have cited both building relationships with community members and increasing awareness of local food as benefits to farmers involved in FTS programming (Hanson et al., 2011; Thompson et al., 2014). These findings likely reflected respondents desire to be involved in their communities and increase the exposure to the U.S. food

system.

Respondents neither agreed nor disagreed with promotion of local food consumption, protection for local environments, expanded markets for their farm products, and financial benefits to their farms as other benefits to involvement in FTS programming. A majority of respondents had no previous experiences with FTS programming and have not likely had the opportunity to see other benefits in these areas. Consistent with reporting from farmers in California, the Upper Midwest region, and the Northeast, the farmers in these studies indicated that their farm to school sales contributed a small income, yet they did not stop participation because the program offered new opportunities to market their products. These farmers as well as the farmers in this study might not perceive economic factors as the benefit and motivation to participate in FTS programming Izumi, Wright, & Hamm, 2010).

Objective Three

Objective #3 stated, *"Identify respondents' perceptions of the barriers associated with Farm to School programming."* Respondents were neutral toward five of the eight barriers associated with FTS programming. Previous research has indicated that farmers have faced several barriers to involvement in FTS programming, including lack of marketing, resources, delivery of products, and size of school districts (Erpedling et al., 2011; Hanson et al., 2011). The limited experiences of respondents with FTS programming likely influenced their neutrality toward the five barriers to involvement. Farmers interested in FTS programming could work with food service directors and the Utah Farm to Fork Task Force to

discuss solutions to common barriers, including restriction of growing seasons, liability, food processing, volume, delivery, and pricing.

The highest barrier mean reported by respondents was a lack of information about schools seeking to purchase local products ($M = 3.77$, $n = 115$). This finding may indicate a need for improved communication between schools and farmers. Stakeholders such as school administrators and food service directors could initiate further communication through meetings and workshops to provided more information to farmers interested in FTS programming. The second barrier was the restriction of growing seasons ($M = 3.76$, $n = 115$). Erpelding et al. (2011) cited the restriction of growing seasons as the foremost barrier for farmers in Nebraska and Western Iowa seeking involvement in FTS programming. If menu changes at schools reflected the seasonality of foods, respondents might be more involved with FTS programming. Respondents could also consider extending their growing season with hoop houses. For those schools that offer lunches during the summer school sessions, respondents could provide fruits and vegetables.

Objective Four

Objective #4 stated, *"Explain the subjective norms that influence respondents' participation in Farm to School programming."* Forty-two respondents (35.9%) agreed that other agricultural professionals influence their participation in FTS programming, with nine (7.7%) strongly agreeing. Previous positive experiences with professionals such as extension agents, agricultural educators, or consultants may be responsible for this influence. The majority of respondents held a neutral attitude that farmers they know would want them to participate in FTS programming. This finding was not surprising

considering that many of the respondents have conventional agricultural practices, raise meat/poultry, and sell their products through other markets (direct-to-consumer, livestock auctions, feedlots, cattle brokers/buyers, and other farmers/ranchers). Other farmers may not pressure respondents to participate in FTS programming if they are satisfied with their current farming practices and markets, or these farmers are not interested or knowledgeable about FTS sales.

Respondents neutrally agreed that school officials (board members, principals, teachers, etc.) wanted them to be involved in FTS programming. Respondents might not care about their opinions of school officials if 33 respondents did not know FTS programming existed, 24 respondents have not been asked, and 9 respondents did not think it was available in their school district. School officials might not be communicating their interest in buying locally produced products or asking farmers to be involved at their schools, which could explain why respondents do not feel pressure from them to participate in FTS programming.

Roughly one fourth of the respondents (n = 33, 27.5%) agreed that family members influence them to participate in FTS programming, with 10 respondents (8.3%) strongly agreeing. The influence of family on respondents' involvement in FTS programming is consistent with past research (Hinrichs, 2000). The influence of other agricultural professionals and family members on respondents could reflect a trust in those they interact with the most compared to others, such as policy makers and school officials. A discrepancy between the stated normative influence of respondents' and reality may reveal that family and friends are actually less of an influence than reported.

The researcher, under the conceptual framework of the hybrid social ecological model, assessed respondents' subjective norms toward FTS programming. Two important components of the model are the social and cultural (interpersonal) level that accounts for influence on behavior and the community level of the model that accounts for the impact of an individual's community involvement and resources (Joshi et al., 2014). The influences of agricultural professionals and family members on respondents' decision to participate in FTS programming indicated the significance of both levels described by the model. The influence of individuals in respondents' communities could affect their eventual participation in FTS programming.

Objective Five

Objective #5 stated, *"Describe respondents' participation in Farm to School activities."* Respondents' participation in FTS programming was limited. Only four respondents (3.3%) indicated previous experience selling products to schools. The most significant findings were the number of respondents who had visited a classroom to talk about farming or another local food topic (n = 15, 12.5%) and those who had hosted a guided farm tour (n = 13, 10.8%). Many respondents who had no previous experience with FTS programming indicated they had not heard of it or the opportunity had not been presented to them. These findings illustrated that famers lack exposure to FTS programming in Utah. On the basis of this study alone, it is not possible to highlight the main reason for a lack of farmer involvement in FTS programming. Previous research has indicated that farmers involved in FTS programming often offer a high number of specialty crops (Thompson et al., 2014; Erpelding et al., 2011). Fruits and vegetables

have been reported as the most common item sold to schools for FTS programming (Erpelding et al., 2011; Grace, 2010). A majority of respondents in this study did not produce specialty crops, which include fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops. Limited involvement and outreach by other stakeholders in Utah, such as school administrators and food service professionals, may have also affected the ability of farmers included in this study to be involved. Increased recruitment of farmers by these stakeholders could allow for more opportunities. Additionally, increased marketing efforts should target respondents' lack of awareness.

The researcher assessed respondents' participation in FTS programming in regard to diffusion of innovations. Based on these findings, many of the respondents have not reached the knowledge stage where they are exposed to the innovation's (FTS programming) existence and understand how FTS programming functions in the state and their specific school districts. Some respondents have reached the implementation stage since they engaged in FTS programming (Rogers, 2003). As an innovation, FTS programming has not significantly progressed among respondents involved in this study.

Objective Six

Objective #6 stated, *"Describe respondents' perceived behavioral control toward Farm to School participation."* Fifty-five respondents (49.1%) agreed when asked if they were confident they could participate in FTS programming with (n = 16, 14.3%) strongly agreeing. Many respondents agreed (n = 53, 47.3%) or strongly agreed (n = 13, 11.6%) they were confident in their ability to help students develop a school garden. Additionally, respondents agreed (n = 55, 49.1%) or strongly agreed (n = 16, 14.3%) they

could participate in programming activities such as guided tours, taste tests, and classroom visits. These findings are consistent with past research that found farmer participation in activities such as FTS programming to neither be too difficult nor too easy (Beedell & Rehman, 2000).

Roughly 43 respondents (38%) either strongly disagreed or disagreed they are confident about selling locally grown food to schools for profit. This finding could be explained by the fact that the majority of respondents produced meat/poultry (n = 63, 52.9%), and they might think that school districts would not buy their products. Yet, 24% of the 30 Utah school districts participating in farm to school bought meat or poultry in 2015 (U.S. Department of Agriculture, 2016b). With opportunities for respondents to sell their meat/poultry wholesale (n = 29, 24.4%) and through other options (livestock auction markets, feedlots, or feed yards, brokers), they might not consider farm to school sales possible or not be interested. Additionally, they may assume that schools only want fruits and vegetables for school lunches.

Objective Seven

Objective #7 stated, *"Discover respondents' intention to participate in Farm to School programming."* Respondents' intention to participate in FTS programming varied. A small majority of respondents agreed they intend to let students (n = 57, 50.9%) and food service professionals (n = 51, 45.5%) tour their farm. Respondents' willingness to allow students and food service personnel to tour their farm is significant. This finding is consistent with Joshi et al. (2008) which cited farmers desire to improve relationships with educational institutions. Twenty-seven respondents (23.9%) disagreed when asked if

they intend to sell locally grown food to schools for profit with 14 respondents (12.4%) strongly disagreeing with the statement.

These findings indicate that respondents may be more comfortable with certain FTS programming activities compared to others. Taking time and dedicating resources to selling locally grown foods to schools may be seen as cumbersome for certain farmers. Conversely, they could believe that allowing students and food service personnel to tour their farm is relatively easy. Past research has indicated conservative profits resulting from sales of locally grown food to schools for FTS programming (Joshi et al., 2008). Respondents might be aware of the limited income opportunities and feel that the efforts are not worth the reward.

Respondents' intention to participate in FTS programming was assessed by the researcher under the conceptual framework of the hybrid social ecological model. The community level of the model accounts for the impact of an individual's community involvement and resources (Joshi et al., 2014). Their willingness to sell products and participate in other FTS programming activities can affect their behavior and the expectations of their involvement. This finding indicated that their intentions could lead to their actual participation in future FTS programming.

Objective Eight

Objective #8 stated, *"Explore respondents' interest in resources and training needs in Farm to School programming that could enable them to work with K-12 schools."* Respondents were not overwhelmingly interested in resources and training needs related to involvement in FTS programming. Twenty-six respondents (24.5%) were

interested and fourteen respondents (13.2%) were very interested in resources and training about small business insurance. This finding was consistent with previous research that indicated farmers involved in FTS programming were interested in additional information about small business assistance (Gemlo, 2010). It was not surprising to see lower interest in resources and training among respondents as limited exposure to FTS programming and past participation could explain a limited need for resources and training. Continued outreach to Utah famers could increase their interest in resources and training.

Objective Nine

Objective #9 stated, *"Describe respondents in terms of their demographic and farm characteristics."* This study explored the demographic and farm characteristics of respondents. The majority were male (63.4%) and the largest age group was 61 or older (n = 36, 35.6%). Sixty-four respondents (63.4%) had more than 22 years of farming experience. These statistics are similar to data available from the 2012 U.S. Census of Agriculture which states that Utah farmers are on average 58.3 years old with 24.4 years of experience (U.S. Department of Agriculture, 2012).

Although the majority of respondents involved in this study had not participated in FTS programming, it is significant to note the differences in their years of farming experience compared to farmers from other studies who have participated. Thompson et al. (2014) reported farmers involved in FTS programming often had less than 10 years of farming experience. The discrepancy between years of work experience and participation in FTS programming could indicate that younger farmers with fewer years of experience

may be more willing to participate. Sixty-six respondents (65.3%) in this study indicated they had an occupation outside of farming. This finding is also similar to Thompson et al. (2014) which noted that farmers involved with FTS programming often had occupations outside of farming. The majority of respondents also resided in rural areas (*n* = 58, 57.4%).

A majority of respondents characterized their production practice as conventional (*n* = 73, 61.3%). This finding differs from other research that indicated farmers involved in FTS programming were often engaged in diverse production practices (Erpelding et al., 2011). Although a majority of respondents were engaged in conventional production practices, several indicated they were involved in more diverse practices such as grass fed (*n* = 25, 21.0%), integrated pest management (*n* = 13, 10.9%), pesticide free (*n* = 11, 9.2%), GMO-free (*n* = 8, 6.7%), and synthetic chemical free (*n* = 8, 6.7%).

A majority of respondents were not Hazard Analysis and Critical Control Points (HACCP) certified (*n* = 85, 89.5%). They were also not Good Agricultural Practices (GAP) certified (*n* = 86, 90.5%). This finding is significant as Erpelding et al. (2011) found farmers involved in FTS programming had engaged in annual inspections from a variety of reporting agencies. This could indicate that farmers less likely to obtain similar certifications may also be less likely to sell their locally produced food to Utah schools. Cost concerns for these inspections might be a barrier for interested farmers.

Respondents produced a variety of products, with a majority indicating they produced meat/poultry (*n* = 63, 52.9%). Other products produced by participants included grain and flour (*n* = 23, 19.3%), vegetables (*n* = 18, 15.1%), eggs (*n* = 14, 11.8%), and

fruit (*n* = 13, 10.9%). Past research has indicated farmers engaged in FTS programming produced a variety of products with the most popular being fruits and vegetables (Erpelding et al., 2011; Grace, 2010). With a majority of this study's respondents not producing fruits and vegetables, it is possible that some believe they must produce fruit and vegetables to be involved in FTS programming. To address this misinformation, outreach to farmers should highlight the diverse opportunities available in FTS programming.

The markets where respondents sold their products included wholesale (*n* = 29, 24.4%), farmers' markets (*n* = 12, 10.1%), and Community Supported Agriculture (*n* = 8, 6.7%). These findings are consistent with previous research that found markets for farms involved in FTS programming to include wholesale, farmers' markets, and Community Supported Agriculture programs (Thompson et al., 2014). Although a majority of respondents had no past experience with FTS programming, these findings indicated they are selling to similar markets. Outreach and communication with farmers could result in increased participation as they may come to understand the marketability of their products to schools.

The ordering preferences of respondents included email (*n* = 28, 23.5%), phone call (*n* = 26, 21.8%), and text (*n* = 13, 10.8%). These findings are consistent with past research that indicated farmers involved in FTS programming preferred business to be conducted via email and telephone (Erpelding et al., 2011). School administrators and food service professionals should continue outreach to farmers who may be interested in FTS programming through these communication channels.

Respondents' demographic and farm characteristics were assessed by the researcher under the conceptual framework of the hybrid social ecological model. The biological and psychological (intrapersonal) level of the model includes demographic characteristics such as location and years of work experience (Sallis et al., 2008). As previously indicated, respondents' age and years of work experience differed from previous research on farmers involved in FTS programming. The biological and psychological characteristics described by the hybrid social ecological model account for these factors as an impact on an individual's behavior (Sallis et al., 2008). These findings would suggest age and years of experience negatively affects the likelihood of respondents to participate in FTS programming.

The policy and organizational levels of the social ecological model also include factors that influence behavior such as participation in food safety and regulations. As previously indicated, respondents overwhelmingly lacked HACCP and GAP certifications. This finding can be accounted for as an impact on their behavior (participation in FTS programming) as described by the model. These findings would suggest a lack of support and engagement with activities such as food safety and regulations negatively affects the likelihood of respondents to participate in FTS programming.

Objective Ten

Objective #10 stated, *"Test the theory of planned behavior and describe the relationship between respondents' attitude, subjective norms, and perceived behavioral control in predicting intentions to participate in Farm to School programming."* The

subjective norm and perceived behavioral control component of the theory of planned behavior significantly predicted the intention of respondents to participate in FTS programming. Attitude, subjective norms, and perceived behavioral control accounted for 67.2% of the variance in intention to participate in FTS programming. These findings suggest other influences contributed to the intention of respondents to participate in FTS programming. Although not a significant predictor of the intention of respondents to participate in FTS programming, the attitudinal component of the theory of planned behavior was also important to this study as it revealed that respondents viewed FTS programming positively.

Recommendations

Recommendations for Research

Researchers should examine farmer involvement in FTS programming in other regions and compare results to this study. The characteristics of farmers in other regions, such as farming practices and crops produced, may contribute to differences in their participation compared to participants in this study. Other farm organizations should participate in this research; especially those interested in small scale farming and diversified farming practices. An understanding of how demographic and farm characteristics influence farmers' involvement in FTS programming is important for conducting a needs assessment.

This study provides insight into the attitudes, subjective norms, perceived behavioral control, participation, and demographics of respondents relevant to FTS

programming. Both subjective norms and perceived behavioral control were significant factors influencing respondents' intention to participate in FTS programming. Future studies should use the theory of planned behavior as a framework to observe the influences of theory components on farmer participation in FTS programming. Researchers could investigate other groups of farmers to determine if these components of the theory of planned behavior successfully influence their intention to participate in FTS programming. Researchers should further explore the attitudinal component of the theory of planned behavior to determine if it successfully influences intention to participate in other groups of farmers. Additional factors, such as demographics, knowledge, past involvement, benefits, and barriers should be independent variables analyzed with multiple regression to better predict farmers' intention to participate in FTS programming.

Further research should discover the agricultural professionals influencing the behavior of respondents. Knowing this audience could provide professionals with a better understanding of who to work with and how to communicate with respondents interested in FTS programming. Research conducted with other stakeholders involved in FTS programming, such as school administrators, extension educators, teachers, and food service personnel, may determine the role they play in FTS programming. Further quantitative and qualitative research studies should examine other factors influencing the role of farmers in FTS programming. An organized list of stakeholders could be collected as research in regions with interest in FTS programming is identified by early adopters (Rogers, 2003).

Recommendations for Practice

Although a majority of respondents had no previous experience with FTS programming, stakeholders such as food service professionals and school officials should continue outreach to increase involvement, especially given that a majority of respondents were not even aware of FTS programming. Findings indicated respondents preferred orders to be placed through email or phone call. Interested stakeholders should use email or phone calls to initiate communication with respondents. They were willing to have students and food service personnel tour their farms, and respondents were willing to visit classrooms and talk with students about farm products and how they are grown. In order to carry out these actions, networking and relationship building are necessary among farmers, food service personnel, teachers, and school officials.

Results indicated many respondents were unaware of FTS programming or had limited opportunities to participate. More outreach should occur through facilitation of meetings and other interactions between farmers and stakeholders such as food service professionals and school officials. Events such as the Diversified Agriculture and Small Farms Conference, Utah Farm to Fork Task Force meetings, meet and greets among school districts and farmers, and Utah Farm Bureau's biannual conferences could serve as forums for dissemination of information relevant to FTS programming. Knowing the individuals who influence farmers' opinions about FTS programming might be beneficial to food service directors, Utah Farm to Fork Task Force members, principals, and teachers interested in buying locally produced food and including farmers in school activities.

Findings from this study have potential implications for how to market FTS in Utah. The results of this study provide insight into the benefits, barriers, attitudes, and demographics of respondents. With these factors known, it could be easier to communicate about FTS programming. Their interest in resources and training related to FTS programming displays a need for stakeholders to develop materials such as fact sheets, presentations, etc. about participating in classroom activities, tours, and taste tests. Additionally, connecting with other states and regions with more successful FTS programs may allow stakeholders to learn how to improve the program in Utah.

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APPENDICES

Appendix A

Survey about Farm to School Programming

Survey about Farm to School Programming

Please fully review this letter of information document before deciding whether to proceed with this survey.

Introduction

You are invited to participate in a research study conducted by Dr. Kelsey Hall, an Assistant Professor, and Graduate Student Investigator John L. Hawley in the School of Applied Sciences, Technology and Education at [State] State University. The purpose of this study is to explore [State] farmers' role in Farm to School (FTS) programming and their interest in institutional marketing of local foods. Additionally, the attitudes and willingness of farmers to participate in FTS programming are examined. This form includes detailed information on the research to help you decide whether to participate in this study. Please read it carefully and ask any questions you have before you agree to participate.

Procedures

If you agree to be in this research study, you will complete an online survey, which will ask questions concerning your attitudes, subjective norms, barriers, benefits, experiences, perceived behavioral control, intention, interests and resource needs all associated with farm to school programming. This survey should take approximately 20 minutes of your time.

Risks & Benefits

This is a minimal risk research study. That means that the risks of participating are no more likely or serious than those you encounter in everyday activities. The foreseeable risks or discomforts include loss of confidentiality. In order to minimize those risks and discomforts, the researchers will keep research records consistent with federal and state regulations. The results will be shared with the [State] State Board of Education, which supports the development of farm to school programming, training, and online resources.

Confidentiality

The researchers will make every effort to ensure that the information you provide as part of this study remains confidential. Your identity will not be revealed in any publications, presentations, or reports resulting from this research study. We will collect your information through a Qualtrics survey. This data will be securely stored in a restricted-access folder on Box.com, an encrypted, cloud-based storage system. Only the principal investigator and graduate student investigator will have access to the data, which will be kept on a password protected [State] State University Box Account. The information collected will be reported as a group and will not be linked to a specific participant. The data files will be kept for three years after the data is analyzed and then destroyed in March 2020.

Voluntary Participation & Withdrawal
Your participation in this research is completely voluntary. If you agree to participate now and change your mind later, you may withdraw at any time by concluding the survey. If you choose to withdraw after we have already collected information about you, that information will be destroyed and not included in the study.

Compensation
For your participation in this research study, you can voluntarily enter a drawing to receive one of four Amazon Fire Tablets (retail value of $50) for your time. At the end of the survey you will be asked a question about providing your contact information. If you want to provide your contact information for the drawing, you will be directed to a new survey, which will not be used for any purposes other than to enter you into the drawing. The winner will be contacted by email and phone in April at the conclusion of the study.

IRB Review
The Institutional Review Board (IRB) for the protection of human research participants at [State] State University has reviewed and approved this study. If you have questions about the research study itself, please contact the Principal Investigator at 435-797-3289 or kelsey.hall@usu.edu. If you have questions about your rights or would simply like to speak with someone other than the research team about questions or concerns, please contact the IRB Director at (435) 797-0567 or irb@usu.edu.

Informed Consent
By continuing the survey, you agree to participate in this study. You indicate that you understand the risks and benefits of participation, and that you know what you will be asked to do. You also agree that you have asked any questions you might have, and are clear on how to stop your participation in the study if you choose to do so. Please be sure to retain a copy of this form for your records.

❍ Yes I am over the age of 18 and agree to participate in this study.
❍ No I am not over the age of 18 or I do not agree to participate in this study.

If Yes I am over the age of 18... Is Selected, Then Skip to Attitude toward Farm to School Participation...If No I am not over the age of 18... Is Selected, Then Skip to End of Survey

Attitude toward Farm to School Participation

Please read each pair of adjectives and indicate which of the adjectives you agree applies to this statement: For me to participate in farm to school programming is...

	1	2	3	4	5	6	7
Good:Bad	❍	❍	❍	❍	❍	❍	❍
Negative:Positive	❍	❍	❍	❍	❍	❍	❍
Beneficial:Harmful	❍	❍	❍	❍	❍	❍	❍
Useless:Useful	❍	❍	❍	❍	❍	❍	❍
Valuable:Worthless	❍	❍	❍	❍	❍	❍	❍
Difficult:Easy	❍	❍	❍	❍	❍	❍	❍
Relaxing:Tense	❍	❍	❍	❍	❍	❍	❍
Uncertain:Secure	❍	❍	❍	❍	❍	❍	❍

Benefits of Involvement in Farm to school programming
Please indicate your level of agreement with the statement about farm to school programming seen below: My participation in farm to school programming would...

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Promote local food consumption	❍	❍	❍	❍	❍
Increase awareness of local food	❍	❍	❍	❍	❍
Build relationships with community members	❍	❍	❍	❍	❍
Protect the local environment	❍	❍	❍	❍	❍
Expand the market for my farm products	❍	❍	❍	❍	❍
Provide financial benefits to my farm	❍	❍	❍	❍	❍

Barriers to Participating in Farm to school programming
Please indicate your level of agreement with each item as a barrier to farm to school programming.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Pricing	❍	❍	❍	❍	❍
Volume	❍	❍	❍	❍	❍
Liability (food safety and handling)	❍	❍	❍	❍	❍
Delivery of products	❍	❍	❍	❍	❍
Lack of information about schools seeking to purchase local products	❍	❍	❍	❍	❍
Restriction of growing seasons (seasonality of food products)	❍	❍	❍	❍	❍
Food processing (chopping lettuce, cutting carrots, washing produce, etc.)	❍	❍	❍	❍	❍
Size of school district	❍	❍	❍	❍	❍

Subjective Norms Relevant to Farm to school programming
Please indicate how likely other individuals are to think you should participate in farm to school programming.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Family members want me to be involved in farm to school programming.	❍	❍	❍	❍	❍
Other farmers I know want me to be involved in farm to school programming.	❍	❍	❍	❍	❍
Policy makers (city and county level officials, local, state and federal agencies, etc.) want me to be involved in farm to school programming.	❍	❍	❍	❍	❍
School officials (board members, principals, teachers, etc.) want me to be involved in farm to school programming.	❍	❍	❍	❍	❍
Other agricultural professionals (extension agents, agricultural educators, etc.) want me to be involved in farm to school programming.	❍	❍	❍	❍	❍

Farm to School Participation

According to the Farm to School Network, farm to school programs enrich the connections communities have with providing fresh, healthy food and local products. This occurs through changes to food purchasing and education practices at schools and preschools. Farm to school programs differ by location, but always include at least one of the following: procurement, education, or school gardens. This section of the survey will ask you are series of questions about participation in farm to school programming.

Have you participated in farm to school programming?
❍ Yes
❍ No

If Yes Is Selected, Then Skip to Previous Experience with Farm to School If No Is Selected, Then Skip To Please describe why you have not participated in Farm to School

Display This Question:
If Participation in Farm to school programming... Have you ever participated in farm to school programming... Yes Is Selected

Previous Experience with Farm to school programming
Select all of the farm to school activities you have participated in.

- ❑ Sold food products to schools for profit
- ❑ Provided food products for classroom activities (not including meals)
- ❑ Hosted a guided farm tour
- ❑ Participated in a school taste test
- ❑ Visited a classroom to discuss farming or other local food topics
- ❑ Helped with tending a school garden
- ❑ Other (please specify) _____

Display This Question:
If Participation in Farm to school programming... Have you ever participated in farm to school programming... No Is Selected

Please describe why you have not participated in farm to school programming.
_____

Perceived Behavioral Control Relevant to Farm to school programming
Please indicate your level of agreement with the statement about farm to school programming seen below:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I am confident that if I want, I could sell locally grown food to schools for profit.	❍	❍	❍	❍	❍
I am confident that if I want, I could participate in farm to school programming activities (e.g. guided tours, taste tests, and classroom visits).	❍	❍	❍	❍	❍
I am confident that if I want, I could participate in helping students develop a school garden.	❍	❍	❍	❍	❍
The decision to sell locally grown food is within my control.	❍	❍	❍	❍	❍

Intention to Participate in Farm to school programming
Please indicate your level of agreement with the statement about farm to school programming seen below:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Sell locally grown foods to schools for profit.	❍	❍	❍	❍	❍
Offer low-cost or free taste tests for school food service personnel.	❍	❍	❍	❍	❍
Provide taste tests for students.	❍	❍	❍	❍	❍
Allow food service personnel to tour my farm.	❍	❍	❍	❍	❍
Allow students to tour my farm.	❍	❍	❍	❍	❍
Visit classrooms and talk with students about my farm products and how they are grown.	❍	❍	❍	❍	❍
Help students develop a school garden.	❍	❍	❍	❍	❍
Join a farmer's consortium to sell in bulk to schools.	❍	❍	❍	❍	❍
Grade, wash, and package produce.	❍	❍	❍	❍	❍

Interest in Resources and Training Related to Farm to school programming
Please indicate the level of interest you have in the following resources or trainings.

	Not at all interested	Somewhat interested	Interested	Very interested
List of schools interested in obtaining local foods.	❍	❍	❍	❍
Resources and training about how to sell products to [State] schools.	❍	❍	❍	❍
Resources and training about farm to school activities.	❍	❍	❍	❍
Resources and training about regulations associated with farm to school programming.	❍	❍	❍	❍
Resources and training about liability insurance associated with farm to school programming.	❍	❍	❍	❍
Resources and training about small business assistance.	❍	❍	❍	❍

Farm Characteristics
How many acres are in production?

How would you describe your production practices? INSTRUCTIONS: Select all that apply.

- ❑ Conventional
- ❑ Certified organic
- ❑ Certified naturally grown
- ❑ Organic
- ❑ GMO-free
- ❑ Integrated pest management
- ❑ Pesticide free
- ❑ Synthetic chemical free
- ❑ Pasture-raised
- ❑ Grass-fed
- ❑ Free-range
- ❑ Hydroponic
- ❑ Other (please specify) _____

What products do you produce?
INSTRUCTIONS: Select all that apply.
- ❑ Vegetables
- ❑ Fruits
- ❑ Meat/Poultry (beef, chicken, turkey, pork, lamb, goat, etc.)
- ❑ Dairy
- ❑ Eggs
- ❑ Value-added or processed products (jams, honey, sauces, etc.)
- ❑ Herbs
- ❑ Plants or Trees
- ❑ Grains & Flour (wheat, corn, sorghum, etc.)
- ❑ Other Food (please specify) _____

To which markets do you currently sell products?
INSTRUCTIONS: Select all that apply.
- ❑ Institutions (schools, hospitals, prisons)
- ❑ Restaurants
- ❑ Farmers' markets
- ❑ Roadside stands
- ❑ Wholesale
- ❑ Community Supported Agriculture (CSA)
- ❑ Other (please specify) _____

How many miles are you willing to travel per order and/or delivery?

Do you sell to the USDA Fresh Fruit and Vegetable program?
- ❍ Yes
- ❍ No

How would you prefer schools place orders? Please select all that apply.
- ❑ Phone call
- ❑ Text
- ❑ Fax
- ❑ Email
- ❑ Website
- ❑ Other (please specify) _____

If you are willing to host guided farm tours or school field trips, does your insurer offer liability coverage for your property/premises, often known as general liability?
- ❍ Yes
- ❍ No
- ❍ Not sure

Please list all annual inspections your farm/business receives from the USDA, state, or local inspectors and/or third-party auditors or certifying agencies.

Are you Good Agricultural Practices (GAP) Certified?
- ❍ Yes
- ❍ No

Do you have a HACCP (Hazard Analysis and Critical Control Points) plan?
- ❍ Yes
- ❍ No

Demographic Characteristics
What is your gender?
- ❍ Male
- ❍ Female

What is your age?
- ❍ 18-20
- ❍ 21-30
- ❍ 31-40
- ❍ 41-50
- ❍ 51-60
- ❍ 61 or older

How long have you been farming?
- ❍ Less than 3 years
- ❍ 3-7 years
- ❍ 8-12 years
- ❍ 13-17 years
- ❍ 18-22 years
- ❍ More than 22 years

Do you have an occupation outside of farming that provides a supplemental income?
- ❍ Yes (please specify your occupation) _____
- ❍ No

Where do you reside?

- ❍ Metro Urban Area (greater than 200,000 in population)
- ❍ Urban (greater than 50,000-199,999 in population)
- ❍ Urban Cluster (more than 2,500-49,999 in population)
- ❍ Rural (less than 2,500 in population)

Thank you for taking the time to complete this survey! Your insights will be invaluable for gathering complete and accurate data. Your answers will help us understand farmers' attitudes, perceptions, and resource needs related to farm to school programming. As a token of our appreciation, you can voluntarily enter a drawing to receive 1 of 4 Amazon Fire Tablets (retail value of $50) for your time. The winners will be contacted by email and phone in April at the conclusion of the study. The contact information will not be linked with your survey results.

Would you like to provide your name to be entered in a drawing?

- ❍ Yes
- ❍ No

Appendix B

Initial Contact Email

SUBJECT: Survey about Farmers' Role in Farm to school programming in Utah

Dear Utah Farm Bureau Member:

The Utah Farm Bureau is asking for your participation in a research study conducted by the School of Applied Sciences and Technology at Utah State University. As a Utah farmer, you offer insight about the most vital component of farm to school programming-farmer involvement. The rising demand in farm to school programming has created opportunities for farms in Utah.

As part of this brief survey, we are asking about your attitude toward farm to school programming, participation in farm to school programming, interest in resources and trainings about farm to school programming, and your farm and demographic characteristics. The survey should take approximately **15 minutes** to complete. Please click on the link below to go to the survey website (or copy and paste the survey link into an internet browser).

Survey Link: https://usuaste.co1.qualtrics.com/jfe/form/SV_0NErQHuUZXn3HLL

Participation in research is entirely voluntary. With the anonymous nature of this survey, answers will be part of the dataset, but you can skip questions or stop at any time. The information collected will be reported as a group and will not be linked to a specific participant.
Should you have any further questions or comments, please contact myself (john.l.hawley@aggiemail.usu.edu or 435-797-3395) or Dr. Kelsey Hall at kelsey.hall@usu.edu or (435) 797-3289.

If you choose to participate in this study, you can voluntary enter a drawing to receive 1 of 4 Amazon Fire Tablets (retail value of $50) for your time. At the end of the survey, you will be asked a question about providing your contact information. If you want to provide your contact information for the drawing, you will be directed to a new survey, which will not be used for any purposes than to enter you into the drawing. The winners will be contacted by email and phone in April at the conclusion of the study. The contact information will not be linked with your survey results.

Thank you for your participation in this study!

Many thanks,

Matthew Hargreaves
Utah Farm Bureau Vice President

John L. Hawley
Graduate Student Researcher

Dr. Kelsey Hall
Assistant Professor, Agricultural Communication & Journalism
Utah State University

Appendix C

First Reminder Email

SUBJECT: REMINDER: Survey about Farmers' Role in Farm to school programming in Utah
Dear Utah Farm Bureau Member:

We recently sent you an email asking you to participate in a research study about farmer involvement in farm to school programming. Your answers will help the Utah State Board of Education guide the direction of the farm to school initiative in Utah.

If you have already completed the survey, thank you! If you have not, we realize your time is incredibly valuable, so this survey was designed to take 15 minutes to complete. Please click on the link below to go to the survey website (or copy and paste the survey link into your internet browser).

Survey Link: https://usuaste.co1.qualtrics.com/jfe/form/SV_0NErQHuUZXn3HLL

If you choose to participate in this study, you can voluntary enter a drawing to receive 1 of 4 Amazon Fire Tablets (retail value of $50) for your time. If you want to provide your contact information for the drawing, you will be directed to a new survey, which will not be used for any purposes than to enter you into the drawing. The winners will be contacted by email and phone in April at the conclusion of the study.

Should you have any further questions or comments, please contact myself (john.l.hawley@aggiemail.usu.edu or 435-797-3395) or Dr. Kelsey Hall at kelsey.hall@usu.edu or (435) 797-3289.
Thank you for your feedback! Through the insight of farmers like you, this research will be successful.

Many Thanks,

Matthew Hargreaves
Utah Farm Bureau Vice President

John L. Hawley
Graduate Student Researcher

Dr. Kelsey Hall
Assistant Professor, Agricultural Communication & Journalism
Utah State University

Appendix D

Final Reminder Email

SUBJECT: REMINDER: Survey about Farmers' Role in Farm to school programming in Utah

The Utah Farm Bureau recently sent you an email asking you to participate in a research study that explores the role Utah farmers' play in farm to school programming. If you have already completed the online survey, thank you! If you have not, please take 15 minutes to provide your responses to the questions. We will be concluding data collection in April and time is running out for you to participate.

Please follow the link below to go to the survey website (or copy and paste the survey link into your internet browser).

Survey Link: https://usuaste.co1.qualtrics.com/jfe/form/SV_0NErQHuUZXn3HLL

If you choose to participate in this study, you can voluntary enter a drawing to receive 1 of 4 Amazon Fire Tablets (retail value of $50) for your time. At the end of the survey, you will be asked a question about providing your contact information. If you want to provide your contact information for the drawing, you will be directed to a new survey, which will not be used for any purposes than to enter you into the drawing. The winners will be contacted by email and phone in April at the conclusion of the study.

Should you have any further questions or comments, please contact myself (john.l.hawley@aggiemail.usu.edu or 435-797-3395) or Dr. Kelsey Hall at kelsey.hall@usu.edu or (435) 797-3289.
Thank you for your feedback! Through the insight of farmers like you, this research will be successful.

Many Thanks,
Matthew Hargreaves
Utah Farm Bureau Vice President

John L. Hawley
Graduate Student Researcher

Kelsey Hall
Assistant Professor, Agricultural Communication & Journalism
Utah State University

Appendix E

Permission Letters

SIMON & SCHUSTER

Christine J. Lee
Permissions Supervisor

1230 Ave of the Americas, 14th Fl
New York, NY 10020
Christine.Lee@simonandschuster.com

VIA EMAIL

December 9 2016

John Hawley
Master's Degree Candidate
Utah State University

Dear John,

You have our permission to include the Figure 5-1: "A Model of Five Stages in the Innovation-Decision Process" from p. 170 of our book, DIFFUSION OF INNOVATIONS, 5E by Everett M. Rogers in your Master's Thesis entitled "The Role of Utah Farmers in Farm to School Programming."

The following acknowledgment is to be reprinted in all copies of your dissertation:

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Sincerely,

Christine J. Lee

AGREED TO AND ACCEPTED

_____

John Hawley

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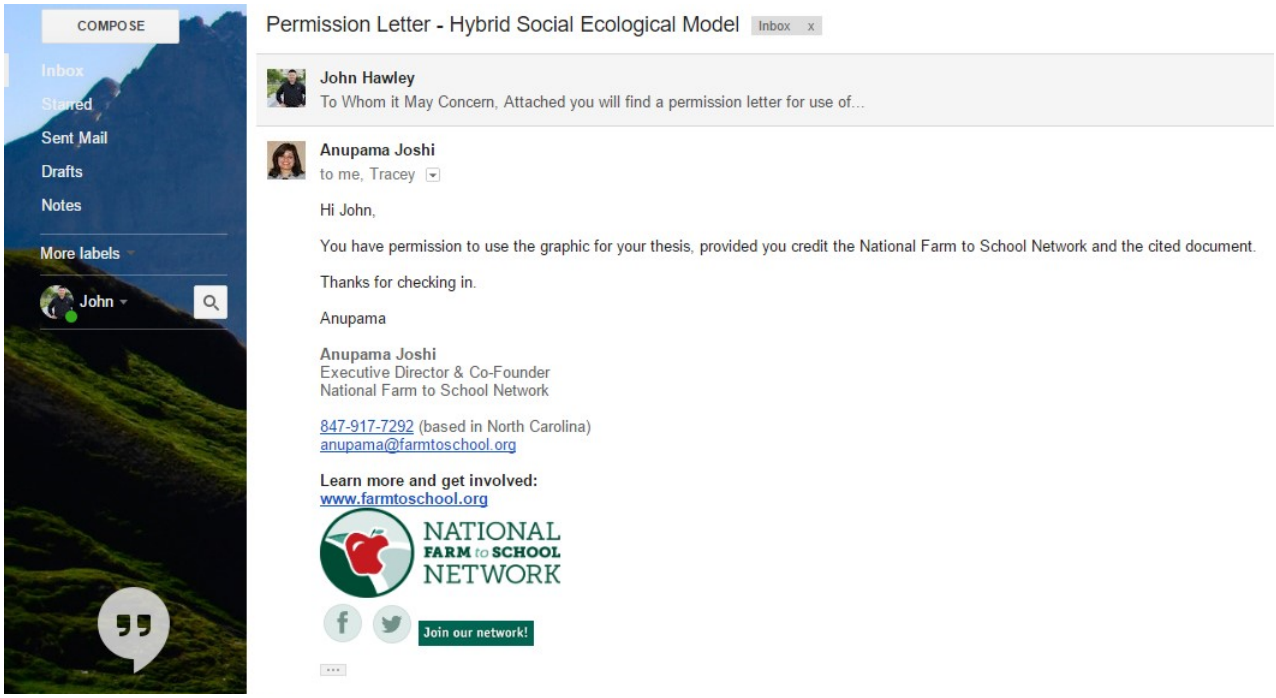
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Appendix F

IRB Approval

Institutional Review Board

USU Assurance: FWA#00003308

UtahState University
OFFICE OF RESEARCH AND GRADUATE STUDIES

Exemption #2

Certificate of Exemption

FROM:

Melanie Domenech Rodriguez, IRB Chair

Nicole Vouvalis, IRB Administrator

To:	Kelsey Hall
Date:	February 06, 2017
Protocol #:	8220
Title:	The Role Of Utah Farmers In Farm To School Programming

The Institutional Review Board has determined that the above-referenced study is exempt from review under federal guidelines 45 CFR Part 46.101(b) category #2:

> Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through the identifiers linked to the subjects: and (b) any disclosure of human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

This exemption is valid for three years from the date of this correspondence, after which the study will be closed. If the research will extend beyond three years, it is your responsibility as the Principal Investigator to notify the IRB before the study's expiration date and submit a new application to continue the research. Research activities that continue beyond the expiration date without new certification of exempt status will be in violation of those federal guidelines which permit the exempt status.

As part of the IRB's quality assurance procedures, this research may be randomly selected for continuing review during the three year period of exemption. If so, you will receive a request for completion of a Protocol Status Report during the month of the anniversary date of this certification.

In all cases, it is your responsibility to notify the IRB prior to making any changes to the study by submitting an Amendment/Modification request. This will document whether or not the study still meets the requirements for exempt status under federal regulations.

Upon receipt of this memo, you may begin your research. If you have questions, please call the IRB office at (435) 797-1821 or email to irb@usu.edu.

The IRB wishes you success with your research.

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