

2016

COMMUNITY & FAMILY INSTITUTE

Springdale Study

EXAMINING NUTRITION, FOOD SECURITY, &
HEALTH AMONG 10-12TH GRADE STUDENTS



UNIVERSITY OF
ARKANSAS

COMMUNITY & FAMILY INSTITUTE

2016

COMMUNITY & FAMILY INSTITUTE
Springdale Study

**EXAMINING NUTRITION, FOOD SECURITY, &
HEALTH AMONG 10-12TH GRADE STUDENTS**

Kevin M. Fitzpatrick, Ph.D.

University Professor & Jones Chair in Community
Director, Community and Family Institute
Department of Sociology & Criminal Justice
University of Arkansas

Stephanie Collier, M.A.

Research Associate, Community and Family Institute
Department of Sociology & Criminal Justice
University of Arkansas

with assistance from:

Leanna Gavin, B.A.
Gail O'Connor, M.A.
Community and Family Institute
Department of Sociology & Criminal Justice
University of Arkansas



UNIVERSITY OF
ARKANSAS

COMMUNITY & FAMILY INSTITUTE

Copyright ©2016 Community and Family Institute
Department of Sociology and Criminal Justice University of
Arkansas
Old Main 211 Fayetteville, AR. 72701

We would be delighted if you quote this report in your publications or make copies of any part of this report for yourself or for anyone else. However, we do ask that you give proper citation to the report.

Suggested citation:

Springdale Study:
Examining Nutrition, Food Insecurity, and Health Among 10th-12th Grade Students
Kevin M. Fitzpatrick, Director
Community and Family Institute
Department of Sociology and Criminal Justice
University of Arkansas

Printed in the United States of America
Printed by: PMC Solutions
University of Arkansas
Fayetteville, AR

The Community & Family Institute

About the Institute

The Community and Family Institute is located in the University of Arkansas' Department of Sociology and Criminal Justice. The Institute was founded in 1997 based on the principle that community improvement, initiative sustainability, and program success are closely tied to the assessment of needs, evaluation of community goals, and development of appropriate and pragmatic responses to problems. The Institute is dedicated to helping people build better communities by collecting meaningful data, facilitating information-based planning, and developing custom research strategies for exploring important social issues in the Northwest Arkansas region and beyond.

The Springdale Study is an example of the importance of carefully examining program and community needs. The goal of this project has been to stimulate dialogue about nutrition, food insecurity, and health among Springdale School district students. At the same time, we hope this report encourages the development of informed strategies for shaping interventions and programming designed to make a difference in the lives of young people.

Contact Information

Kevin M. Fitzpatrick Ph.D., Director
Community and Family Institute
Department of Sociology and Criminal Justice
University of Arkansas
Old Main 231
Fayetteville, AR 72701

Email: kfitzpa@uark.edu
Telephone: 479-575-3777
Fax: 479-575-7981
Web Page: cfi.uark.edu

Funding

This report was made possible through the financial and in-kind donations from the following organizations:

Tyson Foods

Harvey and Bernice Jones Charitable Trust

University of Arkansas:

J. William Fulbright College of Arts & Sciences
Department of Sociology & Criminal Justice
Community & Family Institute

Acknowledgements

This project is made possible by a grant from Tyson Foods and the continued funding and support of the Jones Trust.

We would like to thank all the project participants for their cooperation and support of this study. In addition, we want to thank the Community and Family Institute research staff for their contributions throughout this study.

Finally, we would like to thank Springdale School district for their enthusiastic support of this project. Likewise, Pete Joenks, principal at Springdale High School, and his staff should also be commended. We appreciate their hard work on the project, making sure that everything ran smoothly, and supporting our efforts to better understand the health challenges of students and their families in the 21st century.

Table of Contents

| | |
|---|-----|
| The Community and Family Institute..... | iii |
| Funding..... | iv |
| Acknowledgements..... | v |
| Table of Contents..... | vi |
| <i>Chapter 1: Describing SHS 10-12th Grade Students</i> | |
| Introduction..... | 2 |
| By the Numbers..... | 3 |
| Student Background..... | 4 |
| Students and Their School..... | 5 |
| <i>Chapter 2: Food Insecurity and Friendships</i> | |
| Introduction..... | 10 |
| By the Numbers..... | 11 |
| Food Insecurity..... | 12 |
| Students and Their Friends..... | 15 |
| <i>Chapter 3: Health and Well-Being</i> | |
| Introduction..... | 20 |
| By the Numbers..... | 21 |
| Physical Health and Nutrition..... | 22 |
| Social/Psychological Health..... | 24 |
| <i>Chapter 4: Student’s Families</i> | |
| Introduction..... | 28 |
| By the Numbers..... | 29 |
| Family Background..... | 30 |
| Food Insecurity/Health & Nutrition..... | 32 |
| Social/Psychological Health..... | 35 |

Chapter 5: Observations and Conclusions

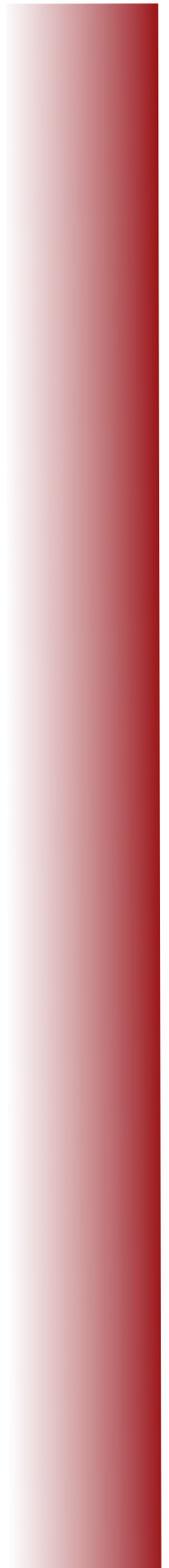
| | |
|----------------------|----|
| Introduction..... | 28 |
| Observations..... | 30 |
| Recommendations..... | 31 |

Appendices

Appendix A: IRB Permissions

Chapter One

Describing Springdale 10th-12th Grade Students



Introduction

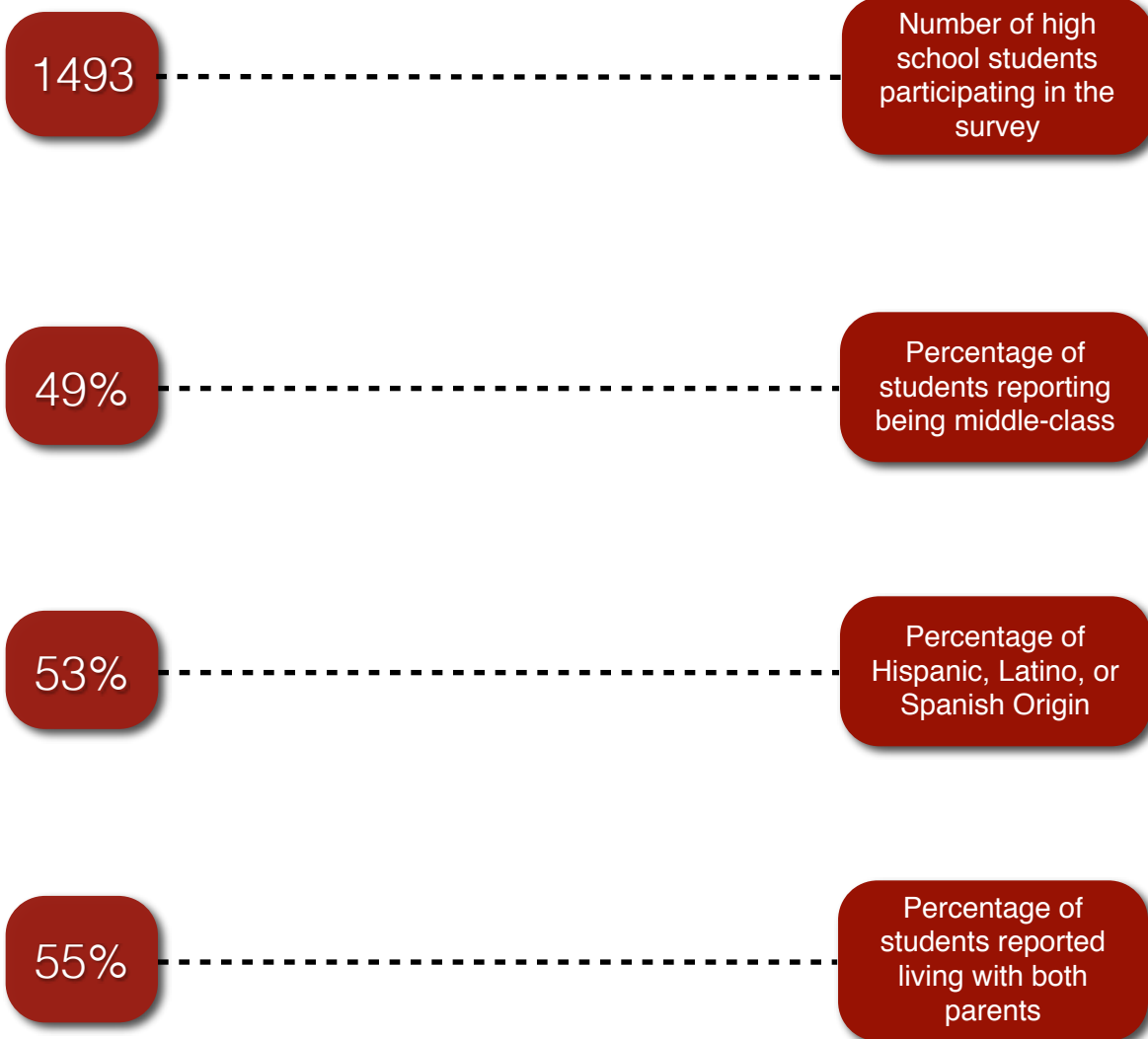
This project was initiated for the purpose of assisting Springdale High School teachers, staff, and administrators in the design and implementation of programs aimed at developing sustainable nutrition and healthy lifestyles for students at risk for food insecurity and poor health habits. The student population at Springdale High School is clearly at risk with more than half of the students eligible for the free/reduced lunch program. The majority of these students also are certified to participate in the Federal food stamp program. While these statistics provide a rough estimate of risk, clearly a deeper understanding of this population's characteristics and specific needs is important to better serving students and their families at the local level. To this end, it was proposed that a survey be administered to the 10th-12th grade students. The justification for focusing on these students was primarily because of their mature understanding of the issues. As older adolescents, they are in a position in their family to have some input and an expressed interest in nutrition, food security, and other issues related to a healthy lifestyle.

The information gathered from the survey is to inform and guide the implementation of wide-ranging services to students and their families. The student survey fulfills this purpose by assessing a wide-range of their needs and behaviors--specifically, providing Springdale High School administration with some insight into their students' eating and exercise behaviors, social activities, food security, physical health, and mental health/self-esteem. Furthermore, by assessing the current state of student health and well-being at Springdale High School, the progress made by future program interventions can be assessed more precisely.

Specific purposes of this survey include:

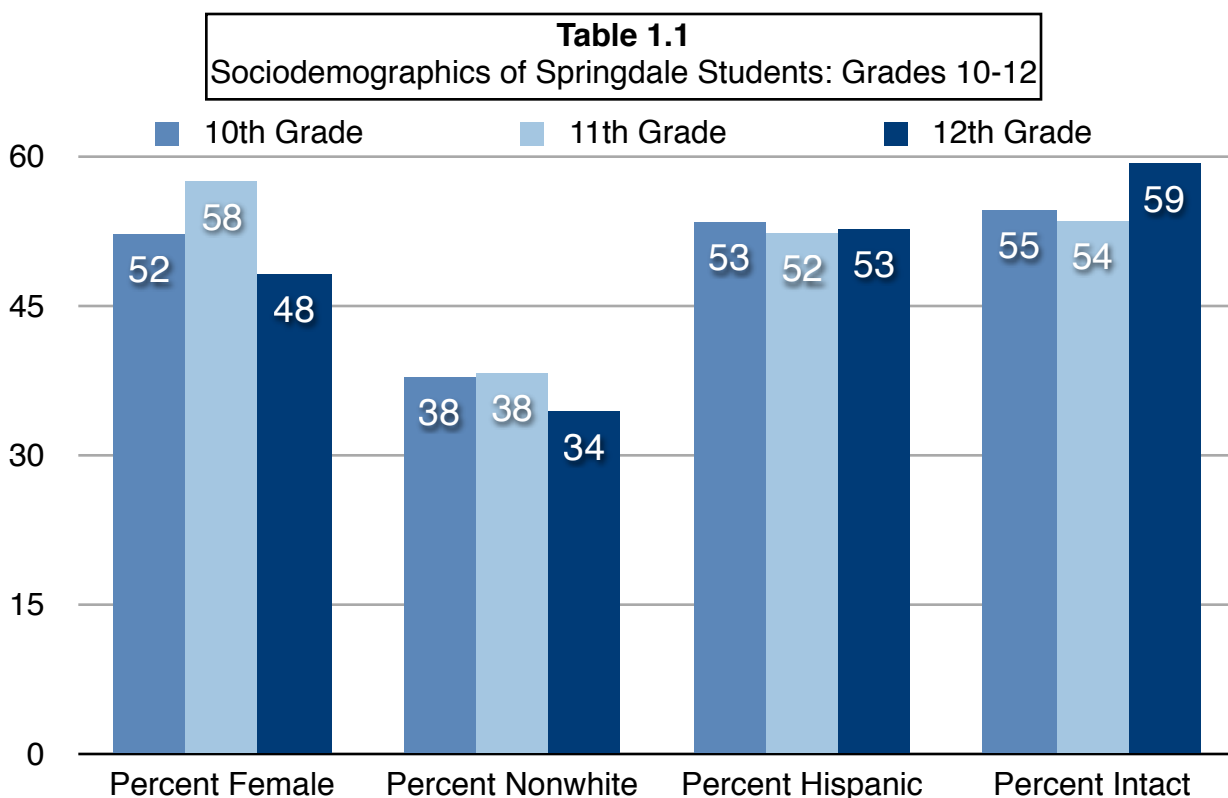
- ◆ To improve Springdale High School's general knowledge of their student population.
- ◆ To assess Springdale High School student's needs as it relates to a healthy lifestyle.
- ◆ To provide a broad assessment of student health and well-being.

By The Numbers



Student Background

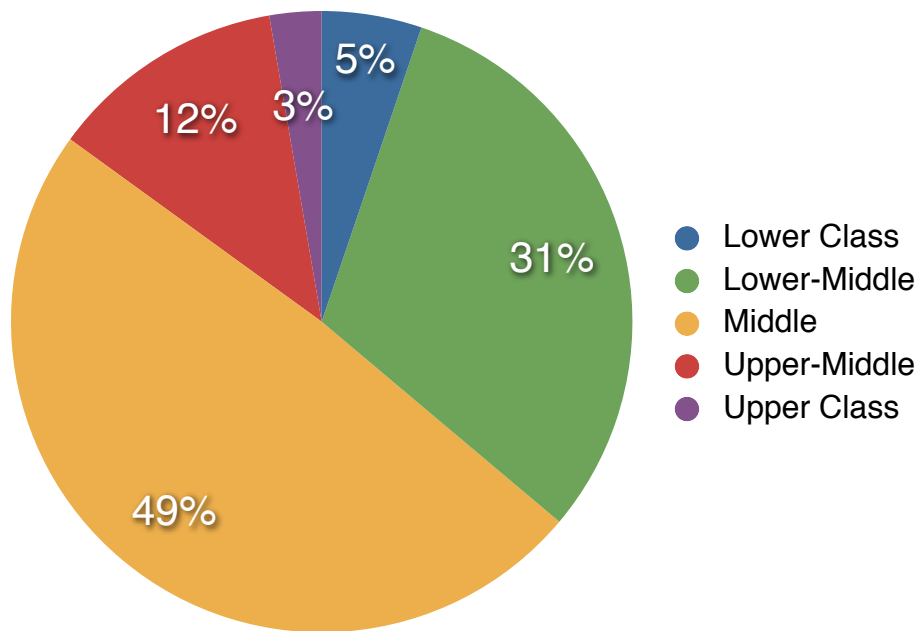
In order to provide background on the student respondents, all their primary socio-demographic background information was collected. Of the 2,148 students that were enrolled in the 10th-12th grade at the time of the survey, 1,493 surveys were completed by students in 117 classrooms. Ten classrooms (117 students) were unable to participate at the time of the survey. There were approximately 23 percent refusals and the remaining students had excused absences or unexcused absences (105) yielding a response rate of approximately **75 percent**. Of the students surveyed, 54 percent were female; 53 percent self-identified as Hispanic; 14 percent self-identified as Marshallese or Pacific Islander. The median age of students surveyed was 16 years old.



As seen in Table 1.1, there are some noticeable differences in the student backgrounds across the three grades. For all the variables in Table 1.1, the largest differences were between 12th graders and 10th or 11th graders. Students in 12th grade were less likely to be female, less likely to be non-white, and more likely to live in intact families (families where both parents were present). There were no major differences across the grades with regards to the distribution of students self-reporting Hispanic, Latino, or Spanish origin. While we note some sociodemographic differences across the grades, they are limited. As a result, for ease of interpretation and presentation, we present data on the entire group of 1493 surveyed 10th-12th graders in the remainder of this report.

Another interesting background characteristic of these students is their self-reported ranking of social class. Students were asked, “Thinking about the money your family has and things they own, would you think of yourself as:” Upper class, between Upper and Middle class; Middle class, between Middle and Lower class, and Lower class. The results are presented in Figure 1.1. The majority of students (49%) report themselves as middle class. Interestingly, only 15 percent of students report being above middle class.

Figure 1.1
Social Class Ranking of Springdale Students: Grades 10-12



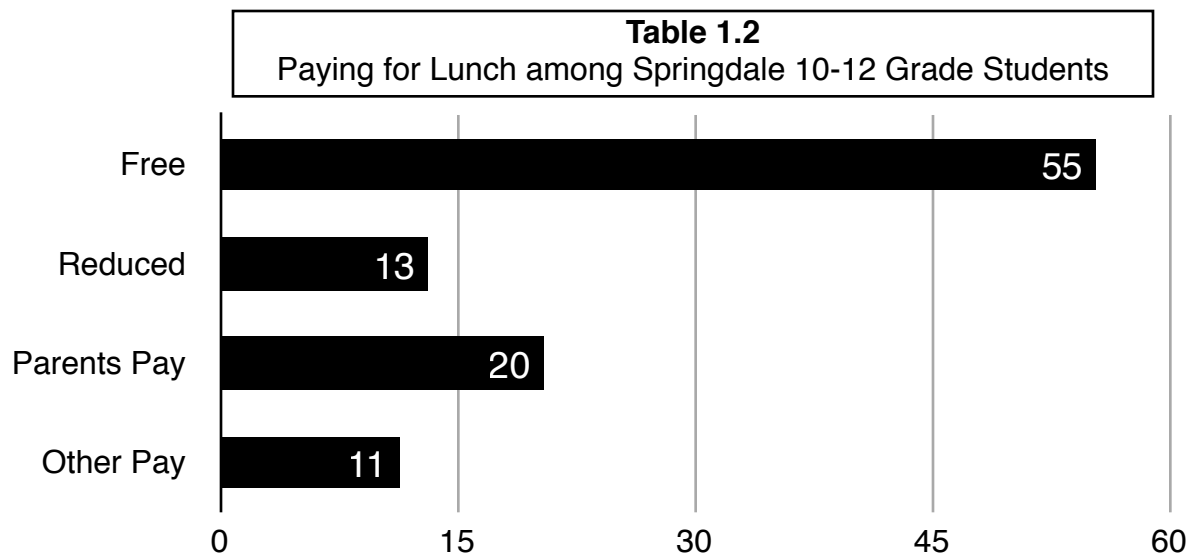
Students & Their School

Eighty-seven percent of the students said they attended school in the Springdale school district last year. Residential mobility can be an important risk factor impacting academic and social progress; the students surveyed appear to be residentially stable. In addition to their residential stability, over 90 percent of the surveyed students thought their grades were at least average and/or mostly B's or C's and better. Students were also asked how happy they were with school. Over 70 percent said they were either happy or very happy, while 30 percent said they were either unhappy or very unhappy with school.

We also asked students questions about their own behaviors in school that could be construed as risky as it relates to academic progress. Just over 81 percent of the students reported NEVER being in the principal’s office for any reprimand or trouble; 67 percent reported NEVER skipping or cutting class without an excuse or permission. Nearly 55 percent reported missing school or class because they were sick with the majority of those students missing multiple days because of illness.

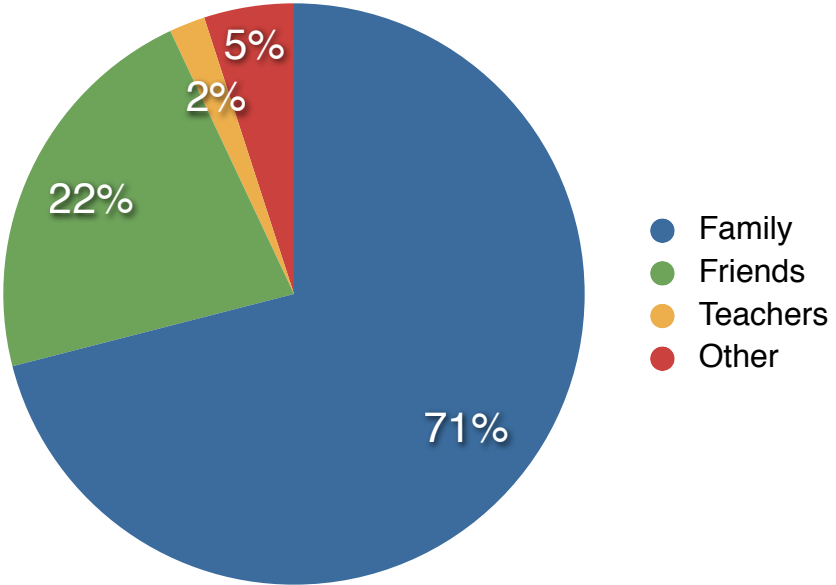
School Lunch

In order to know something about students and their lunch, we first asked them how they paid for lunch, and then if they had no money for lunch, who would they ask for help. As seen in Table 1.2, sixty-eight percent reported that they received a free or reduced price lunch each day. That number is close to the percent of students that are receiving free/reduced lunch as reported by the school district (70%).



Following up the question of how do you pay for lunch, we asked students how they used their social capital to buy a lunch if they had forgotten theirs, had no money, etc. Those results are reported in Figure 1.2. While family represented the overwhelming majority of who students would ask for help if they didn't have lunch money, friends represented the second largest group of support, followed by 'other' and teachers. Of course the majority of students look to their family for monetary assistance, particularly at this age, but it is interesting to note their reliance on friends and how important that is even under the circumstance of having no money for lunch.

Figure 1.2
Help with Lunch among Springdale 10-12 Grade Students



Chapter Two

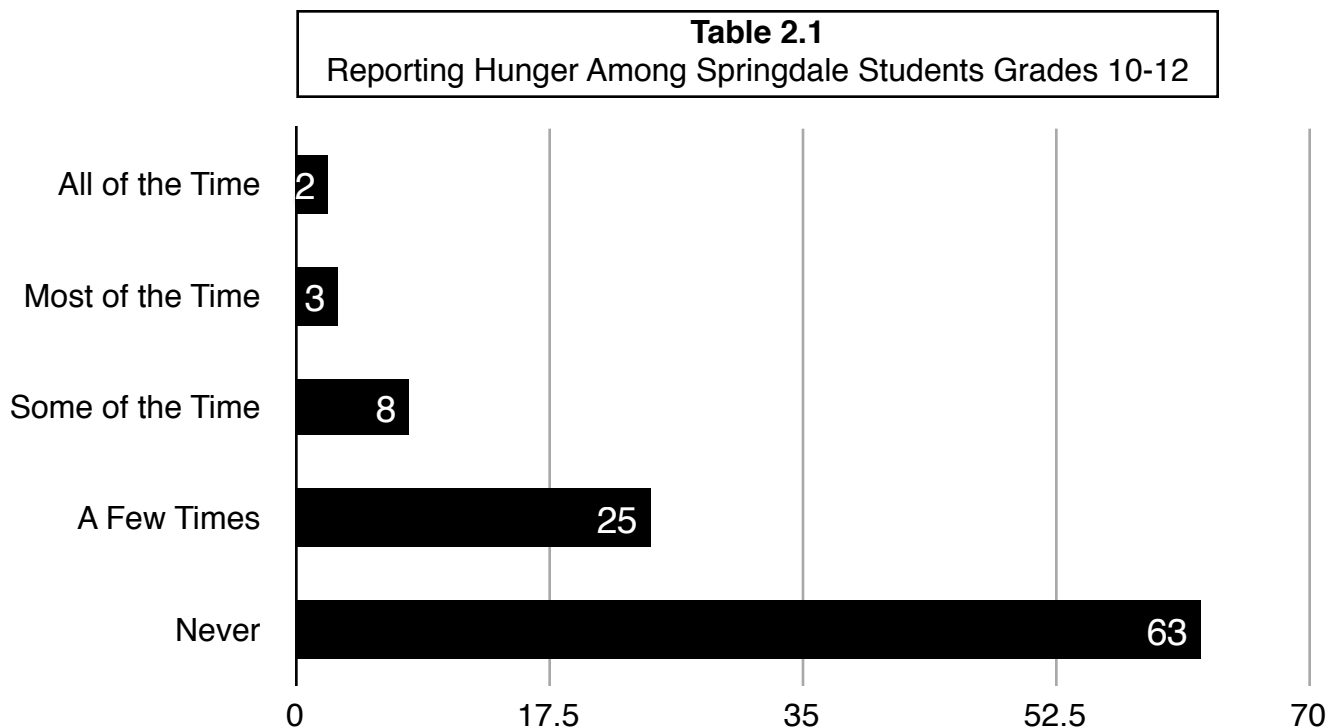
Food Insecurity & Friendships



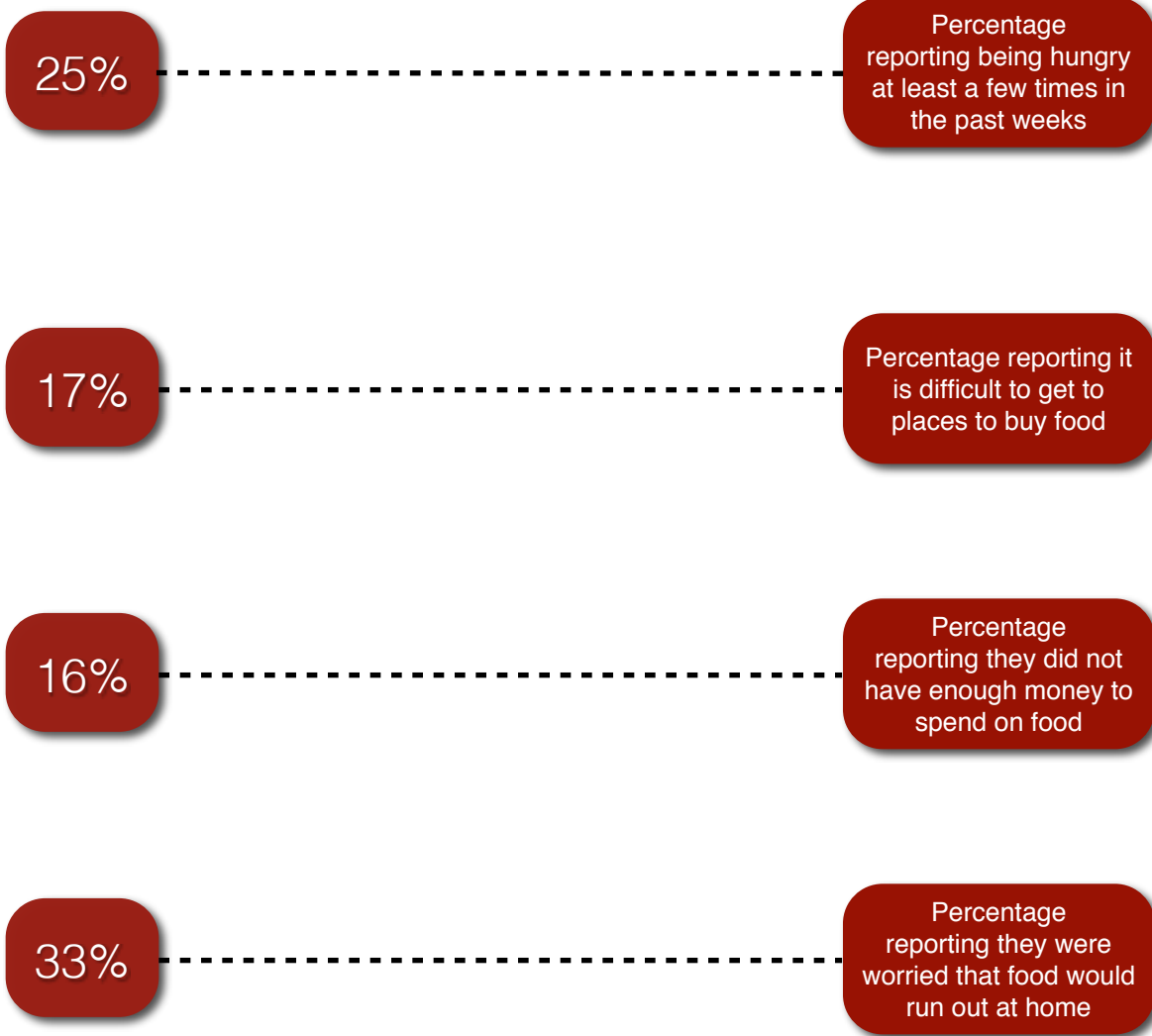
Introduction

The relationship between health/nutrition and academic performance is well documented in the scientific literature. Decades of research show that poor diet can have a profound impact on weight status among students and that weight status (malnourishment or obesity) can in turn have an impact on school performance. Equally important to determining student health and well-being outcomes is the issue of food insecurity. Food insecurity is defined as a reduced availability of nutritionally adequate foods or a limited ability to acquire these appropriate foods. Often times food insecurity is discussed in the context of poverty, lack of financial resources, or inadequate service support. Recent data shows that there are nearly 50 million households in the United States that are food insecure--including nearly 17 million children. In Arkansas, estimates suggest that nearly 30 percent of children under the age of 18 are living in food insecure households; Arkansas is the 6th highest state in the country with counties that report high food insecurity rates.

While the statistics are overwhelming, the question is how much food insecurity do students at Springdale High School report and are there any patterns to that food insecurity as it relates to their family background or friendships? As Table 2.1 shows, fewer than 5 percent of the students reported hunger most or all of the time. Nevertheless, nearly 15 percent of students reported hunger at least some of the time.



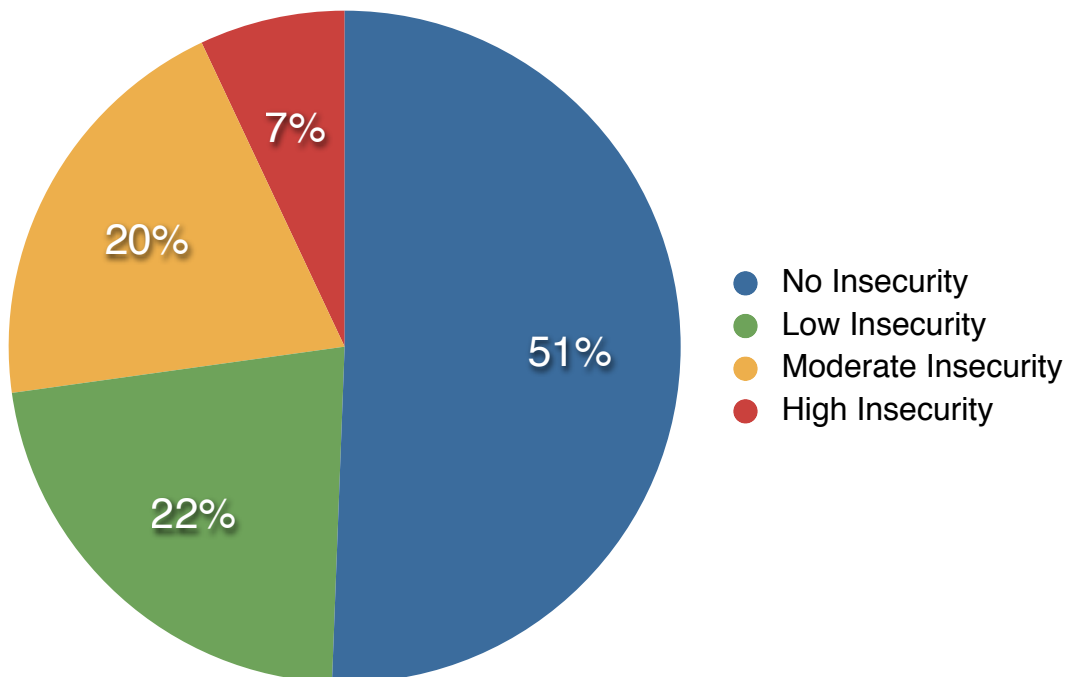
By The Numbers



Food Insecurity

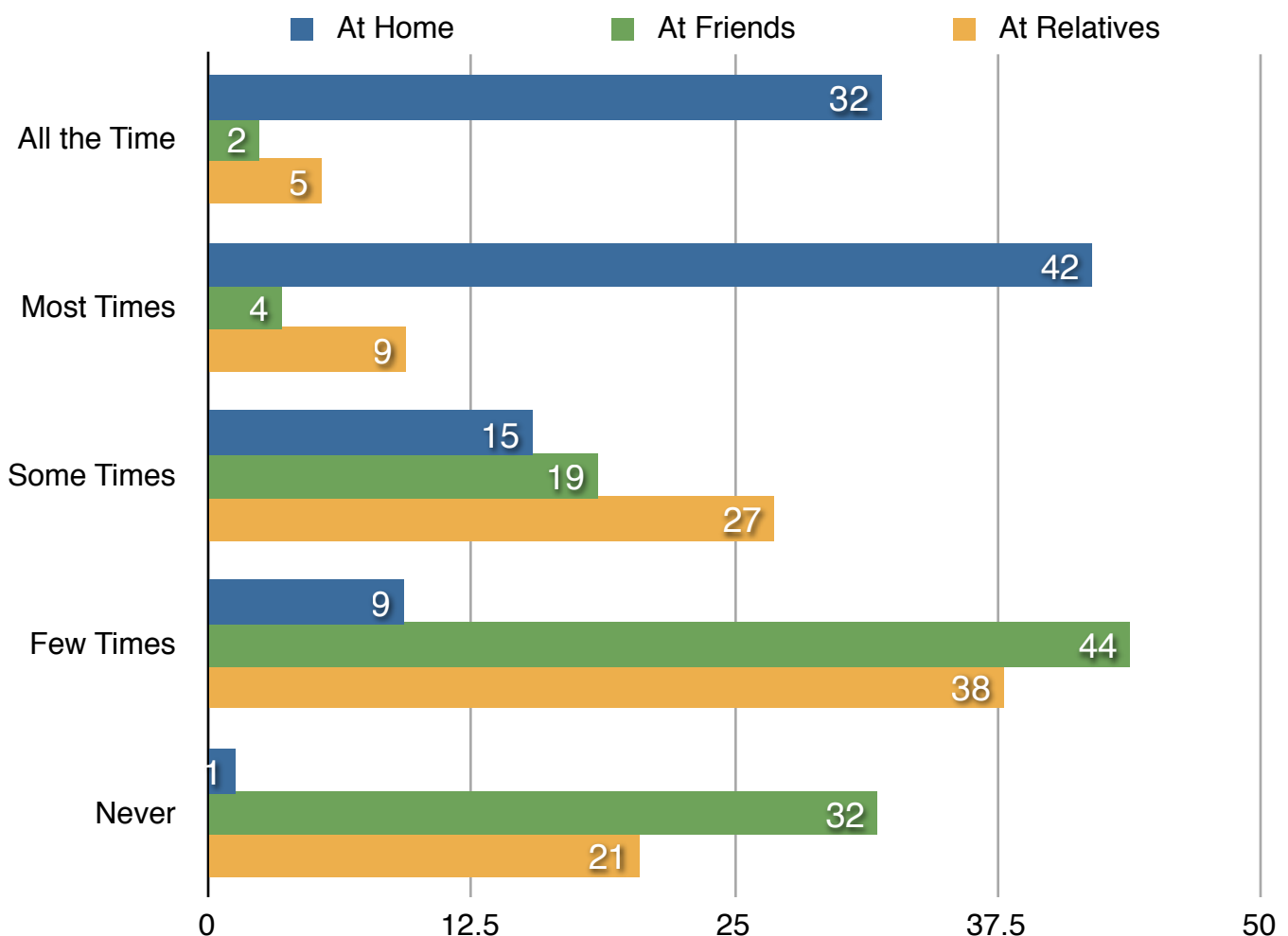
In addition to experiencing hunger, we asked students a set of five questions that assessed their food insecurity. Students responded to the following questions (using the time frame “in the past year”): 1) Worries that food would run out; 2) Food had run out and they had no money to get more; 3) Were not able to eat a balanced meal; 4) Meals included cheap foods; 5) Meals were getting smaller. Student’s responses to these questions included: never, sometimes, and a lot. Students could score as low as zero, where there was no food insecurity, and as high as ten where there was high food insecurity. For the group of students surveyed, the average score for the food insecurity scale was 2.0, indicative that the majority of students were reporting some food insecurity though nearly 43 percent reported no food insecurity (score of 0 recorded on all five questions). Figure 2.1 shows the distribution of all 10th-12th grade students categorized by how much food insecurity they experienced. Clearly, food insecurity is a noticeable problem among this group of Springdale students--nearly thirty percent reported moderate or high levels of food insecurity.

Figure 2.1
Food Insecurity Among Springdale Students Grades 10-12



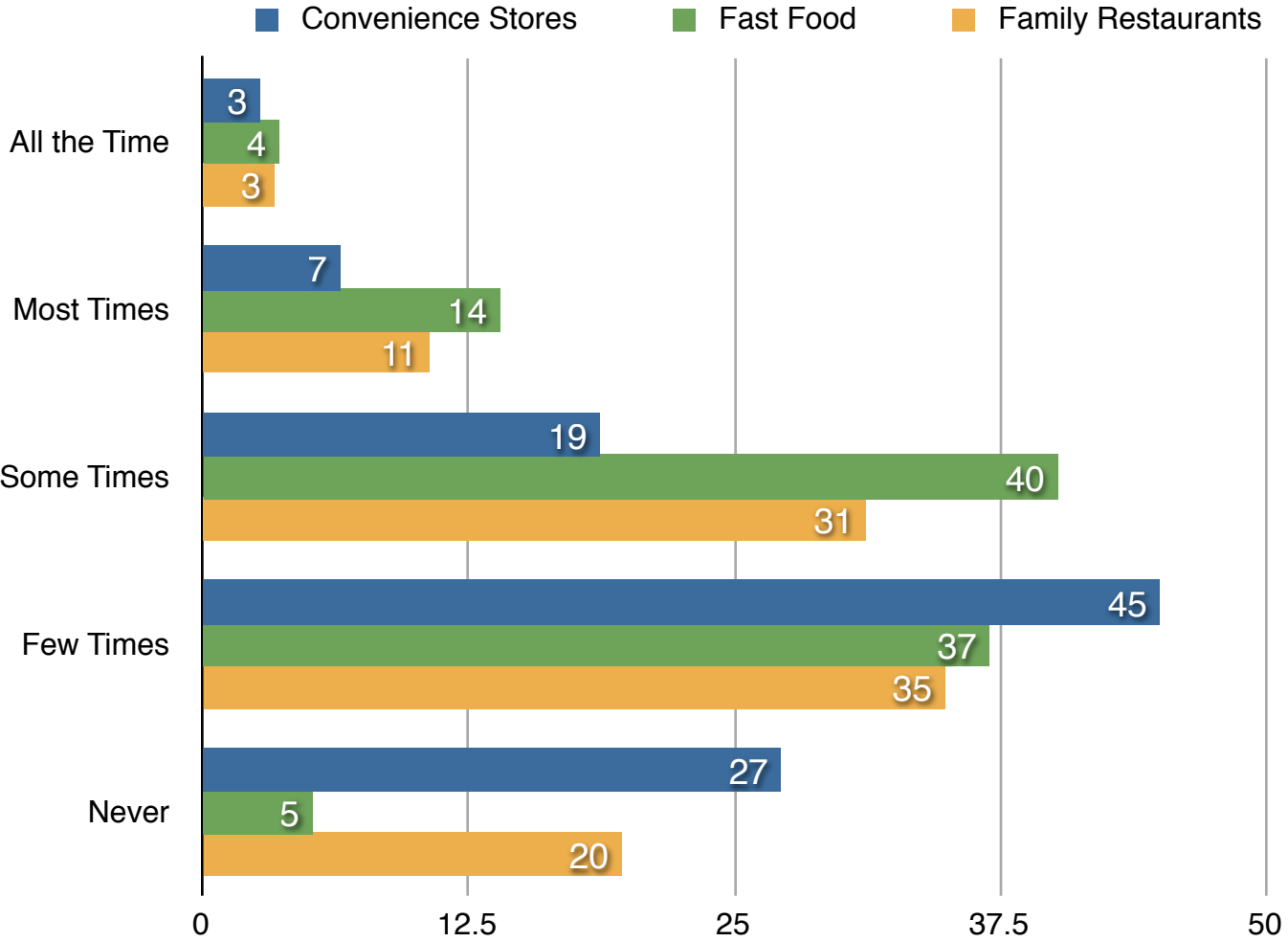
Beyond hunger and food insecurity, we wanted to learn more about where students were eating the majority of their meals outside of school. Fifty-seven percent of students reported that they ate meals with their family all or most of the time; seventy-four percent of students reported eating meals with family at home as opposed to somewhere else. The “other” places where students reported eating were with friends, relatives, at convenience stores, as well as at fast food and family restaurants. Table 2.2 shows the percentages of students eating “in” as opposed to going out somewhere to eat. While eating at home is clearly the popular choice, over one-third of the students reported eating at their friends or relatives house at least “a few times” in the past month. This finding is important. It suggests that among those students who might experience some degree of food insecurity at home, that could be resolved because they are able to obtain meals at their relatives or friend’s house.

Table 2.2
Places to “Eat In” Among Springdale Students Grades 10-12



Just as important, but for a different set of reasons, we also were interested in how much students reported “eating out.” As seen in Table 2.3, while a large number of students reported not “eating out” at convenience stores or gas stations, nearly 30 percent reported eating meals there some, most, or even all the time. Likewise, a large percentage of students reported eating their meals at fast food restaurants; 18 percent reported eating fast food most or all of the time. This finding is extremely important to understanding the health issues related to food and nutrition particularly as it relates to obesity in the United States. Thus, regardless of what the school and the state do to fight the uphill battle of providing healthy, balanced meals, if students go home and eat unhealthy, high-fat foods, little impact is likely when it comes to changing diet or impacting health outcomes in the K-12 population.

Table 2.3
Places to “Eat Out” Among Springdale Students Grades 10-12

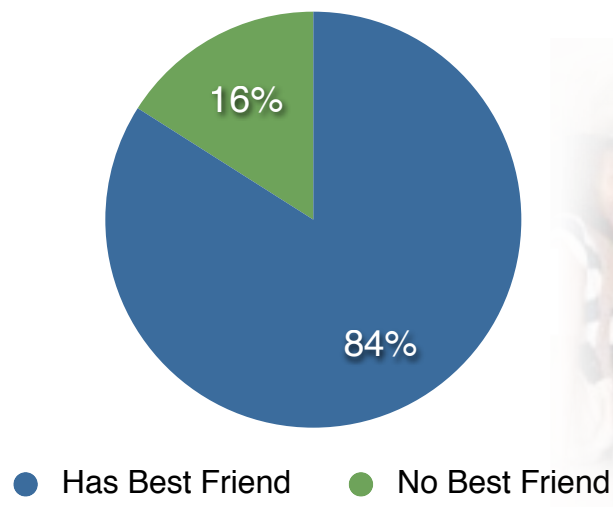


Students & Their Friends

Students spend the majority of their waking time at school. As a result, the friendships they develop and the social associations they engage in are both important to them while in school but are often critical to shaping their lives through adulthood. Who students associate with is important, but just as important is the size of their social networks, and what types of activity or social capital these networks are used for. Because we were interested in whether or not social relationships influenced food insecurity and health outcomes among students, most of the social network/capital questions are related to food. As seen in Table 2.2, where students ate their meals with regards to their friends was important. Thirty-two percent said they never ate at their friend's house, while 63 percent said they ate there a few or some times in the past year.

In addition to eating at friends' houses, we also wanted to know the size of students' friend networks. We asked student's about the number of their close friends and if they had someone they considered to be their best friend. Sixteen percent of students said they did not have a best friend. Of the 84 percent who said they did have a best friend, the majority of students said they saw their best friend either everyday (57%) or several times a week (26%). Similarly, the majority of students said they had other contact with their best friend (phone, email, etc.) either everyday (57%) or several times a week (28%). We also asked students' about close friends besides their best friend. The median number of close friends reported was 4.

Figure 2.2
Best Friend Status Among Springdale Students Grades 10-12



Social Capital & Food Insecurity

The majority of this report attempts to address single-order questions, i.e. how much food insecurity is there among Springdale students in grades 10-12? Nevertheless, it seems important that we at least look at the relationship between friendship ties/social capital and food insecurity. The argument has been made that some forms of social capital (relationships) can be important to lessening food insecurity among adults. Several studies report lower food insecurity among adults living in communities that provide better opportunities for social associations among adults and families, have more food-related services, and report higher levels of religious capital (attendance & religiosity).

In our study, we developed a summary measure for social capital by combining the questions on friends and friendship activity and a summary measure of food insecurity that is similar to the one developed by the USDA. This adapted version of the food insecurity measure has been used on children under the age of 18 and is noted as being both a valid and reliable indicator of food insecurity, regardless of students reporting being hungry. As expected the correlation between these two variables is negative (-.092). The correlation is statistically significant and as predicted, the greater the social support/capital the less likely someone would experience food insecurity.



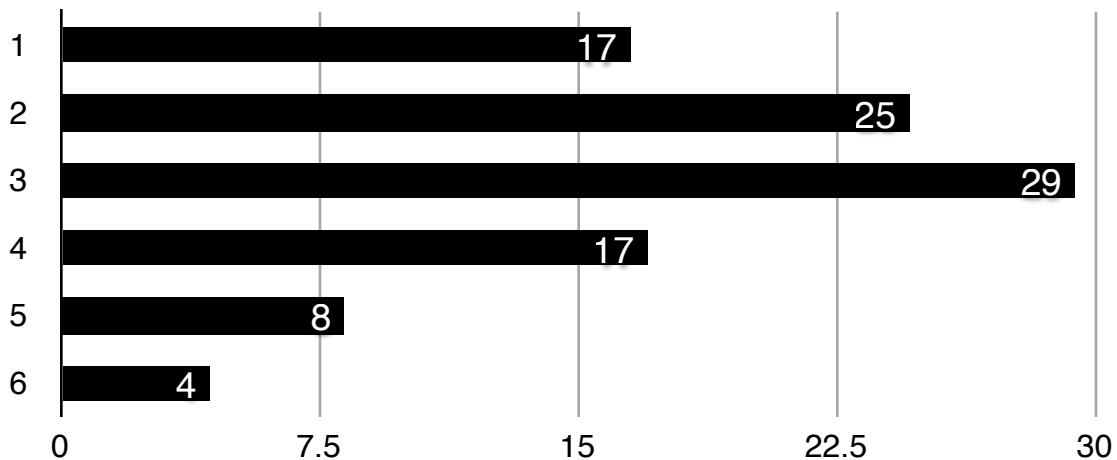
Students & Their Community

One final element that we explore in this study is the relationship that student's have with their community. First, we asked students how connected they feel to the community at large. We accomplished this by using a pictorial scale in which students selected the image that best represents their relationship with the community (Image 2.1). The scale ranges from 1-6 with (1) indicating total disconnect and (6) total connection with the community. The results, shown in Table 2.4, indicate there is much variation in feelings of community connectedness among Springdale students. However, over seventy percent of the students fall into the lower half of the connectedness scale and only 4 percent of the sample reported strong feelings of community connectedness.

Image 2.1
Inclusion of Self in the Community Scale



Table 2.4
Feelings of Community Connectedness Among Springdale Students Grades 10-12



Chapter Three

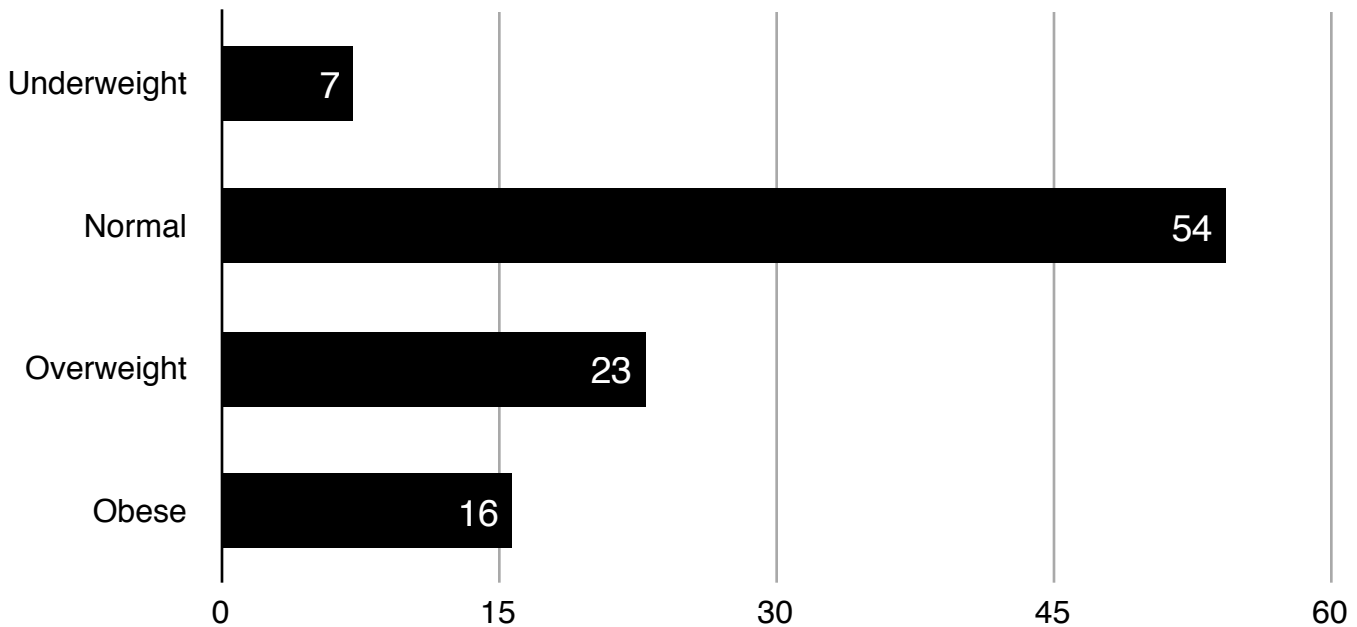
Health & Well-Being



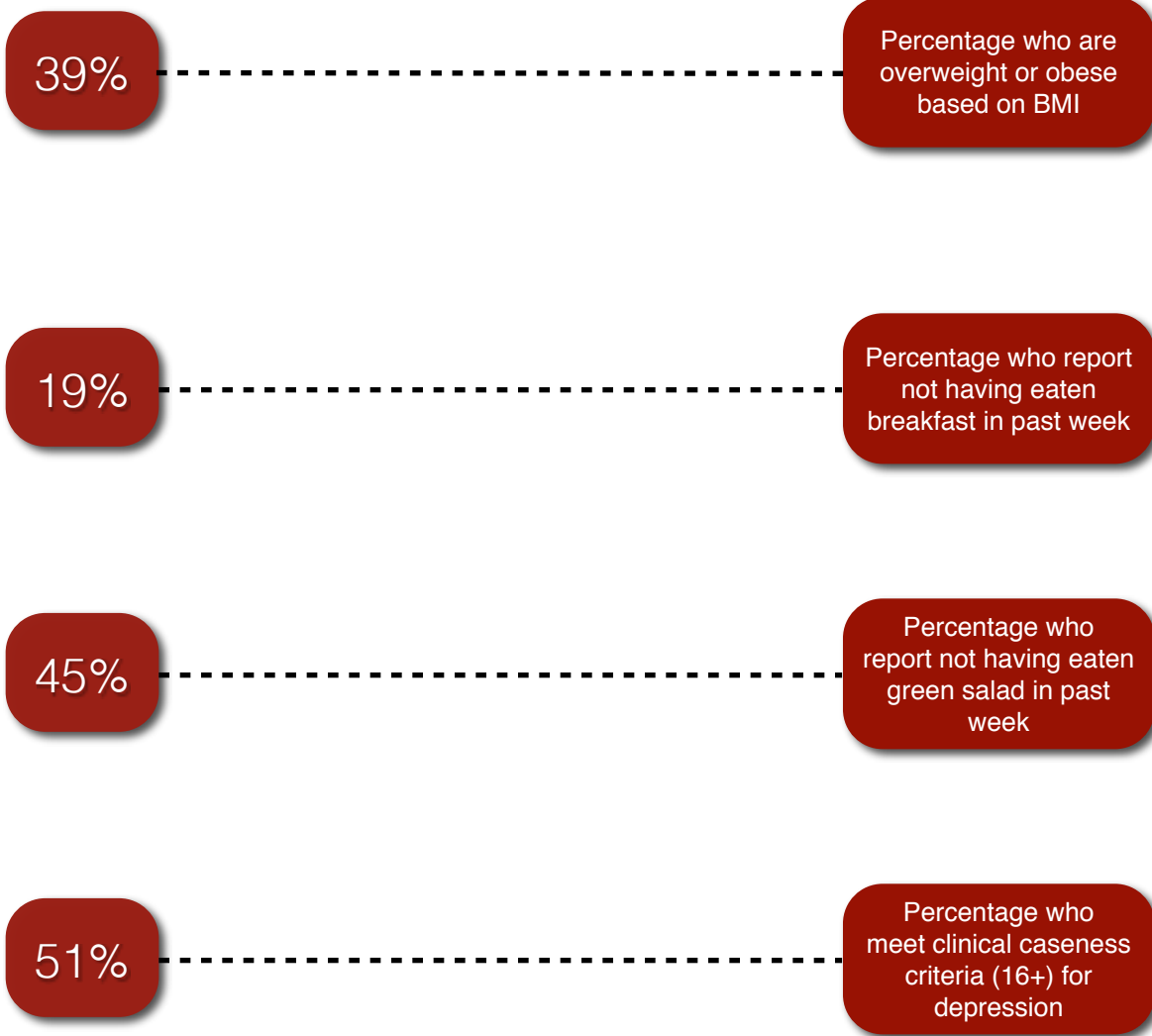
Introduction

An important part of the health and well-being equation for students is their weight status. Many students worry about their weight. Some students are considered to be too skinny and thus potentially vulnerable to bullying or physical abuse, while others are too heavy and likewise vulnerable to bullying and verbal abuse. For our purposes, because of the significant health risks, we focus on those student's reporting height and weight that puts them into the risk of being categorized as overweight or obese. There are multiple standards used to create BMI (body mass index) rankings for children and adults. The standard reported in this chapter is established by the Centers for Disease Control and Prevention (CDC). Since the average age of the students surveyed was 16 years old, we first examine weight status for the entire sample assuming an average age of 16. Given the percentile rankings used by the CDC, 39 percent of the surveyed students would fall into the overweight or obese category. That is higher than found in the general population for teenagers (male/female) 16 years old in Arkansas and the United States.

Table 3.1
Reporting Weight Status Among Springdale Students Grades 10-12



By The Numbers



Health & Nutrition

In addition to weight status, we also asked students to what extent they engaged in healthy eating behaviors in the week prior to the survey. A series of ten questions asked students how often in the past week they ate certain types of foods (vegetables, potatoes, carrots, salads, etc.); drank specific types of drinks (milk, fruit juice, soda, etc.) ate breakfast, and exercised vigorously including their physical education class. Not surprising, a large number of students had not eaten a green salad, carrots, potatoes or other healthy vegetables in the past week. Table 3.2. shows that for more than one-third of the sample, students ate limited vegetables at all during the week.

Table 3.2
Healthy Eating Among Springdale Students Grades 10-12

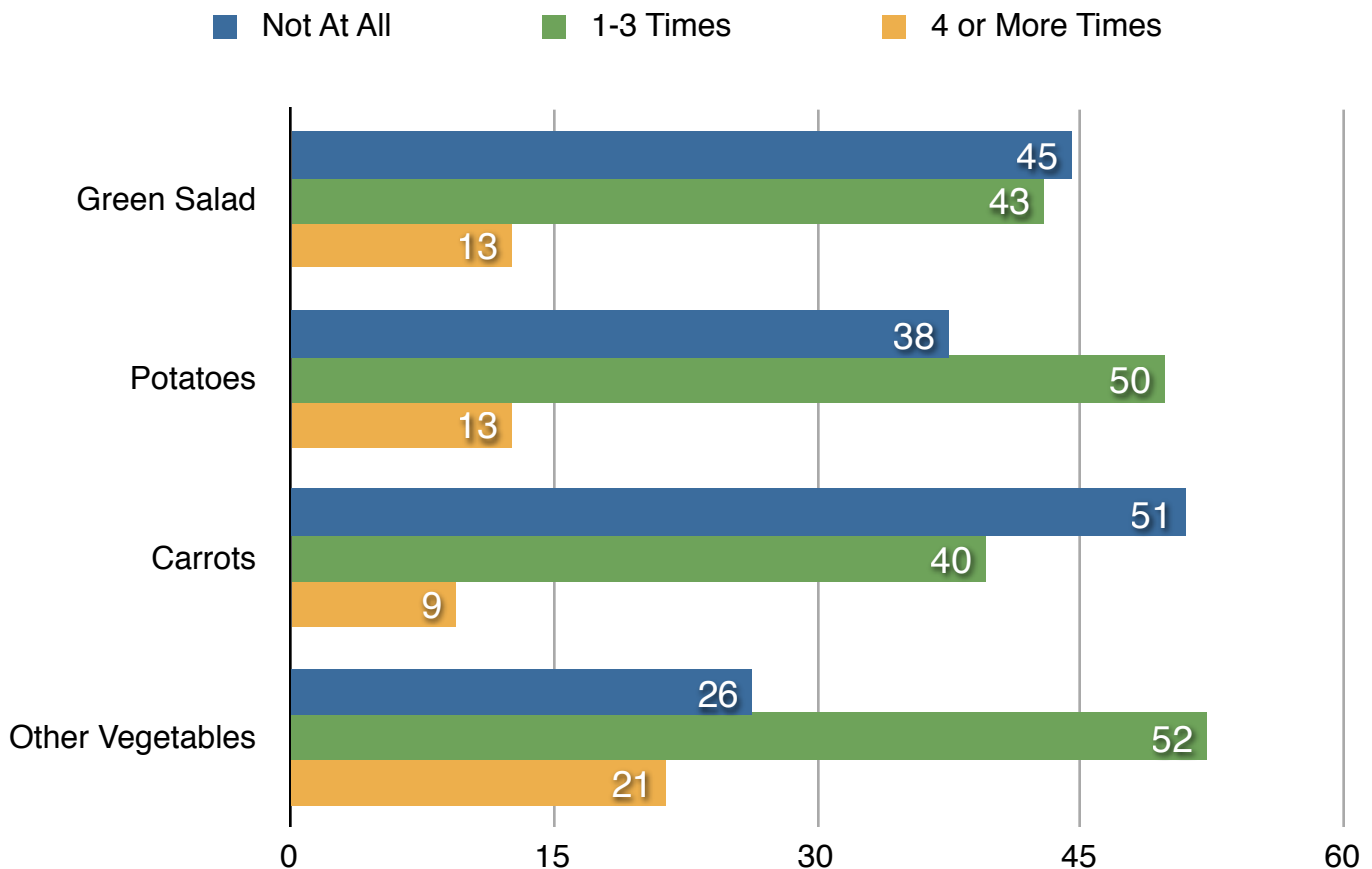
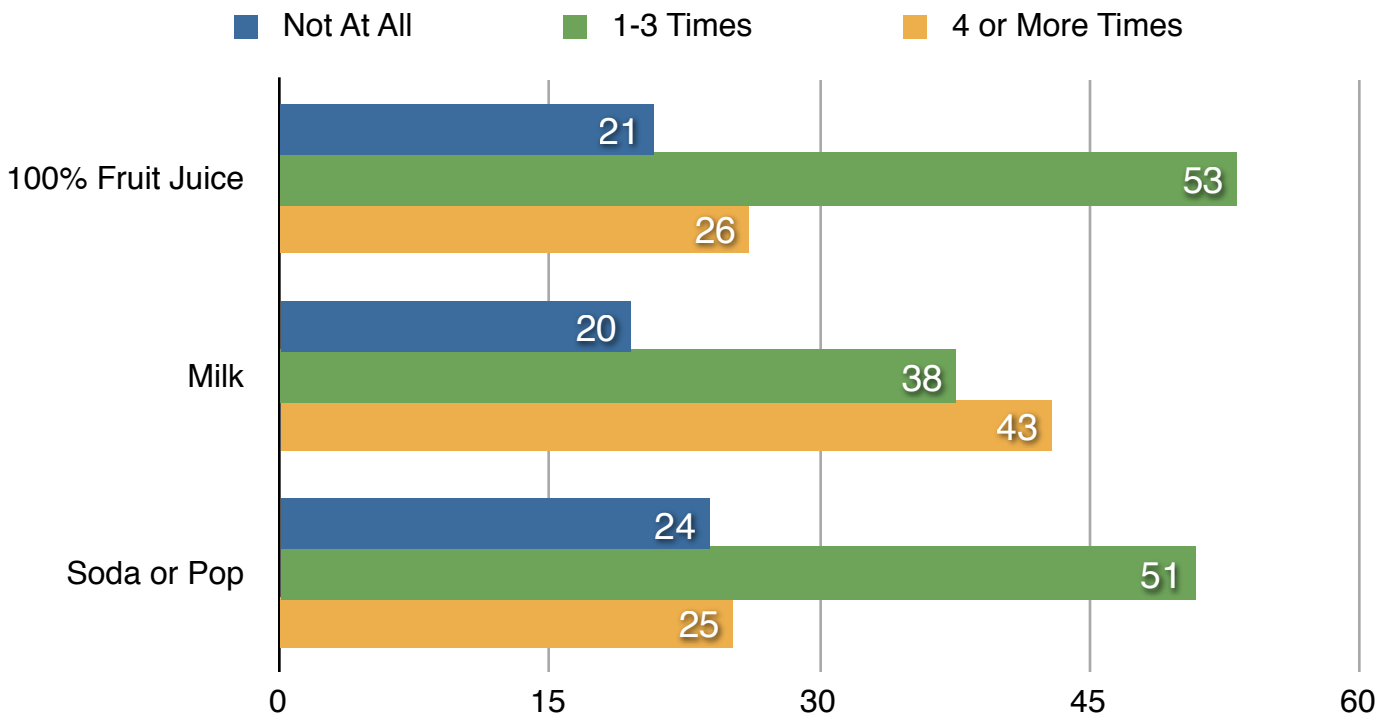


Table 3.3 includes responses from students regarding what they were drinking the week prior to the survey. The results show that there are clearly more students getting access to healthy drinks as opposed to healthy foods. Twenty-one percent of students reported not drinking 100% fruit juice at all during the last week prior to the survey and a slightly smaller number reported not drinking milk (20%). Perhaps just as important to considering what good things students were drinking, we also were interested in how much soda students were drinking on a weekly basis. We asked them how often they drank soda, not including diet or caffeine-free soda. The results in Table 3.2 are somewhat encouraging; nearly one-quarter said they drank no soda at all the week prior to the survey. Nevertheless, half of the students surveyed reported drinking soda 1-3 times a week and 25 percent said they drank it four or more times in the past week. Certainly this group of students who are drinking caffeinated soda nearly every day is the group at highest risk for negative health outcomes including obesity, diabetes, hypertension, etc.

Table 3.3
Healthy Drinking Among Springdale Students Grades 10-12



A final question students were asked related to their physical health was: “How often did you get to where you were breathing hard and your heart rate increased (including physical education class)?” Nearly 40 percent of the students reported not at all in the last week and 41 percent reported only 1-3 times in the past week. Physical exercise is clearly linked to positive social, academic and health outcomes; the majority of 10th-12th grade students (nearly two-thirds) are not engaging in the required minimum of physical activity outside of the school setting.

Psychological Health

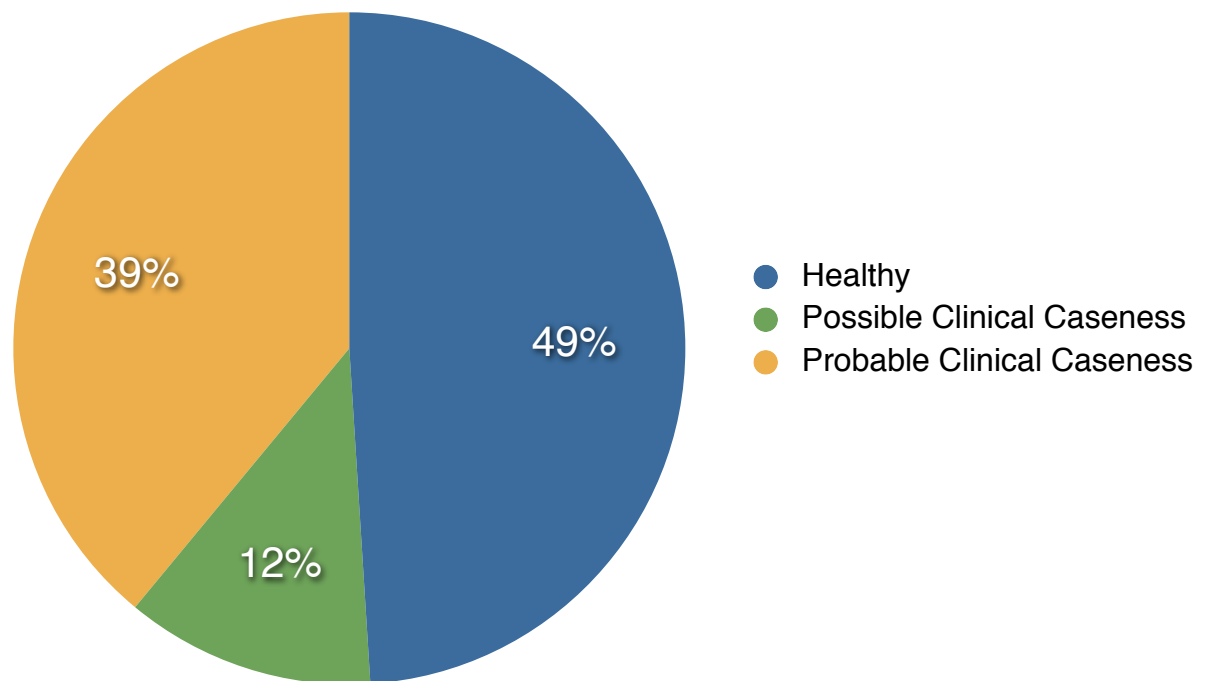
In addition to physical health risks and nutrition, we also asked students questions related to their self-esteem and mental health--specifically asking questions about symptoms related to depression. A number of recent studies highlight the relationship between physical health outcomes and mental health; research shows that children and adolescents with high BMI scores often have low self-esteem and report significant depressive symptomatology.

In this study, we constructed a valid and reliable indicator of self-esteem. Rosenberg’s self-esteem is a self-evaluation tool that helps to create general markers of low and high self-esteem based on the scaled responses to a set of 10 questions (Rosenberg 1965). These questions ask students whether they strongly agree, agree, strongly disagree, or disagree with statements like: “I am a person of worth;” “I have a number of good qualities;” “I can do things as well as most people;” etc. The range of responses to these questions were 0-3. The self-esteem scale can range from 0-30 with a score of 17 usually noted as low self-esteem. The average score for 10th-12th grade Springdale students was 16.7 and just over half of all students scored 17 or below.



Another way to examine psychological health was to ask students questions about symptoms they may or may not be experiencing that are related to depression. The goal of course was not to make a diagnosis but rather to summarize each student's responses to these questions that assessed how often in a two-week period they experienced specific symptoms. These questions ranged from how often they felt sad, lonely, anxious, to had they had trouble eating, sleeping, getting going etc. While the assessment used (CES-D) may be more reflective of general emotional distress than clinical depression, it is a very reliable and valid indicator that has been shown to be a good benchmark for use in assessing depressive symptoms in both children and adults. The range of responses for each question was 0-3. The depression symptom scale could range from 0-60. Figure 3.1 shows the percentage differences for students who scored lower than 16 (healthy); students scoring greater than 16 and less than 21 (possible clinical caseness) and students scoring 21+ (probable clinical caseness). Each successive jump suggests greater severity in symptoms (number and frequency) and the greater likelihood that if the student spent time with a trained, clinical counselor or therapist they would likely reach this conclusion about their current emotional health. It seems important to note that over half of this sample of 10-12th grade students are experiencing some elevated emotional distress.

Figure 3.1
Depression Categories for Springdale Students Grades 10-12



Chapter Four

Observations & Conclusions



Introduction

In 2011, the USDA reported that nearly 15 percent of all households in the United States had experienced some degree of food insecurity. In Arkansas, approximately 19 percent of households reported food insecurity; Washington and Benton County estimates are similar and report as many as one-quarter of households experience some food insecurity over the past year. While we know that hunger is not a new problem in the United States, it is a growing one that has received considerable attention from policymakers, school administrators, teachers, and parents over the last several years. The United States has trouble providing food, clothing, and shelter to millions of Americans and the story below seems all too common:

“Jessie, a teenager from Harts, West Virginia dreams of graduating from high school and attending prom. While her friends buy prom dresses and arrange after parties, she struggles to feed her sisters and brothers. As other families choose between colleges, she must choose between medical care and welfare.

As many of her friends live the life a carefree adolescent, Jessie assumes the role of the caretaker in her family. The oldest of three children, she must look after her siblings while her father ekes out a living driving a truck. Her father is a hardworking man, but his 12 to 15-hour shifts don't provide enough income to pay the bills. She begins her days early, after her father leaves for work. She wakes up her brother and sister, feeds them and sends them to school. After attending classes all day, she fixes dinner, helps her siblings with class assignments and puts them to bed--all before starting her own homework.

Although the family isn't homeless, they have only \$120 each month to buy food. Often, there isn't enough to last the month, so Jessie is forced to turn to charities for help. Her family suffers from the constant struggle to make ends meet. For example, choosing inexpensive over healthy foods has hurt the family's health; Jessie's father has a heart condition and struggles against obesity--the result of high fat, processed foods that so frequently make up a low-income diet. Jessie's dream of going to college is tempered by fears that her father will need her close to home, especially as he faces growing health problems.” (UN Works, 2011)

So why are these statistics and Jessie's story important to Springdale High School, or Springdale Schools, or any school district for that matter? Why do schools need to be concerned about one more social problem that appears to be growing? In part, the answer to this question lies in our general understanding of poverty and how it impacts children and families generally, and students and their academic and social progress specifically.

Hunger, poor physical and mental health, poor nutrition, homelessness, and exposure to risk have all been identified as important to effecting student outcomes. While often the roots of these problems are not found in the school, they clearly impact the success of the student and in turn, the success of the school. Some might argue that combating complicated social problems is not the job of schools. However, understanding these problems armed with valid and reliable data, can serve to better inform school administrators, counselors, and teachers of the challenges they face and the programming/curriculum they design to help students that are struggling economically and academically. While the aggregate data that exists for schools is useful, having individual-level data along with data on student's families, is vital to understanding the extent of specific problems afflicting students and their overall well-being. At present, there is no comprehensive data collection on schools (in any district in Northwest Arkansas) like that presented in this report.

This report provides insight into a number of critical issues adolescents and their families struggle with in their daily lives, their work in school, their relationships with others, and their trajectory toward adulthood. While we could have focused on other topics, this study was primarily interested in providing some insight into the interrelationships between food insecurity, weight status, health/nutrition, and social relationships—and how and why they are impacting Springdale High School students and their families.

The following is meant to be a summary of what we think are some of the most important findings from the study that inform our understanding of Springdale High School students well-being. This list is partly a review of what was discussed in the body of the report, but also a collection of observations when taken in total, provide a comprehensive summary of the challenges that schools face as they continue to try and reconcile their role in the socialization process.

Summary Observations

(STUDENT BACKGROUND) N = 1493

- 53 percent self-identified as Hispanic, Latino or Spanish origin
- 37 percent self-identified as some other race besides Caucasian
- More than one-third of the students live in non-intact families
- 36 percent of students considered themselves to be Middle-Lower or Lower class

(STUDENT HUNGER AND FOOD INSECURITY)

- 27 percent reported moderate to high food insecurity
- 68 percent reported they ate free/reduced lunch at school
- 16 percent reported they didn't have enough money to spend on things like food

(STUDENT HEALTH AND NUTRITION)

- 18 percent reported they ate their meals at fast food restaurants most or all of the time
- Nearly half of the students reported not eating any green salad in the past week
- Over one-third of the students had BMI classifications of overweight or obese
- Over half of students scored 16 or higher on the depression scale (clinical caseness)

These observations are meant to summarize the core of this report. They are in no way a substitute for the detail presented, rather they provide some overview of the problems and struggles of Springdale students and their parents. There are of course many different ways to interpret this data and in fact, we would argue that the data suggest in many cases a majority of Springdale students and their families experience healthy lifestyles, good nutrition, and outstanding physical and mental health. In addition, Springdale schools are already engaged in a number of programs that are aimed at addressing need and understanding both among students and their parents. While recognizing the importance of these various programs and their impact on students and their families, we attempt to highlight some of our observations gleaned from this rich, individual-level data to help school administrators, counselors, and teachers better understand the nuance of daily life for their constituents.

Recommendations

So what does this all mean for Springdale High School and Springdale Schools? Clearly, the more information we have about students and their families, the more likely it is that we can develop intervention programming to help curb some of the negative circumstances that students and their families confront outside of the school setting. The following recommendations are meant to be suggestions, based on a careful analysis of the data collected. These recommendations might vary considerably from one school to the next. Thus it is important for all schools to consider this type of comprehensive data collection that assists schools in being better informed about their students and families. Currently, Arkansas participates in a statewide data collection of middle and high-school students reporting risk behaviors (drugs/alcohol use, tobacco use, violence exposure, etc.) that provides an important summary; knowledge about health, nutrition, and food insecurity are not collected in these surveys and represent an important gap in our knowledge about risk. As a result, we suggest:

Recommendation #1: Springdale schools consider implementing a comprehensive data collection effort focusing on health, nutrition, food insecurity and other important domains impacting academic and social progress of their students.

While certainly not a new problem, food insecurity and hunger have captured the attention of funders, policymakers, nonprofits, and communities across the United States. Arkansas is clearly a state in trouble and by most independent accounts it has an abnormally high rate of reported food insecurity. This high rate of food insecurity translates at the local level and clearly a significant minority of both students and families report problems related to access of food and access to healthy food. No school can tackle such a complicated problem on its own, however through partnership and combined efforts of school, parents, farms, service providers, and the community, programs can be developed or expanded to quell the rising tide of hunger and poverty and its impact on student success. Education of students and their families is important but often falls short. For example, offering nutritional advice and curriculum without real opportunities to have access to healthy fruits and vegetables defeats the purpose and enables the cycle of poor health and nutrition to continue. As a result, we suggest:

Recommendation #2: Springdale schools consider expanding their outreach programs that embrace local farmers and food distribution efforts.

Farm to school programs have been an important part of the education of students and their families about eating healthy, but despite these efforts, students and their families report food insecurity and problems related to accessing healthy foods. One possible way to help alleviate the problem of access is to identify farmers who are willing to provide fresh produce throughout the year at a low or no-cost option to students and their families who have been identified by school personnel as food insecure. There are a number of ways this could be translated at the local level in Springdale. For example, schools could develop their own farmer's market with produce supplied by local farmers or grown in their school's community garden. This food would be distributed on a controlled "need" basis and would engage the schools and their students with farmers in a way that would move beyond the "good intentioned handout".

Food insecurity and poor nutrition is often times the result of how organizations try to meet emergency hunger needs based on their donations. Many schools have started to find ways to help support local food bank efforts. One strategy might be for every school to consider developing a strategy, through the support of local agencies, advocacy groups, book clubs, churches, and the community as a whole, to receive large food donations that could be distributed weekly to help students and their families meet basic nutritional requirements that they are unable to meet on their own. As a result of this need we suggest:

Recommendation #3: Springdale schools consider developing a food bank in each of their schools. These food banks could be supported through donations from groups around the region, looking to "adopt" schools and help support efforts to combatting food insecurity. In addition, schools might consider reaching out to local food vendors/suppliers to acquire fresh foods for weekly distribution to students and families in need.

Finally, the data are indicative of a disjoint between what takes place at school and at home. Parents report different eating habits than students. Parents report considerably higher BMI scores than students. Parents and students report similar levels of food insecurity. As a result, the data seem to point to a bigger health problem than any one school could handle. While the school continues to develop strategies to increase healthy eating habits, developing and expanding programming that engages parents and their children in how to shop, cook, and increase access to healthy foods is clearly important. Again, no matter how often schools talk about or demonstrate healthy cooking, if family's access to these foods is severely limited, it will likely translate into problems with food security and nutrition. To help address these problems we suggest:

Recommendation #4: Springdale schools continue to find ways to expand their current educational outreach on health and nutrition to students and their families. Several suggestions that might help to improve this kind of outreach: offer cooking classes to both parents and students; expand offerings throughout the district using multiple times and locations to attract more diverse participants; engage local restaurants/ chefs into the educational process; develop summer or off-calendar opportunities for students to participate in local farm initiatives, community gardening, farmer's markets, and service opportunities. Additionally, schools may want to reach out to their local county extension office(s) for assistance with planning curriculum, engaging farmers, and expanding cooking class opportunities.

There are already great things happening in Springdale and in schools throughout the Springdale school district. The proactive approach of the administrations both at the district and local school level is commendable. Addressing poverty, hunger, homelessness, food insecurity, and overall health is a complicated equation. We hope that this report provides some assistance in both better understanding the scope of the problem, and the kinds of programming and outreach that can help to alleviate the problem.



UNIVERSITY OF ARKANSAS

Office of Research Compliance
Institutional Review Board

June 16, 2015

MEMORANDUM

TO: Kevin Fitzpatrick

FROM: Ro Windwalker
IRB Coordinator

RE: PROJECT CONTINUATION

IRB Protocol #: 12-06-744

Protocol Title: *Health, Nutrition and Food Security Among Springdale Students*

Review Type: EXEMPT EXPEDITED FULL IRB

Previous Approval Period: Start Date: 07/16/2012 Expiration Date: 07/09/2015

New Expiration Date: 07/09/2016

Your request to extend the referenced protocol has been approved by the IRB. If at the end of this period you wish to continue the project, you must submit a request using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. Failure to obtain approval for a continuation on or prior to this new expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

This protocol has been approved for 12,000 total participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or irb@uark.edu.

