

**BEYOND THE CAFETERIA: FARM TO SCHOOL PROGRAM EFFECTS
ON FAMILIES' SHOPPING, COOKING, AND EATING HABITS**

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ABSTRACT

Farm to School programs have the potential to catalyze change in America's current food system. Programs source fresh, local produce in school cafeteria meals to form long-lasting healthy eating habits in students. In addition to providing healthier food, Farm to School (FTS) programs also extend economic support to local farmers through direct purchasing. FTS is thus not only a school food program, it is a community food system initiative that aims to increase knowledge of and develop positive attitudes towards healthy, locally grown foods among all citizens. This study investigated program impacts on individuals outside of school walls by measuring effects on familial levels of food citizenship, defined as consumers' knowledge of where their food comes from, including where and by whom it was grown, how it was processed and distributed, and the ways in which the purchaser prepares and eats it. To do this, I evaluated FTS programs at two middle schools in southeastern Michigan. Applying a mixed-methods approach, I used parent and student surveys as well as follow-up interviews with a subset of self-selected parents. Questions for both portions of the study asked participants about their shopping, cooking, and eating habits specifically related to fresh, locally grown foods. My findings suggest that Farm to School programs have the potential to positively impact the level of food citizenship in families. Although I studied two particular programs, the results may also have implications for FTS programs around the country and their connection to the greater sustainable food system movement.

INTRODUCTION

School lunch programs first emerged in the early 1900s as locally based initiatives run by mother's clubs and teacher volunteers (Levine, 2008). The National School Lunch Act, passed in 1946, transformed school lunch into a federally regulated, state administrated program (Levine, 2008). With the Act came nutritional standards, income eligibility requirements, and government control over foods supplied to the program. In the past decade, public interest in reforming school lunch programs and the nutritional guidelines has grown substantially (Bagdonis, Hinrichs, & Schafft, 2008). Today, community members advocate for changes that resemble earlier programs, petitioning for localized control over the foods served to students. Many strategies have been developed to address

the issue, including school wellness policies and nutritional health programs run by private organizations. One particular strategy – the Farm to School program – has received widespread attention in recent years (Bagdonis, Hinrichs, & Schafft; Joshi, Azuma, & Feenstra, 2008). Operating in over 2,000 schools in 40 states, Farm to School (FTS) programs bring locally sourced fresh fruits and vegetables into school cafeterias (The National Farm to School Network, 2009).

FTS programs are unique to every school district in which they operate, but many incorporate other food and agriculture-related activities such as after-school gardening clubs, nutrition classes, farmer visits, and farm field trips (Joshi, Azuma, & Feenstra, 2008). They stand out among other school-based nutrition intervention programs because in addition to providing healthier food, it also extends economic support to local farmers through direct purchasing. FTS is thus not only a school food program, it is also a community food system initiative that aims to increase knowledge of and develop positive attitudes towards healthy, locally grown foods among all citizens (Joshi & Azuma, 2009). Understanding its effects on the greater community could indicate whether it has the potential to further the recent movement to create sustainable food systems.

The University of California's Sustainable Agriculture Research Education Program defines a sustainable food system as "a collaborative effort to build more locally based, self-reliant food economies – ones in which sustainable food production, processing, distribution and consumption are integrated to enhance the economic, environmental and social health of a particular place" (Feenstra, 2002, p. 100). Elements of sustainable food systems include improved access, increased support of family farms, formulating direct links between farmers and consumers, agricultural job creation, improved working conditions, and

agricultural policy change (Feenstra, 2002). Community involvement and support of this mission are harnessed through programs such as community gardens, farmers markets, community supported agriculture, and citizen education (Feenstra, 2002).

Participation in the sustainable food movement is growing: farmers markets across the country have more than doubled in the last ten years, from 2,863 in 2000 to 6,132 in 2010, and community supported agriculture operations have increased from just 60 in 1990 to 3,600 nationwide in mid-2010 (USDA Agricultural Marketing Service, 2010a; USDA Agricultural Marketing Service, 2010b). Consumer interest in locally grown food is increasing, but public investment in sustainable agricultural practices is not widespread due to implementation barriers such as cost, transportation of food items, seasonal availability, and governmental policy (Peterson, Selfa, & Janke, 2010). Little research has addressed social barriers of creating sustainable food systems such as public perception, acceptance, and behavioral change (Peterson, Selfa, & Janke, 2010). Even if municipalities feature programs such as farmers markets, community supported agriculture, and Farm to School, the mere existence of these operations does not ensure public investment and participation in them. Proponents of sustainable food systems must learn how to best influence the perceptions, acceptance, and behaviors of consumers to create purchasing behaviors that reflect the values of sustainable food systems.

Sustainable food systems encompass all aspects of food production, distribution, and consumption (Gliessman, 2007). Consumers may represent just one part of the complex network, but consumer behavior and decision-making – particularly about what to eat and where to buy it – have significant influence on the nature of the food system as a whole (Gliessman, 2007). Warren Belasco (2008) uses a triangular model (see Figure 1) to

summarize consumers' considerations when choosing what to eat. *Identity*, *Convenience*, and *Responsibility* make up the three points of the triangle. Identity represents a consumer's personal preference, taste, pleasure, and cultural and ethnic background. It is rooted in tradition and encompasses what, where, and how people eat. Convenience is indicative of price, availability, and ease of preparation, which includes energy, time, labor, and skill. It is influenced by the economy, environment, and social structure of where one lives. Finally, responsibility represents a consumer's awareness of the personal and social consequences of one's actions. According to Belasco, the triangle is not equilateral because "for the most part, people decide what to eat based on a rough negotiation – a pushing and tugging – between the dictates of identity and convenience, with somewhat lesser guidance from the considerations of responsibility" (p. 8). Although responsibility may be less regarded amongst the general population, fostering this awareness is a precursor to the success of sustainable food systems.

In her 2004 presidential address to the Agriculture, Food, and Human Values Society, Jennifer Wilkins discussed the importance of consumer responsibility, represented

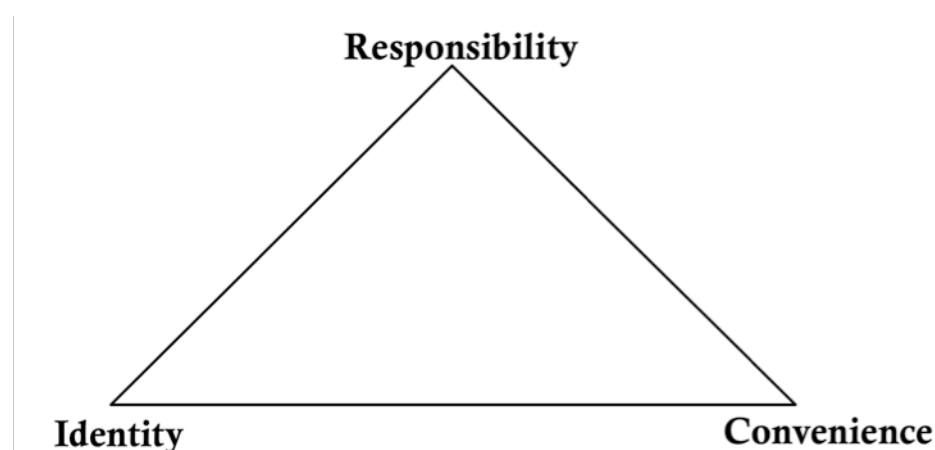


Figure 1. Model of consumers' considerations when choosing what to eat.

Source: Warren Belasco, *Food: The Key Concepts* (New York: Berg Publishers, 2008), p. 7.

by the term "food citizenship" (2005). It is defined as "the practice of engaging in food-related behaviors that support, rather than threaten, the

development of a democratic, socially and economically just, and environmentally sustainable food system” (Wilkins, 2005, p. 269). She urges consumers to practice food citizenship by choosing sustainably grown and locally transported foods that distribute rather than concentrate profits and by shopping for food items outside mainstream food retailers (p. 271).

Incorporating some of Belasco’s theory with Wilkins’ model, I have modified the meaning of food citizenship for the purposes of this study. Here, food citizenship is defined as consumers’ knowledge of where their food comes from, including where and by whom it was grown, how it was processed and distributed, and the ways in which the purchaser prepares and eats it. This study examines the impacts of Farm to School programs on food consumption behaviors of families, and more specifically their level of food citizenship. Past research has documented positive dietary changes in students and teachers, but few studies have measured the Farm to School programs’ influences on individuals outside of school walls (Joshi & Azuma, 2009). For example, more research is needed on changes in parent behaviors and student dietary choices in home settings (Joshi & Azuma, 2009). In several unpublished program evaluations, parents self-reported positive changes in grocery shopping and cooking patterns as well as healthier family diets (see Joshi & Azuma, 2006; Schmidt, Kolodinsky, & Symans, 2006; and The Food Trust, 2007 as cited in Joshi & Azuma, 2009). With this research, I hope to contribute greater understanding to the existing literature of the program’s impacts on these behaviors, as well as provide recommendations for program improvement and future research needs. In addition, I will present my findings to the administrations of both school districts that participated in this study, which, ideally, will direct them on how to improve their Farm to School programs.

GOALS & HYPOTHESES

This study explores the impacts of the Farm to School (FTS) programs in two Michigan middle schools on the food citizenship of families. Food citizenship, for the purposes of this study, is defined as consumers' knowledge of where their food comes from, including where and by whom it was grown, how it was processed and distributed, and the ways in which the purchaser prepares and eats it. Specifically, my research evaluated whether parents with students in FTS programs purchase locally¹ produced food items, whether they cook using fresh ingredients, and whether they institute family dinners as part of their daily routine. Family dinners, for the purposes of this study, are defined as dinners in which the entire family eats together while sitting at a table in their home. In addition, I measured students' knowledge and attitudes related to locally grown and produced foods.

The two testing sites – Tappan Middle School (TMS) in Ann Arbor, Michigan and Ypsilanti Middle School (YMS) in Ypsilanti, Michigan – share common institutional partners that facilitate and promote the programs (see Appendix A). The districts' programs, however, differ in duration and frequency. In the 2011-2012 academic year, Ann Arbor's FTS program is in its fifth year, and students are served FTS items four days a week. Ypsilanti's FTS program is in its second year with FTS items served only once a week. Due to the longer duration of the Ann Arbor program, I hypothesized that (1) Ann Arbor students would have a greater knowledge of foods that have been grown locally, and (2) they would display a greater interest in eating Michigan-grown and in-season foods; (3)

¹ The term *local* has many definitions when used in relation to food. For the purposes of this study, the phrase *local food* represents any food items that are grown and processed in the state of Michigan.

Ann Arbor parents purchase more local food items; and (4) Ann Arbor parents cook using fresh ingredients more frequently.

Using a mixed methods approach, I collected both quantitative and qualitative data for this study. Two surveys, one for students and one for parents, allowed me to collect data from a large number of participants. Student surveys measured students' knowledge, attitudes, and behaviors towards eating healthy, local, and seasonal foods; Parent surveys collected information on the parents' and their family's shopping, cooking, and eating habits. In-person interviews provided an opportunity to qualitatively investigate cooking and eating behaviors and program impacts among a smaller number of participants (Zint & Montgomery, 2010). Interviews were conducted with a small subset of self-selected parents and were used to elicit more in-depth responses related to the survey topics, as well as the participant's experiences and attitudes related to the Farm to School program.

LITERATURE REVIEW

As a nationwide initiative, the Farm to School program brings K-12 schools together with farmers to source fresh, local produce in cafeteria meals. The program is intended to improve school nutrition while also supporting local and regional farmers (Joshi & Azuma, 2009). In addition to sourcing local food in school meals, FTS incorporates supplemental education programs including school gardens, nutrition courses, and farm field trips (Joshi, Azuma, & Feenstra, 2008). Some of the reported student benefits from established programs include increased consumption of fruits and vegetables, increased school meal participation, and improved knowledge of healthy eating choices and sustainable agriculture (Joshi, Azuma, & Feenstra, 2008). Evaluations of existing FTS programs have also shown positive changes in teachers' diets and lifestyles, development of health and nutrition related

policies, parents' increased incorporation of healthy foods in family diets, as well as valuable impacts on school food service operations (Joshi & Azuma, 2008).

In a comprehensive guide on Farm to School Evaluation, Joshi and Azuma (2009) summarize the long-term goal of FTS:

Farm to school programs are premised on the assumption that if students are provided knowledge about healthy, locally grown foods, in addition to having access to them, then it is more likely that they will have positive attitudes towards such foods, and potentially develop lasting eating habits at an early age. (p. 14)

To form eating habits that students will maintain in the long-term, one can assume that the FTS program must impact students beyond the school setting and into other core areas of life. One such area is the home. Unfortunately, few studies have measured the program's impacts on student dietary changes in home settings (Joshi, Azuma, & Feenstra, 2008).

While students presumably make their own diet-related choices at home, parents also play a pivotal role in those choices. Not only do they regulate children's decisions, but also determine the range of choices of food items from which children can choose. In this study, parents are viewed as dietary gatekeepers, defined by Tanner and Kast (2003) as "the people who make purchasing decisions and regulate what the other members of the household eat" (p. 885). As dietary gatekeepers, parents exert primary control over their children's food choices through their food purchasing decisions, the meals that they provide and the ways in which they prepare them. Therefore, a link exists between Farm to School, student impacts from the program, and parents' shopping, cooking, and eating patterns. Even if students are positively impacted by, for example, expressing greater interest in eating fresh, locally grown fruits and vegetables, they cannot realistically increase their consumption of these items (outside of school) unless their parents share similar attitudes or at least are willing to make those foods available in the house. Little research has addressed the program's

impacts on parents' behaviors, and as a result, this study sought to fill the existing knowledge gap (Joshi, Azuma, & Feenstra, 2008).

Before examining the shopping, cooking, and eating patterns of parents in this study, it is necessary to understand the factors that influence these behaviors. In a study on sustainable food consumption, Vermeir and Verbeke (2006) found that purchasing practices are driven predominantly by convenience, habit, price, brand familiarity, and personal health concerns. They also found that consumer behaviors are not always consistent with attitudes, especially in relation to local food purchasing. In other words, some consumers with positive attitudes towards sustainability and strong intentions to purchase local goods do not necessarily follow through by actually purchasing local items, usually because of some other influential determinant. They call this paradox the "Attitude-Behavioral Intention" Gap. For example, after surveying 456 participants, they found that intentions to buy sustainable products were low even among consumers with positive attitudes, simply because they perceived low availability of sustainable products in their community. On the other hand, social pressure and social norms significantly increased intentions to buy sustainable products even if the consumer exhibited negative personal attitudes towards sustainable food (p. 169). Consumers with positive attitudes towards sustainability were more likely to reflect their attitudes in their purchasing decisions if their involvement with sustainability was high. Tanner & Kast (2003) found similar results when studying the determinants of green food purchases (defined as food items that are domestically cultivated rather than imported from foreign countries; organically rather than conventionally grown; seasonal and fresh rather than frozen; not wrapped; and fair trade) in Swiss consumers (p. 885). Green food purchases were positively correlated with consumers' positive attitudes

towards environmental protection and local products; negatively associated with perceived time barriers and frequency of shopping in supermarkets; and surprisingly, not significantly related to monetary barriers or socioeconomic status. As a result, the researchers recommended that personal (i.e. perceived barriers, specific attitudes, environmental knowledge, and feeling of moral obligation) and contextual variables (social, economic, or physical environment) should both be considered when assessing environmental behavioral changes (p. 883).

Another explanation for which factors influence purchasing behaviors is the theory of reflexive and ethical consumers. Reflexive consumers operate within social norms and make purchasing decisions based upon their own individualized risk assessments (Vermeir & Verbeke, 2006). An ethical consumer feels “responsible towards society and expresses these feelings by means of his purchase behavior... This kind of consumerism mainly incorporates environmental issues but also extends to animal welfare, human rights, and labor working conditions in the third world” (Vermeir & Verbeke, 2006, p. 170). Because sustainable food purchasing is not widely considered a social norm in the United States, Farm to School programs are more likely to influence the behaviors of ethical consumers. Not all consumers are ethical consumers, however, and as a result, future research needs to assess how FTS programs can positively impact purchasing decisions of consumers operating within a wide variety of personal and contextual variables (Tanner & Kast, 2003).

This study also examined the cooking habits of parents and students in schools that feature Farm to School programs. Specifically, it measured the frequency with which families prepare meals from scratch using fresh ingredients – a custom that has dramatically decreased among Americans in the last several decades. Americans spend almost twice as

much time eating in restaurants than they did in 1995, representing a 24 percent increase in the proportion of American food budgets spent on eating outside of the home (Lambert, 2011). Time constraints and demographic changes such as the increase in households with divorced adults and single parents have played a role in the reduction in home-cooked meals (Lambert, 2011). Walter Willett, professor of Epidemiology and Nutrition at the Harvard School of Public Health comments on the issue:

Americans are more time-pressured than before and most families have two people working outside the house – there isn't somebody at home who has time to shop and prepare meals. As real wages have gone down, Americans have maintained a fairly flat family income by putting another person into the workforce, and that's cut down on discretionary time in a major way." (Lambert, 2011, p. 25).

This effect is further expressed in meal preparation time: The mean time spent on food preparation by American women decreased by 40 minutes per day in a 30-year period from 1975 to 2006² (Zick & Stevens, 2009). The overall reduction in cooking among American families may inhibit the FTS program's goal for increasing local food purchasing because cooking with fresh fruits and vegetables requires longer meal preparation time (Kaufman, Handy, McLaughlin, Park & Green, 2000). Consumers who prioritize convenience items when making food purchases are more likely to buy pre-packaged, processed foods than fresh produce (Zick & Stevens, 2009). What's more, consumption trends have also increased for fresh produce that is ready-to-use (i.e. peeled, sliced, etc.) – a feature that many small and mid-sized farmers, like those associated with the FTS program, cannot provide without the necessary infrastructure (Kaufman, Handy, McLaughlin, Park & Green, 2000).

² It is important to note that although the decrease in meal preparation time by women may have had negative effects on cooking patterns, there are also many positive effects of this change, such as women entering the workforce and pursuing their own careers while shedding some of the burden of housekeeping. This subject, however, is beyond the scope of this paper.

In short, FTS programs may be more likely to take effect in families that frequently prepare their meals at home using fresh, non-processed ingredients.

The final behavior examined in this study was the frequency of family dinners, defined as dinners where all family members living in the household are present, eating around a table together at their home. Many studies have measured the impacts of family dinners on adolescents and on family dynamics (Fulkerson, Nuemark-Sztainer & Story, 2006; Eisenburg, Olson & Neumark-Sztainer, 2004; Fruh, Fulkerson, Kendrick & Clanton, 2001). Adolescence is an important time to forge family unity, which can be promoted by eating together (Fulkerson, Nuemark-Sztainer & Story, 2006). Although parents are more likely to report having family dinners more frequently and express greater priority in eating together than adolescents, both groups view them positively (Fulkerson, Nuemark-Sztainer & Story, 2006). Family meals have many benefits on the growth and development of adolescents' behaviors: The National Center on Addiction and Substance Abuse at Columbia University (2010) found that teens who have less than three family dinners per week were twice as likely to use tobacco, nearly twice as likely to use alcohol, and one and half times likelier to use marijuana than teens who have five to seven family dinners per week. Other reported benefits include enhanced vocabulary, higher grades in school, and healthy eating choices (Fruh, Fulkerson, Kendrick & Clanton, 2001). Because family dinners represent another avenue through which parents can influence their children by modeling behaviors, incorporating their analysis into FTS studies could provide useful implications for the program.

There are many limitations of past FTS evaluations, and authors of existing studies have identified areas for improvement in this field. Although it is administered nationwide,

each school's program is unique from any other. Local food sourcing varies by the growing capabilities within each biogeographic region, and the scope of each program depends on the school food service directors, cafeteria staff members, school administrations, teachers, and parents that administer each school's program. This makes overall FTS research and evaluation very difficult to standardize and leads to various methodology issues. For example, formal research and peer-reviewed publications on FTS are limited (Joshi, Azuma, & Feenstra, 2008; Izumi, Rostant, Moss, & Hamm, 2006). Of the studies that have occurred, many were flawed. In a publication that reviewed 38 FTS studies, researchers reported that many of the studies' data collectors were associated with the FTS program's implementation, potentially creating bias in evaluation (Joshi, Azuma, & Feenstra, 2008). Other limitations included short-term analysis, few designs that included control groups, and limited statistical analysis (Joshi, Azuma, & Feenstra, 2008). Although researchers are aware of what impacts are in need of assessment, consistent evaluation methods have not been established; however, creating evaluation tools that are academically derived and can be tailored to individual programs around the country, will likely improve FTS programs' effectiveness.

Effective evaluation designs will allow researchers and FTS implementers to measure the program's full impacts, which in turn will direct efforts on how to improve FTS at the local and national levels. As a relatively new initiative, it may be beneficial to look to other disciplines for evaluation strategies and methods. One such discipline is the nutrition sector. The National Collaborative on Childhood Obesity Research (NCCOR) has created an online Measures Registry³ to facilitate access to research tools, help identify gaps in those

³ <http://www.nccor.org/projects/measures/index.php>

tools, and encourage the development of new measures. They define *measures* as tools and methodologies, including questionnaires, instruments, electronic devices, protocols, and analytic techniques, that can be used to assess individual diet, physical activity, and the environments in which these behaviors occur (NCCOR, 2009). The National Farm to School Network could administer a similar program to ensure this type of consistency and collaboration in FTS research.

Researchers will find that overlap already exists across FTS and nutrition-based conceptual frameworks. For example, in a study that examined school-based approaches to affect adolescents' diets, the authors point out that many major entities are calling for community-wide efforts to positively influence adolescents' dietary choices, including the national guidelines from the Centers for Disease Control, the Healthy People 2010 campaign, and the surgeon general's reports on nutrition, physical activity, and obesity (Lytle, Murray, Perry, Story, Birnbaum, Kubik, & Varnell, 2004). One of FTS's main goals and reported benefits is increased fruit and vegetable consumption, and many studies on nutrition interventions in schools are designed to do the same (Joshi, Azuma, & Feenstra, 2008; Kubik, Lytle, & Story, 2005; Lytle, Murray, Perry, Story, Birnbaum, Kubik, & Varnell, 2004).

With similar premises, past objectives in nutrition-based studies can inform and influence future Farm to School evaluations. Kubik, Lytle, Hannan, Story, and Perry (2002) conducted a study on the food-related beliefs, eating behaviors, and classroom food practices of middle school teachers emphasizing the impact of adults on adolescents' dietary choices. The study was based on Bandura's Social Cognitive Theory: "Significant adults, like teachers, influence youth behavior through role modeling, normative practices, and

social support. Teachers also have ample opportunity to influence youth people's eating patterns, given their close proximity to and repeated contact with students during the school day" (p. 339). The National Farm to School Network recognizes that parent education of and teacher involvement in the program are key components, but very few studies have actually documented the impacts (Joshi & Azuma, 2009). These findings suggest that FTS evaluators should follow nutrition researchers' lead and recognize the importance of adult influences on children's behaviors by incorporating its measurement into evaluation and considering it when designing new programs. The same study also found that students were not modeling healthy eating behaviors at school and that many (73% of almost 500 participants surveyed) teachers used candy as an incentive in the classroom. In addition to keeping teachers' role modeling power in mind, FTS should target teachers as well as students because of the indirect effects teacher behaviors can have on students.

Another important lesson to be learned from the nutrition field is how to choose target student populations. Although many dietary studies and school-based intervention trials have been conducted in elementary schools, few have been held in middle schools (Lytle et al. 2004). Authors of the Teens Eating for Energy and Nutrition at School (TEENS) study recognize the associated difficulties with interventions directed at adolescents: "Trying to effect dietary change in an adolescent population is very challenging. Not only are their dietary patterns in great flux and their choices increased, but their questioning of authority and need for autonomy likely affect how young teens respond to efforts to improve their dietary patterns" (Lytle, Murray, Perry, Story, Birnbaum, Kubik, & Varnell, 2004, p. 248). Early adolescence is a critical period for targeting programs like FTS, however, because students are facing changes in physical and social environments,

and they are beginning to make their own health and dietary choices. FTS researchers and implementers should remain cognizant of which student age groups are receiving the most focus to keep a balance among populations and ensure that none are left behind.

METHODS

Sample

The population for this study consisted of a convenience sample of students and their parents (unpaired) from two schools in southeast Michigan. I selected Tappan Middle School (TMS) in Ann Arbor and Ypsilanti Middle School (YMS) in Ypsilanti under the direction of Michaelle Rehmann, the Farm to Food Service Program Director for the Food System Economic Partnership. The Food System Economic Partnership is a nonprofit organization with a mission to build local food systems that improve the health, wellbeing and economy of southeastern Michigan communities (Food System Economic Partnership, 2011). The Food System Economic Partnership facilitates the relationships between farmers and food service directors within the Farm to School program to help make local food sourcing possible. The administrations of TMS and YMS approved their school's participation in the study based on Rehmann's past work and involvement in establishing FTS in their cafeterias.

Table 1. Demographics by city, 2010. Data from the Center for Educational Performance and Information (2011) and the Michigan Department of Technology, Management & Budget (2010).

City	Total Population	Income		Poverty		Education	
		Median Household Income	Median Family Income	Families Below Poverty Level	Individuals Below Poverty Level	High School Graduate or Higher	Bachelor's Degree or Higher
Ann Arbor	113,934	\$51,001	\$86,644	6%	23%	97%	72%
Ypsilanti	19,435	\$33,734	\$60,462	13%	26%	87%	40%

Table 2. Ethnicity by district, school, and grade, Fall 2010. Data from the Center for Educational Performance and Information (2011).

	Total Headcount	Ethnicity					
		American Indian	Asian	African American	White	Hispanic	Multiracial
Ann Arbor Public Schools District	16,496	58	2,392	2,413	9,306	1,013	1,311
Tappan Middle School (TMS)	718	1	88	112	431	36	50
TMS 7th Grade	244	0	28	38	149	14	15
Ypsilanti Public Schools District	3,680	14	44	2,368	1,016	196	32
Ypsilanti Middle School	516	1	6	319	166	21	5
YMS 7th Grade	269	1	4	173	75	13	3

Note: Fall 2010 data is presented because Fall 2011 data is not yet available. Data for seventh grade students is presented because the eighth grade students surveyed in this study were in seventh grade in Fall 2010.

Ann Arbor and Ypsilanti lie within ten miles of each other in Washtenaw County, and both cities are home to large public universities – The University of Michigan and Eastern Michigan University, respectively. Ann Arbor is larger and more affluent, with a higher median income, education levels, and lower poverty rates (see Table 1). The two cities and their school districts are ethnically diverse from each other: Ann Arbor is predominantly White, and Ypsilanti is predominantly African American (see Table 2).

Farm to School programs vary according to the make-up of the school in which they function. As a result, FTS program operators tailor FTS programs to fit the needs and available resources of their school district and the region in which they operate. Ann Arbor

and Ypsilanti School Districts feature the FTS program district-wide, with FTS items offered for free whether students purchase or bring their lunch. Ann Arbor's FTS program is in its fifth year while Ypsilanti's program is in its second year. The frequency at which FTS items have been offered has changed throughout the duration of the programs. In Ann Arbor, FTS items were offered once a week for two months during the program's first year (2007-2008 academic year). Today, in its fifth year (2011-2012 academic year), FTS items are offered four days a week for five months. In Ypsilanti, FTS items have been offered once a month for five months during both years that it has operated (2010-2011 and 2011-2012 academic years). In both districts, a Farm to School Collaboration encompassing seven partnering organizations exists to direct and promote their respective FTS programs. Detailed explanations of the school districts and their FTS Collaborations are listed below:

Ann Arbor Public Schools

The Ann Arbor Public Schools District is made up of thirty-three K-12 schools, including twenty-one elementary schools, six middle schools, and six high schools (Ann Arbor Public Schools, 2011). In the fall of 2010, the total district enrollment was 16,496 students (see Table 2), with 23% of students eligible for free or reduced lunches (Ann Arbor Public Schools, 2011; Center for Educational Performance and Information, 2011). In the 2010-2011 school year, the food service budget was \$3.87 million and Chartwells, the district's corporate food service provider, served a total of 1.4 million meals (Ann Arbor Public Schools, 2011). The farm to school program in Ann Arbor has existed since the fall of 2007. The school district supports and orchestrates the program through its Farm to School Collaboration, made up of seven partnering organizations (M. Rehmann, personal communication, June 15,

2011): The Food System Economic Partnership (FSEP), Ann Arbor Public Schools, Chartwells Food Service, Washtenaw County Public Health, Project Healthy Schools, Agrarian Adventure, and the Ann Arbor Farmers Market (see Appendix A for descriptions of each organization and their FTS-related activities). Together, these organizations not only provide students with local food in their cafeteria meals, but they also provide nutrition and physical education classes, summer camps, and afterschool activities including an afterschool gardening program at Tappan Middle School (M. Rehmann, personal communication, June 15, 2011).

Ypsilanti Public Schools

The Ypsilanti Public Schools District is made up of nine K-12 schools, including four elementary schools, one middle school, two high schools, and two alternative schools (Ypsilanti Public Schools, 2011). In the fall of 2010, the total district enrollment was 3,680 students (see Table 2), with 66% of students eligible for free or reduced lunches (Center for Educational Performance and Information, 2011). The Farm to School program in Ypsilanti schools has been established since the fall of 2010. Like Ann Arbor, Ypsilanti also has a Farm to School Collaboration that supports the program and provides students with supplemental in-school and after-school programs. The Collaboration's seven partnering organizations are FSEP, Ypsilanti Public Schools, Chartwells Food Service, Washtenaw County Public Health, Project Healthy Schools, Growing Hope, and Pe-Nut (see Appendix A for descriptions of each organization and their FTS-related activities) (M. Rehmann, personal communication, June 15, 2011). Members of Ypsilanti's Farm to School

Collaboration also provide nutrition and physical education resources to teachers and students, coordinate farmer classroom visits, and lead a school garden program.

The student sample consisted of eighth grade students enrolled at Tappan or Ypsilanti Middle School for the 2011-2012 school year. There were 507 eighth grade students invited to participate in the study (247 from Tappan Middle School; 260 from Ypsilanti Middle School). Students that had not lived in their current school district for more than one year at the time of recruitment were excluded. The final sample consisted of 42 total students including 15 students from Tappan Middle School and 27 students from Ypsilanti Middle School (overall response rate: 8.3%; TMS response rate: 6.1%; YMS response rate: 10.4%).

The parent survey sample consisted of parents or legal guardians (referred to in this study as parents) of the students that were surveyed; however, the parent and student samples were not paired. Every eighth grade student's household received a survey, but only one parent from each household completed a survey. The final parent survey sample consisted of 52 parents, 23 from Tappan Middle School and 29 from Ypsilanti Middle School (overall response rate: 10.3%; TMS response rate: 9.3%; YMS response rate: 11.2%). A small subset of surveyed parents were interviewed. There were 6 interview participants from each school for a total of 12 interviewees in the sample. For both the survey and interview portion of this study, parents that had not lived in their current school district for more than one year at the time of recruitment were excluded.

Survey and Interview Design

I developed the survey and interview questions using resources on evaluation design and methodology (Zint & Montgomery, 2010; Taylor-Powell, 2007). Some questions were written specifically for this study, while others were adapted from previous FTS program evaluations (Kubik, Lytle, & Story, 2005; Joshi & Azuma, 2006; Schmidt & Kolodinsky, 2006) referenced in the Farm to School National Network's evaluation toolkit by Joshi and Azuma (2009).

All surveys and interviews were collected anonymously; no identifying information was collected. The University of Michigan's Institutional Review Board approved all data collection materials. To avoid biased responses, participants were not given information on the Farm to School program or its affiliation to the study in survey cover letters or interview protocols, and only the final questions contained the program name.

The student survey consisted of 14 questions that measured students' knowledge, attitudes, and behaviors regarding eating healthy, local, and seasonal foods. The parent survey consisted of 15 questions that measured the parent's and his or her family's shopping, cooking, and eating habits as well as demographic information. Most questions were closed-ended with "mark one answer," "mark all that apply" and rating scale response options. There was one only one open-ended question in which students were asked to explain why eating fruits and vegetables that have been grown locally is or is not important them.

In addition to surveys, I interviewed six parents from each school to collect more in-depth information on his or her family's shopping, cooking and eating habits, as well as the parent's knowledge and attitudes of the Farm to School program at their child's school. To

ensure that all questions were covered, I used a semi-structured interview guide (see Appendix K for Interview Protocol), but I also used prompts and follow-up questions to elicit more extensive information (Izumi, Alaimo & Hamm, 2010). All interview responses were confidential.

Survey Recruitment and Administration

I recruited parents and students for the survey portion of this study through their respective schools. At Tappan Middle School, ten homeroom teachers sent home packets containing parent consent forms, parent surveys, and parental permission forms on September 21, 2011. At Ypsilanti Middle School, I distributed packets containing parent surveys, parent consent forms, and parental permission forms at the school's Open House on Thursday, September 22, 2011. A school administrator delivered the remaining packets to homerooms the next morning. Due to a low response rate, the school's administration redistributed the forms to all eighth grade students a week after initial distribution.

Homeroom teachers collected completed parent surveys and parental permission forms in sealed envelopes. All parents completed surveys and signed parental permission forms at home. At both schools, homeroom teachers collected the completed forms from students in sealed envelopes to ensure anonymity. Students that obtained parental permission to participate in the survey completed the student survey on October 12, 2011 in the school library (at Tappan Middle School) and on October 7, 2011 in the school cafeteria (at Ypsilanti Middle School). At both schools, surveys were administered during the student's homeroom so as not to conflict with scheduled curriculum.

Interview Recruitment and Administration

Consent forms for the parent survey included information on the optional follow-up interviews. Parents who were interested in participating signed up by filling out a form with their name and contact information or by emailing the researcher directly. I conducted all of the interviews, which took place in private rooms at the parents' respective schools throughout November 2011. Conversations lasted about 30 minutes, with a minimum of 20 minutes and a maximum of 55 minutes. All interviews were recorded and transcribed verbatim.

Analysis

For the survey data, descriptive statistics were used to examine (1) students' knowledge of foods grown in Michigan, (2) students' attitudes towards eating locally grown produce, (3) students' food-related behaviors within their families, (4) parents' grocery shopping habits, (5) parents' cooking patterns, and (6) parents' and their families' eating behaviors. Chi-square tests were performed on all response distributions to compare the differences between school populations for both the student and parent samples (see Appendix B). Results were considered significant when $p < 0.05$. Survey statistics were generated using the IBM SPSS Statistics Package (version 19).

Interview data was evaluated using a thematic analysis methodology adapted from Izumi, Alaimo, and Hamm's (2010) study, "Farm-to-School Programs: Perspectives of School Food Service Professionals." During data collection, I wrote summary memos immediately following each interview. As themes emerged through this process, I began to create codes that were eventually condensed into a code dictionary and given definitions. As Izumi, Alaimo, and Hamm (2010) discuss,

Coding was an iterative process. New codes progressively emerged during the analysis, and those that were no longer appropriate were discarded and others were broken down into subcodes or refined. When major code changes were made, data that had already been coded were recoded with a revised dictionary. (p. 85)

Once codes were finalized, a qualitative data analysis software package (NVivo 9) was used to code and organize the data.

After coding was complete, I created electronic charts to visually organize my conclusions, along with illustrative quotations. I constructed a chart for each code with separate fields for Tappan Middle School, Ypsilanti Middle School, and a section for data that was similar between both groups (see Table 3).

RESULTS

Table 3. Electronic chart template used to code interview data

	<i>Code Title and Definition</i>	
	Conclusions	Example Quotes
Tappan Middle School		
Ypsilanti Middle School		
Both Schools		

Survey Results

I. Sample Description

Forty-two students completed the survey: about half were female (49%) and half were male (51%) (see Table 4). The gender ratio of the sample was representative of the schools' ratios (see Table 4). Fifty-two parents completed the survey, most of which were female (87%). The majority of all parents received a bachelor's degree or higher (53%), but this demographic varied greatly between schools (see Tables 5 and 6). Although a

considerably greater portion of Tappan Middle School parents attained bachelor’s degrees or higher, the sample ratios were similar to those of the cities (see Table 6). Compared to the United States population as a whole, Tappan Middle School parents have higher than average education levels (see Table 6). All students reported that they had attended their current middle school for at least one year prior to survey administration, and most parents (86.3%) reported that their family had resided in their current school district for more than four years. Given the length of time spent in the two districts, parents and students are most likely very familiar with their respective cities and schools.

Table 5. Gender demographics of parent survey sample by school.

	Gender		Combined Survey Samples
	Female	Male	
Ypsilanti Middle School	83%	17%	49%
Tappan Middle School	91%	9%	21%
Combined Parent Sample	86%	14%	41

Table 4. Stu

Total St

Note: Forty-or

Table 6. Educational attainment of surveyed parents compared to city and country populations. Data from U.S. Census Bureau (2008-2010).

	YMS Parent Survey Sample	City of Ypsilanti	TMS Parent Survey Sample	City of Ann Arbor	Combined Parent Survey Sample	United States Population
High School Graduate or Higher	93%	90%	100%	95%	96%	87%
Bachelor's Degree or Higher	32%	32%	78%	72%	53%	31%

Note: City and United States data is for adults aged 35-44.

II. Students showed significant knowledge related to locally grown, in-season produce

Students were asked whether eating in-season fruits and vegetables gave them the nutrients and vitamins necessary to fight off allergies, colds, the flu, all of the above, or none of the above. At both schools, the majority of students answered correctly (all of the above); however, more students at YMS (78%) chose the correct option than students at TMS (71%). They were also given a list of twenty produce items and asked to identify four types of produce that could be grown in Michigan. There were only four incorrect options on the list: pineapple, mangos, kiwi, and oranges. Although many TMS students circled 12-15 correct items (instead of just four), overall, more YMS students (81%) answered correctly than TMS students (57%).

III. Students reported that eating fresh, locally grown produce is important for different reasons

Students showed similar attitudes towards fresh, locally grown fruits and vegetables. At both schools, most students reported that eating fruits and vegetables that were grown locally was important to them (YMS: 82%; TMS: 93%; see Figure 2) and that they tasted better (YMS: 65%; TMS: 79%). The two groups did, however, differ in their explanation for why eating local produce was or was not important to them. For example, more students at YMS mentioned environmental reasons such as decreased shipping distances and therefore less pollution. Several students also wrote that locally grown produce was “easy to get” and

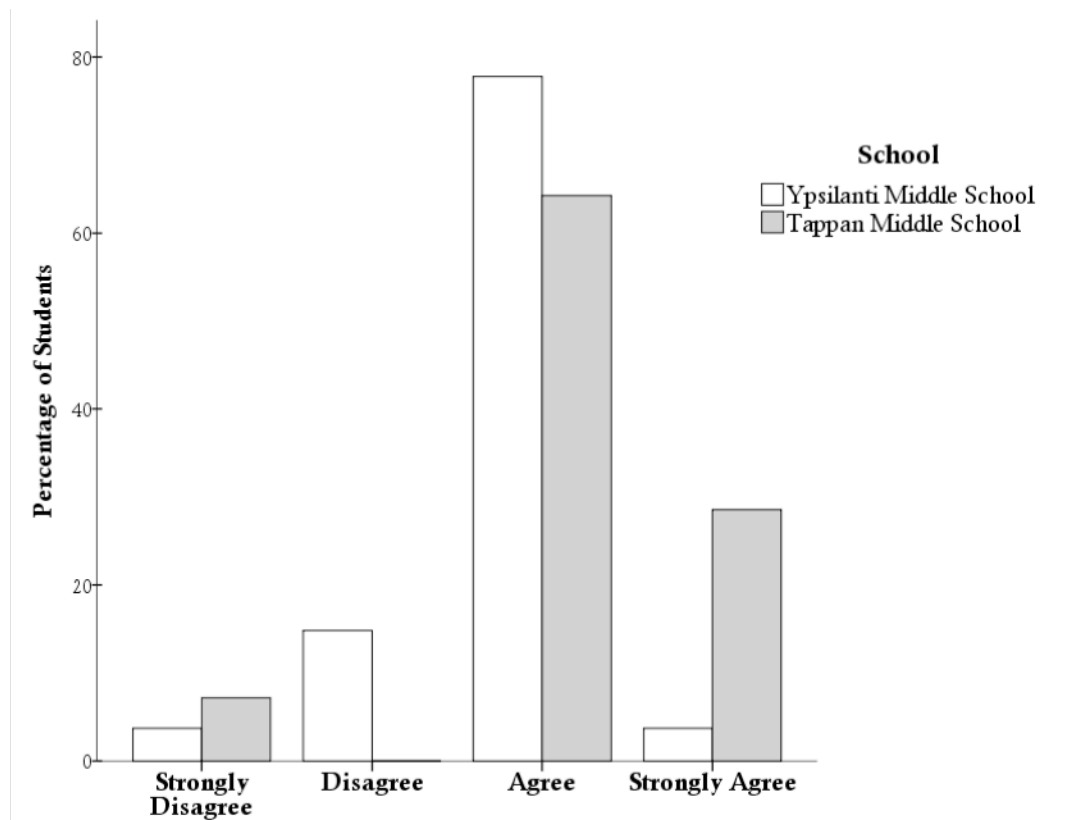


Figure 2. Student response distributions when asked to rate the statement: “Eating fruits and vegetables that have been grown locally is important to me.”
Note: Chi-square analysis showed that these proportions differed significantly ($p=0.066$).

“accessible to the community.” Some YMS students (22%) explained that local produce was better for their health. In both schools, students wrote about supporting the local economy and that locally grown produce contained higher nutrient levels. At TMS, most of the students who marked that eating locally grown produce was important to them said so because they were more “fresh.” In both schools, several of the students that disagreed wrote that they did not care where their produce was grown as long as it was “good” and “clean.” Surprisingly, some of the students had false ideals about locally grown food. For example, three students from YMS wrote that eating locally was not important to them because “some people don’t clean them;” “I don’t live where fruits and vegetables grow;”

and “Because we buy our food at the grocery store.” A TMS student explained that he or she strongly disagrees that eating locally grown food was important to him or her “because I am afraid of factory farms and I can taste pesticides.”

Most students also reported that they preferred to eat fresh fruits and vegetables more than frozen or canned produce (YMS: 78%; TMS: 67%). Although the majority of students at both schools reported positive attitudes towards fresh, locally grown produce, very few YMS students reported that their families purchase food from local food suppliers: When asked whether they shopped for food with their parents at farmers markets, farm stands, food co-ops, or community supported agriculture, only 33% of Ypsilanti students marked at least one of the options, while 68% of Ann Arbor students marked one or more of the options ($p=0.038$). Most students at both schools, however, marked that they went shopping with their parents at “grocery stores” (YMS: 93%; TMS: 73%), which could also include local food purchases.

IV. Tappan Middle School students reported higher frequencies of homemade meals and family dinners

The distributions of responses related to cooking and eating behaviors were statistically different between the two schools (see Figures 3 and 4). Most TMS students (64%) reported that their families cooked homemade dinners six to seven nights per week using fresh fruits, vegetables, meats, or grains and that their entire family sat down for dinner at their home six to seven nights per week (53%). Although 46% of YMS families cooked four to five homemade dinners per week, most students ate together with their entire families only zero to one nights per week (35%) or two to three nights per week (35%).

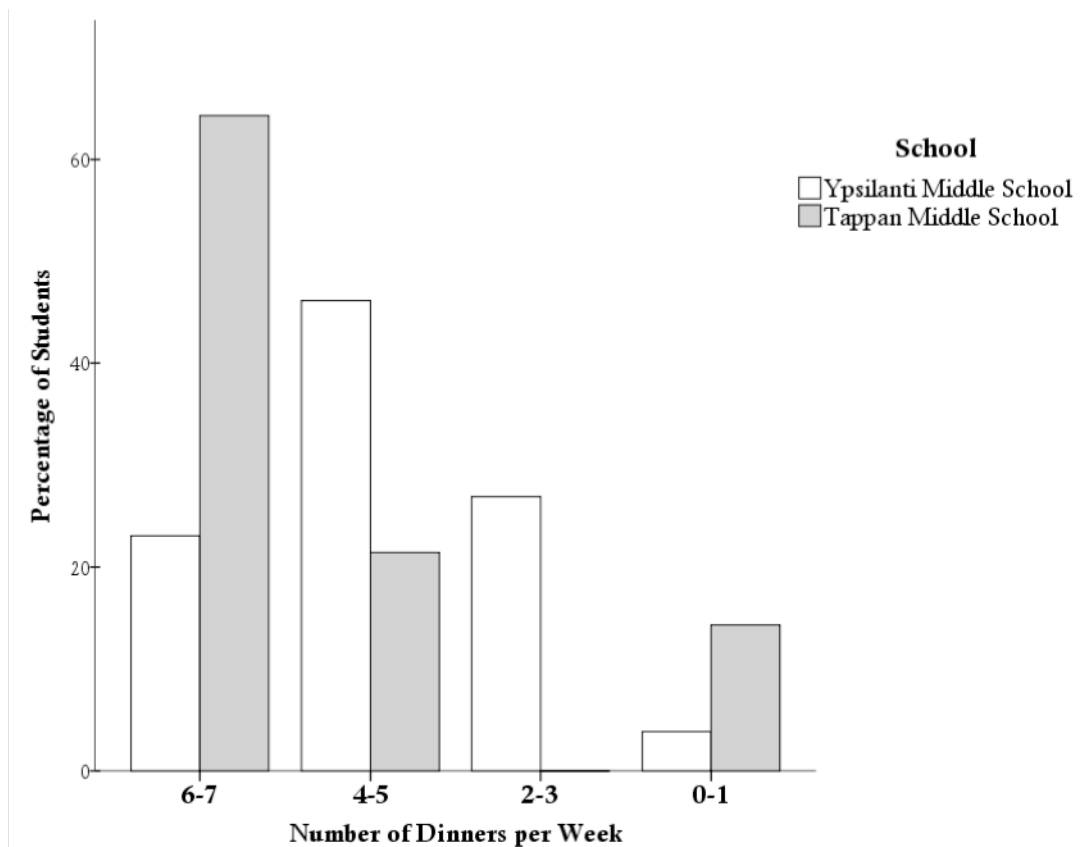


Figure 3. Student response distributions when asked, “During the average week, how often do you cook dinner using fresh fruits, vegetables, meats or grains?”

Note: Chi-square analysis showed that these proportions differed significantly ($p=0.013$).

V. More Tappan Middle School students reported that their school has a Farm to School program

While most YMS students (67%) purchased lunch every day in the school cafeteria, only 19% of students knew that the school had a Farm to School program. At TMS, on the other hand, 67% of students knew about the Farm to School program while the majority of students never ate lunch served in the school cafeteria (36%). The distributions of students’ responses for frequency of purchasing school lunch and whether their school had a FTS program were statistically different, with p-values of 0.012 and 0.007 respectively.

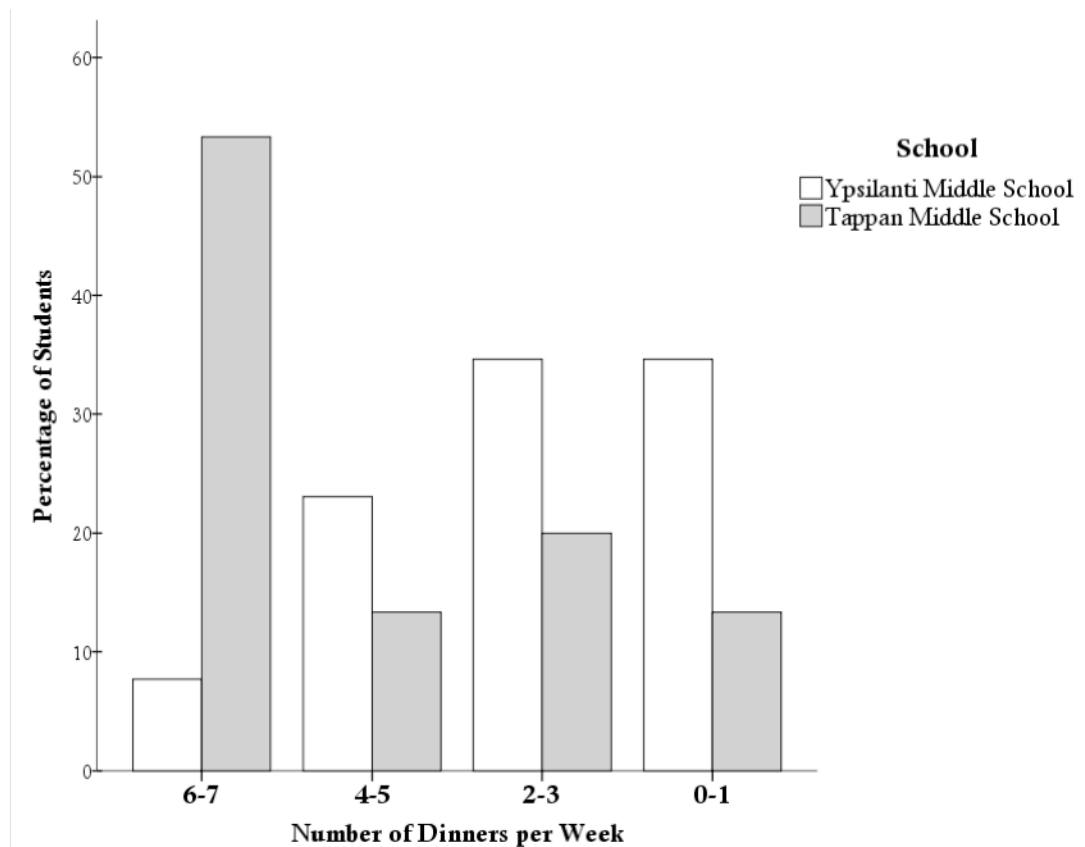


Figure 4. Student response distributions when asked, “During the average week, how often does your entire family sit down together for dinner at your home?”

Note: Chi-square analysis showed that these proportions differed significantly ($p=0.012$).

VI. Parents showed moderate commitment to purchasing local food items

Although many parents at both schools knew which local food suppliers were available and accessible to them in their respective cities, only some actually shopped at them (see Figure 5). Despite the fact that response distributions were not statistically different, it was surprising that more YMS parents shopped at farmers markets, farm stands, food co-ops, or community supported agriculture because past research has found that customers who shop at local food retailers such as farmers markets are usually Caucasian with middle to high incomes (Brown, 2002). Overall, though, parents shared a moderate level of commitment to purchasing local food: When asked which statement best described

them when purchasing food for their household, most parents responded that they bought some items that had been locally grown and some that had not (YMS: 61%; TMS: 70%; $p=0.787$). Also, a similar proportion of parents at both schools reported that they grew some of their household's food in their home gardens or community gardens (YMS: 18%; TMS: 35%; $p=0.168$).

VII. Parents reported a higher frequency of cooking homemade dinners than eating as a family

Most TMS parents (61%) cooked dinner using fresh fruits, vegetables, meats, or grains six to seven nights a week while the majority of YMS parents (46%) responded four to five nights a week ($p=0.016$) (see Figure 6). More parents in YMS (86%), however, agreed that their children requested homemade meals made with fresh ingredients. At

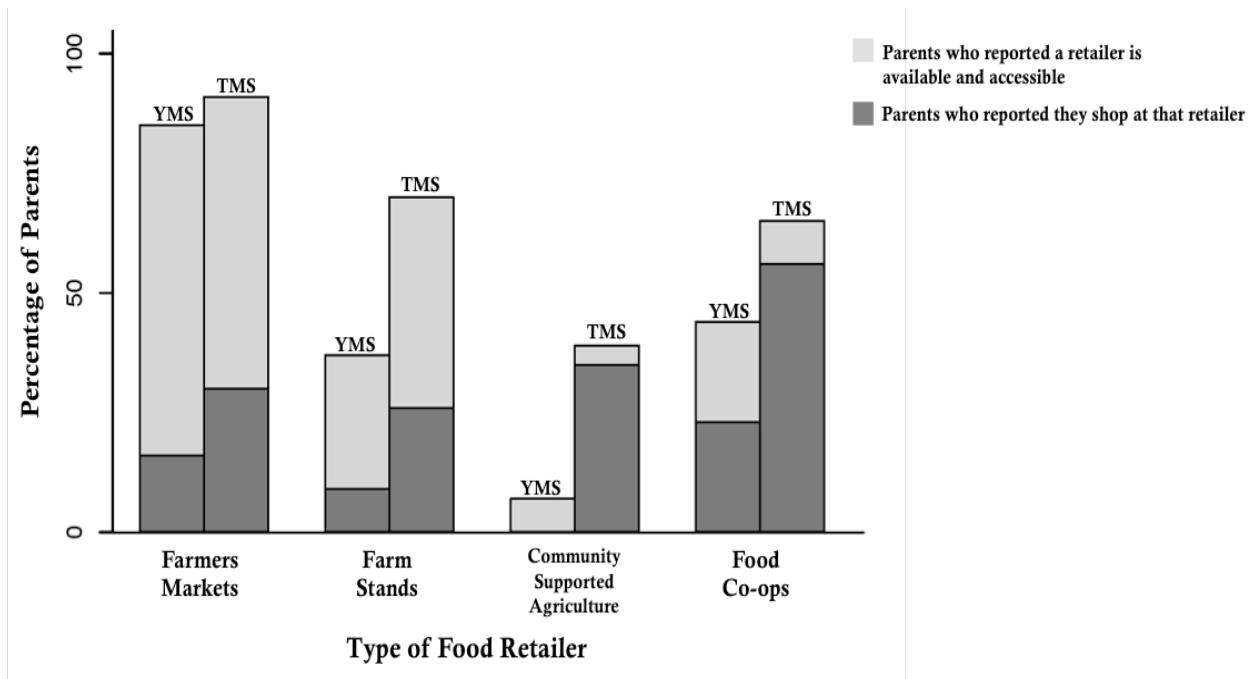


Figure 5. Local food retailers that parent interviewees reported were available and accessible to them. Stacked to show the percentage of parents who actually shop at the listed retailers and clustered by school.

TMS, only 65% of parents agreed ($p=0.046$). At both schools, many parents (YMS: 36%; TMS: 48%) reported their families only ate dinner together two thirds of the nights that a homemade meal was prepared ($p=0.309$) and that their families ate dinner at a restaurant or ordered take-out food one to two nights per week, on average (YMS: 82%; TMS: 61%; $p=0.314$).

VIII. Few parents knew that their child's school featured a Farm to School program

Parent knowledge of the Farm to School program was very similar to that of the students: While most YMS parents reported that their students (72%) purchased lunch every day in the school cafeteria, only 7% knew that the school had a Farm to School program. At TMS, on the other hand, 50% of parents knew about the Farm to School program even though the majority of students never ate lunch served in the school's cafeteria (57%).

Interview Results

The interview data provided in this study added anecdotal depth to the survey results. Participants elaborated on their responses to survey questions and gave explanations for why they answered the way they did. In addition, because the interviews were semi-structured, I was able to elicit information on subjects related to, but not directly covered in the surveys. The following sections summarize the major themes of parents' responses, specifically related to the ways in which they shopped, cooked, and ate with their families, and why they performed these behaviors in the ways they reported. Finally, interviewees were given the opportunity to give direct feedback on the Farm to School programs and the ways in which it was affecting theirs and their child's behaviors.

I. Cooking and Eating Behaviors

A. Parents prepared meals for their children and ate with them to develop positive relationships and promote family unity

Most parents at both schools cooked dinner five to six nights a week. Interestingly, the two groups had the same distribution for household cooking roles: At each school, two mothers did all the cooking, one father did all of the cooking, the mother and father split cooking evenly in one household, and in the last household, the mother did most of the cooking with some help from the father. Every interviewee, independent of gender, reported that he or she cooks at least half of the meals in his or her household.

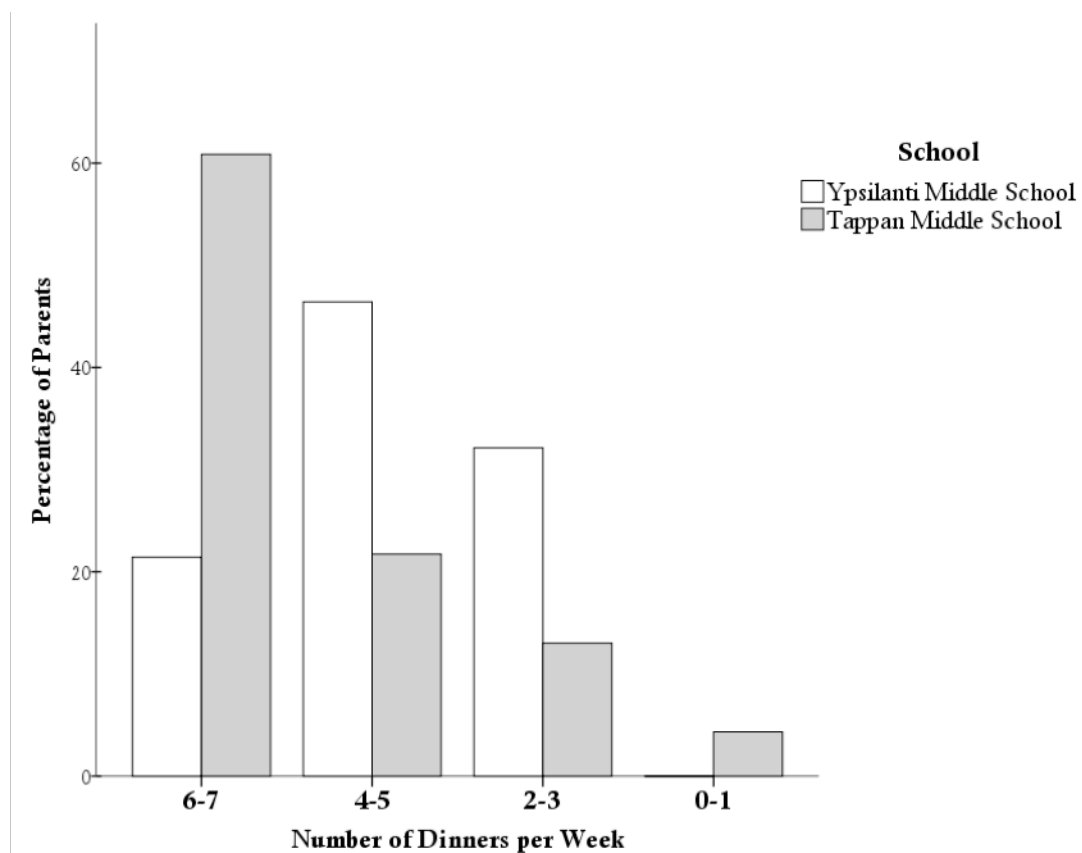


Figure 6. Parent response distributions when asked, “During the average week, how often do you cook dinner using fresh fruits, vegetables, meats or grains?”

Note: Chi-square analysis showed that these proportions differed significantly ($p=0.013$).

When asked how they defined a “homemade meal,” almost all interviewees described their own cooking techniques and gave detailed examples of dinners they had prepared previously that week. Both groups also mentioned that a combination of a meat, a starch, and a vegetable constituted a homemade meal. Many parents at both schools also emphasized that they “cook from scratch;” however, two parents from Ann Arbor and one parent from Ypsilanti considered frozen meals or take-out items homemade as long as supplemental side dishes had been prepared at home:

If we do order out, we usually order out sort of a main thing, and then I still do sort of supplements to it, like cut up some fruit for each of the kids, make a salad, you know...So even if it's a ordered meal, I try to make it seem like a homemade meal...So yeah, and anything counts as homemade. If you eat together, and you've done something, I guess, that's the minimum requirement.

Most parents from both schools explained that they cooked for and ate with their families to show their children that they loved them and that they wanted to be involved in their lives.

In this middle school age, it's really hard, you know, they wanna be more independent...this is exactly the age that you start to see eating disorders surfacing, and this hopefully sort of diffuses the battleground, like yes I've made you something that you said you wanted so this can't be interpreted in any other way – I made you a special meal because you said wanted this. I'm trying to help build my relationship with [my daughter].

They designated dinner as a time to “touch base,” and explained that it gave family members the opportunity to catch up on what happened during the day, discuss upcoming school events (i.e. field trips), and plan for homework and school projects. They also described it as “nurturing and therapeutic,” a time for fun and laughing, and an opportunity to teach children social and etiquette skills. Almost all parents commented on their history of family meals while growing up and explained that their experiences as a child influenced what they do with their children now, hoping that they will continue the tradition with their own children:

Nowadays, families don't [eat together]. You know, everyone just eats when you can or you grab a plate and leave. No one sits down, and I'm trying to do this to provide family unity, so as my [children] grow up and have families, I want them to be able to cherish and know this was important, and so they'll sit with their families and talk.

Two Ypsilanti parents, on the other hand, did not think family dinners were important as long as the family spent time together through some other means:

It's not that important to me that we eat together – it's important to my husband. He was raised, you know, his parents were pretty old school about you know, it was just important that the family come together. I feel like as long as we sit down at the table and talk to each other, at least once, I don't care if it's around food or just around, just you know, I don't think we have to have food to spend time together.

The parent groups differed in whether they believed their children valued family dinners. In Ann Arbor, most parents explained that eating as a family had always been expected of their children, that “they have never known anything else,” and it was part of their daily routines. They all discussed that their children enjoyed eating together for many of the same reasons as the parents. In Ypsilanti, however, many more parents mentioned that it was sometimes difficult to get their children to the table, because they were often distracted by video games or the internet. Only two Ypsilanti parents were confident that their children really did enjoy eating as a family.

II. Shopping Habits

A. Parents considered different variables when choosing what food to buy

Parents at Ypsilanti and Tappan Middle Schools discussed similar shopping considerations. Their biggest priorities were price and brand name. Many parents discussed that they used coupons and shopped at stores based on which items were on sale at the time. For example, one interviewee described his wife's process: “She's a big coupon shopper so her first thing she does is sit down and looks at all the coupons and then she'll

make her list as she's doing it." On the other hand, several parents explained that because high quality meat and produce items were important to them, they were willing to pay a premium. Two interviewees – one from each school – mentioned that they purchased food items based on their environmental impacts, and only one parent discussed social justice issues coming into play in his decision making:

“Certain products where there are clear sort of social justice issues about which I know something...like coffee I'm familiar with, so yeah I'll only buy fair trade coffee. So how things are produced is important, too, and the environmental impact of how something's produced.”

At both schools, many parents prioritized locally grown or processed foods when possible. A few talked about the importance of purchasing pesticide- and antibiotic-free items out of concern for their children's health, despite higher prices:

With the meats I'm a little concerned with the, especially with poultry, the antibiotic content, especially my son's being in eighth grade. So I've been trying to look for more organic sources of that. It's extremely expensive; I bought a chicken at Meijer that was organic, it was \$16, so I try to balance that out though with another dish that might be meatless. And then I realize, you know, we're taking our lunches to work so we're not spending that money on that end, so we're saving, you know, it balances out.

Overall, parents were driven primarily by price, but those that also showed consideration for the health, environmental, or social impacts of their purchases were willing to pay higher prices for items that they perceived to be of higher quality.

B. Children requested brand name, processed foods

When asked what their children requested from the grocery store, most parents listed processed food items such as favorite cereals, yogurts, crackers, chips, cookies, and microwaveable foods. Half of the parents at each school, however, mentioned that their children asked them to buy fresh produce. Interestingly, almost all parents expressed that

brand names were an extremely important component of their children's favorite food items. One mother explained her daughter's brand loyalty as a correlation to age:

It's really interesting how the packaging influences their decisions. And I'm *sure* that a blind taste test would reveal otherwise, but they want to fit in. You know, this is the time of life when they want to be seen as normal and average and so I can see my daughter making food choices and then restaurant choices based on what her friends like. And I know that that is, this is the time of life for that to be her priority.

Despite the fact that many children may have liked fruits or vegetables, they did not appear to be items that they requested their parents to buy.

C. Tappan Middle School parents prioritized local food purchasing

Many more TMS parents mentioned that they tried to purchase local food items as much as possible, motivated to do so because it kept money in the local economy and provided added support to the community. One respondent, for example, explained: "We want to help the Michigan economy as much as we can by buying Michigan-based products." Most of them enjoyed shopping at the farmers market; especially because they believed the produce was fresher, with more flavor than the produce sold in conventional grocery stores. They did, however, clarify that they did not regularly shop there because it was "an added errand" that took extra time. One parent explained that although he liked to purchase locally grown items, his children's food preferences were his biggest priority:

Well, growing up in a rural area, I like the idea of buying local produce, and I almost always do, but I also know that, that's very constrained by the seasons, and if my kids like strawberries, which they do, I'm not just going to buy strawberries for three weeks in June, and so I'm going to tap into the whole range – you know, they bring them up from Florida, they're pretty much okay, and they kind of bring them in from Ontario, so you know I've got a longer range available to me for the products, knowing that they're still fresh, they're still good, they just came from a different place.

In contrast, one TMS parent stated that where foods come from was not important to her, because she believed the U.S. food system was inherently efficient at minimizing food transportation:

I mean, obviously just in terms of the carbon footprint, no one wants to ship their goods any further than they have to: the chances of your milk being grown within a hundred mile radius is very high. You know, just because that makes it cheaper. I mean again, this whole think of like, the locavore movement seems to be sort of blithely unconcerned with the fact that no one wants to pay more for shipping if they don't have to. It's not in anybody's best interest to be shipping from the imperial valley if you can get it in season from Meijer or Kroger or Produce Station or the Farmers Market.

Only one Ypsilanti parent mentioned that he actively searched for local food items when grocery shopping, although a few other parents said that they grabbed Michigan-grown produce items when advertised at large supermarkets such as Meijer and Kroger. Many Ypsilanti parents, however, talked at length about growing their own food in home gardens. They described the satisfaction they felt from personally sourcing ingredients for meals:

There's something about it when you know you till a land, plant seeds, and then you go through and do all the farming, and then harvest time comes; you have all this product. To me that's rewarding... The fact that I produce and we get these foods, and I go out there and I pick them, and I prepare a meal... This is all stuff that we planted, it is fulfilling to say, 'Man I grew this, and look at this!' You serve it up and people, I say, 'You know I grew this in my garden?' they're like 'Really!?' So you know 'This isn't store bought, this is, you know, we planted this and grew it and picked it' so I just like that – the thought of doing it on your own.

Both groups of interviewees had a local food “superstar,” meaning someone who prioritized local food items and went out of their way to purchase them. For example, one parent purchases all of her family's beef, fish and dairy items directly from Michigan farmers. Her family also keeps backyard chickens for their eggs and purchases many produce items at the farmers market. Both also consciously minimize the environmental

impacts of their family's food choices, for example, by composting at home. They were also cognizant of the fact that not everyone has the finances or time to eat local and felt the need to clarify this during our conversations:

It's expensive to not eat conventionally produced food, you know, if you want local and pesticide-free, it's a job. I would just add as a caveat that I'm from a more privileged background, and my kids are growing up more privileged than other families so I feel like things, some of the choices I make... You know, I'm just very conscious [that] some of the choices I make are because I have the money.

These two individuals exhibited the "ideal" purchasing behaviors that FTS is designed to inspire. There are most likely others like them in the parent population of the two schools – parents like these should be targeted as FTS volunteers so that they can promote the program and serve as examples to other parents.

III. Opinions on School Lunch and the Farm to School Program

Many parents did not know about the FTS program. When asked to describe the Farm to School program, none of the YMS parents knew about the program's existence at the middle school. One parent knew about FTS as a national initiative, but had no knowledge of YMS's program. Results were similar among TMS parents: Three parents knew nothing about the program and three parents had extensive knowledge of it, but of those three, two worked for the Ann Arbor Public Schools District and were directly involved with the program.

A. Parents had differing opinions on the Farm to School program's potential to impact their students

Parents from Tappan Middle School had mixed opinions about the program's potential to impact their children's behaviors. Many were skeptical about FTS affecting their children because they never purchased lunch in the cafeteria. They also mentioned that

because lunchtime was so short and the lines were often very long, “they’re not going to go exploring to see what else is available.”

On the other hand, one parent reported that her son loved the FTS items and that he talked about them with friends at lunch as well as during dinner with his family:

He tells me, ‘Oh god it was great today, we had so-and-so, and the watermelon was the best,’ so I ask him ‘Do kids eat it?’ and he says, ‘yeah, they really eat it.’ And I know he’s tried some things that we haven’t even had, that they’ve served. And he always tells me about kids that, he’s amazed, you know, that kids never ate such-and-such, they never had it before they had it in school. So that leads to family discussions about that and about, you know, the cost of fresh vegetables and how some families just can’t afford it, and this is an opportunity to have this in their own cafeteria and free to do that. To try those kinds of foods. So he totally (I don’t even begin the conversation) he totally starts the conversation about what they had that day.

This parent, however, worked for the Ann Arbor Public Schools District and helped promote the FTS program, therefore this child’s reactions to the FTS program, although ideal, may not have been representative of other students.

At Ypsilanti Middle School, almost all parents believed the program would greatly benefit their children. Each parent gave different reasoning for why and how FTS could take effect. One parent thought that although her son always brought his lunch from home, he may have been more likely to purchase lunch at school when FTS items were featured, especially because he liked vegetables and ate a healthy diet at home. Another parent thought FTS would impact her children by improving their mental health. She also thought that they were likely to choose FTS items because they constitute a major improvement from the food served in elementary school.

The only YMS parent that did not think FTS would impact his children had an extensive knowledge of food and sustainability. He commented:

Not my child, no...It's not to say that I don't think it's a great idea. I think it will impact other peoples' children. It's just my kids are, you know, my kids have two educated parents who think carefully about food, so I think that they already get pretty healthy food, and a lot of produce and things like that so I don't think it...you know if the school REALLY took a serious daily program on where every day was something new and a good, healthy meal then I wouldn't have any problem with having the kids eat here, and then they might, but...the level of the program right now where it's at one day a week or whatever, it's not going to impact my kid, but I hope it impacts other peoples' kids.

His response illustrated one barrier of the FTS program: parents that are already very much in tune with the issues that FTS addresses are sometimes less receptive to the program's potential to make an impact on them or their children. FTS program designers and educators will need to consider whether the "already-conscious" consumer is an audience that they would like to reach, and if yes, how to do so.

At both schools, parents mentioned that the program would likely impact only some of their children. Many of them said that their younger, elementary-aged children were much more likely to engage in the program and eat the produce than their older children in middle and high school:

It does for [my son]. He will come home and he will say, 'Yeah we had such and such, and they feed you such and such. I tried it Dad and I really liked it.' [My daughter] will say, 'Yeah, they had spinach, and nope, I ain't trying it because it doesn't look good and didn't look like I wanted it.' So it doesn't impact her as much, it really impacts him. You know, he's younger, and he's willing to just, he just wants to please and do what everyone else is doing. So, the answer is yes to him, to her, mmhm I don't think so.

Parents seemed to believe that younger students were much more impressionable and eager to please, while older students – seeking independence – were less receptive to programs like FTS that are meant to influence decision making.

B. Parents did not believe the Farm to School program would affect their behaviors

TMS parents were even less receptive to the FTS program's potential to impact *their* shopping, cooking, or eating habits. (*Note: Only four out of the six Ypsilanti interviewees were asked this question*). Every TMS parent and three of the YMS parents responded that the program would not change their behaviors because they were either "set in their ways" or though that they "already had really good patterns in trying different foods and fruits and vegetables." One YMS parent mentioned that although the program would not affect what she bought, she might be more likely to purchase food from farmers who participated in FTS because they "care about kids." Interestingly, another YMS parent commented that the program did affect his shopping habits because he bought produce that his children requested after tasting the items through FTS. Although only one parent mentioned this, it is unlikely that his children were the only students that went home asking to try new fruits and vegetables as result of the FTS program; past FTS evaluations have documented positive attitudinal changes regarding new, healthy foods and an increase in students' daily consumption of fruits and vegetables at home (Joshi, Azuma, & Feenstra, 2008). This translation of student impacts to changes in parent behaviors is just what the program intends to do, and this example shows that it is happening, at least to some extent.

DISCUSSION

This study sought to investigate the Farm to School program's impacts on the food citizenship of families in two southeast Michigan middle schools. Due to the study's small sample size, I was unable to confirm whether statistically significant correlations exist; however, the study exposed valuable findings on families' shopping, cooking, and eating habits. Parent and student attitudes and behaviors at Ypsilanti and Tappan Middle Schools

were not as different as I had hypothesized. Students showed similar knowledge of foods grown in Michigan and comparable interest in eating local, in-season foods. Due to discrepancies between parent survey and parent interview responses and between parents' and students' survey responses, I was unable to conclude whether TMS parents shopped for more local items. YMS and TMS families did differ in cooking and eating habits, and my hypotheses were confirmed. Although the distributions of survey responses were not statistically different, TMS families ate dinner together at home one to two more nights a week than YMS families. TMS parents also cooked homemade meals using fresh ingredients more frequently. There was no conclusive evidence from this study for why TMS parents cooked more often, but future research should investigate this. I was not surprised to find that many more TMS parents and students knew about their school's Farm to School program, but I did not expect to find that so few TMS students purchased lunch in their cafeteria, especially compared to YMS students, the majority of which ate school lunches every day. Finally, conversations with parents about their opinions on the Farm to School program and its potential to impact theirs and their child's behaviors proved very beneficial not only to this study, but also in directing future FTS-related research.

Results from Farm to School evaluations have consistently revealed that the program improves student knowledge and attitudes about sustainable agriculture and healthy eating choices (Joshi, Azuma, & Feenstra, 2008). Consistently, students at both schools studied here showed positive attitudes towards locally grown produce. When asked whether eating locally grown fruits and vegetables was important to them, 85% of students marked "agree" or "strongly agree," and 76% of students also knew the health benefits of eating in-season produce. It is important to note, however, that student surveys only included two questions

related to knowledge and attitudes of local and seasonal produce, which might not accurately represent students' comprehensive understanding of these topics.

There were major discrepancies between survey and interview data as well as between student and parent reports on local food purchasing. Among parent interviewees, many more TMS parents actively sought out local items and visited local food retailers when grocery shopping for their families. For example, many TMS parents listed specialty food retailers, farmers markets, and upscale grocery stores that promote "Michigan-Made" items (i.e. Hiller's) as their most frequented stores. At Ypsilanti Middle School, on the other hand, more parents shopped at corporate supermarkets such as Kroger, Walmart, and Meijer. Although large supermarkets have recently increased the merchandizing of local food products, it is assumed in this study that store types likely affected consumer purchases and that locally grown produce was more difficult to find in corporate retailers (Tanner & Kast, 2003).

Inconsistent with interview responses, in the survey portion of this study, YMS and TMS parents reported similar shopping frequencies at farmers markets, farm stands, community supported agriculture, and food co-ops – all four of which premise on the promotion of local produce sales. Even more surprising, although fewer YMS parents reported that these shopping options were available and accessible to them, a higher percentage of YMS parents actually shopped at them than TMS parents. Furthermore, less than half of YMS students reported shopping with their parents at any of these places. Because 93% of YMS students reported that they do shop with their parents at "grocery stores," it was assumed that because they do not shop together at local food retailers, many YMS students did not know that their parents went out of their way to purchase local

products. Filling this knowledge gap may increase the likelihood that students ask their parents buy local produce, such as the items they try through the Farm to School program.

Although an increase in children's requests for locally grown fruits and vegetables at home is a goal of the FTS program, most parent interviewees said that their children mainly asked for brand name, processed food products. This may suggest that FTS programs barely begin to compete with the power of corporate food advertising and its influences on children's food preferences (see Harris, Pomeranz, Lobstein, & Brownell, 2009). Parents were also primarily motivated by brand name, as well as price, when deciding what to buy. These findings are consistent with those of a study on food consumption behaviors. After surveying 456 participants, Vermeir and Verbeke (2006) found that consumption practices are driven predominantly by price and brand familiarity, as well as convenience, habit, and personal health concerns. Price may not be a deterrent from purchasing local produce items, as they are oftentimes competitive in price with non-local fruits and vegetables (Izumi, Alaimo, & Hamm, 2010; Brown, 2003). Consumers that make purchasing decisions based on brand name familiarity, however, may be less willing to try local products, especially those grown or produced on small family farms. Brown (2003) found that perceived freshness and quality are more important to consumers than price. Some interviewees in this study did in fact explain that although price was usually the most important factor to them, they were willing to pay higher prices for better quality items, especially produce and meat products. If consumers prioritize freshness and quality over brand name as well, sales of local items may increase.

Interestingly, both school interview groups contained a local food purchasing "champion." Many parents reported that they frequently purchased locally grown products,

but certain factors emerged as greater priorities such as saving time, fewer shopping trips, and children's food preferences. It was clear that although they might intend to purchase local items as much as possible, their behaviors were not always consistent with their attitudes (Iris Vermeir & Verbeke, 2006). Local food champions, on the other hand, consistently prioritized and spent extra time procuring local goods for their home. They described purchasing grass-fed, locally raised beef, community supported agriculture shares, sustainably raised fish, loyalty to their community's food co-op, raising chickens in their backyard, and growing vegetables and herbs in their home gardens. A common theme between both local food champions was their cognizance of the social and economic impacts of their food purchases, as well as an extensive knowledge of other environmental issues and practices. Tanner & Kast (2003) found similar results: green food product purchases were positively correlated with consumers' positive attitudes towards environmental protection. If this is true for the general population, Farm to School programs may be more likely to impact eco-conscious individuals.

It was not surprising that during interviews, most parents discussed family meals (defined in this study as dinners where all family members are present and sitting around a table at home) as primarily a social activity. Parents defined "homemade meals" in various ways, including descriptions of the food groups that must be included (a meat, starch or grain, and vegetable), the cooking techniques with which it must be prepared (baked, sautéed, etc.), and the types of ingredients used (less processed items); however fostering togetherness and spending quality time as a family were common themes among all interviewees. This opinion was consistent with the findings of a recent study by The National Center on Addiction and Substance Abuse at Columbia University (2010).

Through a survey of 1,000 students and their parents, researchers found that conversation around the dinner table forges family ties and helps create positive relationships between adolescents and their parents. Many parent interviewees in this study also mentioned that they used family dinners as a time to develop and encourage positive social behaviors in their children, while also combating negative or destructive behaviors. Past findings suggest that students who experience consistent family meals are more likely to model parental behaviors, achieve higher academic success, make healthier food choices, and have a lower incidence of substance abuse, depression, and violence (Fulkerson, Nuemark-Sztainer & Story, 2006; Fruh, Fulkerson, Kendrick & Clanton, 2001). Unexpectedly, many parents, when explaining why eating together was important to them, discussed their own childhood traditions. Recognizing the important impacts that family meals had during their own youth, parents continued the custom with their children with hopes that they too will eat together with their future families.

Survey responses suggest that more meals were prepared from scratch at home than were actually eaten together. Interviewees explained that this was usually due to family members' schedule conflicts, typically attributed to children's sports schedules or parents' late work nights. Research has shown that parents are likely to report having more meals together and place greater importance on eating together than adolescents (Fulkerson, Nuemark-Sztainer & Story, 2006). At Tappan Middle School, however, students reported that they ate dinner as a family more often than their parents' reported. Also contradictory to past studies, TMS parent interviewees described family dinners as a convention that their children enjoyed and valued as much as they did. This could be have been due to the fact

that their attendance had always been expected, so much so that TMS parents viewed family dinners as part of their children's daily routines.

These findings should be considered in light of the study's limitations. This project originally included three test sites, one of which served as a control. Due to limited resources and time, however, the control site was dropped before data collection began. The two schools at which this study took place are also very different demographically and in the way their Farm to School programs operate. Acquiring access to student populations for research is extremely difficult, and while it may have been ideal to complete this study at more comparable schools, I was granted access to Tappan and Ypsilanti Middle Schools thanks to past work completed by my community partner, the Food System Economic Partnership. It is important to note, however, that *all* FTS programs are inherently different from each other because each must coincide with its social and geographic settings (Bagdonis, Hinrichs & Schafft, 2009). Joshi and Azuma (2009) explain: "Due to the localized flavor of the program, the farm to school model is uniquely interpreted in every single program in the country" (p. 53). This is an issue that all FTS researchers and program evaluators must be prepared to address. Also, due to the study's small sample size, it may be inappropriate to generalize the findings to programs outside of the districts studied. Finally, response biases may exist among parents and students that completed surveys and interviews – parent who know more about food, nutrition, or sustainability topics may have been more likely to participate and grant permission for their child's participation in the study.

RECOMMENDATIONS & IMPLICATIONS

This study's findings of FTS impacts on families at Tappan and Ypsilanti Middle Schools shed valuable light on their shopping, cooking, and eating habits, as well as their level of food citizenship; however, it is unclear whether there is a correlation between the FTS program and families' knowledge, attitudes, and behaviors related to local foods. Throughout the survey and interview portions, participants were unaware of the study's connection to the FTS program, but at the end of each interview, parents were explicitly asked about the program and the effects that it is having or could have on them and their children. These conversations proved to be tremendously useful, especially in understanding strategies for improving the program and guiding future FTS research.

To start, almost all parents disagreed when directly asked whether the program has or could affect their shopping, cooking, or eating habits. They felt that they were unlikely to change their behaviors because they were "set in their ways," and because their families already practiced healthy eating habits. Although this mentality may not represent other parents' attitudes outside the small subset of interviewees for this study, it could be a major barrier preventing FTS programs from impacting parents at other schools; therefore, it is an important issue that should be addressed in future FTS research.

Parents discussed two main reasons for why FTS might not affect their children. First, they felt that the program was less likely to impact students who brought their lunch from home due to short lunch periods. They believed that students went directly to their lunch tables to eat without venturing into the lunch line where FTS items were available. In a review of past FTS evaluations, Joshi and Azuma (2009) also cited lunchtime constraints as a factor that affects student dietary behaviors at school. FTS program directors should

carefully consider the position of FTS items in the cafeteria to ensure that all students have access to them.

Parents also explained that the FTS program might impact only some children due to picky eating habits. They believed that younger students would be more receptive to the program and trying new foods. To my knowledge, past FTS research has not measured FTS impacts by age, but in nutrition intervention studies researchers have found results similar to the reasoning of parents in this study: Because teenagers are beginning to make their own health and dietary choices, “trying to effect dietary change in an adolescent population is very challenging. Not only are their dietary patterns in great flux and their choices increased, but their questioning of authority and need for autonomy likely affect how young teens respond to efforts to improve their dietary patterns” (Lytle, Murray, Perry, Story, Birnbaum, Kubik, & Varnell, 2004, p. 248). Early adolescence is a critical period for targeting programs like FTS, however, because students are facing changes in physical and social environments, and they are beginning to make their own health and dietary choices. One possible solution is to engage older students through other means of communication. For example, one parent commented that although his eighth grade daughter does not typically listen to him or her teachers when told to eat vegetables, her eating choices improved after being advised by her cheerleading coach. Anecdotally, a food service worker at TMS said that she consistently urged students to try FTS food items, but always avoided using the word “new” when describing the featured fruit or vegetable, because it usually discouraged students’ openness to trying the item. Future FTS research should address how to better reach older students and picky eaters, as well as the ways in which other adults such as sports coaches and food service personnel can influence students’ dietary choices.

Many parents and students did not know that a Farm to School program existed at their school. Of the parent survey respondents, 50% of TMS parents and 7% of YMS parents answered “yes” when asked if their child’s middle school had a FTS program. Numbers were even lower among interviewees: None of the YMS parents knew about the program and only three TMS parents did, two of which worked for the Ann Arbor Public Schools District and were associated with the FTS program. In Tappan Middle School, 67% of students knew about FTS, while at Ypsilanti Middle school only 19% knew that their school featured the program. This was especially surprising given that all student participants were in eighth grade and had therefore attended their school longer than any other class. The disparity of student knowledge between schools might have been attributed to TMS students’ engagement with the school garden and Agrarian Adventure, a nonprofit organization that sponsors sustainable food education (see Appendix A for full description). Most TMS students (73%) reported that they participated in at least one activity associated with the school garden, while only 38% of YMS students participated in school garden activities.

Nonetheless, more students at both schools need to know about the FTS program. It is evident from the lack of parent knowledge that not all students who do know about the program are sharing this information at home, therefore limiting the program’s potential to affect parent behaviors. One way that schools can bridge this knowledge gap is through in-school marketing to students and direct school-to-parent communication. Several parents mentioned the lack of communication that they receive from the schools. For example, YMS parents had no recollection of FTS informational materials being sent home. It was less of an issue among TMS parents – some mentioned that they had received information

on the program from Agrarian Adventure. The FTS program is likely to have greater impacts at home if more students and parents know about it; unfortunately, in today's climate of public education cutbacks, very few schools have surplus funds available to increase marketing for auxiliary programs such as FTS (Allen & Guthman, 2005). In addition to financing, time is also an issue. Food service directors that implement FTS in their cafeterias already devote extra time to sourcing local ingredients and cannot be expected to market the program as well (Izumi, Rostant, Moss, & Hamm, 2006). Schools like Ypsilanti and Tappan Middle Schools are fortunate to have Farm to School Collaborations made up of partnering organizations that facilitate and promote their district's program; however the findings of this study suggest that the Collaborations are not reaching all parents. More research is needed on the possible lines of information and influence involving both parents and students through which information on the FTS program can be effectively publicized.

CONCLUSION

With this study, I investigated the impacts of Farm to School programs on families from two middle schools in southeastern Michigan. The goal of my research was to measure the programs' effects on familial levels of food citizenship, defined as consumers' knowledge of where their food comes from, including where and by whom it was grown, how it was processed and distributed, and the ways in which the purchaser prepares and eats it. Using surveys and interviews, I asked parents and students about their shopping, cooking, and eating habits specifically related to fresh, locally grown foods. While the main objective of this study was to evaluate the programs of the schools that participated and provide recommendations for their improvement, the results may also have implications for

FTS programs around the country and their connection to the sustainable food system movement.

The results showed that parent and student attitudes and behaviors at Ypsilanti and Tappan Middle Schools were not as different as I had hypothesized. Due to the study's small sample size, I was unable to confirm whether statistically significant correlations exist; however, the study exposed valuable findings on families' food-related behaviors. All students showed significant knowledge related to locally grown, in-season produce and reported that eating fresh, local produce was important to them. Parents showed moderate commitment to purchasing local food items, however, more parents at Tappan Middle School prioritized local items when grocery shopping. Tappan Middle School parents also cooked homemade meals using fresh ingredients more often than parents at Ypsilanti Middle School, but parents from both schools explained that they cooked for and ate with their children to develop positive relationships and promote family unity.

Parent and student survey respondents were unaware of the study's link to the Farm to School program. In the interview portion of the study, however, parents were asked to comment on the program and its impacts on them. Most parents explained that the Farm to School program had not impacted their behaviors because they felt that their family already practiced healthy shopping, cooking, and eating habits. Future FTS research should address how to effectively reach parents with similar "business as usual" mentalities.

Surprisingly, many students and most parents did not know about their school's Farm to School program, a factor that may limit the program's potential to impact parent and student behaviors. This issue could be addressed by increasing marketing to students and improving school-to-parent communication. Unfortunately, schools often lack funding

to support promotional activities for auxiliary programs like FTS. Researchers should explore how to best publicize FTS programs to both parents and students and develop strategies that are effective and feasible for schools to accomplish.

Improving programs based on the findings and recommendations of this study may lead to FTS programs that increase food citizenship within families. While it has not yet been proven, consumers' sense of food citizenship may also affect the behaviors and purchasing practices needed to create food systems that are economically, ecologically, and socially sustainable. Future research should examine the connection between the behaviors in this study – purchasing locally produced food items, cooking with fresh ingredients, and frequent sit-down family meals – and the incidence of sustainable food systems. If a correlation is found, we will have a better understanding of the Farm to School program's role in creating sustainable food systems.

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APPENDIX A

Farm to School Collaborations: Participating Organization Descriptions

Source: The Food System Economic Partnership (2011)

Ann Arbor Farm to School Collaboration

(Descriptions excerpted from the Food System Economic Partnership's brochures)

I. Agrarian Adventure

The Agrarian Adventure is a grassroots nonprofit organization working in partnership with public schools to enrich students' connections between the foods they eat, their personal health, and the health of their communities and the environment. The Agrarian Adventure's focus within the Farm-to-School Collaboration is on enhancing the educational value of school lunch, using local food as a tool for enriching academic learning objectives and incorporating the values of schoolyard food production which involve students in growing, preparing, serving, and enjoying healthy foods.

II. Ann Arbor Farmers Market

The Ann Arbor Farmers Market is committed to providing locally grown and produced items to local and surrounding communities. Through this commitment, the Market is involved in the Farm to School Program and provides the "link" between local farmers and producers and local schools. The Ann Arbor Farmers Market staff, vendors and advisory board are excited about the endless possibilities that exist between local foods and children!

III. Ann Arbor Public Schools

The goals of the farm to school program support the district's school wellness policy, which reflects a comprehensive approach to promote student and staff health. Farm to School impacts both the classroom and the cafeteria, involving teachers, parents, food service workers and students. Through educating students about healthy local foods and offering those foods for their enjoyment, the district hopes to enhance both health and learning.

IV. Chartwells

As the food service provider for Ann Arbor Public Schools, Chartwells helps develop and implement the School Wellness Policy by offering a variety of healthy breakfast, lunch and snack options. The Farm to School program is an important part of Chartwells efforts to nourish the students and staff they serve. Both of these school-community partnerships reflect the Chartwells commitment to support and promote sustainable food production and healthy environments and communities.

V. Food System Economic Partnership

Food System Economic Partnership (FSEP) works to connect farmers to consumers through programs such as farm to school. We recognize the economic challenges family farms face and work to build a local food system that improves the health, wellbeing and economy of the communities we work in. The message of farm to school is strengthened when collaboration occurs

among groups working on health, nutrition and school gardens and thus FSEP facilitates the relationships to build strong, vibrant, sustainable farm to school programs that benefits students, parents, teachers and the community.

VI. Washtenaw County Public Health

Washtenaw County Public Health is a collaborator as a part of its ongoing work on childhood obesity prevention. Farm to School Programs can play an important role in obesity prevention by providing access to healthy foods in the school food service environment for youth and school staff, and provide education to parents on the Importance of purchasing and eating healthy foods at home.

Ypsilanti Farm to School Collaboration

(Descriptions excerpted from the Food System Economic Partnership's brochures)

I. Downtown Ypsilanti Farmers Market

Founded in 2003, Growing Hope empowers the community to grow and eat healthy foods, youth and adults alike. One means to achieving this is Growing Hope's management of the Downtown Ypsilanti Farmers' Market which operates weekly on Tuesdays, May-October from 2-6pm. In addition to providing residents with increased access to fresh foods, the market is a place for community outreach, nutrition education, and a destination for Growing Hope program participants of all ages, including Seed2Plate middle school students. Additionally Growing Hope continues to develop a 1.4 acre urban farm on Michigan Avenue in downtown Ypsilanti (within walking distance for students at Ypsilanti High School, Ypsilanti Middle School, and Estabrook Elementary School), as a year-round demonstration, training, and educational site for sustainable food production.

II. Food System Economic Partnership

The Food System Economic Partnership (FSEP) works to connect farmers to consumers through programs such as farm to school. We recognize the economic challenges family farms face and work to build a local food system that improves the health, wellbeing and economy of the communities we work in. We work with school food service directors in more than 15 Farm to School programs across southeast Michigan and recognize each program is unique in its own way. The message of farm to school is strengthened when collaboration occurs among groups working on health, nutrition and school gardens and thus FSEP facilitates the relationships to build strong, vibrant, sustainable farm to school programs that benefits students, parents, teachers and the community.

III. Growing Hope

Growing Hope works to improve people's lives through gardening and healthy food access. Since 2005, we have worked in partnership with YPS primarily at the middle school level by helping establish educational greenhouses as resources to teachers in addition to a community garden with growing space available as a resource for teachers. Additionally, Growing Hope's school-day programming has included providing teachers support and resources in the form of nutrition education lessons in the classroom; providing standards-based garden curriculum; participation in school-wide educational events, and the creation of an after-school nutrition program through gardening enrichment program called Seed2Plate.

IV. PE-Nut

PE-Nut brings training, resources, nutrition education and quality physical education into K-5 schools, which results in positive changes in student knowledge and behaviors. Lessons at the elementary schools include food tasting, Fit Bit movement time, reading nutritional and physical activity stories and discussions. There are currently 40 YPS teachers involved in the PE-Nut program and efforts of the PE-Nut program are coordinated with PE teachers, who teach nutrition components during PE time. Additionally, food purchased for PE-Nut lessons is sourced locally and includes many locally and state produced products.

V. Project Healthy Schools

Project Healthy Schools (PHS), a community-University of Michigan collaborative is designed to increase physical activity and healthier food choices through education (10 classroom hands-on activities), environmental changes (working with food service, school health teams, staff and administration) and evaluation (surveys and screenings to assess heart health) which will reduce the risk of childhood obesity and associated chronic diseases. PHS supports farm to school by emphasizing the importance of buying and eating locally grown food in our fruit/veggie salsa making activities. Additionally, PHS has secured grant funds to facilitate farmer classroom visits at elementary schools and to provide fruit/veggie samples, cooking demos and facilitate local food inclusion in school meals programs at the middle school level.

VI. Washtenaw County Public Health

Washtenaw County Public Health has a strong commitment to improving the health of community residents. We have been longstanding community partners with Food System Economic Partnership (FSEP), Project Healthy Schools and actively participate with Growing Hope on the Downtown Ypsilanti Farmers Market and garden/community food security projects that work to address food insecurity and work toward chronic disease prevention for low income and vulnerable community members. We are members of the FSEP Farm to Food Service Committee and newly formed Food Policy Council. Through the Food Policy Council, we will advocate for specific food policy changes that will improve the food environment county wide.

APPENDIX B

Chi-Square Statistics for Student and Parent Surveys

Table 7. Chi Square Results for Student Survey Response Distributions

	Value	df	<i>p</i>	<i>n</i>
Health benefits of eating in-season fruits and vegetables	2.573	3	0.462	41
Personal preference for eating locally grown produce	7.202	3	0.066	41
Locally grown, fresh fruits and vegetables taste better	3.686	3	0.297	40
Preference for fresh produce over canned or frozen produce	3.217	3	0.359	42
Family shops at farmers markets	2.8	1	0.094	42
Family shops at farm stands	0.622	1	0.43	42
Family shops at food co-ops	0.221	1	0.638	42
Family shops in at least one local food store	4.325	1	0.038*	42
Family shops at grocery stores	2.921	1	0.087	42
Student does not go grocery shopping with parents	0.393	1	0.531	42
Homemade dinners prepared with fresh ingredients per week	10.696	3	0.013*	40
Family dinners per week	10.887	3	0.012*	41
School lunches purchased per week	14.556	5	0.012*	41
Knowledge of FTS program at his/her school	9.892	2	0.007*	42
Gender	0.042	1	0.837	41

**p*<.05

Table 8. Chi Square Results for Parent Survey Response Distributions

	Value	df	<i>p</i>	<i>n</i>
Homemade dinners prepared with fresh ingredients per week	10.365	3	0.016*	51
Children request homemade dinners prepared with fresh ingredients	8.015	3	0.046*	50
Dinners eaten at or ordered from a restaurant per week	3.551	3	0.314	51
Family dinners per week	3.596	3	0.309	51
Family has a fruit and/or vegetable garden	1.905	1	0.168	51
Frequency of purchasing local food items	0.478	2	0.787	51
Farmers markets are available and accessible	0.44	1	0.507*	50
Farm stands are available and accessible	5.265	1	0.022	50
CSA's are available and accessible	7.284	1	0.007*	50
Food co-ops are available and accessible	2.158	1	0.142	50
Grocery stores that sell organic food are available and accessible	6.934	1	0.008*	50
Family shops at farmers markets	0.371	1	0.542	52
Family shops at farm stands	1.431	1	0.232	52
Family shops at food co-ops	1.417	1	0.234	52
Family subscribes to a CSA	1.286	1	0.257	52
Family does not shop at farmers markets, farm stands, food co-ops, or CSA's	0.082	1	0.775	52
Gender	0.804	1	0.37	52
Highest Completed Grade in School	13.004	5	0.023*	51
School lunches purchased per week for child	18.208	5	0.003*	52
Knowledge of FTS program at child's school	12.425	2	0.002*	51

**p*<.05

APPENDIX C

Interviewee's Reported Grocery Shopping Destinations

Table 7. Chi Square Results for Student Survey Response Distributions

Store Name	Hiller's Market	Busch's Fresh Food Market	Kroger	Walmart	Meijer	Gordon Food Service	Sam's Club	Trader Joe's	Whole Foods	Farmers Market	Produce Station	Plum Market	Ypsilanti Food Co-op	Arbor Farms Market	Other
Tappan Middle School	50%	17%	67%	0%	33%	17%	17%	50%	17%	50%	50%	0%	0%	17%	33%
Ypsilanti Middle School	33%	0%	83%	17%	67%	0%	0%	33%	17%	0%	0%	17%	50%	17%	17%
Combined Sample	42%	8%	75%	8%	50%	8%	8%	42%	17%	25%	25%	8%	25%	17%	25%

APPENDIX D

Note to Parents and Interview Opt-In Form

Dear Parents,

Attached you will find information concerning a survey-based research study taking place at Ypsilanti Middle School with eighth grade students and their parents. Please review the materials, and *if you choose to participate*, return the completed forms in the provided envelope with your student. All envelopes will be collected in eighth graders' Advisory Hour.

Please do not write your name or your child's name on the envelope. Place [1] the parental permission form and [2] the parent survey in the envelope and seal it before returning. Materials are due Thursday, September 29, 2011.



In addition to survey data, researchers are looking for **parent** volunteers to participate in individual, face-to-face interviews. Conversations will occur at Parent Teacher Conferences on November 9th and will take about 20 minutes. Discussion topics include the type of food items you purchase for your household and how you prepare and eat meals with your family. **Participation is confidential and all responses will be kept anonymous.**

If you are interested in participating, or would like more information, please fill out this form and mail or email to:
The Food System Economic Partnership, ATTN: Julia Petty, 705 North Zeeb Road, P.O. Box 8645, Ann Arbor, MI 48107
-OR- email Julia at jdpetty@umich.edu

Name: _____ **Phone Number:** _____

Email: _____

Your contact information will be kept private and **only** used for scheduling purposes. None of your personal information will be attached to the responses you provide in the interview.

Dear Parents,

Attached you will find information concerning a survey-based research study taking place at Tappan Middle School with eighth grade students and their parents. Please review the materials, and *if you choose to participate*, return the completed forms in the provided envelope with your student. All envelopes will be collected in eighth graders' Advisory Hour.

Please do not write your name or your child's name on the envelope. Place [1] the parental permission form and [2] the parent survey in the envelope and seal it before returning. Materials are due Thursday, September 29, 2011.



In addition to survey data, researchers are looking for **parent** volunteers to participate in individual, face-to-face interviews. Conversations will occur at Parent Teacher Conferences on October 27th and November 1st and will take about 20 minutes. Discussion topics include the type of food items you purchase for your household and how you prepare and eat meals with your family. **Participation is confidential and all responses will be kept anonymous.**

If you are interested in participating, or would like more information, please fill out this form and mail or email to:
The Food System Economic Partnership, ATTN: Julia Petty, 705 North Zeeb Road, P.O. Box 8645, Ann Arbor, MI 48107
-OR- email Julia at jdpetty@umich.edu

Name: _____ **Phone Number:** _____

Email: _____

Your contact information will be kept private and **only** used for scheduling purposes. None of your personal information will be attached to the responses you provide in the interview.

APPENDIX E

Parent Survey Instructions and Consent Form

CONSENT TO PARTICIPATE IN A RESEARCH STUDY: PARENT SURVEY

The Eating, Shopping & Cooking Habits of Families in Southeast Michigan

Principal Investigator: Julia Petty, Honors Undergraduate Student, School of Natural Resources & the Environment, University of Michigan

Faculty Advisor: Catherine Badgley, Ph.D., Department of Ecology and Evolutionary Biology, University of Michigan

You are invited to be part of a research study that looks at the eating, shopping, and cooking patterns of families in southeast Michigan. This study is part of a senior undergraduate honors thesis and it is funded by the University of Michigan's LSA Honors Program and the Undergraduate Research Opportunities Program.

If you agree to be part of the research study, please complete the attached survey. Your participation is voluntary, and if you wish to stop at any point during the survey, you may do so. You may also choose to skip any question(s) that you prefer not to answer. **The survey consists of 15 questions and should take about ten minutes to complete.** Questions cover topics including the type of food items you purchase for your household and how you prepare and eat meals with your family. You will not receive payment for your participation in this study.

While you may not receive a direct benefit from participating in this research, we hope that this study will contribute to understanding the behaviors and attitudes associated with food and how these patterns can contribute to creating local sustainable food systems that support the economic, environmental, and social health of communities. **Since the validity of the results depend on obtaining a high response rate, your participation is crucial to the success of this study.**

We plan to publish/distribute the results of this study in May 2012, but will not include any information that would identify you or your child. **No identifying information will be collected in the survey and your responses will be completely anonymous.** Please know that there are no risks associated with this study because the data is completely anonymous and the topic is not sensitive.

This study has been reviewed and approved by The University of Michigan's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies.

Your completion of this survey indicates your consent to participate in this study. If you have questions about this research, you can contact Julia Petty through email at jdpetty@umich.edu or Catherine Badgley at cbadgley@umich.edu.

If you have questions about your rights as a research participant, or wish to obtain information, ask questions or discuss any concerns about this study with someone other than the researchers, please contact the University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board, 540 E Liberty St., Ste 202, Ann Arbor, MI 48104-2210, (734) 936-0933 [or toll free, (866) 936-0933], irbhsbs@umich.edu.

APPENDIX F

Parental Permission Form for Student Survey

Parental Permission Form

By signing this document, you are agreeing to allow your child, _____, to complete a survey as part of the study entitled *The Eating, Shopping & Cooking Habits of Families in Southeast Michigan*.

Your child's participation in this study is completely voluntary. Your child may choose not to be part of the study, even if you agree, and may refuse to answer a survey question or stop participating at any time during survey administration.

Be sure that the questions you have asked about the study have been answered and that you understand what your child will be asked to do. You may contact the researcher if you think of a question later.

I give my permission for my child to participate in the survey.

Signature

Date

Please place this form in the provided envelope and return to your child's Advisory teacher. Please do not write your name or your child's name on the envelope and be sure to seal it.

APPENDIX G

Student Survey Instructions and Consent Form

ASSENT TO PARTICIPATE IN A RESEARCH STUDY: STUDENT SURVEY

The Eating, Shopping & Cooking Habits of Families in Southeast Michigan

Principal Investigator: Julia Petty, Honors Undergraduate Student, School of Natural Resources & the Environment, University of Michigan

Faculty Advisor: Catherine Badgley, Ph.D., Department of Ecology and Evolutionary Biology, University of Michigan

Overview and Purpose

This survey was developed to learn about the eating, shopping, and cooking habits of families in southeast Michigan. We plan to ask 500 eighth grade students to participate in our research.

Description of Your Involvement

If you agree to be part of this study and at least one of your parents gives permission, you will complete the attached survey. **Your participation in this study is voluntary and your responses will be kept anonymous.** The answers you give will be private and no one will know how you answer.

While you may not receive a direct benefit from participating in this research, we hope that this study will help improve food and nutrition based educational programs in your school and determine what types of foods should be served in your cafeteria. Please know that there are no risks associated with this study because the data is completely anonymous and the topic is not sensitive. You will not receive payment for your participation in this study.

Survey Directions

Please do not write your name on the survey. This is **NOT** a test. There are no right or wrong answers. Please be honest with your answers. If you are not comfortable answering a question, you can leave it blank. Please **do** answer each question you are comfortable with answering. If you don't always find an answer that fits exactly, use the one that comes closest. If you are not sure what a question means, just leave it blank.

Please follow the directions given after each question. **The survey consists of 14 questions and will take approximately ten minutes to complete.** Questions ask about topics like where your family's food comes from and the types of meals you eat with your family.

By completing this survey, you are agreeing to be in this study.

If you have questions about this research, please ask to speak with the researcher, or you can contact Julia Petty through email at jdpetty@umich.edu or Catherine Badgley at cbadgley@umich.edu.

If you have questions about your rights as a research participant, or wish to obtain information, ask questions or discuss any concerns about this study with someone other than the researchers, please contact the University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board, 540 E Liberty St., Ste 202, Ann Arbor, MI 48104-2210, (734) 936-0933 [or toll free, (866) 936-0933], irbhsbs@umich.edu.

APPENDIX H

Parent Survey

DO NOT WRITE YOUR NAME ON THIS SURVEY.

PARENT SURVEY

The Eating, Shopping & Cooking Habits of Parents and Their Children

- Q1. During the average week, how often do you cook DINNER using fresh fruits, vegetables, meats and/or grains? [Circle only one answer]**
- [1] 6 to 7 dinners per week
 - [2] 4 to 5 dinners per week
 - [3] 2 to 3 dinners per week
 - [4] 0 to 1 dinners per week
- Q2. My child(ren) request that I cook dinner using fresh fruits, vegetables, meats and/or grains. [Circle only one answer]**
- [1] Strongly disagree
 - [2] Disagree
 - [3] Agree
 - [4] Strongly agree
- Q3. During the average week, about how many DINNERS does your family eat at a restaurant or order takeout from a restaurant? [Circle only one answer]**
- [1] 0
 - [2] 1-2
 - [3] 3-4
 - [4] 5 or more
- Q4. During the average week, how often does your ENTIRE family sit down together for dinner at your home? [Circle only one answer]**
- [1] 6 to 7 dinners per week
 - [2] 4 to 5 dinners per week
 - [3] 2 to 3 dinners per week
 - [4] 0 to 1 dinners per week
- Q5. Do you grow some of your household's food in your own garden and/or in a community garden? [Circle only one answer]**
- [1] Yes
 - [2] No
- Q6. When purchasing food for your household, which statement best describes you? [Circle only one answer]**
- [1] I only buy items that have been grown locally.
 - [2] I buy some items that have been grown locally and some that have not.
 - [3] I do not pay attention to where food items were grown.
- Q7. For food, these shopping options exist in my city and nearby towns that are available and accessible to me. [Circle all that apply]**
- [1] Farmers Market(s)
 - [2] Farm Stand(s)
 - [3] Community Supported Agriculture (CSA's)
 - [4] Food Co-ops
 - [5] Grocery stores that sell organic food

Survey continued on back of page.

DO NOT WRITE YOUR NAME ON THIS SURVEY.

Q8. When shopping for your household's food, do you shop at any of the following?

[Circle all that apply]

- [1] Farmers market(s)
- [2] Farm stand(s)
- [3] A food co-op
- [4] I am a member of a CSA (Community Supported Agriculture)
- [5] I do not shop at any of these places.

Q9. Please circle your gender:

- [1] Female
- [2] Male

Q10. What was the highest grade in school that you completed? [Circle only one answer]

- [1] No high school degree
- [2] High school diploma/GED
- [3] Some college
- [4] Associated degree
- [5] Bachelors degree
- [6] Graduate degree or additional professional training

Q11. Which Middle School did your child(ren) attend last year (2010–2011 academic year)?

Q12. By the grade that was completed, please indicate how many children from your family attended that SAME middle school last year (2010–2011 academic year):

Number of children who completed 6th grade: ____ 7th grade: ____ 8th grade: ____

Q13. How long has your family lived in your current school district? [Please circle your answer]

- [1] Less than 1 year
- [2] 1–3 years
- [3] 4 or more years

Q14. On average, how many days a week does/do your child(ren) eat lunch served by the school's cafeteria? [Please circle your answer]

- [1] 0
- [2] 1
- [3] 2
- [4] 3
- [5] 4
- [6] 5

Q15. Does the middle school that your child(ren) attend(s) have a Farm to School program? [Please circle your answer]

- [1] Yes
- [2] No
- [3] I don't know

End of survey. Thank you for taking the time to participate in this study.

APPENDIX I

Student Survey

DO NOT WRITE YOUR NAME ON THIS SURVEY.

STUDENT SURVEY

The Eating, Shopping & Cooking Habits of Parents and Their Children

- Q1. Circle four fruits and/or vegetables from the list below that can be grown in Michigan.**

Broccoli	Cucumber	Radish	Spinach
Potatoes	Mangos	Kale	Kiwi
Cabbage	Tomatoes	Apples	Blueberries
Peaches	Squash	Eggplant	Carrots
Pineapple	Pears	Bell Peppers	Oranges

- Q2. Eating fruits and vegetables that are in season gives my body the nutrients and vitamins needed to fight off: [Circle only one answer]**

[1] Allergies
[2] Colds
[3] The flu
[4] All of the above
[5] None of the above

- Q3. Eating fruits and vegetables that have been grown locally is important to me. [Circle only one answer]**

[1] Strongly Disagree
[2] Disagree
[3] Agree
[4] Strongly Agree

Please explain why or why not: _____

- Q4. Locally grown, fresh fruits and vegetables taste better. [Circle only one answer]**

[1] Strongly disagree
[2] Disagree
[3] Agree
[4] Strongly Agree

- Q5. I like to eat fresh fruits and vegetables more than canned or frozen fruits and vegetables. [Circle only one answer]**

[1] Strongly disagree
[2] Disagree
[3] Agree
[4] Strongly agree

- Q6. Does your family have a vegetable garden? [Circle your answer]**

[1] Yes
[2] No

Survey continued on back of page.

- Q7. Do you go grocery shopping with your parent(s) at any of the following places? [Please circle all the answers that apply to you]**
- [1] Farmers Market(s)
 - [2] Farm Stands(s)
 - [3] A Food Co-op
 - [4] Community Supported Agriculture (CSA)
 - [5] I shop with my parents at grocery stores.
 - [6] I do not go grocery shopping with my parents.
- Q8. During the average week, how often do you cook DINNER using fresh fruits, vegetables, meats and/or grains [Circle only one answer]**
- [1] 6 to 7 dinners per week
 - [2] 4 to 5 dinners per week
 - [3] 2 to 3 dinners per week
 - [4] 0 to 1 dinners per week
- Q9. During the average week, how often does your ENTIRE family sit down together for dinner at your home? [Circle only one answer]**
- [1] 6 to 7 dinners per week
 - [2] 4 to 5 dinners per week
 - [3] 2 to 3 dinners per week
 - [4] 0 to 1 dinners per week
- Q10. Please circle your gender:**
- [1] Female
 - [2] Male
- Q11. Which middle school did you attend last year (2010–2011 academic year)?**
-
- Q12. I participate/have participated in my school garden through: [Please circle all the answers that apply to you]**
- [1] My school does not have a school garden
 - [2] I do not participate in my school garden
 - [3] After-school clubs
 - [4] Classroom activities with my teacher
 - [5] Nutrition education classes
 - [6] Summer camps
 - [7] During recess
- Q13. How many days per week do you eat LUNCH served in your cafeteria? [Circle one]**
- [1] 0
 - [2] 1
 - [3] 2
 - [4] 3
 - [5] 4
 - [6] 5
- Q14. Does your current school have a Farm to School program? [Circle one]**
- [1] Yes
 - [2] No
 - [3] I don't know

End of survey. Thank you for taking the time to participate in this study.

APPENDIX J

Parent Interview Consent Form

CONSENT TO PARTICIPATE IN A RESEARCH STUDY: PARENT INTERVIEW The Eating, Shopping & Cooking Habits of Families in Southeast Michigan

Principal Investigator: Julia Petty, Honors Undergraduate Student, School of Natural Resources & the Environment, University of Michigan

Faculty Advisor: Catherine Badgley, Ph.D., Department of Ecology and Evolutionary Biology, University of Michigan

You are invited to be part of a research study that looks at the eating, shopping, and cooking patterns of families in southeast Michigan. This study is part of a senior undergraduate honors thesis and it is funded by the University of Michigan's LSA Honors Program and the Undergraduate Research Opportunities Program.

If you agree to be part of the research study, you will be asked to participate in one face-to-face interview at your child's middle school or at the office of the Food System Economic Partnership. Your participation is voluntary, and if you wish to stop at any point during the interview, you may do so. You may also choose to skip any question(s) that you prefer not to answer. The interview should take about 30 minutes. Discussion topics include the type of food items you purchase for your household and how you prepare and eat meals with your family. You will not receive payment for your participation in this study.

The interviewer will take notes throughout the interview. In addition, we would like to audiotape the interview to make sure that our conversation is recorded accurately. You may still participate in the research even if you decide not to be taped.

While you may not receive a direct benefit from participating in this research, some people find sharing their stories to be a valuable experience. We hope that this study will contribute to understanding the behaviors and attitudes associated with food and how these patterns can contribute to creating local sustainable food systems that support the economic, environmental, and social health of communities.

We plan to publish/distribute the results of this study in May 2012, but will not include any information that would identify you or your child. To keep your information safe, no identifying information will be recorded on audiotape and your name will not be attached to the audiotape or the interviewer's notes. The tapes will be stored in a secure location, and only the interviewer will have access to them. After a written word-for-word copy of the interview

discussion has been created, the audiotape will be destroyed. Please know that there are no risks associated with this study because the data is completely anonymous and the topic is not sensitive.

This study has been reviewed and approved by The University of Michigan's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies.

If you have questions about this research, you can contact Julia Petty through email at jdpetty@umich.edu or Catherine Badgley at cbadgley@umich.edu.

If you have questions about your rights as a research participant, or wish to obtain information, ask questions or discuss any concerns about this study with someone other than the researchers, please contact the University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board, 540 E Liberty St., Ste 202, Ann Arbor, MI 48104-2210, (734) 936-0933 [or toll free, (866) 936-0933], irbhsbs@umich.edu.

I agree to participate in the study.

Signature

Date

I agree to be audiotaped as part of the study.

Signature

Date

APPENDIX K

Interview Protocol

Thank you for volunteering to participate in this interview. Again, I am researching the eating, shopping, and cooking habits of families in southeast Michigan as part of my Senior Honors Thesis. Please take a look at the Consent Form, and sign your name on the space provided if you agree to participate. All of your responses will be kept anonymous and no one else will have access to the data.

With your permission, I'd like to audiotape our conversation. I'll be taking notes, but taping your responses will ensure that I don't want to miss any of your comments; however, if you prefer not to be taped, that's okay too. I want you to be as comfortable as possible.

Interview Questions

(1) To start, can you tell me about your family's grocery shopping habits? For example, where do you shop most often and who usually does the shopping for your household?

(1A) What are your main considerations when deciding which items to buy? (cost, convenience, locally grown or processed, brand names, etc.)

(1B) Do your children request that you buy certain items, and if yes, can you give some examples?

(2) How are most of your family's meals, especially dinner, prepared?

(2A) What do you consider a "homemade" meal and how often do you or someone else in your household cook these types of meals?

(2B) What types of ingredients do you mainly use – for example, frozen, fresh, and/or canned ingredients? Something else?

(3) Now I'd like to hear about your family's eating habits. How often do you and your entire family, specifically those currently living at home, sit down and eat dinner together?

(3A) Is eating as a family important to you?

(3B) Would you say it's important to your children?

(3C) When your family does not eat dinner together, what would you say are the most frequent reasons?

(4) Can you tell me about the Farm to School Program at Tappan Middle School? (Do you know that it exists?)

→ IF THEY KNOW WHAT IT IS:

(4A) Have you noticed any changes in your child as a result of the Farm to School program?

(4B) Has the Farm to School program impacted YOU and/or YOUR FAMILY'S eating, shopping, and cooking habits in any way?

→ IF THEY DO NOT KNOW WHAT IT IS:

Farm to School programs source schools with food from local farmers. Students get fresh, locally grown fruits and vegetables in their cafeteria lunches, along with supplemental nutrition and agricultural education.

(4A) Do you think the Farm to School program has the potential to impact YOU AND/OR YOUR FAMILY'S eating, shopping, and cooking behaviors in any way?

(5) Is there anything more you would like to add?