

MIDDLE SCHOOL STUDENTS' PERCEPTIONS AND BELIEFS ABOUT THE NATIONAL
SCHOOL LUNCH PROGRAM

by

JESSICA KELLER

B.S., Florida State University, 2010

A THESIS

submitted in partial fulfillment of the requirements for the degree

MASTER OF SCIENCE

Department of Hospitality Management and Dietetics
College of Human Ecology

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2013

Approved by:

Major Professor
Dr. Kevin Sauer

Abstract

The National School Lunch Program (NSLP) seeks to provide nutritionally balanced, low-cost or free lunches to more than 31 million children daily. With the recent increase in childhood obesity, school nutrition programs must follow strict nutrient guidelines in meal preparation. As nutrient requirements have changed, participation in the NSLP has also decreased, especially among older students. To recover lost revenue, many schools offer a la carte items or other snack items often characterized as high in calories, fat, and carbohydrates. The NSLP provides meals with a balance of vegetables, fruits, whole grains, and low-fat and fat-free milk. Some research suggests that unintentional stereotypes or social stigmas exist about the NSLP program among participants. A la carte and vending machine food options have influenced these stereotypes and in some cases have deterred students from participating in the NSLP.

Research about stigma association with the NSLP is scarce and not current. This study investigated if social stigmas exist about the NSLP and their influence on student participation. Middle school students in Kansas comprised the population for this study. A survey instrument was drafted using themes identified from existing research. In addition to demographic variables, the survey contained statements that examined factors that motivate and de-motivate students from participating in the NSLP, and statements about social stigmas and peer influence. A panel of child nutrition program experts and a pilot study with middle school students were used to refine and validate the survey. The survey was distributed to middle school students in thirteen Family and Consumer Science classes in Kansas. A total of 559 students responded to the survey for a response rate of 48%.

This study found that few of the motivator statements correlated with participation in the NSLP. However, preference for snack foods was identified as the largest deterrent in respondent participation. Few new social stigmas were identified, but significant variations were found when examining variations between some demographic variables. Respondents who were female, older in age and grade level, frequently ate school lunch, and attended large schools with a high number of students receiving lunch at a free and/or reduced price were more aware of social stigmas and more greatly impacted by the actions of their peers. In contrast, qualitative data showed that some respondents are greatly influenced by peers and the fear of stigmatization.

Table of Contents

List of Tables	viii
Chapter 1 - Introduction.....	1
Justification.....	3
Purpose of Study.....	4
Research Questions.....	4
Significance of the Study.....	5
Definition of Terms	5
References.....	7
Chapter 2 - Literature Review.....	9
The School Nutrition Environment.....	9
Participation	10
Participation – Demographics and School Influences	12
Associated Perceptions of the National School Lunch Program	14
Middle School Participation	17
Adolescent Nutrition.....	19
Conclusion	20
References.....	22
Chapter 3 - Methodology	26
Introduction.....	26
Population and Sample	26
Instrument Development using Themes from Previous Research.....	27

Project Approval	28
Refining the Survey Instrument by Expert Panel Review	28
Expert Panel Results	28
Parental Consent	30
Student Consent	30
Pilot Study.....	30
Pilot Study Results.....	31
Participant Recruitment	31
Survey Instrument Administration.....	32
Data Analysis	32
Conclusions.....	32
References.....	34
 Chapter 4 - Middle School Students' Perceptions and Beliefs about the National School Lunch	
Program.....	35
Introduction.....	35
Methodology.....	37
Results.....	38
Demographic Characteristics of Respondents	38
Demographic Characteristics of Schools	40
Motivating Factors to Participate in the School Lunch Program.....	41
De-motivating Factors to Participating in the National School Lunch Program	42
Social Influences on Participating in the National School Lunch Program.....	43
Gender Differences	44

Age Impact on Survey Statements	46
Student Grade Level Impact of Survey Statements	46
Differences in Participation	48
Students who Skip Lunch	50
Differences across School Enrollment.....	52
Differences across Free and/or Reduced Lunch Eligibility	54
Qualitative Responses.....	56
Discussion.....	58
Motivators.....	58
De-Motivators	61
Peer Influences and Social Stigmas	65
Qualitative Data	70
Conclusions and Recommendations	72
Limitations	73
References.....	74
Chapter 5 - Summary and Conclusions	77
Summary of Study	77
Research Question 1: What stigmas exist about the National School Lunch Program?	77
Research Question 2: Do peers influence adolescents’ beliefs about the National School Lunch Program?.....	78
Research Question 3: Do school environmental factors influence adolescent’s beliefs about the National School Lunch Program?	79

Research Question 4: Do peer developed beliefs influence students’ participation in the National School Lunch Program?	80
Research Question 5: Do school environmental factors influence students’ participation in the National School Lunch Program?	81
Recommendations for Future Research	81
Implications for School Nutrition Programs	82
References	83
Appendix A - Drafted Survey Instrument	84
Appendix B - Project Approval	86
Appendix C - Invitation to Serve as an Expert Panel Member	88
Appendix D - Expert Panel Review Survey	89
Appendix E - Refined Survey Instrument after Expert Panel Review	94
Appendix F - Parent and Student Consent Forms	97
Appendix G - Pilot Study Survey	99
Appendix H - Refined Survey after Pilot Study	102
Appendix I - Email Invitation to FACS Instructors to Participate in Research Study	105
Appendix J - FACS Instructor Participation Instructions	106
Appendix K - Final Survey Instrument	107

List of Tables

Table 3.1 Changes made after Conducting Expert Panel Review	29
Table 4.1 Demographic Characteristics of Respondents (n=559)	39
Table 4.2 Demographic Characteristics of Respondents' School.....	41
Table 4.3 Mean Responses about Motivators to Participating in School Lunch (n = 559)	42
Table 4.4 Mean Responses about De-motivators to Participating in School Lunch (n = 559)	42
Table 4.5 Social Stigma Responses (n = 559)	43
Table 4.6 Student Gender Differences.....	44
Table 4.7 Differences across Ages.....	45
Table 4.8 Differences across Middle School Grade Levels.....	47
Table 4.9 Differences in Participation	49
Table 4.10 Differences in Students who Skip Lunch	51
Table 4.11 Differences across School Enrollment.....	53
Table 4.12 Differences across Free and/or Reduced Lunch Eligibility	55
Table 4.13 Self-Reported Reasons Respondents Eat School Lunch.....	56
Table 4.14 Self-Reported Reasons Respondents Do Not Eat School Lunch.....	57

Chapter 1 - Introduction

In 1946, President Harry Truman established the National School Lunch Act as a matter of child welfare (United States Department of Agriculture [USDA], 2008). Today, the federally assisted National School Lunch Program (NSLP) operates in approximately 100,000 public and non-profit private schools. The NSLP also seeks to provide nutritionally balanced, low-cost or free lunches to more than 31 million children each school day (USDA, 2008). Approximately 20 million of these children receive their lunch at a free or reduced price (Food Research Action Center, 2009). The Act has been amended several times since 1946, but the purpose and integrity of the program remain intact today (National Foodservice Management Institute, 2010). The NSLP also inspired the development of the National School Breakfast Program (SBP). The SBP was finally signed into action in 1975 to provide children at participating schools with a nutritionally balanced breakfast (USDA, 2008).

School nutrition programs play a vital role in the well-being of America's children, but due to recent increases in childhood obesity these programs are growing in complexity and importance (USDA, 2008). To help combat childhood obesity, schools and districts must provide school lunches that meet the recommendations for the Dietary Guidelines for Americans to receive federal reimbursement for their meals. These guidelines recommend that no more than 30% of a child's calories come from fat, and less than 10% come from saturated fat. Additional requirements include that each school lunch must provide one-third of the Recommended Dietary Allowances of protein, Vitamin A, Vitamin C, iron, calcium, and calories (USDA, 2011). Therefore, individual school nutrition programs or districts must provide meals that are lower in fat with more fruits, vegetables, and whole grains. Unfortunately, these meals are not the initial preferences of children, especially if the diet they consume outside of school is

not similar.

School nutrition programs face the difficult challenge of providing nutritious meals without decreasing student participation or increasing plate waste, and without overstepping program cost boundaries (USDA, 2008). Each program is different and enacting these requirements can be challenging in different ways. The USDA (2008) states that these programs range from small operations to multi-million dollar enterprises operated as businesses within school settings. Several variables, such as parent income level and school enrollment, size, and location all impact the NSLP.

In recent years, school nutrition programs have experienced decreases in participation (Gleason, 1995). To recover from declining participation and revenue, school lunch programs have introduced vending machines and other food options such as snack bars (Meyer et al., 2001). These additional options to the meal provided alongside the NSLP are called competitive foods. Competitive foods tend to be high in calories, carbohydrates, and fat, and are believed to be a contributing factor to childhood obesity rates (Fox, Meinen, Pesik, Landis, & Remington, 2005). Competitive foods have assisted in the identification of children receiving lunches at free or reduced prices. For example, some schools have separate lines for paying students versus those receiving the federal subsidized meal through the NSLP (Pogash, 2008). Most children are not ignorant to the fact that some students pay and others do not. Due to this, some suggest that social stigmas are attached to the NSLP (Meyer et al., 2001; Pogash, 2008; Watkins, 2001). High school students sometimes choose to not eat lunch at all to avoid being identified as poor or not “cool” (Pogash, 2008). When eligible students choose not to eat the meal provided by the NSLP, the program is failing to meet its mission of providing a well-balanced, nutritious meal

for all children. As a result, the school nutrition environment is increasing in complexity (School Nutrition Association, 2008).

Justification

Participation in the National School Lunch Program has been declining for paying students and non-paying students. It is unfortunate that many families identify the program to be unhealthy for their child when the program is required to meet specific nutrient requirements to be reimbursed. The National Center for Child Poverty (2010) states that 21% of children in America live with incomes below the established federal poverty level and 42% of children live in low income households. This means that a little less than half of school aged children and adolescents live in households that would place them at a free or reduced status with the National School Lunch Program. These children need the lunch provided to them through the NSLP as a matter of food security and well-being. Yet some parents still choose not to enroll their children because of the fear of their child being labeled “poor” (Dunifon & Kowaleski-Jones, 2003).

If parents are skeptical about participating in the free or reduced price meal program, then it is possible a negative stigma exists. However, others studies suggest that stigmas are not limited to parental income, but can be influenced by peers and social status (Meyer et al., 2001; Pogash, 2008; Mirtcheva & Powell, 2009). It appears that perceived stigmas about the NSLP do exist, but little is known about the extent of stigmas, how they developed, and if they influence participation.

It is imperative to uncover perceptions about NSLP stigmas to assist programs. Knowing more about these stigmas will help school nutrition directors and their staff to effectively market their programs and enhance student and family knowledge about the nutrition provided. This

study will assess stigmas with the NSLP, provide possible recommendations for change, and directions for future research in this area.

Purpose of Study

The purpose of this study is to investigate if social stigmas exist about the NSLP and their influence on student participation.

Specific objectives include:

1. To determine if perceived stigmas about the National School Lunch Program exist.
2. To evaluate if social stigmas influence students' beliefs towards school lunch.
3. To evaluate if the developed beliefs influence participation in the National School Lunch Program.

Research Questions

The following research questions will be addressed in this study:

1. What stigmas exist about the National School Lunch Program among adolescents?
2. Do peers influence adolescents beliefs about the National School Lunch Program?
3. Do school environment factors influence beliefs about the National School Lunch Program?
4. Do peer developed beliefs influence students' participation in the National School Lunch Program?
5. Do school environment factors influence student's participation in the National School Lunch Program?

Significance of the Study

A combination of decreased participation and criticisms from the community have put the NSLP in a critical place of needed transformation. Many operational and nutrition variables have been examined to explore this problem, yet few studies have specifically looked at program perception in the eyes of the students' participating (Asperin, Nettles, & Carr, 2010; Stein, 2008). This study will explore potential stigmas and beliefs towards the NSLP. It is crucial to understanding what problems exist from the actual customers in order to maintain the mission of the NSLP. The NSLP was signed into action 65 years ago to ensure the increased well-being of America's children (USDA, 2008). If children in need are choosing not to participate, then the program is failing to meet its required goal. This study will provide many stakeholders important insight about the program.

Definition of Terms

National School Lunch Program: The National School Lunch Program (NSLP) is a federally assisted meal program operating in public and nonprofit private schools and residential child care institutions. It provides nutritionally balanced, low-cost or free lunches to children each school day (USDA, 2011).

School Breakfast Program: The School Breakfast Program is a federally assisted meal program operating in public and nonprofit private schools and residential child care institutions. It provides nutritionally balanced, low-cost or free breakfast to children in participating schools (USDA, 2011).

Federal Reimbursement: Federal reimbursement is the amount of money the Federal Government provides states for lunches, afterschool snacks, and breakfasts served to children

participating the NSLP and SBP. In order for federal reimbursement to be obtained, school nutrition programs must meet established nutrient guidelines (USDA, 2008).

Dietary Guidelines for Americans: The Dietary Guidelines for Americans provide advice for making food choices that promote good health, advocate a healthy weight, and help prevent disease. These guidelines are for healthy Americans ages two and older (U.S. Department of Health and Human Services, 2010).

Competitive Food: Competitive foods are foods offered at school other than meals served through the NSLP. These foods tend to be high in sugar or fat and provide minimal nutritive value (Fox et al., 2005).

Stigma: A stigma is defined as a mark of disgrace associated with a particular circumstance, quality, or person (Merriam-Webster, 2011).

Certification Status: Certification status is the status of whether a specific child receives his or her lunch at a free or reduced cost (USDA, 2008).

References

- Asperin, A. E., Nettles, M. F., & Carr, D. H. (2010). The non-participation survey: Understanding why high school students choose not to eat school lunch. *Journal of Child Nutrition & Management*, 34(1),
- Dunifon, R., & Kowaleski-Jones, L. (2003) The influences of participation in the National School Lunch Program and food insecurity and child well-being. *Social Service Review*, 77(1), 72-92
- Food Research Action Center. (2009). The National School Lunch Program. Retrieved from <http://frac.org/federal-foodnutrition-programs/school-breakfast-and-lunch/national-school-lunch-program/>
- Fox, S., Meinen, A., Pesik, M., Landis, M., & Remington, P. L. (2005). Competitive food initiatives in schools and overweight in children: A review of the evidence. *Wisconsin Medical Journal*, 104(5), 38-43.
- Gleason, P. (1995). Participation in the National School Lunch Program and the School Breakfast Program. *American Journal of Clinical Nutrition*, 61(suppl), 213S-205.
- Marples, C. A., & Spillman, D. (1995). Factors affecting students' participation in the Cincinnati public schools lunch program. *Adolescence*, 30, 745-754.
- Merriam-Webster. (2011). Stigma. Retrieved from <http://www.merriam-webster.com/dictionary/stigma>
- Meyer, M. K., Conklin, M. T., Lewis, J. R., Marshak, J., Cousin, S., Turnage, C., & Wood, D. (2001). Barriers to healthy nutrition environments in public school middle grades. *The Journal of Child Nutrition and Management*, 25(2), 66-71.
- Mirtcheva, D. M., & Powell, L. M. (2009). Participation in the National School Lunch Program:

- Importance of school-level and neighborhood contextual factors. *The Journal of School Health*, 79(10), 485-494.
- National Center for Child Poverty. (2010). Child poverty. Retrieved from <http://www.nccp.org/topics/childpoverty.html>
- National Food Service Management Institute. (2010). Child nutrition archives. Retrieved from <http://nfsmi.org/Templates/TemplateDefault.aspx?qs=cELEPTQ=>
- Pogash, C. (2008). Free lunch isn't cool so some students go hungry. Retrieved from <http://www.nytimes.com/2008/03/01/education/01lunch.html?scp=1&sq=free+lunch&st=nyt>
- School Nutrition Association. (2008). Heats on: School meals under financial pressure. Retrieved from [www.schoolnutrition.org/School_Nutrition/HeatsOn\(1\).pdf](http://www.schoolnutrition.org/School_Nutrition/HeatsOn(1).pdf)
- Stein, K. (2008). Erasing the stigmas of subsidized school meals. *Journal of the American Dietetic Association*, 108(12), 1980-1983.
- United States Department of Agriculture. (2011). National School Lunch Program fact sheet. Retrieved from <http://www.fns.usda.gov/cnd/Lunch/AboutLunch/NSLPFactSheet.pdf>
- United States Department of Agriculture. (2008). The National School Lunch Program background and development. Retrieved from <http://www.fns.usda.gov/cnd/Lunch/AboutLunch/ProgramHistory.htm>
- United States Department of Health and Human Services. (2010). Dietary guidelines for Americans. Retrieved from <http://health.gov/dietaryguidelines/Default.asp>
- Watkins, S. (2001). National School Lunch Program: Foods sold in competition with USDA school meal programs. Retrieved from http://www.fns.usda.gov/cnd/lunch/_private/competitivefoods/report_congress.htm

Chapter 2 - Literature Review

This chapter reviews related literature about key points of this study. This includes studies that have examined the school nutrition environment and the factors impeding student participation in the National School Lunch Program (NSLP). The literature review also describes the evidence of stigmas attached to federally assisted programs and the gaps in literature about them.

The School Nutrition Environment

The health of America's children has always been a primary objective of the NSLP. The National School Lunch Act was initially signed because World War II enlistees in the military were malnourished (United States Department of Agriculture [USDA], 2008). Today, the same program is scrutinized by students, parents, school personnel, health professionals, and the community for appearing to be unhealthy for children (Meyer et al., 2001; Pogash, 2008). Due to health concerns, the NSLP has been modified over the years to include the ever-changing Dietary Guidelines for Americans. These guidelines have set a strict parameter for calories, carbohydrates, fats, and essential vitamins and minerals in federally reimbursed school lunches (USDA, 2011). School nutrition programs have been challenged with the task of creating a quality food product that is acceptable to children

School districts within the contiguous United States must meet the required regulations and surpass the present challenges with less than \$2.89 per meal (USDA, 2011). Montague (1998) reported a decline in participation rates among paying students as nutrient requirements have changed. In order to supplement the lost revenue, school nutrition programs often serve la carte items, such as pizza, chips, and sodas. A la carte items are called competitive foods

because they compete with the school lunch offered through the NSLP (Fox, Meinen, Pesik, Landis, & Remington, 2005). Paying students, unlike those receiving meals at a free or reduced cost, have more flexibility and choice in regards to their lunch. If paying students do not like the school lunch provided they may opt for different options, such as bringing their lunch or purchasing a la carte items. Meanwhile, non-paying students have less freedom of choice because a la carte items cost more than the school lunch provided through the NSLP.

A significant amount of research has assessed declining participation rates among students. Unfortunately, most of the research about participation in the National School Lunch Program was conducted more than twenty years ago. Some issues previously identified remain true today, while new problems have emerged or point in the opposite direction. Most of the previous studies cited operational issues as the main factors influencing participation, but more current research examines the nutrition variables impacting programs, food quality, and childhood obesity. Today, there is a significant difference in the examination of the school nutrition environment compared to previous decades.

Participation

Research from the 20th century identified the largest factors impacting participation in the NSLP to be meal time, meal length, meal cost, cafeteria environment, line length, open lunch policies, and certification status (Foglemen et al., 1992; Gleason, 1995; Morcos & Spears, 1992; Smith, 1992). Meal price was identified as the most important factor in participation in the 1980s (Hiemstra, 1991; Wellisch, Hanes, Jordan, Mauer, & Vermeersch, 1983; Zucchini & Ranney, 1990). Meal price has remained constant as one of the most important factors impacting participation (Gleason, 1995). Students receiving free or reduced lunch are impacted little by price changes, but full-paying students may experience a \$0.40 increase in one year alone

potentially deterring them from participating. Meal time, meal length, and line length are also cited for declining participation in the NSLP. Each of these factors vary based upon the individual school or district. Larger schools may have earlier meal times, short meal lengths, and longer lunch lines simply due to size, whereas smaller size schools may be less impacted by this. Smaller schools have fewer students to provide meals to and can offer longer periods for lunch.

Some schools offer an open lunch policy that allows students to leave campus during lunch. Open lunch policies are frequently cited as a reason why students chose not to participate in the NSLP (Foglemen, et al., 1992; Morcos & Spears, 1992; Smith, 1992). Gleason (1995) demonstrated participation rates among students attending schools that have an open campus is 49%, but closed campus schools have a 58% participation rate. Gleason's (1995) study had a relatively large sample of 3,350 students across all age ranges and identified only a 9% difference in participation if the campus was open or closed. Nine percent is not a large difference in participation, but again this particular study is over 15 years old and new data might provide different insight.

Another factor frequently identified with participation is certification status. Children in households that are below established income levels are certified to receive a free or reduced lunch. Children who receive free or reduced lunches are more likely to participate than students who pay in full for their lunches (Gleason, 1995; Probart, McDonnell, Hartman, Weirish, & Bailey-Davis, 2006). Students receiving free or reduced lunches can only receive a full lunch if they take the items offered by the NSLP. If these students opt to take a la carte items, they may receive fewer food items that are less nutritious because most a la carte items are not reimbursable. Also, students receiving free or reduced lunch may not have money like paying students do to spend off campus or on other options.

More recently, nutrition, food quality, competitive foods, and options have been linked student participation (James, Rienzo, & Frazee, 1996; Meyer, 2000). Students have quoted that school lunch is low in quality and nutrition, not trustworthy, and such that the teachers will not even eat it (James et al., 1996). It has also been identified that students are displeased with the number of options available to them during lunch. These students stated that might choose to participate in the NSLP if they had more entrees options and fresh fruits and vegetables (Meyer, 2000). Due to this, many schools are choosing to provide a la carte offerings to please students in an attempt to maintain revenues streams (Probart et al., 2006; School Nutrition Association, 2008). Gleason (1995) simply stated that if students have alternatives to the school lunch, they will be less likely to participate in the NSLP. These additional options can be vending machines, a la carte items, off-campus food, and the accessibility to bring their own lunch. Although price was identified as the primary reason why students choose not to participate during the 1980s, research in the 1990s and beyond revealed that the primary reason for low participation was dislike of the food (Gleason, 1995; James et al., 1996; Meyer, 2000).

Participation – Demographics and School Influences

It is evident that the school nutrition environment is changing and evolving year to year and decreases in participation are evident. Unfortunately, little research exists that examines the impact of demographic variables, school locations, and enrollment numbers as factors that influence participation in the NSLP. Evidence does exist that rural students tend to participate more than urban and suburban students (Gleason, 1995; Probart et al., 2006), but more research is needed to examine the specifics of rural participation. In rural areas, options beyond the NSLP may not be available like in suburban and urban areas, and by default, students eat the school lunch. Also, sex and age variables are often cited as reasons why students participate (Gleason,

1995; James et al., 2006; Probart et al., 2006; Smith, 1992). Studies show that boys are more likely than girls to participate and younger students are more likely to participate than older students (Gleason, 1995; Smith, 1992).

Most research indicates that African Americans participate most often, followed by Hispanics (Gleason, 1995; Hiemstra, 1991). Other information suggests that foreign-born students participate more than U.S. born students (Pogash, 2008). Little research exists beyond the extent of classifying students by nationality or ethnicity. Information regarding the influence of ethnicity on NSLP should be identified in future research. Research in Florida revealed that white students graded the NSLP program as a C-, while African American students awarded the same program a B+ and were only disappointed with small portions (James et al., 1996). This raises questions such as why did the African American students find the program more favorable than the white students and is the critical nature of the white students due to parental opinions, personal experience with the food, or some outside identified problem? More research is needed about variations in opinions between ethnicities.

School location and participation have also been studied in a limited framework. School location is usually examined by rural, urban, or suburban status. This can severely limit the interpretation and inferences of some data collected. Studies should look at school location based on what exists around the school. In low income, urban areas there are more fast food restaurants and fewer supermarkets, produce stands, and health food stores (Block, Scribner, & DeSalvo, 2004; Moore & Diez Roux, 2006). Sturm (2008) found that Hispanic students attend schools surrounded by convenience stores, restaurants, and snack stores. Students in these areas may experience more snack and fast food options on a daily basis and prefer to eat commercial food items for lunch rather than participate in NSLP. One study found that the availability of

fast food restaurants decreased participation in the NSLP for high school students (Mirtcheva & Powell, 2009). More research should be performed examining the accessibility of other options around the school. Instead of only classifying schools as rural, urban, or suburban, school can be classified by mileage away from fast food restaurants or number of fast food restaurant within one mile from campus. This information might provide stronger insight into participation rates based upon location.

School location can also impact enrollment numbers. Inner-city schools are often over capacity, yet some rural areas are shrinking in population. Again, the number of students in the school compared to its capacity could be examined rather than whether the school is rural or urban. A school that is over its capacity will have longer lunch lines and short meal periods, thus prompting students to bring lunches or seek additional options. Long lines have been identified as a reason for non-participation (Hiemstra, 1991; Meyer, 2000).

Students and their needs have changed from students in previous decades (Asperin et al., 2010). It is unreasonable to assume that students from 30 years ago had the same expectations and influences as students today. Students today have grown up with greater access to food outside the home, especially commercial fast foods (Asperin et al., 2010). School lunch programs have adapted to view students as customers given the competition for student purchases (Asperin et al., 2010; Snyder, Lytle, Pellegrino, Anderson, & Selk, 1995).

Associated Perceptions of the National School Lunch Program

A few studies have briefly associated a social stigma with declining participation in the NSLP (Fogleman et al., 1995; Probart et al, 2004; Snyder et al., 1995). Stigmas were originally established in Greece as a mark of disgrace for criminals (Blumkin, 2008). Emerging research shows that stigmas are used to label, stereotype, separate, and discriminate against other

individuals, circumstances, or organizations (Link & Phelan, 2001). Social scientists believe that stigmatization can have a profound impact on an individual's life (Blumkin, 2008; Link & Phelan, 2001). Some research suggests that social stigmas associated with the NSLP are about the participants being low income and having lower social status than their peers. (Mirtcheva & Powell, 2009; Pogash, 2008).

The most frequent stigma attached to the NSLP involves participating students from lower income families (Dunifon & Kowaleski-Jones, 2003, James et al., 1996, Probart et al., 2004; Smith, 1992). Dunifon and Kowaleski-Jones (2003) indicated that some parents will not complete certification paperwork for their child to receive free or reduced lunch for fear of their child being labeled "poor." Shirley Watkins, a former undersecretary for Food and Nutrition Services, believes that "when school lunches are identified as meals for poor children and not nutritious meals for all children, then the willingness of low-income children to accept free or reduced-priced meals may be reduced (Watkins, 2001)." Watkins argued that competitive foods are partially to blame for the stigma attached to participating in the NSLP because only children with money can buy competitive foods (Watkins, 2001). Since competitive foods are typically not reimbursed, some cafeterias have different lines for competitive foods and the meal provided through the NSLP (Meyer et al., 2001). This separation clearly reveals students who eat the federally-subsidized lunch and those who can afford alternatives.

In a study examining barriers to healthy school nutrition environments, researchers identified that peer pressure and the need to socialize among adolescents are often overlooked in creating a healthy school nutrition environment (Meyer et al., 2001). School personnel in this study commented that socialization with peers in middle school is vital to their development and the school lunch environment should aid creating an environment to practice these socialization

skills. However, school personnel believed that schools often failed to reach this expectation because NSLP participants are unintentionally segregated from nonparticipants (Meyer et al., 2001). In 2008 an article in the New York Times stated that only 37% of high school students eligible for free or reduced-price lunches in San Francisco actually participate in the NSLP. Some school officials believe that elementary school children appreciate the lunches provided by the NSLP, but once those students enter middle school, “social status intervenes” (Pogash, 2008). This social status is so highly valued that many eligible students make the choice to not eat lunch (Pogash, 2008; Meyer et al., 2001). A high school student body president stated, “Lunchtime is the best time to impress your peers and being seen with a school lunch lowers your status” (Pogash, 2008).

Some school aged children and adolescents believe the counterpart to the NSLP, the SBP, is for students labeled as “the tough guys” or the “detention crew,” thus attaching an additional stereotype to students that participate in the federally funded breakfast and lunch programs (Probart et al., 2004). If participants of the NSLP and the SBP are labeled socially unacceptable it might again deter some students from participating. In 2010, a survey of school nutrition staff revealed that even the program employees in some schools are aware of the social influences to not participate and the perceived negative stigma (Asperin et al., 2010).

The heightened interest in the health of America’s youth has brought the NSLP to the forefront of the public media. As health officials and popular media highlight the problems with school nutrition programs, the American public has decided to get involved. Some Congressmen have proposed eliminating the program altogether (News Blaze, 2009), while others urge it should be free for everyone to eliminate social influences to not participate (Pogash 2008). Even the structure and service methods of the school nutrition programs have been criticized,

especially the use of separate lunch lines for a la carte items and the federally subsidized meal. Several public health officials and nonprofit organizations have argued that separate lunch lines violate the guidelines of the National School Lunch Act. This Act says that no child can be identified as a free or reduced-price participant (USDA, 2008). The USDA has called these accusations “unfounded” (Pogash, 2008). Some individuals have suggested eliminating the program from some secondary institutions to stop the problem, but others have argued that the program should be free for all students (Pogash, 2008, NewsBlaze, 2009).

Social stigmas about the NSLP are beginning to be acknowledged in research, yet little information exists on what these perceived stigmas are and how much they influence student participation. Studies acknowledge that stigmas are present, but never identified or name the stigmas stated by students, parents, and faculty. More research is needed to identify what specific types of stigmas exist about the NSLP.

Middle School Participation

Few studies have focused on the school nutrition environment for middle school students. Most research looks at decreasing participation among high school students or overall participation information by surveying parents. Some research has argued that middle school students are one of the most important groups to study because of the developmental processes that occur during middle school. Not only are physical and physiological changes occurring during middle school years, middle school students are at a turning point in which they are beginning to make their own choices (Meyer et al., 2001).

On average, middle school students spend a third of their day at school and experience a significant transition from middle childhood to adolescence as they progress from elementary school. The Centers for Disease Control [CDC] (2011a) states that middle childhood is from age

six to eleven and adolescence is ages twelve to seventeen. Early adolescence, ages twelve to fourteen, is marked by a time in which adolescents have an increasing interest in their peer groups and the development of an identity outside of direct parental influence (CDC, 2011a; Moshman, 2011). As adolescents begin to shape their own identities, the groups that they identify with play a part in shaping their social identity (Moshman, 2011). With children and adolescents spending one-third of their day at school, the largest group that may possibly impact their development of a social identity are their peers. Adolescent's reliance on their peers to understand behavior in socialization reflects a separation from adult values and healthy identity development (Brechwald & Prinstein, 2011, p. 167).

Peer influence is defined as a phenomenon characterized by the presence of both selection and socialization (Brechwald & Prinstein, 2011, p. 166). Peer influence may come from a variety of sources, such as romantic partners, immediate friends, and social networks. Evidence even exists that for certain behaviors, adolescents can be influenced by peers to whom they do not possess relationships (Dubow, Huesmann, & Greenwood, 2007). Research in adolescent development has determined that adolescents can be influenced by their peers in both positive and negative ways. Commonly cited negative influences among adolescents may include smoking, drinking alcohol, and negative body image (Brechwald & Prinstein, 2011). However, peers may also influence one another to achieve higher academic standards (Ryan, 2001).

Frequently observed during early adolescence is a linkage between behaviors and higher-status or peer-perceived popularity. The behavioral norms of higher-status peers may be copied by lower-status peers to gain acceptance or increased popularity (Brechwald & Prinstein, 2011). Recent research has shown that perception of peers behavioral and social norms are more

indicative of adolescent's behavior. The depth and scope to which adolescents will allow themselves to be influenced by their peers has not been determined, but it has been concluded that this influence is broad (Brechtwald & Prinstein, 2011).

Adolescent Nutrition

During middle school years, adolescents are not only changing and adjusting socially, but they are changing physically. The Carnegie Council (1996) stated that the diet consumed by adolescents is often inadequate for the rapid physical changes they are experiencing. The CDC (2011b) states that consuming adequate nutrition helps to reduce the risk of childhood obesity, eating disorders, iron deficiency, and dental caries in adolescents. It also assists in preventing high cholesterol and high blood pressure which can lead to increased chances of cardiovascular disease, cancer, and diabetes (CDC, 2011b). It is clearly evident that a balanced diet is necessary for proper growth and development of adolescents.

Unfortunately, most adolescents do not eat a diet that would prevent or aid in reducing the risk factors previously listed. According to the CDC (2011b) most adolescents do not eat the recommended amounts of fruits, vegetables, and whole grains, but consume more than the recommended amount of sodium. Adolescents are also characterized by being a group that consumes 40% of their daily calories from added sugars and solid fats, such as soda, fruit drinks, dairy and grain desserts, pizza, and whole milk.

One way for adolescents to increase their intakes of whole grains, fruits, and vegetables is through participation in the NSLP. Although the NSLP only provides students with one meal a day, the nutrient guidelines it is required to follow assists in providing children with some of the necessary nutrients required for development that they otherwise might not receive. The School Nutrition Dietary Assessment Study III found that on average, participants and non-participants

in the NSLP consumed the same amount of energy, but did not consume equal amounts of necessary nutrients (USDA, 2007). Participants consumed greater amounts of energy from protein and less from carbohydrates. Additionally, program participants consumed more vitamin A, vitamin B₁₂, riboflavin, calcium, fiber, phosphorus, and potassium. Middle school participants had greater intakes of vitamin A and magnesium than nonparticipants. However, middle school students overall had lower intakes of vitamin A, vitamin A, magnesium, phosphorus, and zinc than elementary school students (USDA, 2007).

Although the NSLP provides adolescents with a balanced and nutritious meal, many will still opt not to eat it. Some research argues that the nutritional value of the food will not heavily weigh upon a student's choice to participate in the NSLP, but external factors outside of the control of the school lunch program (Snyder et al., 1995). It has been found that the normative aspect of eating for students is influenced by the home environment, the classroom environment, their peers, and television (Snyder et al., 1995, p.97). It is possible that adolescents are influenced by each of these outside factors in their decision to participate in the NSLP. During school hours when students are with their peers, it is highly possible that adolescents may not participate in the NSLP to conform the behavioral norm of these peers.

Conclusion

The school nutrition environment is evolving year to year. Previous research has indicated barriers to participation among children include operational issues such as line length, meal time, and meal price (Fogleman et al., 1992; Gleason, 1995; Smith, 1992). More recently, other factors include nutrition, competitive foods, and food quality for nonparticipation (James et al., 1996; Meyer, 2000). Today, social stigmas or perceived stigmas may be primary reasons for nonparticipation (Meyer et al., 2001; Pogash, 2008; Stein, 2008).

The transition from elementary school to middle school is an important developmental stage for students. Related, there is a sharp decline in meal participation among middle school students (Pogash, 2008). Middle school students are known to intake 40% of their daily calories from soda, desserts, pizza, and whole milk (CDC, 2011b). These same students have the opportunity to partake in the NSLP which would enhance their intakes of key dietary nutrients such as protein, vitamin A, vitamin B₁₂, riboflavin, calcium, fiber, phosphorus, and potassium (USDA, 2007). However, social status effects participation in the NSLP among this population (Pogash, 2008).

In addition to social status, perceived stigmas have been associated with the NSLP such as low family income (Dunifon & Kowaleski-Jones, 2003; James et al., 1996; Probart et al., 2004; Smith, 1992). However, such research is limited and fails to more specifically identify such stigmas and any influence on student participation in today's school environment (Meyer, 2001; Stein, 2008). It is clear that additional research is needed that explores the influence of social status and stigmas on participation in the NSLP. Understanding the social influence of peers and stigmas with the NSLP can help guide future research and provide possible recommendations for change.

References

- Asperin, A. E., Nettles, M. F., & Carr, D. H. (2010). The non-participation survey: Understanding why high school students choose not to eat school lunch. *Journal of Child Nutrition & Management, 34*(1),
- Block, J. P., Scribner, R. A., & DeSalvo, K. B. (2004). Fast food, race/ethnicity, and income: a geographic analysis. *American Journal of Preventive Medicine, 27*, 211–217.
- Brechwald, W. A., & Prinstein, M. J. (2011). Beyond homophily: A decade of advances in understanding peer influence processes. *Journal of Research on Adolescence, 21*(1), 166-179.
- Carnegie Council. (1996). Great transitions: Preparing adolescents for a new century. New York, NY: Carnegie Council.
- Centers for Disease Control. (2011a). Child development. Retrieved from <http://www.cdc.gov/ncbddd/childdevelopment/index.html>
- Centers for Disease Control. (2011b). Nutrition and the health of young people. Retrieved from <http://www.cdc.gov/healthyyouth/nutrition/facts.htm>
- Dunifon, R., & Kowaleski-Jones, L. (2003) The influences of participation in the National School Lunch Program and food insecurity and child well-being. *Social Service Review, 77*(1), 72-92
- Dubow, E. F., Huesmann, L. R. & Greenwood, D. (2007). Media and youth social: Underlying processes and moderators of effects. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 404 - 430). New York: Guilford.
- Fogleman, L., Dutcher, J., McProud, L., Nelken, I., & Lins, A. (1992). High school students' attitudes toward, and participation in, the National School Lunch Program. *School Food*

- Service Research Review*, 16(1), 36-42.
- Gleason, P. (1995). Participation in the National School Lunch Program and the School Breakfast Program. *American Journal of Clinical Nutrition*, 61(suppl), 213S-205.
- Hiemstra, S. J. (1991). Program data and analysis: Summary of trends. *School Food Service Research Review*, 15, 65-67.
- James, D.C.S., Rienzo, B.A., & Frazee, C. (1996). Using focus group interviews to understand school meal choices. *The Journal of School Health*; 66(4), 128-131.
- Law, H. M., Lewis, H. F., Grant, V. C., & Bachemin, D. S. (1972). Sophomore high school students' attitudes toward school lunch. *Journal of the American Dietetic Association*, 60, 38-41.
- Meyer, M. K., Conklin, M. T., Lewis, J. R., Marshak, J., Cousin, S., Turnage, C., & Wood, D. (2001). Barriers to healthy nutrition environments in public school middle grades. *The Journal of Child Nutrition and Management*, 25(2), 66-71.
- Meyer, M. K. (2000). Influence of food choices on high school students' perception of school foodservice. *Journal of the American Dietetic Association*, 100(8), 952-954.
- Montague, P. (1998). Future forecast: Challenges & opportunities for the 21st century. *School Foodservice & Nutrition*, 52 (5), 59-64
- Moore, L.V., & Diez Roux, A. V. (2006). Associations of neighborhood characteristics with the location and type of food stores. *American Journal of Public Health*, 96, 325-31.
- Morcos, S., & Spears, M. (1992). The national school lunch program: Factors influencing participation. *School Food Service Research Review*, 16(1), 11-22.
- Moshman, D. (2011). *Adolescent rationality and development: Cognition, morality, and identity*. (3th Eds.) New York, NY: Taylor and Francis Group.

- News Blaze. (2009). PA school lunch program to take stigma out of free lunch. Retrieved from <http://newsblaze.com/story/20090603152355zzzz.nb/topstory.html>
- Pogash, C. (2008). Free lunch isn't cool so some students go hungry. Retrieved from <http://www.nytimes.com/2008/03/01/education/01lunch.html?scp=1&sq=free+lunch&st=nyt>
- Probart, C., McDonnell, E., Hartman, T., Weirish, E., & Bailey-Davis, L. (2006). Factors associated with the offering and sale of competitive foods and school lunch participation. *Journal of the American Dietetic Association, 106*, 242-247.
- Ryan, A. M. (2001). The peer group as a context for the development of young adolescent motivation and achieve. *Child Development, 72*, 1135-1150.
- School Nutrition Association. (2008). Heats on: School meals under financial pressure. Retrieved from [www.schoolnutrition.org/School_Nutrition/HeatsOn\(1\).pdf](http://www.schoolnutrition.org/School_Nutrition/HeatsOn(1).pdf)
- Smith, E. R. (1992). Factors affecting participation in National School Lunch and School Breakfast Programs. *School Food Service Review, 16*(2), 91-100.
- Snyder, P., Lytle, L., Pellegrino, T. Anderson, M., & Selk, J. (1995). Commentary on school meals from school food service personnel and researchers. *American Journal of Clinical Nutrition, 61*(15), 247S-249S.
- Sturm, R. (2008). Disparities in the food environment surrounding US middle and high schools. *Journal of Public Health, 122*(7), 681-690.
- USDA. (2011). National School Lunch Program Fact Sheet. Retrieved from <http://www.fns.usda.gov/cnd/Lunch/AboutLunch/NSLPSFactSheet.pdf>
- USDA. (2007). School nutrition dietary assessment study – III. Alexandria, VA: United States Department of Agriculture.

Watkins, S. (2001). National School Lunch Program: Foods sold in competition with USDA school meal programs. Retrieved from http://www.fns.usda.gov/cnd/lunch/_private/competitivefoods/report_congress.htm

Wellisch, J. B., Hanes, S. D., Jordan, L. A., Mauer, K. M., & Vermeersch, J.A. (1983). The national evaluation of school nutrition programs: Final report. Santa Monica, CA: System Development Corporation.

Zucchini, L., & Ranney, C. K. (1990). School lunch program participation. *Journal of Consumer Affairs*, 24(2), 245-267.

Chapter 3 - Methodology

Introduction

This chapter presents the research design, target population, sampling procedure, research instrument, and methods of data analysis that will be used to achieve the research objectives. The purpose of this study was to investigate if social stigmas exist about the National School Lunch Program (NSLP) and their influence on student participation.

Population and Sample

The target population of this study was middle school students in the state of Kansas. Due to limited direct access to students, previous literature was reviewed for methodologies and frameworks used in previous studies. Some studies conducted small focus groups with six to eight students and others distributed over 1,000 paper surveys to students (Asperin, Nettles, & Carr, 2010; James, Rienzo, & Frazee, 1996; L. Lambert, personal communication, October 13, 2011). Due to the limited information about gaining access to this particular population, middle school students in Family and Consumer Science (FACS) courses were selected to be the sample for this study. Students in FACS courses were selected to ensure adequate control over survey distribution. Due to the content taught in FACS courses, it was proposed that FACS instructors might be more interested in participating in the study.

A partial list of FACS programs in middle schools in the state of Kansas was obtained from an Educational Program Consultant at the Kansas State Department of Education (KSDE) via email (G. Randel, personal communication, April 10, 2012). The list contained 192 FACS programs in Kansas. The webpage for each school district in Kansas was examined for additional

FACS programs. An additional 24 programs were added to the list. A total of 216 FACS programs in Kansas were used as the sample for this study.

Instrument Development using Themes from Previous Research

The survey instrument for this study was developed using themes found in previous research. Eight themes were identified as factors influencing student participation in the NSLP. The eight themes included: Food Quality, Nutrition, A la Carte and Competitive Foods, Cafeteria Environment, Meal Time/Length, Meal Cost, Demographics, and Social Influences. Survey questions were drafted using each of the identified themes. The drafted questions were divided into three categories: statements that may motivate students to participate in the NSLP, statements that may de-motivate students from participating in the NSLP, and statements about peer influences on participation. A survey instrument was developed using these three categories and questions about participant demographics (Appendix A).

The first section of the survey instrument included statements that addressed what might motivate students to participate in the NSLP. The second section included statements that addressed what might de-motivate students from participating in the NSLP. The third section included statements regarding peer influence on student participation in the NSLP. A 5-point Likert-scale, ranging from strongly disagree (1) to strongly agree (5) was used to assess the first three sections. The fourth section of the instrument inquired about demographic information. The demographics assessed were grade in school, age, gender, ethnicity, daily meal participation, and frequency of skipping meals. Two open-ended questions were also included for students to state the main reasons they eat school lunch or do not eat school.

Project Approval

Before data collection, approval from the Kansas State University Institutional Review Board was obtained. The approval letter may be found in Appendix B.

Refining the Survey Instrument by Expert Panel Review

A group of 16 school nutrition professionals served as expert panelists for this study. An invitation to serve as an expert panel member was sent to the selected individuals via email (Appendix C). The survey instrument was adapted to an electronic instrument for easier expert panel review (Appendix D). Following each section of the electronic instrument, an open-ended comment box was provided for panel members to provide feedback on the drafted statements. The electronic survey instrument was distributed to the expert panel members using the AXIO survey system at Kansas State University.

Thirteen panel members started reviewing the survey instrument in the AXIO system. Two panel members did not complete the review of the survey, thus a total of eleven panel members provided feedback about the survey instrument. The panel members' comments were summarized and separated by each section of the survey. Each suggestion from a panel member was evaluated to determine if improvement was needed for the survey. The recommendations and comments provided by the panel members were used to refine and validate the survey instrument (Appendix E).

Expert Panel Results

Table 3.1 shows the changes that were made in the instrument. Expert panel members were concerned with some of the terms used in the instrument. Changes were made to these terms when necessary. Some of the terms were derived from existing literature and no changes

were made. One statement about leaving school grounds was deleted from the survey because middle school students are not authorized to leave school grounds during lunch. Panel members also suggested starting the survey instrument with a positive or neutral statement versus a negative statement. Statements were re-organized and a different statement was placed first in the survey. The new initial statement was: *School lunch tastes good*. Lastly, an additional statement was added at the recommendation of a panel member. The additional statement was: *I feel uncomfortable eating school lunch in front of other students*. The panel member believed that many middle school students do not like to eat lunch in front of the peers they are trying to impress.

Table 3.1 Changes made after Conducting Expert Panel Review

Original Instrument Statement	Expert Panel Review Comment	Changes Made
1.1) I have no other choice	Start the survey with a more neutral or positive statement and randomize other items	1.1 School lunch tastes good
1.2) My friends do too	Remove the “too”	1.2 My friends do
1.5) School lunch is fresh	Clarify the use of the term “fresh”	None: The term fresh is universal enough for the purpose of this survey
1.8) I know what is in my school lunch	More clarification needed on the phrase “what is in my school lunch”	Tested phrase with pilot group; Phrase original derived from existing literature
1.11) The cafeteria staff is nice	Change “nice” to excellent customer service – helpful and friend	None: “Nice” is better related to the vocabulary of the audience
2.1) I would rather buy snack foods	Further define the term “snack foods”	Instructed teachers to read the definition of “snack foods” to students when reading the directions
2.7) I like leaving school grounds for lunch	Middle school students cannot leave the grounds for lunch	Deleted statement
2.11) I do not like the smell of the cafeteria	Change or removed this statement	None: This item was adapted from the existing literature for this audience

Table 3.1 Changes made after Conducting Expert Panel Review Cont.

Original Instrument Statement	Expert Panel Review Comment	Changes Made
3.1) I do not feel popular when I eat the school lunch	These statements ask the same thing	None: There is a small, yet meaningful difference between these statements
3.2) I feel more popular when I eat snack foods for lunch		
No corresponding statement	Questions do not address students not wanting to eat with who they are trying to impress	Added statement: 3.7) I feel uncomfortable eating school lunch in front of other students

Parental Consent

Since this study focused on adolescents, parental consent was required for each participant. A parental consent form was designed and distributed to parents prior to any data collection. Only students with parental consent were allowed to participate in the pilot study and final data collection. The parental consent form may be found in Appendix F.

Student Consent

After obtaining parental consent, student participants were required to sign a student consent form. Only students with both parental and student consent could participate in the pilot study and final data collection. Students could decline to participate in the study even if they received consent from their parents. The student consent form can be found in Appendix F.

Pilot Study

The revised survey instrument was used in the pilot study. The survey instrument used for the pilot study also included a comment box after each section for student feedback (Appendix G). Parental and student consent forms were distributed to 90 students in a middle school in Junction City, KS. Participation in the study was completely voluntary. Nineteen

students who had parental consent took the pilot test survey. The comments provided by the pilot study participants were further used to refine the instrument (Appendix H).

Pilot Study Results

Nineteen middle school students participated in the pilot study. The participants had few comments and concerns. Some participants did not understand the word “outdated” in the statement: *The cafeteria is outdated*. This statement was changed to read: *The cafeteria is old*. One participant stated the survey was easy to complete because he or she just had to circle the responses. All other comments were not in regards to level of understanding of the survey or survey improvement.

Participant Recruitment

Email addresses were obtained for 177 middle school FACS program instructors in Kansas. Instructor contact information was obtained from individual middle school web pages. An email invitation to participate in the research study was sent to the 177 FACS instructors (Appendix I). Twenty-two emails were returned as undeliverable addresses. A total of 155 FACS instructors were able to receive the email. Thirty emails were received in response to the invitation to participate in the research study. Twenty-one instructors expressed interest in participating in the study. Only thirteen instructors were able to participate in the study. The remaining eight interested instructors were declined permission to participate or did not have time to assist with the study. The thirteen participating instructors indicated the numbers of surveys they needed and the mailing address for their school.

Survey Instrument Administration

Project participation packets that included instructions (Appendix J), consent forms, and surveys were mailed to the thirteen FACS instructors. Before a student could participate in the study, they needed to have completed parental and student consent forms. Participation in the study was completely voluntary. A total of 1164 surveys were distributed to students by their FACS teachers. FACS instructors sent email conformation when they received the project participation packet. Three weeks after receiving the surveys, FACS instructors were sent a reminder email. During survey administration, each participating FACS teachers' school was examined to determine school enrollment numbers and the percentage of students at that school receiving lunch at a free or reduced price. All data was obtained from the Kansas State Department of Education.

Data Analysis

The Statistical Package for Social Sciences (SPSS) version 21.0 was used to compute descriptive statistics (means, frequencies, and standard deviation), Independent sample t-tests, and One-way Analysis of Variance (ANOVA). Independent t-tests were used to examine differences between certain demographic characteristics. A One-Way ANOVA was used to identify differences between the remaining demographic characteristics. Tukey key test were performed to further understand the differences between the demographic groups.

Conclusions

The survey instrument was developed using themes identified in existing literature. Survey statements were separated into four categories: statements that might motivate students to participate in the NSLP, statements that might de-motivate students from participating in the

NSLP, statements to determine peer influence on student participation in the NSLP, and demographic characteristics. The survey instrument was review by a panel of experts in child nutrition. Recommendations from the panel members were used to update the survey instrument. The survey instrument was further reviewed by pilot testing it with students in a Kansas middle school. Participants provided feedback about the terminology used in the survey statements. Statements were adjusted to ensure future participants would understand the intention of the statements.

References

- Asperin, A. E., Nettles, M. F., & Carr, D. H. (2010). The non-participation survey: Understanding why high school students choose not to eat school lunch. *Journal of Child Nutrition & Management*, 34(1),
- James, D.C.S., Rienzo, B.A., & Frazee, C. (1996). Using focus group interviews to understand school meal choices. *The Journal of School Health*; 66(4), 128-131.

Chapter 4 - Middle School Students' Perceptions and Beliefs about the National School Lunch Program

Introduction

The National School Lunch Program (NSLP) is a federally funded program that helps to provide nutritionally balanced, low-cost or free lunches to more than 31 million children each school day (United States Department of Agriculture [USDA], 2008). The recent increase in childhood obesity has put these programs under significant scrutiny. Schools and districts must provide school lunches that meet the recommendations outlined the Dietary Guidelines for Americans. These guidelines recommend that no more than 30% of a child's calories come from fat and less than 10% come from saturated fat, and include one-third of the Recommended Dietary Allowances (RDAs) of protein, Vitamin A, Vitamin C, iron, calcium, and calories (USDA, 2011). Therefore, school nutrition programs must provide meals that are lower in fat and include more fruits, vegetables, and whole grains. Unfortunately, these meals are not the initial preferences of children, especially if the diet they consume outside of school is dissimilar.

School nutrition programs must provide these nutritious meals without decreasing student participation (USDA, 2008). Several variables, such as household income level and school enrollment, size, and location all impact participation in the NSLP. As schools follow the changing nutrient guidelines, school nutrition programs have experienced decreases in participation (Gleason, 1995). To recover from declining participation and revenue, school lunch programs have introduced a la carte food options, such as snack items (Meyer et al., 2001). These foods which compete with the NSLP tend to be high in calories, carbohydrates, and fat, and are believed to be a contributing factor to childhood obesity rates (Fox, Meinen, Pesik,

Landis, & Remington, 2005). Competitive foods also contribute to identifying children receiving lunches at free or reduced price (Pogash, 2008; Watkins, 2001). The identification of students receiving lunches at a free and/or reduced price has led some to believe that social stigmas are attached to the NSLP (Meyer et al., 2001; Pogash, 2008; Watkins, 2001). Some high school students choose to not eat school lunch altogether to avoid being identified as poor or not “cool” (Pogash, 2008). Little research exists that has examined perceived stigmas about participants in the NSLP.

Earlier research revealed operational issues such as line length, meal time, and meal price to be contraindications to participation (Fogleman, Dutcher, McProud, Nelken, & Lins, 1992; Gleason, 1995; Smith, 1992). Today, social stigmas and other factors such as nutrition, competitive foods, and food quality are cited as reasons for nonparticipation (James et al., 1996; Meyer, 2000; Stein, 2008). Few studies have assessed social stigmas outside of free and/or reduced lunch eligibility. Some research shows that peer pressure and the need to socialize among adolescents are not acknowledged when creating school nutrition environments (Meyer et al., 2001). School officials even believe that the intervention of social status in middle school lower participation in school lunch (Pogash, 2008).

Many operational and food-related variables have been examined to assess declining student participation in the NSLP, yet few studies have specifically looked at program perception through the eyes of the students’ participating (Asperin, Nettles, & Carr, 2010; Stein, 2008). More research is needed that assesses peer influence and social stigmas on participation. The purpose of this study is to investigate if social stigmas exist about the NSLP and their influence on student participation. The following research questions will be addressed in this study:

1. What stigmas exist about the National School Lunch Program among adolescents?

2. Do peers influence adolescents beliefs about the National School Lunch Program?
3. Do school environment factors influence beliefs about the National School Lunch Program?
4. Do peer developed beliefs influence students' participation in the National School Lunch Program?
5. Do school environment factors influence student's participation in the National School Lunch Program?

Methodology

The population of this study was middle school students in the state of Kansas. Specifically, middle school students in Family and Consumer Science (FACS) courses were selected to be the sample for this study. A total of 216 FACS programs were identified in Kansas and email addresses were obtained for 177 of the FACS instructors. An email invitation to participate in the study was sent to the FACS instructors. The survey instrument was developed using themes found in previous research. In addition to demographic information, survey questions were divided into three categories: statements that may motivate students to participate in the NSLP, statements that may de-motivate students from participating in the NSLP, and statements about peer influences on participation.

Prior to data collection, approval from the Kansas State University Institutional Review Board was obtained. Survey content validity was also assessed by an expert panel of 13 experts in school nutrition program administration. The recommendations and comments provided by the panel members were used to refine and validate the survey instrument. The survey instrument was then pilot tested by nineteen middle school students who had parental consent to

participate. The comments provided by the pilot study participants were further used to update the instrument.

Only thirteen of the 177 FACS instructors chose to participate in the study. Project participation packets were mailed to the participating instructors. These packets included survey distribution instructions, consent forms, and surveys. Before students could participate in the study, completed parental and student consent forms were required. Participation was completely voluntary and through phone and email communication with FACS instructors, a total of 1164 surveys were distributed.

The Statistical Package for Social Sciences (SPSS) version 21.0 was used to compute descriptive statistics (means, frequencies, and standard deviation), Independent sample t-tests, and One-way Analysis of Variance (ANOVA). Independent t-tests were used to examine differences between certain demographic characteristics. A One-Way ANOVA was used to identify differences between the remaining demographic characteristics.

Results

A total of 584 middle school students responded to the survey for an initial response rate of 50.2%. Surveys completed by fifteen students were omitted due to no evidence of signed parental consent or student consent forms. The remaining total of 559 usable responses represented a 48% response rate.

Demographic Characteristics of Respondents

The majority of the respondents in this study were white students (76.9%) (Table 4.1). A majority of the respondents were females (60.3%) with 39.0% males. Most of the respondents were 12 (34.2%) or 13 (36.5%) years old, in grades seven (45.1%) or eight (32.6%). The

majority of the respondents indicated that they ate school lunch four to five days per week (69.1%) and that half of their friends eat school lunch on most days (80.9%). A total of 26.3% respondents stated that they skip lunch at least once a week.

Table 4.1 Demographic Characteristics of Respondents (n=559)

Characteristic	N	%^a
Gender		
Male	218	39.0
Female	337	60.3
Grade in School		
6 th	122	21.8
7 th	252	45.1
8 th	182	32.6
Age		
10 or younger	2	0.4
11	75	13.4
12	191	34.2
13	204	36.5
14 or older	83	14.8
Ethnicity		
African American	19	3.4
Asian	4	0.7
Hispanic	33	5.9
Native American	10	1.8
Pacific Islander	1	0.2
White	430	76.9
Other	36	6.4
Days per week eating school lunch		
0 - 1 days	81	14.5
2 - 3 days	91	16.1
4 - 5 days	386	69.1
Half of my close friends eat lunch on most days		
Yes	452	80.9
No	65	11.6

^aResponses may not equal 100% due to non-response to a question.

Table 4.1 Demographic Characteristics of Respondents (n=559) Continued

Do you ever skip lunch		
Yes	147	26.3
No	409	73.2
Days per week skipping lunch		
1 - 2 days	101	18.1
3 - 4 days	27	4.8
Everyday	11	2.0

^aResponses may not equal 100% due to non-response to a question.

Demographic Characteristics of Schools

Table 4.2 summarizes the school grade levels, enrollment, and percentage of free and/or reduced lunch eligibility of students. The majority of the respondents attended middle schools with grades sixth through eighth (41.9%), followed by 21.3% of respondents attending schools with grades fifth through eighth. Only students in grades sixth through eighth were eligible to take the survey. A relatively even distribution of school enrollment was represented by participants in this study. Approximately 31.8% of respondents attended schools with 50-250 students, 30.4% of respondents attended schools with 250-500 students, and 37.3% attended schools with more than 500 students. The respondents represented schools with a wide range of the student population receiving lunch at a free or reduced price. A total of 37.6% of respondents attended schools with 10-30% of the student population receiving lunch at a free or reduced price. Only 15.4% of respondents represented schools with less than 10% of their student population receiving free or reduced lunch. A total of 21.8% of the respondents represented schools with greater than 50% of their student population receiving free or reduced lunch.

Table 4.2 Demographic Characteristics of Respondents' School

Characteristic	N	%
School Grade Levels		
6-8	234	41.9
7-8	105	18.8
5-8	119	21.3
7-12	93	16.6
K-8	8	1.4
School Enrollment		
50-250	178	31.8
250-500	170	30.4
500+	211	37.3
Percentage of Students Receiving Lunch at Free or Reduced Prices		
<10% ^a	86	15.4
10-30%	210	37.6
30-50%	141	25.2
+50%	122	21.8

^a Family Educational Rights and Privacy Act (FERPA) prevents the disclosure of personally identifiable student information. KSDE had determined that quantities less than ten students may be personally identifiable. Therefore, schools with less than ten students enrolled in the free or reduced lunch program are included in the <10% category.

Motivating Factors to Participate in the School Lunch Program

Table 4.3 presents the means and standard deviations of each of the statements intended to measure student motivation to participate in the NSLP using a 5-point likert scale. Motivator statements were prefaced with “*I prefer to eat school lunch because.*” Overall, respondents rated friendliness of staff the highest ($M = 3.63 \pm 1.12$), followed by availability of healthy options at lunch ($M = 3.43 \pm 1.19$), and affordability of school lunch ($M = 3.14 \pm 1.12$). The lowest mean ratings were liking the menu choices ($M = 2.39 \pm 1.16$), knowing the contents of their lunch ($M = 2.25 \pm 1.22$), and receiving plenty to eat ($M = 2.25 \pm 1.24$).

Table 4.3 Mean Responses about Motivators to Participating in School Lunch (n = 559)

Motivating Statement	Mean	±	SD
<i>I prefer to eat school lunch because...</i>			
The cafeteria staff is friendly	3.63	±	1.177
There are healthy options	3.43	±	1.185
School lunch is affordable	3.14	±	1.194
The cafeteria is a fun place	2.97	±	1.259
I have no other choice	2.77	±	1.333
School lunch tastes good	2.65	±	1.147
School lunch is fresh	2.51	±	1.189
My friends do	2.45	±	1.162
I like the menu choices	2.39	±	1.160
I get plenty to eat	2.25	±	1.239
I know what is in my school lunch	2.25	±	1.217

A five point scale was used for responses: 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree.

De-motivating Factors to Participating in the National School Lunch Program

Table 4.4 presents the means and standard deviations of each of the statements intended to measure students' perceptions about de-motivators to lunch participation using a 5-point likert scale. Each statement was prefaced with "*I prefer not to eat school lunch because...*" Overall, the statement indicating that snack foods taste better than the school lunch were rated highest (M=3.71±1.25) followed by a preference to purchase snack foods items rather than the school lunch (M = 3.28±1.30). The lowest mean ratings were for fear of gaining weight (M = 2.17±1.16) or feeling hungry at lunch time (M = 1.95±1.10).

Table 4.4 Mean Responses about De-motivators to Participating in School Lunch (n = 559)

De-Motivating Statement	Mean	±	SD
<i>I prefer not to eat school lunch because ...</i>			
Snack foods taste better than school lunch	3.71	±	1.251
I would rather buy snack foods	3.28	±	1.298
Snack items cost less than school lunch	3.14	±	1.227
The cafeteria is too crowded	3.03	±	1.263
I like bringing my own lunch from home	2.73	±	1.317
I do not like the smell of the cafeteria	2.70	±	1.240

**Table 4.4 Mean Response about De-Motivators to Participating in School Lunch (n = 559)
Cont.**

De-Motivating Statement	Mean	±	SD
I do not have enough time	2.67	±	1.249
My friends buy snack foods	2.61	±	1.199
The cafeteria is old	2.44	±	1.175
I might gain too much weight	2.17	±	1.158
I am not very hungry at lunch time	1.95	±	1.097

A five point scale was used for responses: 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree.

Social Influences on Participating in the National School Lunch Program

Table 4.5 presents the means and standard deviations of statements about, social influences using a 5-point likert scale. Overall, students' mean responses were rated below a 3.0 on the 5-point scale. The highest mean ratings were situated around eating activities that friends do together, such as eating lunch ($M = 2.45 \pm 1.16$) and purchasing snacks ($M = 2.33 \pm 1.18$) if friends did too. The lowest mean responses were for "Other students will think I am poor if I eat school lunch" ($M = 1.54 \pm 0.81$) and "Sometimes, I make fun of other kids who eat school lunch" ($M = 1.31 \pm 0.65$).

Table 4.5 Social Stigma Responses (n = 559)

Social Influence Statement	Mean	±	SD
Social Stigmas			
I am more likely to eat school lunch if my friends do too	2.45	±	1.160
I am more likely to buy snack foods if my friends do too	2.33	±	1.187
I would rather do other things than eat during the lunch period	2.28	±	1.266
I do not feel popular when I eat school lunch	2.22	±	1.075
I feel more popular when I eat snack foods for lunch	1.96	±	0.947
I feel uncomfortable eating school lunch in front of other students	1.82	±	1.068
Overall, my friends make a big impact on whether I eat school lunch or not	1.76	±	1.032
Other students will make fun of me if I eat school lunch	1.56	±	0.791
Other students will think I am poor if I eat school lunch	1.54	±	0.814
Sometimes, I make fun of other kids who eat school lunch	1.31	±	0.646

A five point scale was used for responses: 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree.

Gender Differences

Independent-samples t-tests were used to determine significant differences in mean scores based on the respondents' gender (Table 4.6). A total of 337 females and 218 males responded to the survey. Even though there were more female respondents than males, few variations existed between male and female students. Male students rated the taste of school lunch ($M = 2.79 \pm 1.11$) and the friendliness of the cafeteria staff ($M = 3.76 \pm 1.21$) higher than female respondents. However, female students displayed a higher concern that school lunch might make them gained weight ($M = 2.27 \pm 1.17$) compared to male students ($M = 2.04 \pm 1.12$). Lastly, female students appeared to be slightly more impacted by peer influences than male students. Female students had a higher mean score ($M = 2.54 \pm 1.17$) for the statement, *I am more like to eat school lunch if my friends do too*, than males students ($M = 2.29 \pm 1.11$). Female students also had a higher mean score ($M = 1.91 \pm 1.13$) for the statement, *I feel uncomfortable eating school lunch in front of other students*, than males students ($M = 1.70 \pm 0.95$).

Table 4.6 Student Gender Differences

Statement	Mean \pm Standard Deviation		t	Sig.
	Male (n=218)	Female (n=337)		
<i>I prefer to eat school lunch because...</i>				
The cafeteria staff is friendly	3.76 \pm 1.211	3.54 \pm 1.143	2.090	.037
School lunch tastes good	2.79 \pm 1.112	2.56 \pm 1.162	2.343	.020
<i>I prefer not to eat school lunch because...</i>				
I might gain too much weight	2.04 \pm 1.123	2.27 \pm 1.174	-2.284	.023
Social Stigma/Peer Influence				
I am more likely to eat school lunch if my friends do too	2.29 \pm 1.114	2.54 \pm 1.179	-2.608	.009
I feel uncomfortable eating school lunch in front of other students	1.70 \pm 0.954	1.91 \pm 1.132	-2.375	.018

A five point scale was used for responses: 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree.

Table 4.7 Differences across Ages

Statement	Mean ± Standard Deviation				F	Sig.
	≤11 (n=77)	12 (n=191)	13 (n=204)	14≤ (n=83)		
<i>I prefer to eat school lunch because...</i>						
There are healthy options	3.63 ± 1.198	3.60 ± 1.147	3.32 ± 1.150	3.12 ± 1.282	4.660	.003
School lunch tastes good	3.01 ± 1.094	2.79 ± 1.148	2.53 ± 1.157	2.28 ± 1.057	7.276	.000
I like the menu choices	2.69 ± 1.270	2.45 ± 1.205	2.28 ± 1.063	2.20 ± 1.145	3.175	.004
I get plenty to eat	2.57 ± 1.332	2.45 ± 1.294	2.08 ± 1.129	1.89 ± 1.144	7.112	.000
<i>I prefer not to eat school lunch because...</i>						
Snack foods taste better than school lunch	3.37 ± 1.345	3.60 ± 1.318	3.83 ± 1.140	4.00 ± 1.200	4.465	.004
I like bringing my own lunch from home	3.25 ± 1.416	2.65 ± 1.315	2.61 ± 1.270	2.71 ± 1.274	4.806	.003
I do not like the smell of the cafeteria	2.51 ± 1.294	2.61 ± 1.205	2.74 ± 1.202	3.05 ± 1.315	3.240	.022
Social Stigma/Peer Influence						
I would rather do other things than eat during the lunch period	1.95 ± 1.169	2.34 ± 1.339	2.24 ± 1.172	2.54 ± 1.364	3.216	.023
I feel uncomfortable eating school lunch in front of other students	1.44 ± 0.786	1.85 ± 1.116	1.88 ± 1.090	1.98 ± 1.082	4.138	.006
Other students will make fun of me if I eat school lunch	1.32 ± 0.571	1.53 ± 0.800	1.61 ± 0.797	1.73 ± 0.895	4.064	.007
Other students will think I am poor if I eat school lunch	1.28 ± 0.580	1.53 ± 0.813	1.58 ± 0.843	1.67 ± 0.885	3.645	.013
Sometimes, I make fun of other kids who eat school lunch	1.12 ± 0.362	1.26 ± 0.621	1.33 ± 0.617	1.54 ± 0.863	6.343	.000

A five point scale was used for responses: 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree.

Impact of Age on Survey Statements

A one-way analysis of variance (ANOVA) test was performed to assess the differences between the mean responses and respondent age. Twelve statements were significantly different (Table 4.7). For the first section assessing motivating factors, respondents eleven years old and younger had the highest mean scores for the four statements that displayed significant differences. For the second section assessing de-motivating factors, three statements were significantly different. Fourteen year olds had higher means for the de-motivating factors. However, respondents eleven years old and younger preferred to bring lunches from home ($M = 3.25 \pm 1.41$) compared to older respondents. For the final section examining peer influences and social stigmas, five statements were significantly different. Respondents who were fourteen or older had the highest mean scores. The greater the age of the respondent the higher the mean score for peer influences and impact of social stigmas.

Student Grade Level Impact of Survey Statements

A one-way analysis of variance test assessed differences between the mean responses and grade levels. Eighteen statements were significantly different (Table 4.8). For the statements that assessed motivators to lunch participation, eight had significant differences across grade level. Sixth graders had the highest mean scores and eighth graders had the lowest mean scores for each of the statements.

When examining de-motivators about lunch participation across grade level, four statements had significant differences (Table 4.8). Sixth graders preferred to bring their lunch from home ($M = 3.05 \pm 1.43$), followed by eighth graders ($M = 2.77 \pm 1.28$), and then seventh graders ($M = 2.53 \pm 1.25$). Eighth graders felt that snack foods tasted better than school

Table 4.8 Differences across Middle School Grade Levels

Statement	Mean ± Standard Deviation			F	Sig.
	6th (n=122)	7 th (n=252)	8 th (n=182)		
<i>I prefer to eat school lunch because...</i>					
The cafeteria staff is friendly	3.87 ± 1.109	3.61 ± 1.160	3.48 ± 1.226	4.024	.018
There are healthy options	3.73 ± 1.133	3.52 ± 1.141	3.11 ± 1.217	11.605	.000
The cafeteria is a fun place	3.30 ± 1.269	3.01 ± 1.263	2.80 ± 1.213	6.526	.002
School lunch tastes good	3.01 ± 1.146	2.71 ± 1.125	2.31 ± 1.099	15.132	.000
I have no other choice	2.91 ± 1.404	2.80 ± 1.314	2.52 ± 1.290	3.099	.046
School lunch is fresh	2.73 ± 1.219	2.50 ± 1.152	2.36 ± 1.207	3.553	.029
I like the menu choices	2.68 ± 1.286	2.40 ± 1.125	2.16 ± 1.079	7.389	.001
I get plenty to eat	2.67 ± 1.362	2.27 ± 1.223	1.93 ± 1.086	13.249	.000
<i>I prefer not to eat school lunch because...</i>					
Snack foods taste better than school lunch	3.45 ± 1.335	3.64 ± 1.241	3.98 ± 1.166	7.105	.001
I like bringing my own lunch from home	3.05 ± 1.431	2.53 ± 1.252	2.77 ± 1.282	6.631	.001
I do not have enough time	2.75 ± 1.356	2.46 ± 1.192	2.88 ± 1.206	6.463	.002
I do not like the smell of the cafeteria	2.46 ± 1.227	2.71 ± 1.203	2.86 ± 1.276	3.875	.021
Social Stigma/Peer Influence					
I am more likely to eat school lunch if my friends do too	2.20 ± 1.077	2.49 ± 1.214	2.53 ± 1.121	3.667	.026
I feel more popular when I eat snack foods for lunch	1.74 ± 0.909	2.02 ± 0.948	2.03 ± 0.960	4.221	.015
I feel uncomfortable eating school lunch in front of other students	1.51 ± 0.855	1.91 ± 1.095	1.90 ± 1.103	6.822	.001
Other students will make fun of me if I eat school lunch	1.35 ± 0.588	1.62 ± 0.836	1.63 ± 0.828	5.780	.003
Other students will think I am poor if I eat school lunch	1.34 ± 0.653	1.63 ± 0.863	1.56 ± 0.825	5.240	.006
Sometimes, I make fun of other kids who eat school lunch	1.13 ± 0.855	1.33 ± 1.095	1.40 ± 1.103	6.875	.001

A five point scale was used for responses: 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree

lunch ($M = 3.98 \pm 1.16$), followed by seventh graders ($M = 3.64 \pm 1.24$), and then sixth graders ($M = 3.45 \pm 1.33$). Eighth graders ($M = 2.88 \pm 1.20$) and sixth graders ($M = 2.75 \pm 1.35$) felt like they did not have enough time for lunch compared to seventh graders ($M = 2.46 \pm 1.19$). Lastly, eighth graders had a higher mean response ($M = 2.86 \pm 1.27$) regarding the smell of the cafeteria being a reason they prefer not to eat school lunch, followed by seventh graders ($M = 2.71 \pm 1.20$), and then sixth graders ($M = 2.46 \pm 1.22$).

For the last section of the survey, seventh and eighth graders displayed slightly higher mean scores for all the statements that assessed peer influences and social stigmas about the National School Lunch Program. For the final statement, *I feel uncomfortable eating school lunch in front of other students*, seventh ($M = 1.91 \pm 1.09$) and eighth ($M = 1.90 \pm 1.10$) graders had a higher mean score for this statement than sixth graders ($M = 1.51 \pm 0.85$).

Differences in Participation

A one-way analysis of variance test assessed differences between the survey responses and lunch participation (days per week). Twenty of the survey statements were identified as significant (Table 4.9). Respondents indicated that they ate school lunch zero to one day, two to three days, or four to five days per week. For the first section, all of the motivational statements had significant differences between the groups. The respondents who indicated that they ate school lunch two to three days or four to five days per week had significantly different responses than the respondents who indicated that they eat school lunch one day or less per week. Six of the twelve statements assessing what might de-motivate students from eating school lunch displayed significant differences between the three groups. Respondents who ate school lunch one day per week or less indicated that they would prefer to bring their lunches (M

Table 4.9 Differences in Participation

Statement	Mean ± Standard Deviation			F	Sig.
	0-1 Day (n=81)	2-3 Days (n=91)	4-5 Days (n=386)		
<i>I prefer to eat school lunch because...</i>					
The cafeteria staff is friendly	3.18 ± 1.271	3.61 ± 1.226	3.72 ± 1.123	7.340	.001
There are healthy options	2.78 ± 1.387	3.29 ± 1.202	3.60 ± 1.083	17.975	.000
The cafeteria is a fun place	2.70 ± 1.470	2.74 ± 1.349	3.09 ± 1.175	5.102	.006
School lunch is affordable	2.68 ± 1.367	3.19 ± 1.065	3.23 ± 1.166	7.387	.001
I have no other choice	2.20 ± 1.287	2.79 ± 1.403	2.89 ± 1.300	9.124	.000
School lunch is fresh	1.97 ± 1.184	2.41 ± 1.164	2.64 ± 1.167	10.912	.000
School lunch tastes good	1.96 ± 1.152	2.41 ± 1.004	2.85 ± 1.112	23.892	.000
My friends do	1.95 ± 1.073	2.40 ± 1.105	2.57 ± 1.168	9.653	.000
I get plenty to eat	1.86 ± 1.003	2.19 ± 1.219	2.35 ± 1.272	5.290	.005
I know what is in my school lunch	1.81 ± 1.126	2.05 ± 1.196	2.39 ± 1.216	9.084	.000
I like the menu choices	1.80 ± 1.072	2.09 ± 1.071	2.58 ± 1.145	19.934	.000
<i>I prefer not to eat school lunch because...</i>					
Snack foods taste better than school lunch	4.05 ± 1.292	3.91 ± 1.158	3.59 ± 1.248	5.963	.003
I like bringing my own lunch from home	3.78 ± 1.517	2.93 ± 1.223	2.46 ± 1.167	39.809	.000
I would rather buy snack foods	3.52 ± 1.324	3.48 ± 1.235	3.18 ± 1.294	3.635	.027
The school lunch line is too long	3.49 ± 1.475	3.12 ± 1.339	3.01 ± 1.396	3.808	.023
My friends buy snack foods	2.89 ± 1.351	2.73 ± 1.223	2.52 ± 1.151	3.797	.023
I do not like the smell of the cafeteria	1.91 ± 1.385	2.16 ± 1.198	1.92 ± 1.177	13.750	.000
Social Stigma/Peer Influence					
I would rather do other things than eat during the lunch period	2.41 ± 1.394	2.64 ± 1.387	2.17 ± 1.192	5.604	.004
I am more likely to eat school lunch if my friends do too	1.94 ± 1.017	2.48 ± 1.089	2.54 ± 1.180	9.457	.000
Overall, my friends make a big impact on whether I eat school lunch or not	1.54 ± 0.867	1.93 ± 1.143	1.76 ± 1.031	3.097	.046

A five point scale was used for responses: 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree.

3.78±1.51) or buy snack foods ($M = 3.52 \pm 1.32$), that snack foods taste better than school lunch ($M = 4.05 \pm 1.29$), that their friends purchase snack foods ($M = 2.89 \pm 1.35$), and the lunch line is too long ($M = 3.49 \pm 1.47$).

For the final section assessing peer influences and social stigmas, three of the statements displayed significant differences when comparing the days per week students eat school lunch. Students who ate school lunch four to five days and two to three days per week indicated they might be more influenced by their peers when eating school lunch than students who ate school lunch less than one day per week.

Students who Skip Lunch

The independent-samples t-test was used to determine if there were any differences in responses between students who skip lunch and those who do not. Sixteen statements had significant differences (Table 4.10). A total of 26.3% of the respondents indicated that they skip lunch one or more days per week. Five of the eleven statements that might motivate students to eat school lunch displayed significant differences in responses between students who skip lunch and students who do not skip lunch. Students who do not skip lunch awarded higher scores to the statements than the students who skip lunch. Six of the twelve statements that might demotivate students from eating school lunch displayed significant differences in responses between students who skip lunch and students who do not skip lunch. Students who skipped lunch awarded higher scores to the de-motivational statements than the students who do not skip lunch.

For the final section assessing peer influences and social stigmas, students who skipped lunch were more impacted by the actions of their peers than students who do not skip lunch. Five of the ten survey statements had significant differences in the responses between students

Table 4.10 Differences in Students who Skip Lunch

Statement	Mean ± Standard Deviation		T	Sig.
	Skipping (n=147)	Non-skipping (n=409)		
<i>I prefer to eat school lunch because...</i>				
The cafeteria staff is friendly	3.35 ± 1.307	3.72 ± 1.109	3.056	.003
There are healthy options	3.20 ± 1.274	3.52 ± 1.136	2.687	.008
School lunch tastes good	2.14 ± 1.007	2.82 ± 1.143	6.682	.000
I like the menu choices	2.05 ± 1.075	2.51 ± 1.169	4.308	.000
I get plenty to eat	1.98 ± 1.096	2.35 ± 1.276	3.357	.001
<i>I prefer not to eat school lunch because...</i>				
Snack foods tastes better than school lunch	4.20 ± 1.071	3.53 ± 1.265	-6.032	.000
I would rather buy snack foods	3.61 ± 1.297	3.15 ± 1.276	-3.620	.000
The cafeteria is too crowded	3.25 ± 1.267	2.97 ± 1.254	-2.260	.025
I do not like the smell of the cafeteria	3.01 ± 1.242	2.61 ± 1.224	-3.334	.001
My friends buy snack foods	2.81 ± 1.337	2.53 ± 1.139	-2.204	.029
I am not very hungry at lunch time	2.15 ± 1.269	1.89 ± 1.025	-2.276	.024
Social Stigma/Peer Influence				
I would rather do other things than eat during the lunch period	2.99 ± 1.419	2.02 ± 1.104	-7.447	.000
I am more likely to buy snack foods if my friends do	2.57 ± 1.293	2.23 ± 1.132	-2.800	.006
I feel uncomfortable eating school lunch in front of other students	2.16 ± 1.237	1.71 ± 0.978	-3.941	.000
I feel more popular when I eat snack foods	2.15 ± 1.050	1.89 ± 0.901	-2.626	.009
Overall, my friends make a big impact on whether I eat school lunch or not	2.03 ± 1.173	1.66 ± 0.960	-3.454	.001

A five point scale was used for responses: 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree.

who skip lunch and students who do not skip lunch. All five of the statements had higher means for students who skip school lunch.

Differences across School Enrollment

A one-way analysis of variance test assessed differences between the survey responses and school enrollment numbers. Twenty of the survey statements were identified as significant (Table 4.11). A total of 31.8% of the respondents attended schools with 50-250 students, 30.4% of respondents attended schools with 250-500 students, and 37.3% attended schools with more than 500 students. For the first section assessing motivating factors, respondents in schools with more than 500 students had the highest mean scores. For the second section assessing demotivating factors, respondents in schools with 250 to 500 students had the highest mean scores. Only one statement in the third section was identified as significant. For the statement, "*I am more likely to eat school lunch if my friends do too,*" respondents in schools with more than 500 students had the highest mean score ($M = 2.63 \pm 1.19$), followed by respondents in schools with 250 to 500 students ($M = 2.35 \pm 1.11$), then respondents in schools with 50 to 250 students ($M = 2.32 \pm 1.13$).

Table 4.11 Differences across School Enrollment

Statement	Mean ± Standard Deviation			F	Sig.
	50-250 (n=178)	250-500 (n=170)	500+ (n=211)		
<i>I prefer to eat school lunch because...</i>					
The cafeteria staff is friendly	3.90 ± 1.086	3.58 ± 1.209	3.43 ± 1.185	8.204	.000
There are healthy options	3.47 ± 1.123	3.23 ± 1.246	3.56 ± 1.167	3.940	.019
I have no other choice	2.98 ± 1.369	2.75 ± 1.268	2.63 ± 1.338	3.441	.033
School lunch is affordable	2.94 ± 1.284	3.15 ± 1.118	3.30 ± 1.157	4.530	.011
School lunch taste good	2.60 ± 1.188	2.34 ± 1.018	2.93 ± 1.146	12.997	.000
School lunch is fresh	2.49 ± 1.144	2.24 ± 1.181	2.74 ± 1.193	8.187	.000
I like the menu choices	2.40 ± 1.162	2.02 ± 1.061	2.66 ± 1.161	14.959	.000
My friends do	2.34 ± 1.144	2.26 ± 1.084	2.71 ± 1.197	8.294	.000
I know what is in my school lunch	2.25 ± 1.226	1.99 ± 1.139	2.46 ± 1.234	7.258	.001
I get plenty to eat	2.01 ± 1.144	1.79 ± 0.993	2.82 ± 1.276	43.156	.000
<i>I prefer not to eat school lunch because...</i>					
Snack foods taste better than school lunch	3.64 ± 1.280	3.91 ± 1.235	3.60 ± 1.223	3.191	.042
I would rather buy snack foods	3.18 ± 1.293	3.57 ± 1.229	3.12 ± 1.324	6.138	.002
The cafeteria is too crowded	2.84 ± 1.307	3.19 ± 1.292	3.07 ± 1.184	3.473	.032
I like bringing my own lunch from home	2.79 ± 1.348	2.97 ± 1.313	2.49 ± 1.257	6.514	.002
The school lunch line is too long	2.78 ± 1.378	3.67 ± 1.353	2.92 ± 1.338	21.435	.000
I do not like the smell of the cafeteria	2.55 ± 1.224	2.96 ± 1.315	2.63 ± 1.162	5.447	.005
I do not have enough time	2.55 ± 1.224	2.89 ± 1.316	2.60 ± 1.196	3.830	.022
The cafeteria is old	2.34 ± 1.139	2.87 ± 1.235	2.20 ± 1.068	16.652	.000
I might gain too much weight	1.84 ± 0.940	2.27 ± 1.212	2.37 ± 1.225	11.272	.000
Social Stigma/Peer Influence					
I am more likely to eat school lunch if my friends do too	2.32 ± 1.135	2.35 ± 1.116	2.63 ± 1.196	4.283	.014

A five point scale was used for responses: 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree.

Differences across Free and/or Reduced Lunch Eligibility

A one-way analysis of variance test assessed differences between the survey responses and free and reduced lunch eligibility. Twenty of the survey statements were identified as significant (Table 4.12). Schools were separated into four categories based on the percentage of students who receive lunch at a free or reduced price. The four categories included: less than 10% of students, 10-30% of students, 30-50% of students, and more than 50% of students. Six of the eleven motivator statements displayed significant differences in responses the four groups. Respondents who attended schools with 30-50% or greater than 50% of the student population receiving free or reduced lunch had higher means and rated these statements more positively than the respondents at schools with 10-30% or less than 10% of the student population receiving free or reduced lunch.

Five of the twelve statements that might de-motivate students from eating school lunch displayed significant differences in responses the four groups. Respondents who attended schools with 10-30% or less than 10% of the student population receiving free or reduced lunch had higher means and rated these statements more positively than the respondents at schools with 30-50% or great than 50% of the student population receiving free or reduced lunch. For the final section assessing peer influences and social stigmas, seven of the ten statements showed significant differences in responses. Respondents who attended schools with 30-50% and more than 50% of the student population receiving free or reduced lunch had the highest means for the statements about social stigmas and peer influences.

Table 4.12 Differences across Free and/or Reduced Lunch Eligibility

Statement	Mean ± Standard Deviation				F	Sig.
	<10% (n=86)	10-30% (n=210)	30-50% (n=141)	+50% (n=122)		
<i>I prefer to eat school lunch because...</i>						
The cafeteria staff is friendly	3.57 ± 1.160	3.70 ± 1.208	3.88 ± 1.077	3.25 ± 1.164	6.556	.000
There are healthy options	3.33 ± 1.383	3.27 ± 1.200	3.65 ± 1.061	3.52 ± 1.104	3.379	.018
School lunch is affordable	3.15 ± 1.270	2.92 ± 1.215	3.27 ± 1.129	3.38 ± 1.116	4.656	.003
The cafeteria is a fun place	3.00 ± 1.198	3.07 ± 1.268	3.18 ± 1.281	2.56 ± 1.179	6.296	.000
I get plenty to eat	2.61 ± 1.292	1.98 ± 1.137	2.15 ± 1.185	2.58 ± 1.304	9.452	.000
School lunch is fresh	2.45 ± 1.300	2.32 ± 1.185	2.60 ± 1.120	2.75 ± 1.154	3.719	.011
I know what is in my school lunch	2.16 ± 1.291	2.03 ± 1.159	2.39 ± 1.167	2.53 ± 1.252	5.322	.001
<i>I prefer not to eat school lunch because...</i>						
The school lunch line is too long	3.43 ± 1.241	3.27 ± 1.362	3.18 ± 1.149	2.48 ± 1.145	11.056	.000
I like bringing my own lunch from home	2.95 ± 1.279	2.84 ± 1.370	2.80 ± 1.287	2.29 ± 1.196	5.902	.001
My friends buy snack foods	2.83 ± 1.369	2.66 ± 1.172	2.65 ± 1.112	2.31 ± 1.172	3.709	.012
I might gain too much weight	2.13 ± 1.220	2.04 ± 1.112	2.18 ± 1.108	2.42 ± 1.220	2.718	.044
I am not very hungry at lunch time	1.83 ± 0.980	1.84 ± 1.059	2.01 ± 1.186	2.18 ± 1.110	2.919	.034
Social Stigma/Peer Influence						
I am more likely to eat school lunch if my friends do too	2.40 ± 1.177	2.25 ± 1.084	2.58 ± 1.147	2.65 ± 1.243	3.986	.008
I feel more popular when I eat snack foods for lunch	1.94 ± 0.956	1.78 ± 0.928	2.20 ± 0.958	2.01 ± 0.908	5.617	.001
I feel uncomfortable eating school lunch in front of other students	1.70 ± 0.895	1.60 ± 0.979	2.01 ± 1.159	2.07 ± 1.137	7.301	.000
Overall, my friends make a big impact on whether I eat school lunch or not	1.55 ± 0.777	1.61 ± 1.009	1.95 ± 1.142	1.93 ± 1.034	5.644	.001
Other students will make fun of me if I eat school lunch	1.52 ± 0.796	1.42 ± 0.697	1.72 ± 0.893	1.65 ± 0.781	4.702	.003
Other students will think I am poor if I eat school lunch	1.47 ± 0.715	1.38 ± 0.712	1.73 ± 0.948	1.64 ± 0.825	6.256	.000
Sometimes, I make fun of other kids who eat school lunch	1.29 ± 0.594	1.18 ± 0.520	1.45 ± 0.760	1.39 ± 0.692	6.211	.000

A five point scale was used for responses: 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree.

Qualitative Responses

Two open-ended questions were included on the survey. The first question asked respondents to list the number one reason they eat school lunch. Respondents listed 503 reasons why they choose to eat school lunch (Table 4.13). Eleven themes were identified and responses were categorized into the corresponding theme. The three most common reasons why respondents eat school lunch are the convenience of school lunches, the hunger of the respondent, and no other option available to respondents for lunch.

Table 4.13 Self-Reported Reasons Respondents Eat School Lunch

Themes	Number of responses
Convenience	142
Hunger/For Energy	114
No other options besides school lunch	98
Sometimes the lunches taste good	50
The lunches taste good	35
Allows me to be social	17
Lunches are affordable	16
Lunches are healthy	12
Greater variety	9
Receiving lunch at a free and/or reduced price	7
Lunches are fresh	3
TOTAL RESPONSES	503

The second question asked respondents to list the number one reason they do not eat school lunch. Respondents listed 464 reasons why they choose not to eat school lunch (Table 4.14). Fourteen themes were identified and responses were categorized into the corresponding theme. The two most common reasons why respondents choose not to eat school lunch are the perceived poor food quality and overall dislike of the school lunches provided. Respondents

used words such as, hate, disgusting, and nasty, to describe their dislike of the school lunches provided.

Table 4.14 Self-Reported Reasons Respondents Do Not Eat School Lunch

Theme	Number of responses
Poor food quality	141
Overall dislike of school lunch	116
Sometimes the lunches taste poorly	66
Inadequate portion sizes	50
Preferring to bring lunches from home	35
Not enough time	11
Lunches are not healthy	10
Not being interested in eating lunch	9
Lunch line is too long	8
Negative social environment	5
Snack foods taste better	5
Dislike of the cafeteria environment	4
Giving or throwing away the school lunch	2
Not enough variety	2
TOTAL RESPONSES	464

Discussion

The purpose of this study was to investigate if social stigmas exist about the National School Lunch Program (NSLP) and their influence on student participation. Results from this study help to reveal what motivates and de-motivates students from participating in the NSLP and the social pressures that impact participation.

Motivators

Eleven survey statements helped to measure motivators for middle school students to participate in the National School Lunch Program (Table 4.3). The statement, “*The cafeteria staff is friendly,*” had the highest mean ($M = 3.63 \pm 1.177$) on the five-point scale. The statement, “*I know what is in my school lunch,*” had the lowest mean ($M = 2.25 \pm 1.217$). Only motivators about the friendliness of the staff, healthy lunch options, and school lunch affordability had means above 3.0. The remaining eight statements had means that fell between the categories of the respondents’ of being neutral to the statement or disagreeing with the statement. None of the statements appeared to strongly motivate any of the respondents to participate in the National School Lunch Program.

When examining the responses to motivator statements by demographic variables, the statements still did not have mean scores at 4.0 or above. Few variations existed between the genders of the respondents. Only two motivator statements had significant differences. Females were more critical about the taste of the school lunch ($M = 2.56 \pm 1.162$) and the friendliness of the staff ($M = 3.54 \pm 1.143$) compared to males. Previous research indicated that male students are more likely to participate in the National School Lunch Program when compared to female students (Gleason, 1995; Smith, 1992). In this study, female respondents did express that staff

friendliness and taste of school lunch does not motivate them more than males to participate in school lunch.

Some significant differences were also found between four of the motivator statements and the age of the respondent. For the statement, "School lunch tastes good," respondents eleven years old and younger had the highest mean ($M = 3.01 \pm 1.09$) compared to respondents 14 years and older ($M = 2.20 \pm 1.05$). Older respondents had also lower means for the statement, "*I get plenty to eat when eating school lunch.*" Respondents eleven years old and younger had the highest mean ($M = 2.57 \pm 1.33$) compared to respondents 14 years and older ($M = 1.89 \pm 1.14$). Even though there was a significant difference in the responses to receiving enough to eat, respondents of all ages did not feel that they received enough to eat ($M = 2.25 \pm 1.23$). This study shows that as age increased, the mean scores for some of the motivators decreased. Older respondents may have been exposed to more food options, have greater independence, and have been out of elementary environment longer. This reflects similar findings reported by Gleason (1995) and Smith (1992) who found that younger students are more likely to participate in the NSLP than older students.

Similar to age, significant differences were found between seventh and eighth graders and sixth graders. Eight motivator statements had significant differences between respondents' grade level. For all eight statements, sixth graders had the highest means, followed by seventh graders, and then eighth graders. The largest variations in the means were about the school lunch tasting good and receiving enough to eat (Table 4.8). Eighth graders are a couple years older than sixth graders and may have larger appetites due to puberty and growth. Again, it is evident that as grade in school increased, the mean score for some of the motivators decreased. This too adds

more support to the claim that younger students are more like to participate in the NSLP than older students (Gleason, 1995; Smith, 1992).

When examining frequency of participation, all eleven statements had significant differences in means between respondents who ate lunch one or less days, two to three days, and four to five days per week. For all eleven motivators, respondents who ate lunch four to five days per week had the highest means, followed by respondents eating lunch two to three days per week, and last respondents who ate lunch one or less days per week (Table 4.9). Respondents who skipped lunch were also more critical of the motivator statements. Five motivator statements had differences between respondents who skipped lunch and those who do not (Table 4.10). Students who skipped lunch had lower means compared to students who did not skip lunch.

Lastly, the overall school enrollment and free and/or reduced lunch eligibility appears to influence variations between groups, but few trends are clear. Respondents at schools with higher enrollments, 500 or more students, had the highest means for food quality motivators, and the lowest means for having no other choices for lunch and staff friendliness (Table 4.11). Respondents at schools with low enrollment, 50 to 250 students, had the lowest means for food quality motivators, and the highest means for having no other choices for lunch and staff friendliness (Table 4.11). There were seven motivators that had significant differences in means for percentage of students receiving lunch at free and/or reduced price. Of the four ranges of percentages, none had easily identifiable trends. For each of the seven motivator statements, a difference percentage range of students receiving free and/or reduced lunch had the highest mean.

Despite some of the meaningful differences in responses between gender, age, grade in school, frequency of meal participation, and meal skipping, there were no statistics to suggest that any of the eleven motivator statements were strong reasons respondents preferred to eat school lunch. Cafeteria staff friendliness, healthful lunch options, and school lunch affordability might be slight motivating factors, but more research is needed to confirm this belief.

De-Motivators

Twelve survey statements helped to measure motivators for middle school students to participate in the National School Lunch Program (Table 4.4). Five of the motivators received means above a 3.0 and six of the motivators had means above a 2.0. The only motivator that had a mean below a 2.0 was the statement, “*I am not very hungry at lunch time.*” This data indicates that respondents did not feel that a lack of hunger discouraged participation in the school lunch programs. However, a total of 114 respondents indicated on an open ended statement that the number one reason they choose to eat school lunch is due to hunger (Table 4.13). This was the second highest reason to eat school lunch, thus adding more support to the claim that lack of hunger is not a reason to not participate in the NSLP. Some respondents indicated that they would prefer to purchase snack foods ($M = 3.28 \pm 1.298$) and snack foods taste better than school lunch ($M = 3.71 \pm 1.251$). Both of these means fall between the categories of neutral to agree. Snack foods may be a deterrent from purchasing the school lunch. The results of the de-motivator statements do not indicate that bringing lunch from home, cost of school lunch, cafeteria environment, weight gain, and lack of hunger as reasons to not participate.

Only one statement had a significant difference in response between males and females. Female students had a slightly greater fear of gaining weight ($M = 2.27 \pm 1.174$) compared to male students ($M = 2.04 \pm 1.123$). Despite the slight increase in mean when separating female

respondents from male respondents, the overall mean ($M = 2.17 \pm 1.158$) regarding weight gain from school lunch participate does not indicate it is a strong de-motivator from school lunch participation.

When examining age and grade level in school, the same three de-motivators had significant differences. Respondents eleven and younger preferred to bring lunch from home ($M = 3.25 \pm 1.41$) compared to respondents twelve and older ($M = 2.65 \pm 1.31$; $M = 2.61 \pm 1.27$; $M = 2.71 \pm 1.274$). Respondents fourteen and older felt that snack foods taste better than the school lunch ($M = 4.00 \pm 1.20$) compared to respondents thirteen and younger ($M = 3.83 \pm 1.14$; $M = 3.60 \pm 1.31$; $M = 3.37 \pm 1.34$). When separating the responses by age, respondents fourteen years and older had a higher mean for the taste of snack foods ($M = 4.00 \pm 1.20$) compared to the overall mean ($M = 3.71 \pm 1.25$). These particular respondents do agree that snack foods taste better than school lunch and that is a possible reason why they select options other than the school lunch.

Several meaningful differences were found between the de-motivator statements and respondent participation in the school lunch program. Six of the de-motivator statements had significant differences (Table 4.9). Respondents who ate lunch one day or less per week had the highest means for the de-motivator statements, followed by students who eat lunch two to three days per week, and last students who participate four or more days per week. Respondents who ate lunch one day or less per week felt that snack foods taste better than the school lunch ($M = 4.05 \pm 1.29$), preferred to bring their lunch from home ($M = 3.78 \pm 1.51$), would rather buy snack foods than the school lunch ($M = 3.52 \pm 1.32$), and are deterred by the length of the school lunch line ($M = 3.49 \pm 1.47$). Students who participate in the NSLP on a daily basis will have lower mean scores for the de-motivator statements because of the frequency of their participation.

However, students who eat school lunch less often might be more critical of the school lunch program because they select not to eat lunch. Again, the taste of snack foods is proving to be a deterrent from purchasing the school lunch.

The comparison of students who skip lunch and those who do not skip lunch revealed that six de-motivator statements had significant differences between groups. Respondents who skip lunch had higher mean scores for all of the de-motivator statements. Respondents who skip lunch preferred the taste of snack foods ($M = 4.20 \pm 1.07$) and would rather buy snack foods ($M = 3.61 \pm 1.29$). This is another group that has a preference for snack foods compared to the school lunch. Respondents who skip lunch also think that the cafeteria is too crowded ($M = 3.25 \pm 1.26$) and dislike the smell of the cafeteria ($M = 3.01 \pm 1.24$). Surprisingly, respondents who skip lunch did not indicate that they are not very hungry at lunch time ($M = 2.15 \pm 1.26$). If students who skip lunch do not say that lack of hungry at lunch time is a reason they skip lunch, then factors do cause these students to skip lunch if they are hungry?

School enrollment and free and/or reduced lunch eligibility showed variation between groups. Nine of the twelve de-motivator statements had significant differences when compared to school enrollment numbers (Table 4.11). Respondents at schools with of enrollment of 250 to 500 students had the highest means for eight of the nine significant statements. Only respondents at schools with 500 or more students slightly felt that they might gain weight from eating the school lunch ($M = 2.37 \pm 1.22$) compared to schools with fewer students enrolled. Most notable from the differences between school enrollment numbers are the differences in respondents' preferences for snack foods and length of the line in the cafeteria. Respondents at schools with 250 to 500 students thought snack foods taste better than school lunch ($M = 3.91 \pm 1.23$), followed by respondents at school with 50 to 250 students ($M = 3.64 \pm 1.28$), and then

respondents at school with 500 or more students ($M = 3.60 \pm 1.22$). Respondents at schools with 250 to 500 students would rather buy snack foods ($M = 3.57 \pm 1.22$), compared to respondents at school with 50 to 250 students ($M = 3.18 \pm 1.29$) and respondents at school with 500 or more students ($M = 3.12 \pm 1.32$). Respondents at schools with 250 to 500 students also identified the length of the lunch line as a de-motivator for participation ($M = 3.67 \pm 1.35$) compared to respondents at school with 50 to 250 students ($M = 2.78 \pm 1.37$) and respondents at school with 500 or more students ($M = 2.92 \pm 1.33$). It is unknown why respondents at school with middle level enrollment prefer snacks and are deterred from eating school lunch due to the length of the line in the cafeteria.

Lastly, five de-motivators had significant differences between respondents at schools with varying free and/or reduced lunch eligibility. Respondents at schools with less than ten percent of the student population receiving free and/or reduced lunch had a higher preference for lunch from home ($M = 2.95 \pm 1.27$) and had more friends buying snack foods ($M = 2.83 \pm 1.36$). Some in this group also identified that the length of the lunch line is a reason they chose not to participate ($M = 3.43 \pm 1.24$). Respondents at schools with greater than fifty percent of the student population receiving free and/or reduced lunch were more fearful of gaining weight from school lunch ($M = 2.42 \pm 1.22$) and were not very hungry at lunch time ($M = 2.18 \pm 1.11$) compared to students at schools with lower numbers of students eligible for free and/or reduced lunch. Other demographic variables showed variations between groups in regards to snack foods, but respondents at schools with different ranges of free and/or reduced lunch eligibility did not reveal a significant difference between these respondents' preferences of taste foods. Only respondents at schools with low free and/or reduced lunch eligibility indicated in a greater number that their friends buy snack foods. Many snack foods are not reimbursable and cannot

be used for students who receive lunch at a free or reduced price. Therefore, schools with lower percentages of free and/or reduced lunch eligibility might also a higher consumption level of snack foods.

Among all the demographic variables, the taste of snack foods proved to be the largest de-motivator present. Most of the respondents who are in eighth grade ($M = 3.98 \pm 1.16$), fourteen years old and older ($M = 4.00 \pm 1.20$), who eat lunch one day or less a week ($M = 4.05 \pm 1.29$), who skip lunch at least one day a week ($M = 4.20 \pm 1.07$), and who attend schools with 250 to 500 students ($M = 3.91 \pm 1.23$) felt that snack foods taste better than school lunch. Additionally, some of the respondents who eat lunch one day or less a week ($M = 3.52 \pm 1.32$), who skip lunch at least one day a week ($M = 3.61 \pm 1.29$), and who attend schools with 250 to 500 students ($M = 3.57 \pm 1.22$) would rather buy snack foods than the school lunch. This supports the research that indicates competitive foods can be a deterrent from purchasing the lunch provided by the NSLP (Fox et al., 2005; James et al., 1996; Watkins, 2001).

Earlier research indicated meal time, meal length, cafeteria line length, meal cost, and the cafeteria environment to be the main reasons students choose not to participate in the NSLP (Fogleman et al., 1992). However, this study shows that the taste and access to snack foods or competitive foods as the main reason this sample of students chose not to participate in the NSLP. Current participations are more concerned with the actual foods versus the operation concerns of participants in other generations.

Peer Influences and Social Stigmas

Overall, this study did not reveal that the statements assessing peer influences and social stigmas had a large impact on respondents' decisions to eat school lunch. A few respondents indicated that they would be more likely to eat school lunch ($M = 2.45 \pm 1.16$) and purchase snack

foods ($M = 2.33 \pm 1.18$) if their friends did too. Respondents did not indicate that they were fearful of being labeled poor ($M = 1.54 \pm 0.81$) or that other students would make fun of them ($M = 1.56 \pm 0.79$) if they ate school lunch. However, some slightly meaningful differences were found between some of the demographic variables and peer influences and social stigmas.

Few differences were found between male and female respondents. Female respondents had a slightly greater chance to eat school lunch if their friends did ($M = 2.54 \pm 1.17$) compared to males ($M = 2.29 \pm 1.11$). Female respondents also had a slightly greater indication that they feel uncomfortable eating school lunch in front of other students ($M = 1.91 \pm 1.13$) compared to males ($M = 1.70 \pm 0.95$). Both of these differences might be attributed to females being more influenced by their friends than males.

The comparison of responses and different ages revealed that there were significant differences between five of the statements (Table 4.7). For all five of the statements, respondents fourteen years and older had the highest means. Respondents fourteen years and older were more uncomfortable eating school lunch in front of other students ($M = 1.98 \pm 1.08$) compared to thirteen year olds ($M = 1.88 \pm 1.09$), twelve year olds ($M = 1.85 \pm 1.11$), and eleven year olds ($M = 1.44 \pm 0.78$). These means may be small, but it is still evident that some older students do feel uncomfortable eating school lunch in front of their peers. This small difference does suggest that peer perception may moderate school lunch participation. Fourteen year olds also indicated that they would rather do other things during the lunch period than eat ($M = 2.54 \pm 1.36$) compared to eleven year olds ($M = 1.95 \pm 1.16$).

The three different grade levels revealed significant differences between six of the statements about peer influence and social stigmas. Seventh and eighth graders indicated that they are more influenced by their peers and social stigmas compared to sixth graders for all six

of the statements (Table 4.8). Seventh and eighth graders were slightly more likely to eat school lunch if their friends did too, they feel somewhat more popular if they eat snack foods, and feel somewhat uncomfortable eating school lunch in front of their peers.

Differences in daily lunch participation only showed that responses to three statements were significantly different. Respondents who eat school lunch four or more days per week were more likely to eat school if their friends did too ($M = 2.54 \pm 1.18$) compared to respondents who eat school lunch one day or less per week ($M = 1.94 \pm 1.01$). Students who eat lunch less frequently may already have made a decision not to participate and are therefore less influenced by friends expressing their own independence. Additionally, students who eat lunch two to three days per week had a higher indication that their friends make a big impact on their decision to eat school lunch ($M = 1.93 \pm 1.14$) compared to respondents who almost daily eat school lunch ($M = 1.76 \pm 1.03$) and respondents who rarely eat school lunch ($M = 1.54 \pm 0.86$). This middle group of participate might be the most influenced by peers because they have not made an exact decision to participate or not. These students may be students who do not feel they have no other choice to participate nor do they feel strongly against the lunch provided. Thus, they are more largely influenced by the actions of their friends versus students who always participate and students who never participate.

Respondents who indicated that they skip lunch had significantly different responses to five of the statements compared to the respondents who do not skip lunch. Respondents who skip lunch at least one day a week felt more popular when eating snack foods ($M = 2.15 \pm 1.05$), felt uncomfortable eating school lunch in front of their peers ($M = 2.16 \pm 1.23$), were more likely to purchase snack foods if their friends did too ($M = 2.57 \pm 1.29$), and overall felt that their friends make a big impact on whether they eat school lunch or not ($M = 2.03 \pm 1.17$). Students who skip

lunch were slightly more influenced by peers in their school lunch decisions compared to students who do not skip lunch. Lastly, respondents who skip lunch indicated that they would rather do other things than eat during the lunch period ($M = 2.99 \pm 1.41$) compared to students who do not skip lunch ($M = 2.02 \pm 1.10$). It is possible that eating lunch altogether is undesirable to some of the respondents. Most respondents indicated that peers do not greatly influence their decisions, nor to social stigmas.

Only one statement was statistically significant when examining peer influence and the enrollment numbers of the respondents' school. Students in schools with 500 or more students indicated that they would be more likely to eat school lunch if their friends did too ($M = 2.63 \pm 1.19$) compared to respondents in schools with 50 to 250 students ($M = 2.32 \pm 1.13$) and respondents in schools with 250 to 500 students ($M = 2.35 \pm 1.11$). Little information is known about school size or enrollment and school lunch participation. Some research has revealed a connection between rural students and high participation (Gleason, 1995; Probart, McDonnell, Hartman, Weirish, & Bailey-Davis, 2006). Since students in rural areas tend to participate in the NSLP, there may not be as large of an influence by your peers to participate. If everyone participates, there is less of a stigma attached to participation. More research is still needed in this area before any conclusions can be drawn.

The percentage of free and/or reduced lunch eligibility and peer influences and social stigmas had several significant differences between groups. Seven statements had significant differences (Table 4.12). Respondents at schools with free and/or reduced lunch eligibility between thirty and fifty percent and greater than fifty percent had the highest means for all the statements. Respondents at schools with fifty percent or more of the school receiving school lunch at a free and/or reduced price were most likely to eat school lunch if their friends did too

($M = 2.65 \pm 1.24$). Respondents at schools with fifty percent or more of the school receiving school lunch at a free and/or reduced price also felt most uncomfortable eating school lunch in front of their peers ($M = 2.07 \pm 1.13$) compared to students with less than ten percent of the school receiving school lunch at a free and/or reduced price ($M = 1.70 \pm 0.89$). The larger the percentage of free and/or reduced lunch eligibility, the more the thoughts about peer influences and social stigmas increased. Respondents at schools with thirty to fifty percent of the school receiving school lunch at a free and/or reduced price were slightly more fearful of being labeled poor ($M = 1.73 \pm 0.94$) compared to students with ten to thirty percent the school receiving school lunch at a free and/or reduced price ($M = 1.38 \pm 0.71$). There is a greater chance for social stigmas about poverty to be present when there is a large number of students' receiving school lunch at a free and/or reduced price. Statistically, both of the means are low for this statement, but there is a meaningful difference in respondents' answers when they are at schools with larger numbers of students receiving a lunch at a free and/or reduced price. Little research exists to compare this too, but the New York Times interviewed high school students about school lunch participation, and many responded that it would be not cool to be seen with a free or reduced price lunch (Pogash, 2008). High school students may recognize that some students eat lunches that are free or at a lower cost, but middle school students may not be fully aware yet.

Research about the stigmatization of participants of the NSLP is limited. Some research shows that stigmas exist, but provide no names for the stigmas, while other research focuses on the perceptions of poverty and parental income (Dunifon & Kowaleski-Jones, 2003; Probart et al., 2006). This study does little to add to the understanding of the stigmatization of participants of the NSLP. Neither popularity nor poverty proved to be stigmas that impacted respondents in this study. This study did help to show that there is reason to believe that some students are

influenced by their peers to participate in the NSLP. Respondents who are female, in seventh or eighth grade, frequently eat the school lunch, and are at large schools with fifty percent or more of the school receiving lunches at a free and/or reduced price are more likely to eat school lunch when their friends do. When these respondents' friends eat the school lunch provided by the NSLP, it encourages them to eat it too. Respondents may feel that they will not be made fun of if they mimic an action of their peers. More research is needed to address specific issues about social stigmas and peer influence in school lunch participation.

Qualitative Data

Although few motivators were identified in the first section of the survey, respondents provided numerous different reasons why they choose to participate in the NSLP in the open-ended questions. The most common reason respondents stated that they eat school lunch was that it is convenient. Some respondents felt that it was easier than packing a lunch from home or that it is a quick alternative if they forget their lunch from home. Also part of the convenience theme were negative comments such as, "It's the only thing there, so I eat it." The second most common reason respondents stated that they eat school lunch is due to hunger. Many respondents stated positive benefits of eating school lunch such as, "It helps to keep me focused at school and I think better on a full stomach." Other respondents stated that it helped them have energy for after school activities. The third most prevalent theme was that 19.5% of respondents felt that they had no other options for lunch, but the school lunch. Some of respondents stated that "They have to or are forced to eat the school lunch, cannot afford sack lunches, and that school lunch is all they get for lunch."

Corresponding to the de-motivator of snacks foods, was the theme of poor food quality for the open-ended question asking respondents the number one reason they do not eat school

lunch. Poor food quality accounted for 30.3% of the responses to this question. Respondents described the food as, “artificial, food off a truck, and recycled.” Many respondents stated that “they found hair or bugs in their food” and that “the lunches smell weird.” The second most common theme was an overall dislike of the school lunch. Respondents described the school lunch as “gross, nasty, and disgusting.” One respondent stated the lunches were so gross that he or she throws the lunch away. Another respondent stated that he or she gives away the school lunch to other students. Inadequate portion sizes were also a common complaint. Many respondents felt that they are not provided enough food or meat at lunch.

One less common theme for both open-ended questions was social environment. Some respondents stated that “they eat school lunch because their friends eat the school lunch” and “they can talk to their friends in the cafeteria.” Other respondents indicated that “they purchase snack foods because their friends eat snack foods or their friends say school lunch is bad.” One respondent stated, “I have heard from people what is in the school lunch, so I do not eat it.” All three of these comments indicated an influence from peers to not participate, whereas the former two comments indicated an influence from peers to participate. Two other interesting comments were, “Other kids are mean to me when I eat school lunch,” and “There are a lot of people around me at lunch and I’m nervous to eat school lunch in front of them.” Although the previous data did not reveal overall that respondents were fearful of being made fun of or that respondents felt uncomfortable eating in front of their peers, some respondents were impacted by these social stigmas. It is clear that individual respondents are impacted differently by their peers, which is confirmed in the previously reported data. Female students and older students tended to be more impacted by their peers. It cannot be said that all students are influenced by

their peers or are fearful of being stigmatized, but some students are fearful of these things and allow it to impact their school lunch choices.

The qualitative data reveals a rich and sometimes different view about the NSLP through the eyes of students. Previous research showed that meal time, meal cost, length of meal, length of line, and the cafeteria environment were the most common factors present when students made school lunch decisions, but through qualitative data, those factors only account for approximately 4% of the responses. New factors impacting participation, such as convenience, nutrition and health, hunger, food quality, presence of snack foods, portion sizes, and the social environment, accounted for 74% of the responses.

Conclusions and Recommendations

This study found that the motivator statements did not describe reasons respondents preferred to eat school lunch, the de-motivator statement strength depended on certain demographic variables, and that few social stigmas or peer influences were present. Few of the motivator statements strongly correlated with reasons students select to eat the school lunch. Respondents were mostly neutral to all of the statements. The de-motivator statements added confirmation to previous research about younger students participating more often than older students (Gleason, 1995; Smith, 1992). The two most prevalent de-motivators were that snack foods tasted better than the school lunch and that students would rather buy snack foods for lunch. Respondents neither agreed nor disagreed to all other de-motivator statements.

Limited social stigmas were identified using the social stigmas survey statements. Respondents at schools with a large number of students receiving lunch at a free and/or reduced price had the highest mean for the statement, “*Other students will think I am poor if I eat the school lunch.*” Respondents who were female, older in age and grade level, frequently ate school

lunch, and were at large schools with a high number of students receiving lunch at a free and/or reduced price were most likely to eat school lunch if their friends did too. This was the main peer influence identified. However, the qualitative data revealed that some students are in fact greatly influenced by peers and the fear of stigmatization. Further research is needed with middle school students to help identify the stigmas present when they make school lunch decisions.

Limitations

This study used a convenience sample of middle school students in Kansas. Only thirteen of the 177 available FACS teachers in Kansas participated in the study. Results cannot be generalized for populations outside of Kansas or across all Kansas schools. The survey instrument was distributed by FACS teachers interested in participating in the study. Some teachers sent the survey home with students; others had students fill out the survey in class. It is unknown if respondents answered the surveys independently. Response bias might be present due to the distribution of this survey.

Comments provided to the open-ended questions, often did not match the response to the questions using the 5-point likert scale. Multiple respondents wrote in the open-ended question box that the number one reason they do not eat school lunch is because they are fearful of being made fun of, while the same respondents indicated they strongly disagreed to the statement, “*Other students will make fun of me if I eat school lunch.*” Confusion about the 5-point likert scale may have existed and respondents may have recorded a response that is the opposite of what they intended.

References

- Asperin, A. E., Nettles, M. F., & Carr, D. H. (2010). The non-participation survey: Understanding why high school students choose not to eat school lunch. *Journal of Child Nutrition & Management*, 34(1),
- Dunifon, R., & Kowaleski-Jones, L. (2003) The influences of participation in the National School Lunch Program and food insecurity and child well-being. *Social Service Review*, 77(1), 72-92
- Fogleman, L., Dutcher, J., McProud, L., Nelken, I., & Lins, A. (1992). High school students' attitudes toward, and participation in, the National School Lunch Program. *School Food Service Research Review*, 16(1), 36-42.
- Food Research Action Center. (2009). The National School Lunch Program. Retrieved from <http://frac.org/federal-foodnutrition-programs/school-breakfast-and-lunch/national-school-lunch-program/>
- Fox, S., Meinen, A., Pesik, M., Landis, M., & Remington, P. L. (2005). Competitive food initiatives in schools and overweight in children: A review of the evidence. *Wisconsin Medical Journal*, 104(5), 38-43.
- Gleason, P. (1995). Participation in the National School Lunch Program and the School Breakfast Program. *American Journal of Clinical Nutrition*, 61(suppl), 213S-205.
- James, D.C.S., Rienzo, B.A., & Frazee, C. (1996). Using focus group interviews to understand school meal choices. *The Journal of School Health*; 66(4), 128-131.
- Kansas State Education Department. (2013). *K-12 school reports* [Data file]. Retrieved from <http://svapp15586.ksde.org/k12/k12.aspx>
- Meyer, M. K., Conklin, M. T., Lewis, J. R., Marshak, J., Cousin, S., Turnage, C., & Wood, D.

- (2001). Barriers to healthy nutrition environments in public school middle grades. *The Journal of Child Nutrition and Management*, 25(2), 66-71.
- Meyer, M. K. (2000). Influence of food choices on high school students' perception of school foodservice. *Journal of the American Dietetic Association*, 100(8), 952-954.
- Pogash, C. (2008). Free lunch isn't cool so some students go hungry. Retrieved from <http://www.nytimes.com/2008/03/01/education/01lunch.html?scp=1&sq=free+lunch&st=Nyt>
- Probart, C., McDonnell, E., Hartman, T., Weirish, E., & Bailey-Davis, L. (2006). Factors associated with the offering and sale of competitive foods and school lunch participation. *Journal of the American Dietetic Association*, 106, 242-247.
- School Nutrition Association. (2008). Heats on: School meals under financial pressure. Retrieved from [www.schoolnutrition.org/School_Nutrition/HeatsOn\(1\).pdf](http://www.schoolnutrition.org/School_Nutrition/HeatsOn(1).pdf)
- Smith, E. R. (1992). Factors affecting participation in National School Lunch and School Breakfast Programs. *School Food Service Review*, 16(2), 91-100.
- Stein, K. (2008). Erasing the stigmas of subsidized school meals. *Journal of the American Dietetic Association*, 108(12), 1980-1983.
- United States Department of Agriculture. (2011). National School Lunch Program fact sheet. Retrieved from <http://www.fns.usda.gov/cnd/Lunch/AboutLunch/NSLPFactSheet.pdf>
- United States Department of Agriculture. (2008). The National School Lunch Program background and development. Retrieved from <http://www.fns.usda.gov/cnd/Lunch/AboutLunch/ProgramHistory.htm>
- Watkins, S. (2001). National School Lunch Program: Foods sold in competition with USDA school meal programs. Retrieved from http://www.fns.usda.gov/cnd/lunch/_private/

[competitivefoods/report_congress.htm](#)

Chapter 5 - Summary and Conclusions

Operational issues impacting student participation in the National School Lunch Program (NSLP) have been widely studied, but little is known about the presence of social stigmas and peer influence when making school lunch decisions. This study examined what motivates and de-motivates students from participating in the NSLP. It also contributed to the emerging research about social stigmas and participation in the NSLP.

Summary of Study

This study used a survey to explore what motivates and de-motivates students from participating in the NSLP and the social stigmas and peer influences present when participating. The survey had three sections with statements that used a 5-point likert scale, where respondents circled their responses. Two open-ended questions were included to determine key factors about why students eat or do not eat school lunch. A total of 559 survey responses were received yielding a 48% response rate.

Research Question 1: What stigmas exist about the National School Lunch Program?

Previous research suggests that there are social stigmas and stereotypes attached to the participants of the NSLP. Most common stigmas associated with participation in the NSLP related to being perceived as poor or from a lower income family (Dunifon & Kowaleski-Jones, 2003; James, Rienzo, & Frazee, 1996). Other studies show that stigmas are also related to peers and social status (Meyer et al., 2001; Mirtcheva & Powell, 2009; Pogash, 2008). Students themselves labeled participants of the School Breakfast Program (SBP) as the “tough guys” and the “detention crew” (Probart, McDonnell, Hartman, Weirish, & Bailey-Davis, 2006). Some

studies attribute competitive foods to surfacing the stigmas about the NSLP (Meyer et al., 2001; Waktins, 2001). This study did reveal that the availability of snack foods or competitive foods are a large deterrent from participating in the NSLP. Multiple studies show that stigmas can involve parent income, social status, and peer perceptions.

This study did not surface any new stigmas about the NSLP, but did provide some validation to other published findings. Respondents in schools with a larger number of students receiving lunch at free and/or reduced prices had a slightly higher belief that other students will think they are poor if they eat the school lunch ($M = 1.73 \pm 0.94$) compared to respondents at schools with fewer students receiving lunch at a free and/or reduced price ($M = 1.38 \pm 0.71$). Even though both of these means are lower, there is a meaningful difference between them. The higher the free and/or reduced lunch eligibility at a school, the greater the student awareness or recognition of the presence of poverty. Additionally, respondents in schools with a larger number of students receiving lunch at free and/or reduced prices had a slightly higher belief that other students will make fun of them if they eat the school lunch ($M = 1.72 \pm 0.89$) compared to respondents at schools with fewer students receiving lunch at a free and/or reduced price ($M = 1.42 \pm 0.69$). Supplementing this is the comment made by a student about why he or she does not eat school lunch, “Other kids are mean to me when I eat school lunch.”

Research Question 2: Do peers influence adolescents’ beliefs about the National School Lunch Program?

Little research has investigated peer influence on beliefs about school lunch participation. Some findings suggest that peers and social status impacts school lunch decisions (Meyer et al., 2001; Pogash, 2008; Mirtcheva & Powell, 2009). Respondents to open-ended questions on the survey instrument revealed that some students do have beliefs about the lunch provided by the

NSLP that are influenced by their peers. One respondent stated that the reason he does not eat school lunch is because his friends say school lunch is bad. Another respondent stated, “I have heard from people what is in school lunch, so I do not eat it.” Both of these respondents were influenced by their peers to have beliefs that the school lunch is “bad” and that what is in the school lunch is “bad.” This study does indicate that female students and older students tended to be more impacted by their peers. It cannot be said that all students beliefs’ about the NSLP are influenced by their peers, but some students do have beliefs that are influenced by their peers in a negative way.

Research Question 3: Do school environmental factors influence adolescent’s beliefs about the National School Lunch Program?

A student’s school environment should be a place that makes them feel comfortable and safe to excel in school. One study suggested that some schools have failed to meet this objective when creating school nutrition environments (Meyer et al., 2001). Students in another research study were quoted saying that school lunch is not trustworthy, such that the teachers will not even eat it (James et al., 1996). The teachers are part of the school environment and influenced these students’ belief about the trustworthiness of the lunches provided.

In this study, school enrollment size had a slight impact on students’ beliefs about the NSLP. The respondents in large schools, 500 or more students, had the highest means for most of the motivator statements. The respondents in mid-sized schools, 250 to 500 students, had the highest means for most of the de-motivator statements. The offering of snack foods or competitive foods is also a component of the school environment. In this study, snack foods were found to be the largest deterrent from participating in the NSLP. Many respondents indicated snack foods taste better than the school lunch. The continual presence of snack foods

allows students to believe there are other options beside the school lunch, even allowing some to believe the snack foods are better than the school lunch.

Research Question 4: Do peer developed beliefs influence students' participation in the National School Lunch Program?

A news article in 2008 quoted school officials saying that elementary school children appreciate the lunches provided by the NSLP, but once those students enter higher grades, “social status intervenes” (Pogash, 2008). This news article reiterated to express that social status is so highly valued by students that many of them avoid lunch to appear in positive light among their peers (Pogash, 2008). A high school student body president was quoted saying, “Lunchtime is the best time to impress your peers and being seen with a school lunch lowers your status” (Pogash, 2008). This article does show that peer perception and perceived high social status are associated with the decision to not participate in the NSLP.

This study suggests that some students' participation in the NSLP is influenced by the beliefs and actions of their peers. The most prevalent statement expressed that students were more likely to eat lunch if their friends did too. Respondents who were female, in graders seventh and eighth, ate lunch four or more days per week, and who attended schools with 500 or more students and greater than 50% of the students receiving school lunch at a free and/or reduced price were most likely to eat school lunch if their friends did too. One respondent stated the number one reason she eats school lunch is because her friends eat school lunch.

Other respondents suggested expressed that they do not eat lunch because “their friends buy snack foods, other kids are mean to them, and that they are nervous to eat lunch in front of their peers.” It is clear the some students choose not to eat school lunch if they friends eat other things or out of fear of negative peer perception. These were not the most common reasons

students did not eat school lunch, but their mention shows that for some students, peers do influence their school lunch participation. Not every respondent was influenced by their peers' beliefs to participate in the NSLP or is every student, but for some students peers can make a great impact on their decisions.

Research Question 5: Do school environmental factors influence students' participation in the National School Lunch Program?

As stated before, there are some school environmental factors that influence students' beliefs about the NSLP. Those same factors can also influence them not to participate. The offering of snack foods appears to be most significant school environmental factor that influences student participation. Many respondents indicated that they would rather purchase snack foods. The presence of snack foods influences students to purchase snack foods rather than the school lunch.

The cafeteria environment influenced some students to participate and others to not. Some respondents described the cafeteria as cold and crowded, which made them not eat school lunch to avoid the cafeteria. Other respondents described the cafeteria as fun and that it allowed them to social with friends. These discrepancies can be due to respondents at different schools, but shows that a positive school nutrition environment that allows socialization influences students to eat the school lunch provided by the NSLP.

Recommendations for Future Research

Future research needs to continue to be conducted about social stigmas, peer influence, and participation in the NSLP. A greater understanding about social stigmas and how students are influenced by their peers might help to increase student participation in the NSLP. This

study confirmed past research and helped to demonstrate that snack foods are a deterrent from school lunch participation. Research should be conducted that assesses student perceptions of the quality and nutritional content of snack foods compared to the lunch provided by the NSLP.

Another topic of future research driven by this study is the idea eating lunch at school is altogether undesirable. Approximately 26% of respondents indicated that they skip lunch on one or more days and 7.5% of respondents stated they prefer lunch from home. With little interest in lunch from home and a high skipping percentage for such a young sample indicates that lunch altogether might not be an interest of some students. Any research that expands the understanding of peer influence and social stigmas about the NSLP will be beneficial.

Implications for School Nutrition Programs

The results from this study can help school nutrition programs to understand that hunger motivates students to eat school lunch, but snack foods and evidence of social stigmas and negative social status deter some students from eating school lunch. School nutrition programs need to find more effective ways to market their programs and allow students to be involved in the menu planning process. The packaging and presentation of school lunches can be adapted to mimic the appeal of the highly desired snack foods. Program directors should also vitally consider the social environment surrounding students' school lunch decisions. Effective means should be taken to conceal the identities of the students eating at a free or reduced price.

References

- Dunifon, R., & Kowaleski-Jones, L. (2003) The influences of participation in the National School Lunch Program and food insecurity and child well-being. *Social Service Review*, 77(1), 72-92
- James, D.C.S., Rienzo, B.A., & Frazee, C. (1996). Using focus group interviews to understand school meal choices. *The Journal of School Health*; 66(4), 128-131.
- Meyer, M. K., Conklin, M. T., Lewis, J. R., Marshak, J., Cousin, S., Turnage, C., & Wood, D. (2001). Barriers to healthy nutrition environments in public school middle grades. *The Journal of Child Nutrition and Management*, 25(2), 66-71.
- Mirtcheva, D. M., & Powell, L. M. (2009). Participation in the National School Lunch Program: Importance of school-level and neighborhood contextual factors. *The Journal of School Health*, 79(10), 485-494.
- Pogash, C. (2008). Free lunch isn't cool so some students go hungry. Retrieved from <http://www.nytimes.com/2008/03/01/education/01lunch.html?scp=1&sq=free+lunch&st=nyt>
- Probart, C., McDonnell, E., Hartman, T., Weirish, E., & Bailey-Davis, L. (2006). Factors associated with the offering and sale of competitive foods and school lunch participation. *Journal of the American Dietetic Association*, 106, 242-247.
- Watkins, S. (2001). National School Lunch Program: Foods sold in competition with USDA school meal programs. Retrieved from http://www.fns.usda.gov/cnd/lunch/_private/competitivefoods/report_congress.htm

Appendix A - Drafted Survey Instrument

School Lunch Survey for Middle or Junior High School Students

Please read the instructions for each section below and circle your response to each statement.

Instructions: Listed below are several characteristics of school lunch programs. As you answer, use the phrase, <i>“I prefer to eat school lunch because...”</i> before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.					
<i>I prefer to eat school lunch because...</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I have no other choice	1	2	3	4	5
My friends do too	1	2	3	4	5
School lunches taste good	1	2	3	4	5
I get plenty to eat	1	2	3	4	5
I like the menu choices	1	2	3	4	5
School lunch is fresh	1	2	3	4	5
There are healthy options	1	2	3	4	5
I know the contents of school lunch	1	2	3	4	5
School lunch is affordable	1	2	3	4	5
The cafeteria is a fun place	1	2	3	4	5
The cafeteria staff is nice	1	2	3	4	5
The number one reason I DO eat school lunch is:					

Instructions: This time as you answer, use the phrase, <i>“I prefer not to eat school lunch because...”</i> before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.					
<i>I prefer not to eat school lunch because ...</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I would rather buy snack foods	1	2	3	4	5
My friends buy snack foods	1	2	3	4	5
Snack foods taste better than school lunch	1	2	3	4	5
Snack items cost less than school lunch	1	2	3	4	5
I might gain too much weight	1	2	3	4	5
I like bringing my own lunch from home	1	2	3	4	5

I like leaving school grounds for lunch	1	2	3	4	5
I do not have enough time	1	2	3	4	5
The school lunch line is too long	1	2	3	4	5
I am not very hungry at lunch time	1	2	3	4	5
The cafeteria smells poorly	1	2	3	4	5
The cafeteria is outdated	1	2	3	4	5
The cafeteria is too crowded	1	2	3	4	5
The number one reason I do NOT eat school lunch is:					

Instructions: Please rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree) by circling your response.					
<i>Please answer the following statements</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I do not feel popular when I eat school lunch	1	2	3	4	5
I feel more popular when I eat snack foods for lunch	1	2	3	4	5
I am more likely to eat school lunch if my friends do too	1	2	3	4	5
I am more likely to buy snack foods if my friends do too	1	2	3	4	5
Other students will make fun of me if I eat school lunch	1	2	3	4	5
Other students will think I am poor if I eat school lunch	1	2	3	4	5
Sometimes, I make fun of other kids who eat school lunch	1	2	3	4	5
I would rather do other things than eat during the lunch period	1	2	3	4	5
Overall, my friends make a big impact on whether I eat school lunch or not.	1	2	3	4	5

Section IV: Please circle your response to each question.					
What is your grade in school?	6th	7th	8th		
What is your gender?	Male	Female			
What is your age?	10 or younger	11	12	13	14 or older
What is your ethnicity (Optional)? Please circle your ethnicity.	White	Hispanic	Asian	Other	
	African American	Native American	Pacific Islander		
On average, how many days per week do you eat the school lunch?	0 – 1 Days	2 – 3 Days	4 – 5 Days		
More than half of my close friends eat school lunch on most days?	YES	NO			
Do you ever skip lunch completely? If so, on average how often per week?	NO	YES	1 – 2 Days	3 – 4 Days	Everyday

Appendix B - Project Approval



TO: Dr. Kevin Sauer
HMD
105 Justin Hall

FROM: Rick Scheidt, Chair
Committee on Research Involving Human Subjects

DATE: 09/14/2012

RE: Approval of Proposal Entitled, "Middle School Students' Perceptions and Beliefs about the National School Lunch Program."

Proposal Number: 6347

The Committee on Research Involving Human Subjects has reviewed your proposal and has granted full approval. This proposal is approved for one year from the date of this correspondence, pending "continuing review."

APPROVAL DATE: 09/14/2012

EXPIRATION DATE: 09/14/2013

Several months prior to the expiration date listed, the IRB will solicit information from you for federally mandated "continuing review" of the research. Based on the review, the IRB may approve the activity for another year. **If continuing IRB approval is not granted, or the IRB fails to perform the continuing review before the expiration date noted above, the project will expire and the activity involving human subjects must be terminated on that date. Consequently, it is critical that you are responsive to the IRB request for information for continuing review if you want your project to continue.**

In giving its approval, the Committee has determined that:

- There is no more than minimal risk to the subjects.
 There is greater than minimal risk to the subjects.

This approval applies only to the proposal currently on file as written. Any change or modification affecting human subjects must be approved by the IRB prior to implementation. All approved proposals are subject to continuing review at least annually, which may include the examination of records connected with the project. Announced post-approval monitoring may be performed during the course of this approval period by URCO staff. Injuries, unanticipated problems or adverse events involving risk to subjects or to others must be reported immediately to the Chair of the IRB and / or the URCO.

Appendix C - Invitation to Serve as an Expert Panel Member

Dear:

My name is Jessica Keller and I am a graduate student at Kansas State University. I am conducting a research study with Dr. Kevin Sauer to assess what motivates or de-motivates middle school students from eating school lunch and how peers can influence students' decisions about eating school lunch. You have been selected to be a member of an expert panel to review the survey that will be distributed to middle school students in Kansas. Included in this email is a link to an online version of the paper survey that will be distributed to middle and junior high school students later this fall. As your time permits, it would be greatly appreciated if you could review the questions on this survey through the online link. I have designed the online questions to not require a response, so you may hit next when finished reviewing each section. After reviewing each section, you may provide your feedback in the box provided for you. Any comments you wish to provide would be helpful and will be used to enhance this survey.

Your participation in this review panel is completely voluntary. You may refuse to answer any of the questions on the survey and may withdraw from the study at any time. There are no risks related to your participation, but the knowledge gained will benefit schools and students. Your feedback on the survey will be kept in strict confidence and no information will be shared that will reveal your personal identity. You may discontinue your participation in the survey at any time without penalty or loss of benefits. If you have any questions about the survey, you may contact Dr. Kevin Sauer via email at ksauer@ksu.edu or by phone at (785)-532-5581. If you have any questions about the rights of individuals in this study or about the way it is conducted you may contact Dr. Rick Scheidt with the Kansas State University Research Compliance Office via email at rscheidt@ksu.edu or by phone at (785)-532-3224.

Link to survey:

<https://surveys.ksu.edu/TS?offeringId=198524>

Please complete the survey by October 11th, 2012.

Your time and effort in assisting with this research study is sincerely appreciated.

Jessica Keller
Graduate Student
Coordinated Program in Dietetics
Kansas State University
Cell: 407-432-6005
Email: jfkeller@ksu.edu

Appendix D - Expert Panel Review Survey

Survey Description

The survey you are about to review is an online version of a paper survey that will be distributed to students in grades 6th - 8th. The survey will assess what motivates and de-motivates students from participating in the National School Lunch Program, as well as a few questions about peer influences.

Opening Instructions

Please review the questions in each section. As you examine the questions, please think of the audience. Are the questions appropriately written for a middle school population? An open ended question will be provided after each section for any comments. Any feedback will be greatly appreciated. You do not need to answer the questions to continue to each section.

Page 1

Please review the following questions. A comment section will be provided when you finish.

Question 1

Listed below are characteristics of school lunch programs. Please use the phrase “I prefer to eat school lunch because...” before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.

	1	2	3	4	5
1.1 I have no other choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.2 My friends do too	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.3 School lunch tastes good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.4 I get plenty to eat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.5 I like the menu choices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.6 School lunch is fresh	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.7 There are healthy options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.8 I know what is in my school lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.9 School lunch is affordable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.10 The cafeteria is a fun place	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.11 The cafeteria staff is nice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.12 The number one reason I eat school lunch is (will be open ended)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 2

Please provide any comments you may have on section one.

Comments

Characters Remaining:

Page 2

Please review the following questions. A comment section will be provided when you finish.

Question 3

This time as you answer, use the phrase, "I prefer not to eat school lunch because..." before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.

	1	2	3	4	5
3.1 I would rather buy snack foods at school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.2 My friends buy snack foods at school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.3 Snack foods taste better than school lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.4 Snack items cost less than school lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.5 I might gain too much weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.6 I like bringing my own lunch from home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.7 I like leaving school grounds for lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.8 I do not have enough time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.9 The school lunch line is too long	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.10 I am not very hungry at lunch time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.11 I do not like the smell of the cafeteria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.12 The cafeteria is outdated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.13 The cafeteria is too crowded	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.14 The number one reason I do NOT eat school lunch is (will be open ended)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 4

Please provide any comments you may have on section two.

Comments:

Characters Remaining:

Page 3

Please review the following questions. A section to provide comments will be provided when you finish.

Question 5

Please rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree) by circling your response.

	1	2	3	4	5
5.1 I do not feel popular when I eat school lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.2 I feel more popular when I eat snack foods for lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.3 I am more likely to eat school lunch if my friends do too	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.4 I am more likely to buy snack foods if my friends do too	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.5 Other students will make fun of me if I eat school lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.6 Other students will think I am poor if I eat school lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.7 Sometimes, I make fun of other kids who eat school lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.8 I would rather do other things than eat during the lunch period	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.9 Overall, my friends make a big impact on whether I eat school lunch or not

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

Question 6

Please circle your response to each question.

What is your grade in school?

- 6th
- 7th
- 8th

Question 7

What is your gender?

- Male
- Female

Question 8

What is your age?

- 10 or younger
- 11
- 12
- 13
- 14 or older

Question 9

What is your ethnicity (optional)?

- African American
- Asian
- Hispanic
- Native American
- Pacific Islander
- White
- Other

Question 10

On average, how many days per week do you eat school lunch?

- 0 - 1 days
- 2 - 3 days
- 4 - 5 days

Question 11

More than half of my close friends eat lunch on most days?

- Yes
- No

Question 12

Do you ever skip lunch completely?

- Yes
- No

Question 13

Please provide any comments you may have on section three.

Comments:

Characters Remaining:

Closing Message

Thank you for your feedback and assistance in reviewing this survey.

Appendix E - Refined Survey Instrument after Expert Panel Review

School Lunch Survey for Middle or Junior High School Students

Please read the instructions for each section below and circle your response to each statement. There are no wrong or right answers.

Instructions: Listed below are characteristics of school lunch programs. Please use the phrase <i>"I prefer to eat school lunch because..."</i> before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.					
<i>I prefer to eat school lunch because...</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I have no other choice	1	2	3	4	5
My friends do too	1	2	3	4	5
School lunch taste good	1	2	3	4	5
I get plenty to eat	1	2	3	4	5
I like the menu choices	1	2	3	4	5
School lunch is fresh	1	2	3	4	5
There are healthy options	1	2	3	4	5
I know what is in my school lunch	1	2	3	4	5
School lunch is affordable	1	2	3	4	5
The cafeteria is a fun place	1	2	3	4	5
The cafeteria staff is nice	1	2	3	4	5
The number one reason I DO eat school lunch is:					
Instructions: This time as you answer, use the phrase, <i>"I prefer not to eat school lunch because..."</i> before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.					
<i>I prefer not to eat school lunch because ...</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I would rather buy snack foods	1	2	3	4	5
My friends buy snack foods	1	2	3	4	5
Snack foods taste better than school lunch	1	2	3	4	5
Snack items cost less than school lunch	1	2	3	4	5

I might gain too much weight	1	2	3	4	5
I like bringing my own lunch from home	1	2	3	4	5
I like leaving school grounds for lunch	1	2	3	4	5
I do not have enough time	1	2	3	4	5
The school lunch line is too long	1	2	3	4	5
I am not very hungry at lunch time	1	2	3	4	5
I do not like the smell of the cafeteria	1	2	3	4	5
The cafeteria is outdated	1	2	3	4	5
The cafeteria is too crowded	1	2	3	4	5
The number one reason I do NOT eat school lunch is:					
Instructions: Please rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree) by circling your response.					
<i>Please answer the following statements</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I do not feel popular when I eat school lunch	1	2	3	4	5
I feel more popular when I eat snack foods for lunch	1	2	3	4	5
I am more likely to eat school lunch if my friends do too	1	2	3	4	5
I am more likely to buy snack foods if my friends do too	1	2	3	4	5
Other students will make fun of me if I eat school lunch	1	2	3	4	5
Other students will think I am poor if I eat school lunch	1	2	3	4	5
Sometimes, I make fun of other kids who eat school lunch	1	2	3	4	5
I would rather do other things than eat during the lunch period	1	2	3	4	5
Overall, my friends make a big impact on whether I eat school lunch or not.	1	2	3	4	5
Please circle your response to each question.					
What is your grade in school?	6th		7th		8th
What is your gender?	Male			Female	
What is your age?	10 or younger	11	12	13	14 or older
What is your ethnicity (Optional)? Please circle your ethnicity.					
African American	Asian	Hispanic		Other	
Native American	Pacific Islander	White			
On average, how many days per week do you eat the school lunch?					
0 – 1 Days	2 – 3 Days		4 – 5 Days		
More than half of my close friends eat school lunch on most days?			YES	NO	

Do you ever skip lunch completely? If so, on average how often per week?

NO

YES,

1 – 2 Days

3 – 4 Days

Everyday

Appendix F - Parent and Student Consent Forms

Parental Authorization to Participate in Survey School Lunch Survey for Middle and Junior High School Students

Dear Parent/Guardian:

Researchers at Kansas State University are conducting a research study to learn more about middle school students' opinions and beliefs about school lunches. A brief survey will be distributed to students in your son/daughter's Family and Consumer Science class and will last approximately 15 minutes.

Your child's participation in this study is completely voluntary and you have the right to refuse to allow your son/daughter to participate. He/She has the right to refuse to participate even if you give your permission. He/She may refuse to answer any of the questions on the survey and may withdraw from the survey at any time.

There are no risks related to your child's participation, but the knowledge gained will benefit schools and students. Responses will be kept in strict confidence and no information will be shared that will reveal your child's personal identity, class, or school. All information will be analyzed as grouped data. Your child's answers will help the researchers to better understand that wants and needs of middle school students. You may discontinue his or her participation in the survey at any time without penalty of loss of benefits.

Please sign and return this form to your child's Family and Consumer Science teacher. If you have any questions about the survey, you may contact Dr. Kevin Sauer via e-mail at ksauer@k-state.edu or by phone at (785)-532-5581. If you have any questions about the rights of individuals in this study or about the way it is conducted, you may contact Dr. Rick Scheidt with the Kansas State University Research Compliance Office via email at rscheidt@ksu.edu or by phone at (785) 532-3224. Your child's time and effort in assisting with this project is sincerely appreciated.

- I allow my son/daughter to participate in the survey
- I do not allow my son/daughter to participate in the survey

Name of Student (Printed)

Signature of Parent/Guardian

Date

Consent Statement for Middle School Students

School Lunch Survey for Middle and Junior High School Students

Dear Student:

You have been chosen to answer a short survey that will help researchers at Kansas State University understand what you think about school lunches. Your Family and Consumer Science teacher will hand out this survey in your class. It will take about 15 minutes to finish the survey. Please try to answer the questions on the survey to the best of your ability.

There are no risks related to your participation, but the knowledge gained will benefit schools and students. Responses will be kept in strict confidence and no information will be shared that will reveal your personal identity, class, or school. All information will be analyzed as grouped data. Your answers will help the researchers to better understand the wants and needs of middle school students. You may discontinue your participation in the survey at any time without penalty or loss of benefits.

Please sign and return this form to your Family and Consumer Science teacher. If you have any questions about the survey, you may contact Dr. Kevin Sauer via e-mail at ksauer@ksu.edu or by phone at (785)-532-5581. If you have any questions about the rights of individuals in this study or about the way it is conducted, you may contact Dr. Rick Scheidt with the Kansas State University Research Compliance Office via email at rscheidt@ksu.edu or by phone at (785) 532-3224. Your time and effort in assisting with this project is sincerely appreciated.

- I will participate in the survey
- I do not want to participate in the survey

Name of Student (Printed)

Signature of Student

Date

Appendix G - Pilot Study Survey

School Lunch Survey for Middle or Junior High School Students

Please read the instructions for each section below and circle your response to each statement. There are no wrong or right answers. At the end of each section, a blank box is provided for comments. If you did not understand a question or found a question difficult to answer, please write it down in the comment box. Please provide any thoughts or comments you may have on this survey.

Instructions: Listed below are characteristics of school lunch programs. Please use the phrase *“I prefer to eat school lunch because...”* before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.

<i>I prefer to eat school lunch because...</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I have no other choice	1	2	3	4	5
My friends do too	1	2	3	4	5
School lunch taste good	1	2	3	4	5
I get plenty to eat	1	2	3	4	5
I like the menu choices	1	2	3	4	5
School lunch is fresh	1	2	3	4	5
There are healthy options	1	2	3	4	5
I know what is in my school lunch	1	2	3	4	5
School lunch is affordable	1	2	3	4	5
The cafeteria is a fun place	1	2	3	4	5
The cafeteria staff is nice	1	2	3	4	5
The number one reason I DO eat school lunch is:					

Please provide any comments you may have on section one:

Instructions: This time as you answer, use the phrase, “*I prefer not to eat school lunch because...*” before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.

<i>I prefer not to eat school lunch because ...</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I would rather buy snack foods	1	2	3	4	5
My friends buy snack foods	1	2	3	4	5
Snack foods taste better than school lunch	1	2	3	4	5
Snack items cost less than school lunch	1	2	3	4	5
I might gain too much weight	1	2	3	4	5
I like bringing my own lunch from home	1	2	3	4	5
I like leaving school grounds for lunch	1	2	3	4	5
I do not have enough time	1	2	3	4	5
The school lunch line is too long	1	2	3	4	5
I am not very hungry at lunch time	1	2	3	4	5
I do not like the smell of the cafeteria	1	2	3	4	5
The cafeteria is outdated	1	2	3	4	5
The cafeteria is too crowded	1	2	3	4	5
The number one reason I do NOT eat school is:					

Please provide any comments you may have on section two:

Instructions: Please rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree) by circling your response.

<i>Please answer the following statements</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I do not feel popular when I eat school lunch	1	2	3	4	5
I feel more popular when I eat snack foods for lunch	1	2	3	4	5
I am more likely to eat school lunch if my friends do too	1	2	3	4	5

I am more likely to buy snack foods if my friends do too	1	2	3	4	5
Other students will make fun of me if I eat school lunch	1	2	3	4	5
Other students will think I am poor if I eat school lunch	1	2	3	4	5
Sometimes, I make fun of other kids who eat school lunch	1	2	3	4	5
I would rather do other things than eat during the lunch period	1	2	3	4	5
Overall, my friends make a big impact on whether I eat school lunch or not.	1	2	3	4	5

Please provide any comments you may have on section three:

Please circle your response to each question.					
What is your grade in school?	6th	7th	8th		
What is your gender?	Male	Female			
What is your age?	10 or younger	11	12	13	14 or older
What is your ethnicity (Optional)? Please circle your ethnicity.					
African American	Asian	Hispanic	Other		
Native American	Pacific Islander	White			
On average, how many days per week do you eat the school lunch?					
0 – 1 Days	2 – 3 Days	4 – 5 Days			
More than half of my close friends eat school lunch on most days?				YES	
NO					
Do you ever skip lunch completely? If so, on average how often per week?					
NO	YES,	1 – 2 Days	3 – 4 Days	Everyday	

Please provide any comments you may have on section four:

Appendix H - Refined Survey after Pilot Study

School Lunch Survey for Middle or Junior High School Students

Please read the instructions for each section below and circle your response to each statement.

Instructions: Listed below are characteristics of school lunch programs. Please use the phrase <i>“I prefer to eat school lunch because...”</i> before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.					
<i>I prefer to eat school lunch because...</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
School lunch taste good	1	2	3	4	5
My friends do	1	2	3	4	5
School lunch is affordable	1	2	3	4	5
I get plenty to eat	1	2	3	4	5
I like the menu choices	1	2	3	4	5
School lunch is fresh	1	2	3	4	5
There are healthy options	1	2	3	4	5
I know what is in my school lunch	1	2	3	4	5
I have no other choice	1	2	3	4	5
The cafeteria is a fun place	1	2	3	4	5
The cafeteria staff is friendly	1	2	3	4	5
The number one reason I DO eat school lunch is:					

Instructions: This time as you answer, use the phrase, <i>“I prefer not to eat school lunch because...”</i> before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.					
<i>I prefer not to eat school lunch because ...</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I like bringing my own lunch from home	1	2	3	4	5
My friends buy snack foods	1	2	3	4	5
Snack foods taste better than school lunch	1	2	3	4	5
Snack items cost less than school lunch	1	2	3	4	5

I might gain too much weight	1	2	3	4	5
I would rather buy snack foods	1	2	3	4	5
I do not have enough time	1	2	3	4	5
The school lunch line is too long	1	2	3	4	5
I am not very hungry at lunch time	1	2	3	4	5
I do not like the smell of the cafeteria	1	2	3	4	5
The cafeteria is old	1	2	3	4	5
The cafeteria is too crowded	1	2	3	4	5
The number one reason I do NOT eat school lunch is:					

Instructions: Please rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree) by circling your response.

<i>Please answer the following statements</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I am more likely to eat school lunch if my friends do too	1	2	3	4	5
I feel more popular when I eat snack foods for lunch	1	2	3	4	5
I do not feel popular when I eat school lunch	1	2	3	4	5
I am more likely to buy snack foods if my friends do too	1	2	3	4	5
Other students will make fun of me if I eat school lunch	1	2	3	4	5
Other students will think I am poor if I eat school lunch	1	2	3	4	5
I feel uncomfortable eating school lunch in front of other students	1	2	3	4	5
Sometimes, I make fun of other kids who eat school lunch	1	2	3	4	5
I would rather do other things than eat during the lunch period	1	2	3	4	5
Overall, my friends make a big impact on whether I eat school lunch or not.	1	2	3	4	5

Section IV: Please circle your response to each question.					
What is your grade in school?	6th		7th		8th
What is your gender?	Male			Female	
What is your age?	10 or younger	11	12	13	14 or older

What is your ethnicity (Optional)? Please circle your ethnicity.				
African American	Asian	Hispanic	Other	
Native American	Pacific Islander	White		
On average, how many days per week do you eat the school lunch?				
0 – 1 Days	2 – 3 Days	4 – 5 Days		
More than half of my close friends eat school lunch on most days?			YES	
NO				
Do you ever skip lunch completely? If so, on average how often per week?				
NO	YES,	1 – 2 Days	3 – 4 Days	Everyday

Appendix I - Email Invitation to FACS Instructors to Participate in Research Study

Family and Consumer Science Teacher,

We are writing to inform you about an interesting research study being conducted at Kansas State University. We have developed a survey that will explore the effect of social stigmas and peer influences on school lunch participation among middle school students. This very brief survey can be distributed in any of your classes to students in grades sixth through eighth. The survey results will be used to better address the nutritional needs of middle school students.

Student participation in this study is completely voluntary and there are no known risks associated with this research, but the knowledge gained will benefit schools and students. Responses will be kept in strict confidence and no information will be shared that will reveal student personal identity, their class, or school. All information will analyzed as grouped data. Parental consent is required for any student who wishes to participate in the survey. Teachers interested in participating in the study will be mailed a packet containing instructions, consent forms, and the survey.

If you have any questions or would like to participate in this research study please contact:

Jessica Keller
Master's Student
Department of Hospitality Management and Dietetics
Kansas State University
jfkeller@ksu.edu

Kevin Sauer, PhD, RD, LD
Assistant Professor
Department of Hospitality Management and Dietetics
Kansas State University

Thank you for your time and consideration,

Jessica Keller
jfkeller@ksu.edu
(407)-432-6005

Appendix J - FACS Instructor Participation Instructions

Dear Family and Consumer Science Instructor:

We greatly appreciate your interest in participating in this study. Enclosed in this packet are consent forms and surveys. The front side of the consent form is for parental consent and the backside is for student consent. Before the students take the survey they must have consent from a parent or legal guardian. Please distribute the parental consent forms to your students to take home to obtain signed parental consent. Once students receive parental consent, they must sign the student consent side of the form. The student consent is the student's consent to participate in the survey. Even if the student's parent indicates they may take the survey, the student can still choose to not take the survey. The survey is optional for all students.

Once both sides of the consent forms are signed, the student may take the survey. Students rate their level of agreement with each statement on the survey by circling their response. Students may use pen or pencil when completing the survey. When you are finished distributing the survey, please place the surveys and all consent forms in the return envelope provided in this packet. The return envelope is already addressed with paid postage; you just need to drop the envelope in the mail back to us.

When you distribute the survey to students please read the following statements to them:

- Read all of the directions for each section before answering the questions
- Please answer all of the questions unless it says optional
- On the survey, the phrase "snack foods" is frequently used. "Snack foods" are defined as any foods sold in vending machines, cafeteria à la carte lines, school stores, and snack bars.

Please return surveys and consent forms by November 23rd. If you are unable to return the surveys, please let us know. If you have any questions before distributing the survey to your students, please do not hesitate to contact the researchers via email at jfkeller@ksu.edu or by phone at 407-432-6005.

Again, we appreciate your interest and help in completing the research study with middle school students.

Thank you,

Jessica Keller
Master's Student
Kansas State University
jfkeller@ksu.edu
407-432-6005

Kevin Sauer, PhD, RD, LD
Assistant Professor
Department of Hospitality Management and Dietetics
Kansas State University
ksauer@ksu.edu
785-532-5581

Appendix K - Final Survey Instrument

School Lunch Survey for Middle or Junior High School Students

Please read the instructions for each section below and circle your response to each statement.

Instructions: Listed below are characteristics of school lunch programs. Please use the phrase <i>“I prefer to eat school lunch because...”</i> before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.					
<i>I prefer to eat school lunch because...</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
School lunch taste good	1	2	3	4	5
My friends do	1	2	3	4	5
School lunch is affordable	1	2	3	4	5
I get plenty to eat	1	2	3	4	5
I like the menu choices	1	2	3	4	5
School lunch is fresh	1	2	3	4	5
There are healthy options	1	2	3	4	5
I know what is in my school lunch	1	2	3	4	5
I have no other choice	1	2	3	4	5
The cafeteria is a fun place	1	2	3	4	5
The cafeteria staff is friendly	1	2	3	4	5
The number one reason I DO eat school lunch is:					

Instructions: This time as you answer, use the phrase, <i>“I prefer not to eat school lunch because...”</i> before each statement, and then rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree). Please circle your response.					
<i>I prefer not to eat school lunch because ...</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I like bringing my own lunch from home	1	2	3	4	5
My friends buy snack foods	1	2	3	4	5
Snack foods taste better than school lunch	1	2	3	4	5
Snack items cost less than school lunch	1	2	3	4	5

I might gain too much weight	1	2	3	4	5
I would rather buy snack foods	1	2	3	4	5
I do not have enough time	1	2	3	4	5
The school lunch line is too long	1	2	3	4	5
I am not very hungry at lunch time	1	2	3	4	5
I do not like the smell of the cafeteria	1	2	3	4	5
The cafeteria is old	1	2	3	4	5
The cafeteria is too crowded	1	2	3	4	5
The number one reason I do NOT eat school lunch is:					

Instructions: Please rate your level of agreement by using the scale 1 (Strongly Disagree) to 5 (Strongly Agree) by circling your response.

<i>Please answer the following statements</i>	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I am more likely to eat school lunch if my friends do too	1	2	3	4	5
I feel more popular when I eat snack foods for lunch	1	2	3	4	5
I do not feel popular when I eat school lunch	1	2	3	4	5
I am more likely to buy snack foods if my friends do too	1	2	3	4	5
Other students will make fun of me if I eat school lunch	1	2	3	4	5
Other students will think I am poor if I eat school lunch	1	2	3	4	5
I feel uncomfortable eating school lunch in front of other students	1	2	3	4	5
Sometimes, I make fun of other kids who eat school lunch	1	2	3	4	5
I would rather do other things than eat during the lunch period	1	2	3	4	5
Overall, my friends make a big impact on whether I eat school lunch or not.	1	2	3	4	5

Section IV: Please circle your response to each question.					
What is your grade in school?	6th		7th		8th
What is your gender?	Male			Female	
What is your age?	10 or younger	11	12	13	14 or older

What is your ethnicity (Optional)? Please circle your ethnicity.				
African American	Asian	Hispanic	Other	
Native American	Pacific Islander	White		
On average, how many days per week do you eat the school lunch?				
0 – 1 Days	2 – 3 Days	4 – 5 Days		
More than half of my close friends eat school lunch on most days?			YES	
NO				
Do you ever skip lunch completely? If so, on average how often per week?				
NO	YES,	1 – 2 Days	3 – 4 Days	Everyday