

Role of Dieting and Food Habits on Obesity

An Interactive Qualifying Project Report
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Abstract

Obesity rates in America are high and weight loss is a major concern. Many Americans turn to commercial diets and other weight loss options hoping to lose weight. This project examines the effectiveness of commercial diets, and America's attitude towards nutritional labeling and healthy eating campaigns. To understand the food habits of Americans and local communities, a variety of surveys were conducted. The surveys concluded that Worcester Polytechnic Institute (WPI) students' dietary habits are not affected by nutritional labeling. Additionally, it was observed that the caloric intake of these students is well above the FDA recommended guidelines. It was also observed that within the local communities, only a small percentage of people read the nutritional labels on food products. It was found that generally, low carbohydrate diets result in quicker weight loss compared to low fat diets. WPI can make several improvements to create a healthier campus, such as introducing healthier vending machine snacks and breakfast options, and reducing the amount soda available on campus.

Table of Contents

Abstract	2
Authorship Page	6
1.0 Introduction	7
2.0 Objectives	9
3.0 Methodology	10
3.1 <i>Efficiency of Diets</i>	10
3.2 <i>Food Nutrition Awareness Survey in Morgan Dining Hall in Worcester Polytechnic Institute</i>	13
3.3 <i>Nutrition Label Awareness</i>	16
3.4 <i>Healthy Living and Easy Dining on \$37 a Week</i>	17
3.5 <i>Worcester Polytechnic Institute Healthy Eating Campaigns Survey</i>	17
4.0 Nutritional Requirements	20
4.1 <i>Carbohydrates</i>	20
4.1.1 Digestion of Carbohydrates	21
4.1.2 Glucose	21
4.1.3 Fructose.....	22
4.1.4 Galactose.....	23
4.1.5 Sucrose.....	23
4.1.6 Lactose.....	24
4.1.7 Starch	25
4.1.8 Glycogen.....	25
4.1.9 Dietary Fibers	25
4.1.10 Glycemic Index.....	27
4.2 <i>Protein</i>	27
4.2.1 Digestion of Protein.....	28
4.2.2 Roles of Protein in the Body.....	30
4.2.3 Where is protein found?.....	32
4.3 <i>Lipids and Fats</i>	32
4.3.1 Digestion of Lipids	33
4.3.2 Fatty Acids.....	33
4.3.3 Saturated Fats.....	33
4.3.4 Mono-saturated Fats	34
4.3.5 Polyunsaturated Fats.....	35
4.3.6 Omega-3 and Omega-6.....	35
4.3.7 <i>Trans</i> Fats	36
4.3.8 Roles of Fat in the Body	36
4.4 <i>Water and Vitamins</i>	37
4.4.1 Water.....	38
4.5 <i>Recommended Nutritional Intake</i>	38
4.6 <i>Nutrition Requirements</i>	40

4.6.2 FDA and Portion Size Regulation	48
4.7 <i>Malnutrition</i>	49
4.7.1 Iodine Deficiency.....	50
4.7.2 Vitamin A Deficiency.....	50
4.7.3 Protein-Energy Malnutrition.....	50
4.7.4 Iron deficiency Anemia	50
4.8 <i>Body Mass Index (BMI)</i>	51
4.9 <i>Summary</i>	52
5.0 Food Habits of People	53
5.1 <i>The Issue of Obesity</i>	61
5.1.1 Biological Factors.....	61
5.1.2 Social Factors.....	65
5.1.3 Lifestyle Factors	66
5.1.4 Consequences of Obesity.....	67
5.6 <i>Fast Food in the United States</i>	71
5.7 <i>Summary</i>	76
6.0 Food, Diet, and Nutrition Awareness	77
6.1 <i>Efficiency of Diets</i>	77
6.2 <i>Food Nutrition Awareness Survey in Morgan Dining Hall in Worcester Polytechnic Institute</i>	81
6.2.1 Results from the Morgan Dining Hall Survey	86
6.2.2 Changes.....	94
6.3 <i>Nutrition Label Awareness</i>	95
6.4 <i>Healthy Living and Easy Dining on \$37 a Week</i>	96
6.5 <i>Worcester Polytechnic Institute Healthy Eating Campaigns Survey</i>	101
6.4 <i>Summary</i>	104
7.0 Overview of Popular Commercial Diets.....	105
7.1 <i>Atkins Diet</i>	105
7.1.1 Basic Principle	105
7.1.2 Scientific Justification	105
7.1.3 Diet Program.....	106
7.1.4 Advantages and Disadvantages	108
7.1.5 Response to the Diet	111
7.2 <i>The South Beach Diet</i>	112
7.2.1 Basic Principle	112
7.2.2 Scientific Justification	112
7.2.3 Diet Program.....	113
7.2.6 How the diet has changed over the years.....	115
7.3 <i>Jenny Craig</i>	115
7.3.1 Basic Principle	116
7.3.2 Scientific Justification	116
7.3.3 Diet Program.....	116
7.3.4 Advantages and Disadvantages	117

7.4 <i>Weight Watchers</i>	117
7.4.1 Basic Principles	118
7.4.2 Scientific Justification	118
7.4.3 Diet Program.....	118
7.4.4 Advantages and Disadvantages	120
7.5 <i>Comparison of Diets</i>	122
7.5.1 Low-Fat, Low-Calorie and Low-Carbohydrate	123
8.0 Other Weight Loss Options	128
8.1 <i>Weight Loss Pills</i>	128
8.1.1 Over-The-Counter Weight-Loss Pills.....	129
8.1.2 Prescription Weight-Loss Pills	130
8.1.3 Effectiveness of Diet Pills.....	131
8.2 <i>Hypnosis</i>	134
8.3 <i>Surgery</i>	137
8.3.1 Gastric Bypass Surgery.....	138
8.3.2 The Gastric Band	140
8.3.3 Vertical Banded Gastroplasty	142
8.3.4 Surgery options	143
8.4 <i>Exercise</i>	143
8.4.1 Physical Activity and Weight Loss.....	143
8.4.2 Physical Activity and Health	148
8.4.3 Recommended Exercise.....	150
8.5 <i>Summary</i>	152
9.0 Discussion	154
9.1 <i>Why are Americans obese?</i>	154
9.2 <i>Suggestion on Weight Loss and Weight Loss Maintenance</i>	157
9.3 <i>Suggestions on Improving Healthy Eating on the WPI Campus</i>	158
9.4 <i>Suggestions on what the Government can do to Promote Healthy Eating</i>	160
9.5 <i>Summary</i>	162
10.0 Conclusions	164
11.0 References	166
12.0 Appendix	181
12.1 <i>Efficiency of Diets Survey Results</i>	182
12.2 <i>Food Nutrition Awareness Survey in Morgan Dining Hall in Worcester Polytechnic Institute</i>	275
12.2.1 Questionnaire.....	275
12.2.2 Results.....	276
12.3 <i>Worcester Polytechnic Institute Healthy Eating Campaigns Survey Results</i>	291

Authorship Page

Abstract – Carmel Kozlov, Stephanie Manson, Ashley Saylor

1.0 Introduction - Carmel Kozlov, Stephanie Manson, Ashley Saylor

2.0 Objectives - Jason Butler, Carmel Kozlov, Stephanie Manson, Ashley Saylor

3.0 Methodology – Carmel Kozlov

4.0 Nutrition – Carmel Kozlov

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5.0 Food Habits of People – Carmel Kozlov

6.0 Food, Diet, and Nutrition Awareness – Carmel Kozlov

7.0 Overview of Popular Commercial Diets

7.1 Atkins Diet – Ashley Saylor

7.2 The South Beach Diet – Stephanie Manson

7.3 Jenny Craig – Stephanie Manson, Jason Butler

7.4 Weight Watchers – Jason Butler

7.5 Comparison of Diets – Jason Butler

7.5.1 Low-Fat, Low-Calorie and Low-Carbohydrate –Stephanie Manson

8.0 Other Weight Loss Options

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8.5 Summary – Ashley Saylor

9.0 Discussion - Carmel Kozlov, Stephanie Manson, Ashley Saylor

10.0 Conclusion - Jason Butler, Carmel Kozlov, Stephanie Manson, Ashley Saylor

11.0 References – Stephanie Manson

1.0 Introduction

In the past few decades there has been a major change in the eating habits of the Western World which has caused obesity rates in the United States to grow. The Center for Disease Control and Prevention released that as of 2008, 26.5% of adult Americans are obese.¹ Child obesity rates have increased as well. Among adolescence aged 12–19 years, obesity rates have increased from 5.0% to 17.6% in the past 25 years.¹

Many Americans turn to commercial diets in hope to lose the excess pounds. Commercial diets (also referred to as fad diets in literature) have been developed to allow people to lose weight purportedly without the severe feelings of deprivation.² However, the long-term effects of such fad diets are unknown,³ and many Americans who follow these fad diets are unable to achieve their weight loss goals. This has been a cause for controversy.

Other causes for controversies have been weight loss options such as surgery, hypnosis and even weight loss pills. Some obese patients turn to bypass surgery to restrict the amount of food they can ingest. Those who turn to hypnosis hope that by controlling their mind, they will be able to control their weight loss. Diet pills are often referred to as magic pills, magically making the excess weight disappear. Exercise is another weight loss option that many people try to avoid.

One objective of this project is to investigate the reasons obesity rates are increasing in the United States. By researching in journals and books, this project will highlight the biological needs of the human body for nutrition. The nutritional recommendations from the US Government will then be discussed. Thereafter, trends in eating habits over the past few decades will be examined. To understand the food habits of Americans and local communities, a variety of surveys were conducted. By doing this, a better picture of eating habits and nutrition awareness in the local community was formed.

Another goal of this project is to evaluate popular commercial diets. A survey was conducted to see which commercial diets are currently popular amongst Americans. These popular commercial diets are then examined using available literature to better understand their scientific justification, efficacy and perception in the medical community. The project also researched other weight control options, such as hypnosis, diet pills, surgery and exercise to evaluate their success.

Finally, the project suggests how a person can lose weight and maintain their weight loss. Additionally, suggestions are made on how Worcester Polytechnic Institute can improve healthy eating on campus, and how the US Government can promote healthy eating.

2.0 Objectives

The objectives of this project are to:

- Understand the nutritional needs of an average person.
- Study the food habits of Americans over the past few decades to determine its effects on obesity.
- Investigate the effects of different weight control options such as exercise, dieting pills, hypnosis and surgery.
- Compare popular commercial diets and understand their advantages and disadvantages.
- Examine various options for losing weight and maintaining a desired weight.
- Discuss ways Worcester Polytechnic Institute can improve healthy eating on campus.
- Discuss ways the US Government can promote healthy eating.

3.0 Methodology

Various methods were used to obtain data on the nutritional aspects of diets, factors controlling obesity, and on the effectiveness of popular commercial diets. The available literature was examined to highlight the major constituents of foods and the nutritional requirements for an average American. To understand the food habits of Americans and local communities, a variety of surveys were conducted. Details pertaining to these methods are listed in the following sections.

3.1 Efficiency of Diets

There are many commercial diets on the market. There is currently no literature stating which commercial diets are the most popular ones. In a study conducted by Edward Weiss, et al, it was found that in 2001 7.3% of adults trying to lose weight followed a special diet such as Dr. Atkins, other high-protein or low-carbohydrate diet, Zone and grapefruit diet. Additionally, 6.8% joined a weight loss program such as Weight Watchers, Jenny Craig, Tops, or Overeaters Anonymous.⁴ However, the study does not specify which of the programs and diets were the most popular.

The primary goal of the Diet Efficiency survey was to find out which specific commercial diets are popular, and how happy the dieters were with each diet they had tried. The survey was conducted online, and the population of survey participants included friends and family of the project members, various businesses, and the Worcester Polytechnic Institute (WPI) community.

The first few questions of the survey asked the participant for their age, sex and whether or not they have ever been on a diet. The survey went on to list different popular diets and asked the participant to list the diets that they have been on. The participant then rated each diet on a scale from 0 to 5, where 0 represented that they did not lose any weight at all with this program,

and 5 representing their satisfaction with the amount of weight lost following that diet. Figure 1, 2 and 3 show screen shots of the survey.

Efficiency of Diets

Thank you for taking our survey. Any information provided is anonymous and greatly appreciated.

* Required

Gender *

- Male
- Female

Age *

- 19 and under
- 20-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70 and over

Have you ever been on a diet to lose weight? *

- Yes
- No

Have you ever been on one or more of the following diets? *

Check all that apply

- Atkins
- South Beach Diet
- Weight Watchers
- Jenny Craig
- Nutrisystem
- Alli
- Zone
- Never been on a diet
- I've been on diets - but not a fad diet
- Other:

Did your diet plan include exercise or did you exercise while you were on a diet? *

- Yes
- No
- N/A - Never been on a diet plan

Figure 1 - Efficiency of Diets Survey

How would you rate the Atkins diet?

Skip this question if you have never tried this diet

0 1 2 3 4 5

I did not lose any weight Very effective diet

How would you rate the South Beach Diet?

Skip this question if you have never tried this diet

0 1 2 3 4 5

I did not lose any weight Very effective diet

How would you rate the Weight Watchers Diet?

Skip this question if you have never tried this diet

0 1 2 3 4 5

I did not lose any weight Very effective diet

How would you rate the Jenny Craig diet?

Skip this question if you have never tried this diet

0 1 2 3 4 5

I did not lose any weight Very effective diet

How would you rate the Nutrisystem diet?

Skip this question if you have never tried this diet

0 1 2 3 4 5

I did not lose any weight Very effective diet

How would you rate the Alli diet?

Skip this question if you have never tried this diet

0 1 2 3 4 5

I did not lose any weight Very effective diet

How would you rate the Zone diet?

Skip this question if you have never tried this diet

0 1 2 3 4 5

I did not lose any weight Very effective diet

If you selected other, how would you rate this diet?

Skip this question if you did not select other

0 1 2 3 4 5

I did not lose any weight Very effective diet

Are you happy with your weight?

Yes

No

Figure 2 - Efficiency of Diets Survey

Are you happy with your weight?

Yes

No

Do you exercise? How much? What kind of exercise do you do?

If you could, please provide your weight and height

Figure 3 - Efficiency of Diets Survey

After participants rated each diet, they were asked if they were happy with their weight, and whether or not they exercise regularly. Finally, survey takers had the option to provide their weight and height, which most participants did. A copy of the results can be found in Appendix 12.1. Overall, the survey had 634 participants, 374 females and 260 males.

3.2 Food Nutrition Awareness Survey in Morgan Dining Hall in Worcester Polytechnic Institute

In this survey the food nutrition awareness of the students dining in Morgan Dining Hall of WPI was examined. For college students at Worcester Polytechnic Institute who dine at the Morgan Dining Hall, nutritional information for food items is not directly available when they pick out their food items. The purpose of this survey was to see if providing nutritional information in front of each food item would change the amount of food the students were eating. During the preparation for the food survey, it was found that there were binders in the front of the dining hall containing some nutritional information for meals served at the dining hall.

The survey was conducted in person in the Morgan Dining Hall and was divided into two parts. In the first part, random students were approached after they had sat down with their food and were asked if they wanted to participate in a survey. They were then asked what they were eating and drinking. They were asked to guess the caloric values of the food items they were eating. They were also asked how many Calories they were supposed to be eating each day. Additionally, they were asked if they had ever used the nutritional binders in the front of the dining hall. Finally, they were asked if they would like to see the nutritional information in front of each food item and if it would change how much food they would eat. The project members had the set of questions on a piece of paper and recorded the student responses.

In the second part of the survey, nutritional information was present for popular food items. It was conducted 2 weeks after the first part of the survey was conducted, on the same day, when the same food items was being served. The main warm meal, special fries and Chicken Nuggets were chosen to have their nutritional information presented, as long as pizza, soda, and chocolate chip cookies. The survey was conducted with the help of the manager of the Morgan Dining Hall, Leslie Lofgren. Ms. Lofgren provided nutritional information for some of the food items that were chosen. She contacted the distributors of the Special Fries and the Chicken Nuggets that are offered to the students to obtain the nutritional information.

The caloric information and serving size for the food items were printed and placed in front of each food item. Students were approached after they sat down with their food. They were asked if they had seen the nutritional information posted in front of the food items and if the nutritional information influenced their food choices.



Figure 4 - Survey Setup

Figures 4 and 5 show the setup that was used to display the nutritional information of the food items. In front of the fries and the chicken nuggets, a sign with the serving size and the Calorie content of the item was displayed.



Figure 5 - Survey Setup Close-up

Identical prints were included for the pizza, soda and cookies. When presenting the information, it was placed in an area that was easy to see. Additionally, the font was large enough for people to read from a distance.

In the first part of the survey, 103 students participated, 52 of which were females and 51 of which were males. The survey took 2 hours to conduct, and only 3 students did not want to participate in the survey. The second part of the survey had 94 students participate, with 38 females and 56 males. The questioner used can be found in appendix 12.2.1 and results in appendix 12.2.2.

3.3 Nutrition Label Awareness

Nutrition labels on food items and groceries provide plenty of information that can help a person determine if the food item is high in Caloric value, fat content, or if it is made of substances they are not familiar with (which indicates that it is a processed food). In an article published by the New York Times, it was found that 85% of the participants read the nutritional labels on the food items.⁵ However, the survey was done over the phone, and there was no extensive data in the article describing the survey.

There is a great number of published articles indicating the perception of food labels, as well as factors determining the likelihood of a person to read a food label. However, recent research outlining the percentage of people using nutrition labels in supermarkets is not available. In order to gain a better understanding of the percentage of people who use nutrition labels to pick out new food items in the supermarket this nutritional label awareness survey was conducted.

The nutritional label awareness survey was conducted in the *Price Chopper* supermarket in Worcester, MA. Participants were chosen randomly during their grocery shopping. They were asked if they always read the nutritional information when they are buying a new food item. Their gender and age range were also noted. A total of 50 people participated in this survey. It is important to note that the survey was conducted in a mostly blue-collar neighborhood.

3.4 Healthy Living and Easy Dining on \$37 a Week

The Economic Research Service of the United States Department of Agriculture (USDA) reported that in 2008, the average American was spending \$37.85 per week (\$1,973 per year) on “food at home”.⁶ To see how much food this amount can buy, an experiment was conducted. To see how much healthy food \$37 can buy and how much processed food \$37 can buy items were picked at a local supermarket. The items selected were for a week’s worth of food and were diverse enough to create different food items for each meal of the day. Additionally, a weekly food menu consisting only of items from fast food restaurants was created for \$37. This information will help with the discussion and analysis of the obesity problem in the United States.

3.5 Worcester Polytechnic Institute Healthy Eating Campaigns Survey

There are many companies trying to promote their healthy food items, and many Government sponsored health campaigns. There are different food items, such as Cheerios, and Yoplait Yogurt that have advertisements promoting their different health benefits. Cheerios claims to be a “heart healthy cereal” and that it “lowers cholesterol”.⁷ Yoplait commercials highlight their low-Calories and usually involve a character that lost weight by eating their product.

The US Government sponsors campaigns such as the “Incredible Edible Egg” and MyPyramid to try to get more people to eat healthy and be conscious about their nutritional intake. On the WPI campus vending machines have green leaves next to food items containing less than 100 Calories per serving to help customers purchase low-Calorie items. The purpose of this survey was to:

- See how the WPI community reacts to commercials for foods claiming to be “healthy”

- See how the WPI community reacts to Government sponsored health campaigns.
- See if the WPI community uses the green leaves in the vending machines.
- See what the WPI community thinks that WPI should do to promote healthy eating on campus, and what the US Government should do to promote healthy eating in the entire nation.

The survey was conducted through a web-based survey that was sent out to the entire WPI community and had a total of 218 responses. Figure 6 and 7 show the screen capture of the survey that was sent out. The complete results can be found in appendix 12.3.

Healthy Eating Campaign Survey

* Required

Gender *

- Female
- Male

Have you seen the Cheerios commercials promoting this "healthy" cereal? If so, are you more inclined to buy Cheerios? *

- Yes, I have seen these commercials and they influenced me
- Yes, I have seen these commercials but I ignored them
- No, I have not seen these commercials

Have you seen the Yoplait commercials promoting their light yogurt products? If so, are you more inclined to buy this product? *

- Yes, I have seen these commercials and they influenced me
- Yes, I have seen these commercials but I ignored them
- No, I have not seen these commercials

Have you seen the "Incredible Edible Egg" commercials? Do they influence you to eat more eggs or eat healthier? *

- I have seen these commercials and they have influenced me
- I have seen these commercials and I ignored them
- I have not seen these commercials

Have you ever visited MyPyramid.gov to get information about healthy eating? *

- Yes
- No
- I have never heard of MyPyramid.gov

Figure 6 - Healthy Eating Campaign Survey

What can WPI do to promote healthy eating on campus?

What can the US government do to promote healthy eating in the United States?

Submit

Figure 7 - Healthy Eating Campaign Survey

4.0 Nutritional Requirements

One goal of this project is to study the change of food habits over the past few decades and the impact of these changes on the obesity rates in America. This section highlights the basic nutrients of food, their digestion in the body, and the recommended food intake for an average person.

In order to understand the recommendations given by the US Government for food intake, it is first necessary to understand what food is made of, and how the body processes food intake. Foods can be divided into three main groups: the carbohydrates, proteins and lipids. Additionally, there are essential vitamins and nutrients that are needed in the human body for survival.

4.1 Carbohydrates

The main function of dietary carbohydrates is to supply energy for body functions.⁸ This includes supplying energy for the digestion and absorption of other foods. Other macronutrients such as fats or proteins, can be converted by the body to energy,⁸ however, carbohydrates are the body's preferred source of energy. Dietary carbohydrates are divided into simple carbohydrates (also known as sugar), which are found in table sugar, honey and natural fruit sugars; complex carbohydrates (also known as starches) and fibers which are mostly found in whole grains, legumes, vegetables and fruits.⁸

All carbohydrates follow the empirical formula of $C_nH_{2n}O_n$. There are many classifications for carbohydrates, according to their chemical structure. However, it is only necessary to focus on the important carbohydrate groups which are discussed in section 4.1.3 through 4.1.9.⁹

4.1.2 Digestion of Carbohydrates

The digestion of carbohydrates begins in the mouth, where starch-digesting enzymes start breaking down the starch. The disaccharides are not digested in the mouth, and only around 5% of the starches found in food are broken down in the mouth.¹⁰

When the carbohydrates reach the small intestine, pancreatic amylase continues the digestion of starches. Enzymes in the small intestine break disaccharides into monosaccharides for absorption. The enzyme maltase splits maltose into two glucose molecules while the enzyme sucrase splits sucrose into glucose and fructose. Additionally, the enzyme lactase splits lactose into glucose and galactose. Carbohydrates that remain intact when they reach the large intestines are usually fibers or resistant starches. In the large intestine bacteria partially break down some of the undigested carbohydrates, reducing gas and few short-chain fatty acids. The fatty acids are then absorbed into the colon and are used for energy by the colon cells. Fibers that do not get digested or fermented in the large intestines add to the stool weight making it easier to pass.¹⁰

4.1.3 Glucose

Glucose is a form of simple carbohydrates, also referred to as dextrose, corn sugar or grape sugar, and is the most plentiful simple carbohydrate in nature. Throughout the body, cells depend on glucose for energy and to drive necessary chemical processes. Glucose has the chemical formula of $C_6H_{12}O_6$, as is seen in Figure 8.¹⁰

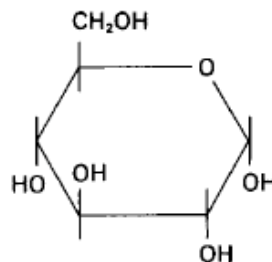


Figure 8 – Glucose Structure¹⁰

Glucose is the primary fuel for most cells, in addition to being the preferred fuel for the brain, nervous system and red blood cells. When fat is being burned for energy, glucose is needed to break down the fat entirely. Glucose is found in the blood (hence the term “blood sugar”) and circulates to provide energy to cells. When there is an excess of glucose in the system, the body stores it in the liver and in the muscles as glycogen (which is discussed in section 4.1.9).¹⁰

When carbohydrates are not available, proteins and fats are used for energy. Even though, brain cells and red blood cells require a constant supply of glucose. In times of starvation, and the glucose storage (glycogen in the liver and the muscles) are depleted, the body is able to make glucose from body proteins.¹⁰

4.1.4 Fructose

Fructose is another simple carbohydrate found mostly in honey, fruits and some vegetables and is slightly sweeter than glucose. It has the same chemical formula as glucose, but a different arrangement, as is seen in Figure 9.¹⁰

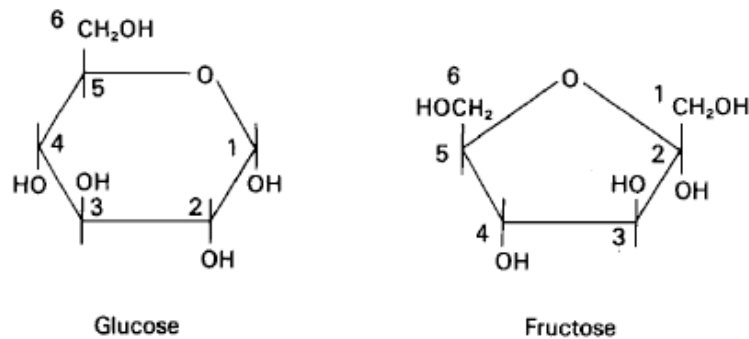


Figure 9 – Structure of Glucose and Fructose¹⁰

Fructose can be absorbed through the intestinal wall directly into the blood stream. Once the blood circulates by the liver, fructose is taken up into the liver cells where enzymes rearrange

the fructose atoms. Some of the fructose is rearranged to make compounds completely different from fructose, and sometimes they are rearranged to make glucose.⁹

Additionally, there is no need for insulin in order to get fructose into cells in the body, and it is therefore used as a sweetener for people with diabetes. However, fructose has a higher tendency to be converted to fat rather than to glycogen, which adds to the levels of fat in the body.⁹

4.1.5 Galactose

Galactose is a monosaccharide rarely found in free in nature, and less sweet than glucose. It is converted in the liver into glucose and can be found in dairy products, sugar beets, and in natural gum.¹⁰

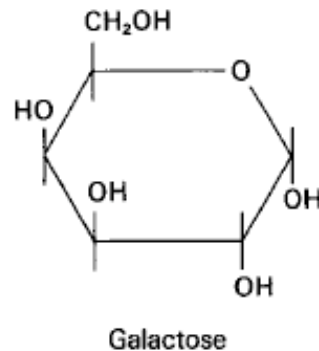


Figure 10 – Galactose Structure¹⁰

Like all other carbohydrates it follows the basic carbohydrate formula and has a similar structure to the other carbohydrate groups, as is seen in Figure 10.⁹

4.1.6 Sucrose

Sucrose, commonly known as table sugar, is composed of glucose and fructose. Sucrose is very sweet and accounts for some of the sweetness of sweet fruits. It is the principal energy nutrient ingredient of carbonated beverages, candy, frostings and other sweets. The body processes sucrose with enzymes that hydrolyze the sucrose to yield glucose and fructose.¹⁰

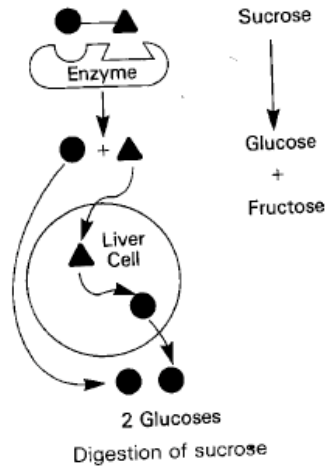


Figure 11 – Schematic Illustration of the Digestion of Sucrose¹⁰

Some of the fructose is then picked up in the liver again and may be converted into glucose. One molecule of sucrose can ultimately yield two of glucose, as fructose converted to glucose in the liver. Figure 11 illustrates the digestion of sucrose and how one molecule of sucrose can yield two glucose molecules after it has been processed.⁹

4.1.7 Lactose

Lactose is the main carbohydrate of milk. Humans are born with the digestive enzyme necessary to hydrolyze lactose to its two monosaccharide parts, so that they can be absorbed. These two monosaccharide parts are glucose and galactose; of which the latter is then converted to glucose in the liver. There is therefore a supply of two molecules of glucose for each molecule of lactose that is consumed. Many people can become lactose intolerant as they age and they must find substitutes for milk, as it is a major source of calcium and riboflavin.⁹

4.1.8 Starch

Starch is a long, straight or branched chain of hundreds of glucose units connected together, as is illustrated by Figure 12.



Figure 12 - Starch Structure⁹

A single starch molecule can contain 3000 or more glucose units. In a plant, starch is a storage form of glucose needed for the plant's growth. Enzymes in our mouth and intestines hydrolyze starch to produce glucose units, which are then absorbed across the intestinal wall into the blood.¹⁰

4.1.9 Glycogen

Glycogen is found in animal meat only and is composed of glucose, into complex highly branched chains. As glycogen is composed of hundreds of chains of glucose, it is an energy reserve that can be used quickly to mobilize a sudden need of glucose in the system.¹⁰

4.1.10 Dietary Fibers

Fiber denotes the substances in plant food that the human body cannot digest, and are extremely important in the human diet. Fibers can act like a sponge in the gastrointestinal (GI) tract and will hold water together, binding minerals and bile salts used by the body to prepare for digestion.¹⁰

Table 1 - Effects of Different Kinds of Fibers⁸

Conditions and Effect of Fiber		Fiber Type	
	Cellulose, Hemicellulose, (from fruits, vegetables, legumes, wheat, brans, oat bran, and other cereal brans, nuts and seeds, whole grain flours)	Gums, pectins, (from fruit, vegetables, seeds, legumes, oats, barley)	Lignin (from whole grains, seeds, woody parts of vegetables)
Obesity- displaces Calories (gel forming)?	Yes	Yes	No
Constipation/hemorrhoids – effect on stool bulk, ease of passage	Reduces pressure, eases stool passage	None	Makes stool move faster
Cancer – increases bile acid excretion	No	Yes	Yes
Diabetes and other disorders of blood glucose regulation – improves glucose tolerance?	Yes	Yes – some help control blood sugar in diabetes	--
Cardiovascular disease – lowers blood cholesterol	No – except oat bran lowers it	Yes	Yes
Calorie intake – how completely digested?	60 to 95% digested	Mostly Digested	Not digested
Blocks mineral absorption?	Yes	No	Yes

There are many effects of different kinds of fibers in our body, and many health benefits as seen in Table 1. Fruits, vegetables, wheat, bran, grains, seeds, oats, legumes all contain fiber. Many fibers help with glucose regulation and glucose tolerance, which is important for diabetes patients and patients suffering from disorders of the blood.

Some fibers help lower blood cholesterol, which is important for patients with cardiovascular diseases. For people suffering with constipation and hemorrhoids, fibers help reduce the pressure and ease stool passage.

4.1.11 Glycemic Index

The Glycemic Index is an index illustrating the effect of carbohydrates on blood sugar levels. The glycemic effects illustrates the effect food has on the insulin and glucose levels in the blood, and monitors how fast and high the glucose rises, as well as how fast the body can respond and bring it down to normal.⁸

The Glycemic index is important to people with blood glucose abnormalities, such as diabetes and hypoglycemia. A sample index is found in Table 2:

Table 2 - Glycemic Index Sample⁹

Food	Index Value	Food	Index Value
Fructose	20	White bread	69
Whole milk	34	Potatoes	70
Ice cream	36	Cornflakes	80
Orange Juice	46	Carrots	92
Spaghetti	50	Parsnip	97
Yam	51	Glucose	100

The higher the index value, the faster the blood glucose levels rise in the body. Food item with a higher glycemic index value are suitable for people with hypoglycemia or after physical activity when lots of energy is needed. People with diabetes need to avoid higher index valued foods, as the lower ones help release a more steady flow of glucose in the blood.⁹

4.2 Protein

Protein is chemically similar to carbohydrates. It contains the same atoms and lipids – carbon, hydrogen, and oxygen, and additionally it also contains nitrogen. These four compounds are arranged into amino acids, linked into chains to form protein. Figure 13 illustrates the structure of different amino acids.

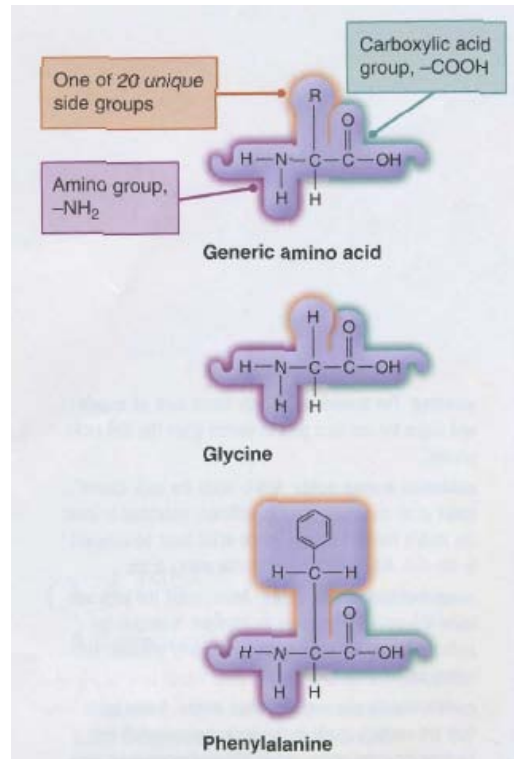


Figure 13 - Amino Acid Structure⁹

Amino acids have a similar structure with the aforementioned elements, however they each have a side group, illustrated in green, giving each amino acid a unique identity. In addition to containing nitrogen, some of these amino acids also contain sulfur. These amino acids, along with the amino acids made in the body, help make many different body proteins, which help build and maintain body structure and regulate body processes. Protein is also used for energy in the body.⁹

4.2.1 Digestion of Protein

Digestion of proteins begins in the stomach where hydrochloric acid denatures the protein. This helps to make the amino acid chain more accessible to the enzymes. Pepsin, an enzyme, begins the protein digestion. Most of the protein digestion happens in the intestines. In the small intestines, further enzymes break down the protein into the individual amino acids and small peptides (which are two or three amino acids in length).⁹

The intestinal cells will then absorb the amino acids and the peptides. These cells will then further split the peptides into individual amino acids. The amino acids are then absorbed into the capillaries of the villi. The capillaries are the smaller blood vessels in the human body, and are a part of the microcirculation.⁹

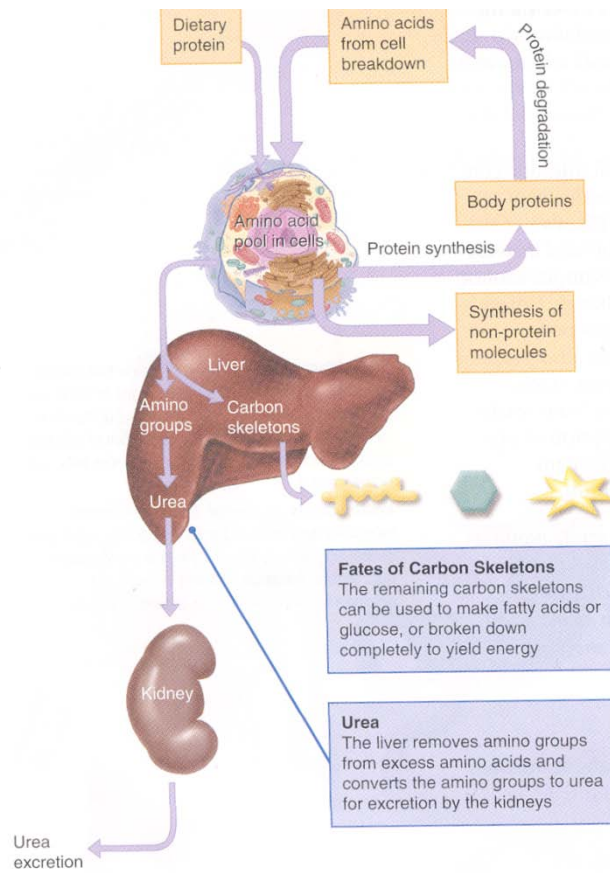


Figure 14 – Schematic Illustration of the Breakdown of Protein in the GI Tract⁹

The amino acids will then travel in the bloodstream to tissues as needed. Figure 14 illustrates the protein turnover cycle. The cells draw amino acids from the amino acid pools to synthesize the new proteins. The pools need to be replenished by amino acid quickly from dietary protein and the breakdown of body protein. When dietary protein is missing, breakdown of body

protein is increased in order to replenish the amino acid pool. Essential body tissue can be lost when an adequate amount of dietary protein is not consumed.⁹

4.2.2 Roles of Protein in the Body

There are many uses for protein in the human body. As illustrated in Figure 15, proteins have different roles in the body, and there is a unique protein for each specific function. Different proteins distinguish themselves by having a unique shape.

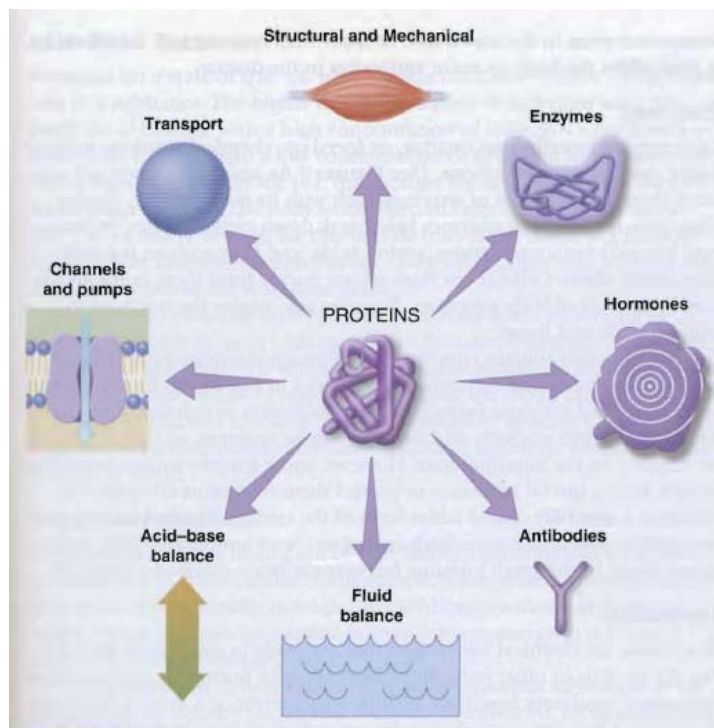


Figure 15 - Role of Protein in the Body⁹

Proteins help with bone, skin, nail and hair growth and maintenance. Proteins are also found in the immune system, helping destroy pathogenic microorganisms like bacteria, viruses and toxins. Enzymes made of proteins help speed up chemical reactions in the body, especially during digestion helping to break down food and digest it. Additionally, protein hormones

perform important regulatory functions in the body. Insulin for example, is a protein hormone that helps regulate the amount of glucose in the body.⁹

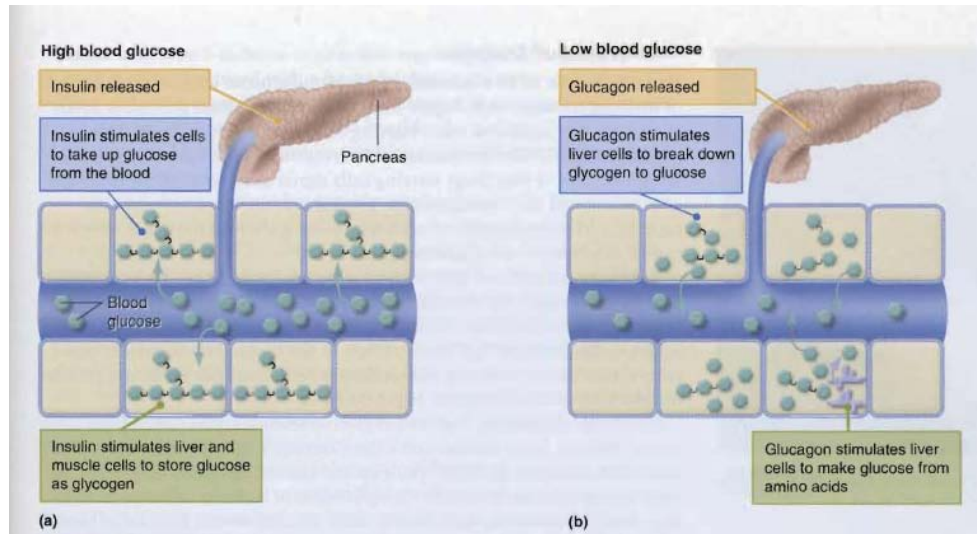


Figure 16 – Insulin and Glucagon Effects on the Body⁹

Figure 16 illustrates the effect insulin has on the blood glucose and the effect glucagon has on the blood glucose. When there is high blood glucose in the body (after a meal for example), insulin is released into the blood and allows the cells of the body to take up glucose from the blood. It also stimulates liver and muscle cells to store glucose as glycogen. Glucagon on the other hand stimulates the liver cells to break down glycogen to glucose when there is low blood glucose. It is obvious that these protein hormones help maintain an important system in the body, and are necessary for survival.⁹

The body usually uses carbohydrates and fat for energy. However, when necessary, the body can use protein for energy or to make glucose. By burning fat and carbohydrate amino acids are spared and are used for protein synthesis. When not enough energy is provided for vital body functions, the body will sacrifice its own protein from enzymes, muscle and other tissue in order to make energy and glucose. When an abundance of protein is found in the diet, the body converts it to glucose or stores it as fat.⁹

4.2.3 Where is protein found?

Proteins are found in both food and vegetable. Rich sources of protein include meats, fish, eggs and poultry. Many vegetarians lean on legumes and nuts as a main source of protein. Soybeans are the only plant source of complete protein, and are processed to create different products that resemble other foods. There is a great deal of dairy products that are created from soy, such as soymilk, soy yogurt and cheese. Soy is also used as imitation meat, and is a main ingredient of tofu.⁹

Animal proteins are considered to be complete proteins; they contain all the necessary amino acids. Necessary amino acids are used to form protein in the human body. Plant proteins do not contain all necessary amino acids and are therefore called incomplete proteins. Vegetarians and vegans rely on protein intake from incomplete proteins such as beans, peas and nuts, which are also Calorie-dense foods.⁹

The USDA recommends choosing lean protein. This includes lean beef cuts such as top loin, arm roasts and top round, extra lean ground beef, lean turkey, skinless chicken breasts, and lean pork cuts. They also recommend eating more fish, as they are a lean source of protein with the added benefit of omega-3 fatty acids which are discussed in section 4.3.6. Additionally, the USDA recommends eating beans or peas as side dishes, and eating seeds and nuts as snacks.⁹

4.3 Lipids and Fats

Fats are necessary for the body to keep many different systems functioning properly. They are a part of every cell in the body, and meet the body's immediate needs for energy regularly. Fat in food is usually a subset of class known as lipids. These lipids include triglycerides (fats and oils), phospholipids and sterols.⁹

4.3.1 Digestion of Lipids

Like carbohydrates and proteins, lipids are broken into smaller compounds for absorption in the body. However, lipids are not water soluble, so the digestion process is different.⁹

Digestion of triglycerides begins in the mouth, where digestive enzymes start breaking it down. In the small intestines micelles, small-emulsified fat packets are formed. Micelles are oriented with their fat-soluble part facing inward and water-soluble part outwards and they carry monoglycerides and fatty acids through the intestines where they get absorbed.⁹

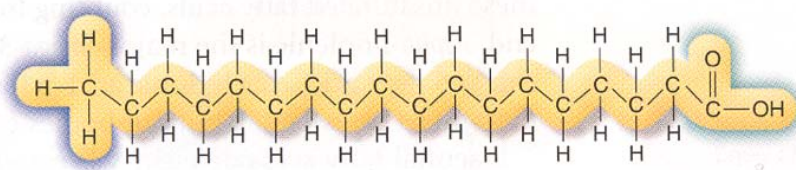
However, digestion does not break down cholesterol and other sterols. Only around 50% of dietary cholesterol is absorbed, and the more cholesterol in the body the smaller the percentage. When lipids hit the bloodstream, low-density lipoproteins (LDL) carry lipids from the liver to other body tissues. High-density lipoproteins (HDL) carry cholesterol throughout the body, and a larger amount of HDL helps reduce the risk for heart disease.⁹

4.3.2 Fatty Acids

Fatty acids determine the characteristic of a fat, and play a role in its form at room temperature. Fatty acids are chains of carbon atoms with a carboxyl group at one end and a methyl group at the other. Fatty acids also determine the odor of a fat, and contribute to the unpleasant odor of spoiled food.

4.3.3 Saturated Fats

Saturated fats are fatty acids completely filled by hydrogen, in which all the carbons in the chain are linked by a single bond, as illustrated in Figure 17 below.



Stearic acid

Figure 17 - Saturated Fatty Acid⁹

In saturated fat, hydrogen atoms completely saturate all other available bonding sites, and the bonds between the carbon atoms are single bonds.⁹

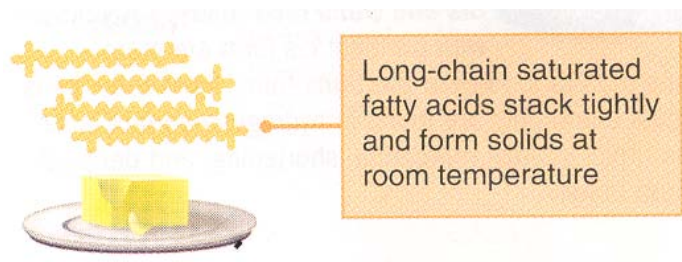


Figure 18 - Long-chain saturated fat is solid in room temperature⁹

Figure 18 illustrates that long-chain saturated fatty acids stack tightly and thus form solids at room temperature, such as butter. The USDA stresses that a high intake of saturated fat increases the risk of unhealthy blood lipid levels, which can increase the risk of heart disease. They recommend consuming less than 10 percent of daily Caloric intake from saturated fatty acids, however, stress that a small amount is essential as a vitamin source.¹¹

4.3.4 Mono-saturated Fats

Mono-saturated acids are fatty acids in which the carbon chain contains one double bond as illustrated in Figure 19.

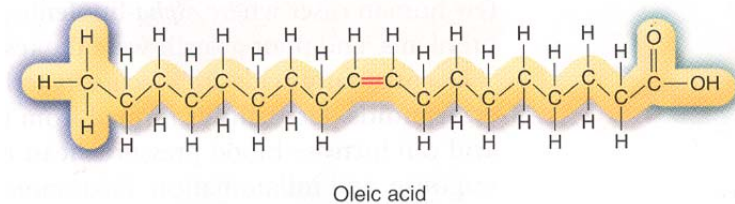


Figure 19 – Mono-saturated Fatty Acid⁹

Mono-saturated fatty acids do not stack compactly and are liquid in room temperature, and form substances such as milk. The recommendation for saturated fat from the USDA applies to all saturated fats, including mono-saturated.⁹

4.3.5 Polyunsaturated Fats

The polyunsaturated fatty acids contain a carbon chain with two or more double bonds, as shown in Figure 20.

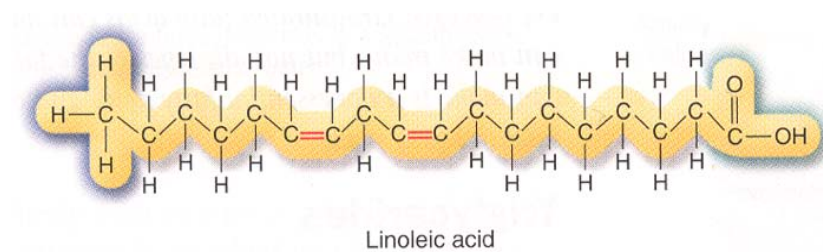


Figure 20 - Polyunsaturated Fatty Acid⁹

Polyunsaturated fatty acids are like mono-saturated in that they do not stack compactly and are liquid at room temperature.⁹

4.3.6 Omega-3 and Omega-6

Omega-3 and Omega-6 fatty acids are essential fatty acids from the unsaturated family. This means that they are fatty acids that the body cannot create on its own, and must come from food sources. The numbers in the name of these two fatty acids refer to the location of the first double bond in the fatty acids chains. Omega-3 is found in plant food such as soybean, walnuts and canola. Omega-3 can also be found in fatty fish, such as tuna and salmon. Omega-6 fatty

acids are found in common vegetable oils such as corn oil and in meats, poultry and eggs. Omega-3 and omega-6 fatty acids are not only essential fats; they also have major health benefits. Omega-3 is found to help with promoting brain health with aging,¹² and may reduce the risk of cardiovascular disease.¹³

4.3.7 *Trans* Fats

Trans fatty acids are unsaturated fatty acids with a straighter chain than a fatty acid with a bent carbon chain, which can be seen in Figure 21.

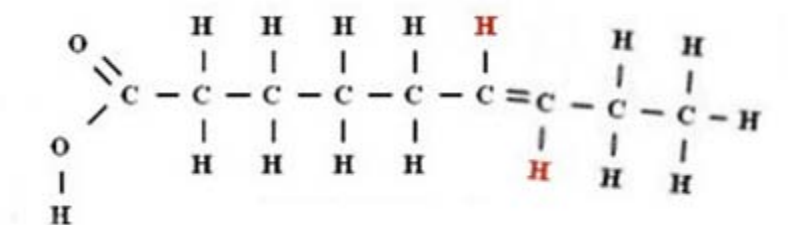


Figure 21 - *Trans* Fat¹⁴

This is as a result of a hydrogenation, and *trans* fatty acids are more solid than the aforementioned bent carbon chain acids. Cow's milk contains a small amount of *trans* fatty acid, but the commercial process of hydrogenation creates most *trans* fatty acids in our diet; adding hydrogen to an unsaturated fatty acid, making it more saturated. These have been shown to raise LDL (known to be bad) cholesterol levels and can increase the risk of heart disease.⁹

4.3.8 Roles of Fat in the Body

Fat helps to maintain the structure and health of all cells, protect body organs from temperature extremes and from getting hurt, and provide a continuous fuel supply. Fat also plays an important role in food. Fats provide many of the compounds that give foods their flavor and aroma. Four important vitamins – A, D E and K are fat-soluble. When fats are removed from a food, many of the fat-soluble compounds (such as vitamins and flavors) are also removed.⁹

Most importantly, an additional feature is lost when fat is removed, and that is the Calorie. Fat is a more concentrate energy source than the other energy nutrients: 1 g carbohydrate or protein = 4 Calories, but 1gram of fat = 9 Calories.⁹

4.4 Water and Vitamins

The daily needs for vitamins are much smaller than the needs of carbohydrates, fats and proteins. However, vitamins are essential and play a large role in the digestion of food and maintaining a healthy body. The following vitamins are vitamins that play an important role in the body. There are many other vitamins not outlined here.⁹

- Calcium is plentiful in the body and is important for avoid blood clotting, healthy muscle contraction and hormonal secretion and helps with normal nervous system function. Calcium is also used in the mineralization of bones.
- Phosphorus is required for the formation of bone and teeth and helps digest protein and glucose.
- Magnesium is essential for metabolism and is essential for nerve and muscle health
- Potassium plays an important role in the health of the cardiovascular system, as well as maintaining the health of the kidneys and pancreas.
- Iron helps the body regulate a healthy immune system and produces hemoglobin and myoglobin, molecules that help deliver oxygen to lungs, muscles and other tissues.
- Sulfur helps with the health of the skin and acts as a flexible bond between cells, a joint lubricant.⁹

4.4.1 Water

Water is a major component of every part of the body. Although water contains no Calories and seemingly no necessary nutrients, it is necessary for digestion, nutrient absorption and waste-elimination. It also helps regulate circulation, body temperature and a host of biochemical reactions. Water lubricates joints and maintains healthy skin.⁹

4.5 Recommended Nutritional Intake

In order to function properly, the body needs nutritional intake. The Government has recommended nutritional intake guides that explain how much a person should eat according to their age, sex, weight, height and level of activity.

The body produces chemical energy by combining oxygen in the air with carbon and hydrogen from food. When the body is still, the energy produced in the body becomes heat. Heat is an easy form of energy to measure.⁸

The unit used to measure heat is the Calorie. The Calorie is the amount of heat required to heat 1 gram of water 1°C. Measuring the heat of the human body in Calories is not realistic because the amount of Calories in body is too large. Instead nutritionists use the kiloCalorie when talking about energy. They distinguish the regular Calorie from the kiloCalorie by capitalizing Calorie.⁸

Nutritionists refer to the energy used at “complete rest” as the basal metabolism. Basal metabolism is used to evaluate the most basic energy requirements for a person. Nutritionists have different ways of measuring this basal metabolism and have conducted experiments to create a general recommendation for specific heights and weights for females and males of different ages.⁸

Metabolism usually refers to two processes: oxidation of food to produce energy, and formation of body tissue from food. Thus, basal metabolism decreases with increasing age and is also lower for females than for males. It is estimated that for the average person of moderate activity, about 70% of the energy produced by the body is basal and 30% is used for activities throughout the day. However, for someone with extreme activity, the energy used by the muscles in the body may be higher than that energy used by basal activity.⁸

Scientists base their recommended Calories intake on the basal metabolism, as well as age and the level of activity of the person. A person who is active will need to increase their Calorie intake in order to supply enough energy to their body, as they burn energy when they are exercising.⁸ Table 3 depicts the approximate Calories used in specific activities by a 154-pound man.

Table 3 - Average Calories Used for Different Activities¹⁵

	Approximate Calories Used by a 154 pound man	
	In 1 Hour	In 30 minutes
Moderate Physical Activity:		
Hiking	370	185
Yard work	330	165
Dancing	330	165
Golf	330	165
Bicycling (less than 10 miles an hour)	290	145
Walking (3.5 mile per hour)	280	140
Weight training (light workout)	220	110
Stretching	180	90
Vigorous physical Activities:	In 1 hour	In 30 Minutes
Running/jogging (5 miles an hour)	590	295
Bicycling (more than 10 miles an hour)	510	295
Swimming (slow freestyle laps)	480	255
Aerobics	460	240
Walking (4.5 miles an hour)	440	230
Heavy yard work	440	220
Weight Lifting (vigorous effort)	440	220
Basketball	440	220

Table 4 shows the recommended daily Caloric intake for Men and Women at different ages, published in the Dietary Guidelines for Americans 2005:

Table 4 - Estimated Caloric Requirements for Each Gender and Age Group as Tree Activity Levels¹⁵

Gender	Age (years)	Activity Level		
		Sedentary	Moderately Active	Active
Child	2-3	1000	1000-1400	1000-1400
Female	4-8	1200	1400-1600	1400-
	9-13	1600	1600-2000	1800
	14-18	1800	2000	1800-
	19-30	2000	2000-2200	2200
	31-50	1800	2000	2400
	51+	1600	1800	2400
Male	4-8	1400	1400-1600	1600-
	9-13	1800	1800-2200	2000
	14-18	2200	2400-2800	2000-
	19-30	2400	2600-2800	2600
	31-50	2200	2400-2600	2800-
	51+	2000	2200-2400	3200
				3000
				2800-
				3000
				2400-
				2800

The US Government recommends that people consume the corresponding amount of Calories per day according to their activity level in order to maintain a healthy weight.

4.6 Nutrition Requirements

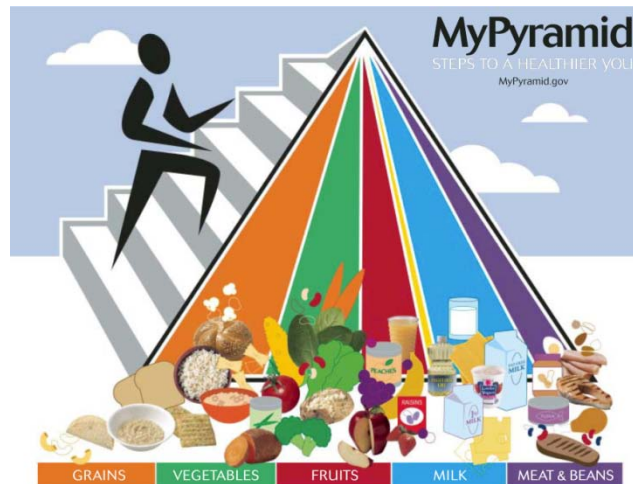


Figure 22 - USDA Food Recommendations¹⁶

The food guide recommendations are summarized by the US Government in the form of a food guide pyramid called MyPyramid, presented in Figure 22. The pyramid separates the foods into 5 different groups: grains, vegetables, fruits, milk, meat and beans. An additional group that is on the pyramid but listed at the bottom of the pyramid, represented by the small yellow line, is the oil and fat group.

The pyramid itself assigns a different color to each food group, and is a visual aid to help people see the intake proportions of each group in comparison to each other.

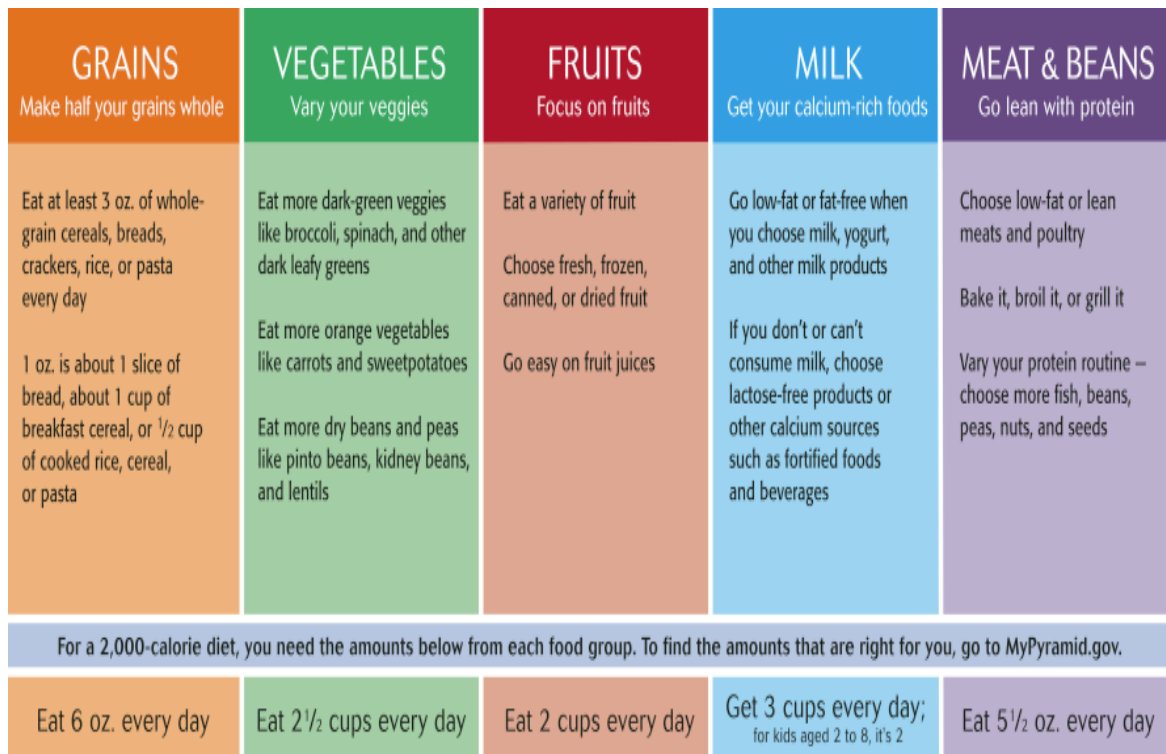


Figure 23 - Recommendation for Each Group¹⁶

The actual recommendations do not include specific Caloric values, but rather cup servings and ounces for a 2,000 Calorie diet, as seen in Figure 23. Specific amounts for different Calorie diets can be found on the USDA's website MyPyramid.gov.

On the MyPyramid.gov website, visitors have many options to learn more about MyPyramid, diets, and food intake. One option presented at the website is to “Get a personalized Plan”, as seen in Figure 24.



Figure 24 - Options at the MyPyramid.gov Website¹⁶

When this option is clicked, the visitor is asked to fill out some basic information about their height, weight, sex, physical activity and age, which can be seen in Figure 25.

A screenshot of a form titled "Options for Personal Dietary Recommendations". The form is light gray and contains several input fields. "Age:" is followed by a text box. "Sex:" is followed by a dropdown menu with "[Select]" and a blue arrow. "Weight: (optional)" is followed by a text box and the word "pounds". "Height: (optional)" is followed by a text box and the word "inches". There are also two small spinner boxes, one containing the number "0". To the right of these fields is a note: "Plans for children 2-8 are based on an average height and weight for their age and gender." Below these fields is a section for "Physical Activity:" with a paragraph of text: "Amount of moderate or vigorous activity (such as brisk walking, jogging, biking, aerobics, or yard work) you do in addition to your normal daily routine, most days." Below this text is another dropdown menu with "[Select]" and a blue arrow. At the bottom of the form is a blue "SUBMIT" button.

Figure 25 - Options for Personal Dietary Recommendations¹⁶

Depending on the visitor’s Body Mass Index (BMI), the next step has two outcomes. For those with a BMI higher than 25.0, and either obese or overweight, the next step will warn the

visitor of their weight. They can then choose a food plan for their current weight, or a plan to help them move toward a healthier weight. This can be seen in Figure 26.

MyPyramid Plan

Please note:
 The weight you entered is above the healthy range for your height. This may increase your risk for health problems. Some people who are overweight should consider weight loss. [Click here](#) (new window) for more information about health risks and whether you should try to lose weight, or talk with your health care provider.

Would you like a food plan:

[For your current weight?](#)

[To gradually move toward a healthier weight?](#)

Figure 26 - Warning of High Weight¹⁶

If the visitor’s BMI is lower than 25.0, they will be taken directly to their food plan. The specific food generated by the MyPyramid website does not include specific Calories for each food group. The numbers of overall Calories that should to be consumed in a day are shown, and then ounces and cups are used for the food group recommendations.

Figure 27 is a sample recommendation on the MyPyramid.gov website for a 20 year old male, weighing 160 pounds at 6 feet and 0 inches who exercises 30 to 60 minutes a day.

MyPyramid Plan

Eat these amounts from each food group daily. This plan is a **2800** calorie food pattern. It is based on average needs for someone like you. (A **20** year old **male**, **6** feet **0** inches tall, **160** pounds, physically active **30 to 60 minutes** a day.) Your calorie needs may be more or less than the average, so check your weight regularly. If you see unwanted weight gain or loss, [adjust the amount you are eating](#).

▶ Grains ¹	10 ounces	tips
▶ Vegetables ²	3.5 cups	tips
▶ Fruits	2.5 cups	tips
▶ Milk	3 cups	tips
▶ Meat & Beans	7 ounces	tips

Click the food groups above to learn more.

[1 Make Half Your Grains Whole](#)



Figure 27 - Specific Recommendations¹⁶

The MyPyramid recommendation recommends a Calorie intake of 2800 Calories per day for this person, in order to maintain their current weight.

1 Make Half Your Grains Whole

Aim for at least 5 ounces of whole grains a day.

2 Vary Your Veggies

Aim for this much every week:

Dark Green Vegetables = 3 cups weekly

Orange Vegetables = 2 1/2 cups weekly

Dry Beans & Peas = 3 1/2 cups weekly

Starchy Vegetables = 7 cups weekly

Other Vegetables = 8 1/2 cups weekly

Oils & Discretionary Calories

Aim for 8 teaspoons of oils a day.

Limit your extras (extra fats & sugars) to 425 Calories.

Physical Activity

Physical activity is also important for health. Adults should get at least 30 minutes of moderate level activity most days. Longer or more vigorous activity can provide greater health benefits. [Click here](#) to find out if you should talk with a health care provider before starting or increasing physical activity. [Click here](#) for more information about physical activity and health.

Figure 28 - More information regarding diet¹⁶

Additional information regarding the diet can be found as well. The recommendation also includes a paragraph explaining the importance of physical activity.

4.6.1 Issues with the USDA Recommendations

While the USDA had been publishing nutrient recommendation and guidelines for many years, the USDA Food Guide Pyramid was published only a decade and a half ago.

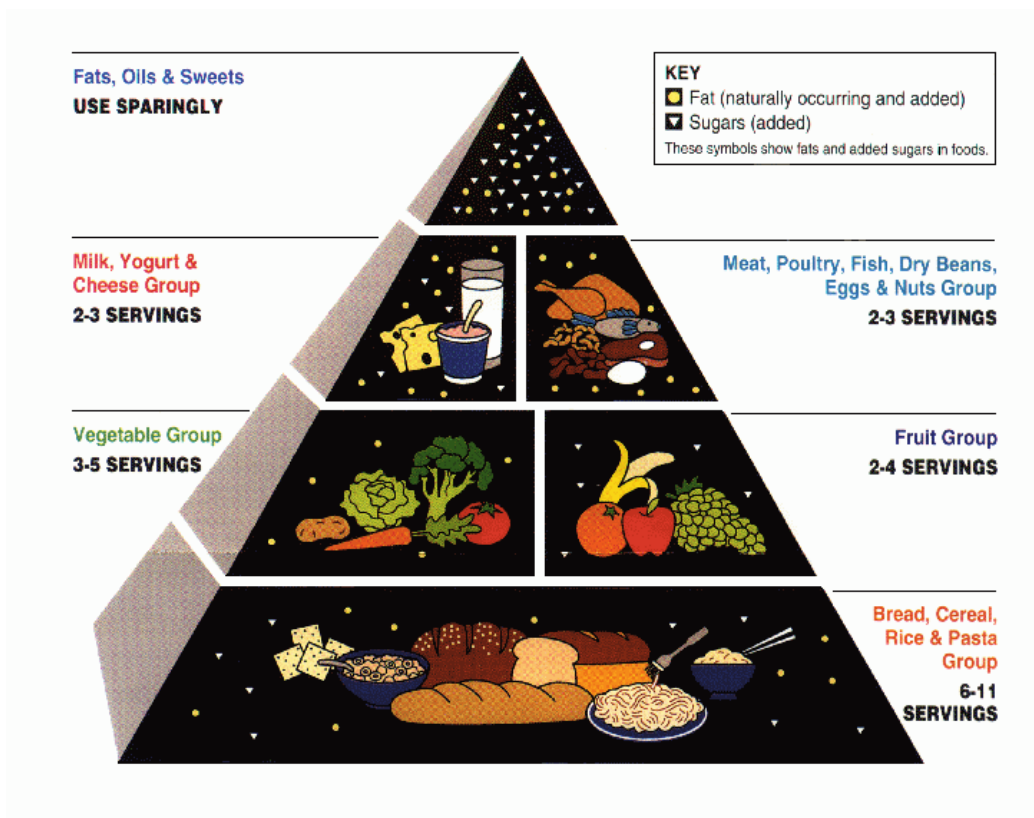


Figure 29 - USDA Food Guide Pyramid 1992¹⁸

The original food guide pyramid was published in 1992 and is illustrated in Figure 29. At the time, the Government was able to successfully integrate the food guide pyramid into the education system, and had student learning it early on. It appeared all over the media and was printed on cereal boxes and food labels. The Food Guide Pyramid was everywhere, as the USDA was trying their best to fully integrate it into people’s lives.⁹

In 2005 the Food guide Pyramid was retired. Many brought up the controversial and unsupported claims of the Food Guide Pyramid, but K. D. Gifford, a law professor at the University of Maryland, explains these well. According to Gifford, the main problem with the Food Guide was the drumbeat that “Good food health, reduce fat” was getting strong.¹⁹ There was a sudden shift of focus on fat, and the caloric balance was forgotten. This had caused major consequences. In 1977, US citizens got 40% of their Calories from dietary fat, and by 1995, this

had decreased to 34%. However, their total fat intake was increased by 13%, as their total caloric intake had increased by 21%.¹⁹

The major flaw of the Food Guide Pyramid was the focus on fat. Gifford explains that most of the health and nutrition reports followed the USDA guidelines which state not to exceed the consumption of more than 30% fat. However, there had been little public discussion on the scientific basis for this percentage, and it clashed with the knowledge that many populations around the world, with extreme good health, had a variety of fat percentage intake, ranging their caloric fat intake from 10% to 40% in their diets.¹⁹

However, the Harvard School of Public Health (HSPH) claims that the Food Guide Pyramid “didn’t point to healthy eating”.²⁰ They further explain that the Food Guide Pyramid was based on infirm scientific evidence, and that it had not changed in many years even though there were major advances in the understanding of the link between diet and health.

When, in 2005, the new MyPyramid was introduced, and the old Food Guide Pyramid was retired, the HSPH was still not impressed. They claim that while the new MyPyramid eliminates the flaws of the old Food Guide Pyramid, it still does not bear enough information for the public to make good food choices. Additionally, the HSPH explains that the MyPyramid still continues to recommend foods that are not essential to good health, and may even be in harmful quantities.²⁰

As can be seen, in Figure 30 the Healthy Eating Pyramid, the HSPH has its own recommendation for food intake.

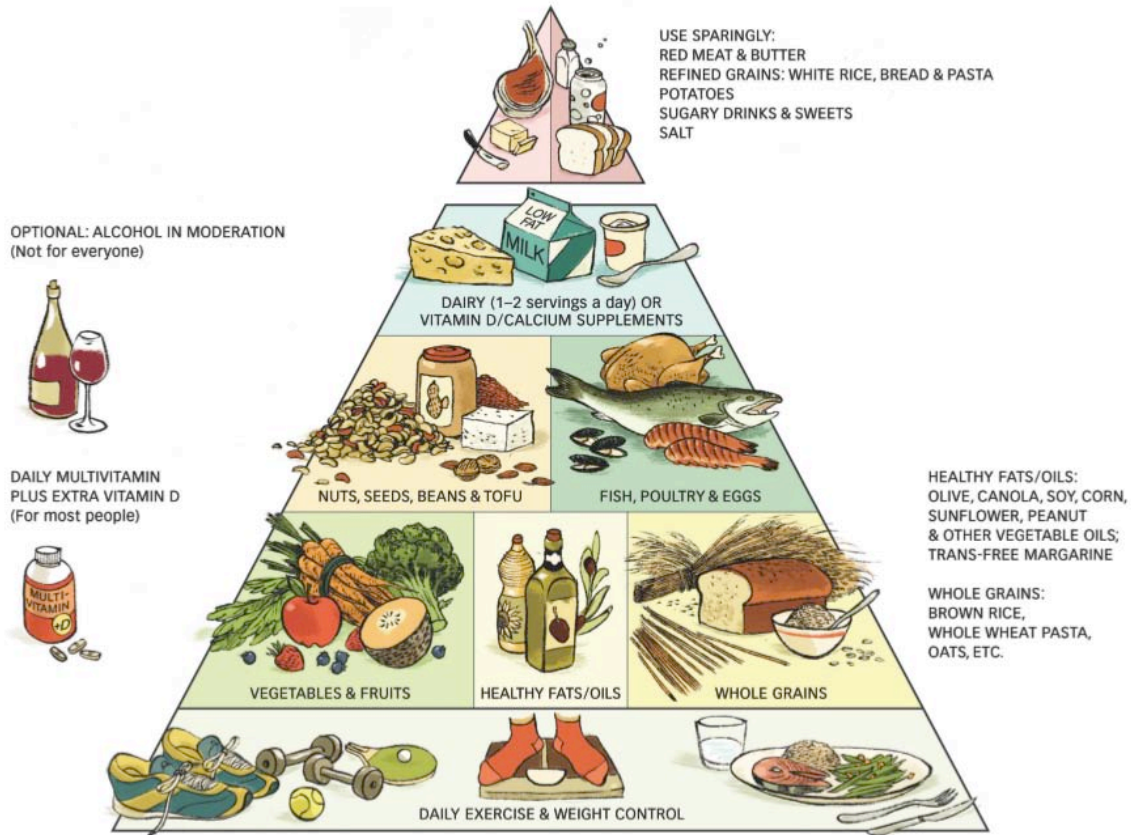


Figure 30 - Harvard School of Public Health Healthy Eating Pyramid.²⁰

The HSPH explains that Americans should “forget about numbers and focus on quality”. They present their own food pyramid, which they call the Healthy Eating Pyramid. They explain that the Healthy Eating Pyramid does not give numbers or cups for the amount of food a person should eat, as this varies greatly depending on body size and exercise level of an individual. They simply provide a flexible guide people should follow when they make food choices.²⁰

They remind the individuals using their recommendations, that eating more foods from the base of the pyramid is a big contributor to a healthier diet. In terms of specific foods, here are the HSPH’s recommendations:²⁰

- Whole Grains – the body needs carbohydrates for energy and the best source of carbohydrates are whole grains. They recommend oatmeal, whole wheat bread and brown rice. They also recommend to stay away from white flour as this is a highly processed

carbohydrate which can have bad effects on the blood sugar to rise and then fall really quickly

- Healthy Fats and Oils – HSPH recommend healthy fats and oils such as olive, sunflower and other vegetable oils. Fatty fish like salmon, seeds, nuts and avocados are also a great source of healthy fats and oils.
- Vegetable and Fruits – a large array of vegetable and fruits has a lot of healthy benefits.
- Nuts, Seeds, Beans, Tofu – great source of protein, fiber, vitamins and minerals
- Fish, poultry and eggs – these should be the main source of protein. There is a huge healthy benefit to eating fish, as it reduces the risk of heart disease. Chicken and turkey are a great source of protein without saturated fat.
- Dairy – the HSPH recommends to only take around 1-2 servings of dairy per day. Additionally, they say that instead of these 1 or 2 servings, a Vitamin D/Calcium Supplement can be taken.
- Use sparingly – the HSPH recommend to stay away from red meat, butter, refined grains such as white bread, rice and pasta, potatoes, sugary drinks and sweets, and salt.
- Exercise – the HSPH recommends supplementing the diet with daily exercise.²⁰

4.6.2 FDA and Portion Size Regulation

Nutrition labels provide not only the nutrient information for the food item, but also the serving size and the Caloric value for each serving. The federal Government sets the laws governing food labeling and serving sizes.²¹ The FDA has been put under pressure to change the current portion sizing regulations on food labels. Currently, the small portion sizes on labels are disingenuous, causing people to eat more than they think they are consuming.²¹

Many of the serving sizes on package food bear no real relationship toward the way most Americans eat. Ritz crackers have a serving size of 5 crackers,²² which contain 80 Calories. Tostitos restaurant style chips have a serving size of 6 chips,²³ which contain 150 Calories. It is estimated that people eat two to three times of that amount when they snack on these food items.²¹ Packaged cereal, such as Frosted Flakes or Fruit Loops have a serving size of $\frac{3}{4}$ of a cup, and it is estimated that children eat about two or more cups of cereal for breakfast.²¹ That is around 250 Calories from cereal only.²⁴

When looking at nutritional packaging, the amount of Calories listed reflect the caloric value of one serving size. If a food item has a small serving size, the caloric value will be small as well and will mislead the customer purchasing the product, unless they read the label carefully. Additionally, companies are changing the packaging of their food items and putting the caloric value on the front of the item, advertising the small caloric value without the serving size at the front, and misleading their customers.²¹

The FDA has come to the realization that the serving size for many packaged food items are too small and that the regulations need to be re-evaluated.²¹ William Neuman from the New York Times explains that this is not as simple as increasing the serving size of packaged foods, as the Government fears that consumer might think that it is fine to eat more.²¹ Many experts believe that the serving size confusion has lead many Americans to consume more than they think they are consuming.²¹

4.7 Malnutrition

Malnutrition is the failure to achieve nutrient requirements. It can impair physical and mental health. Malnutrition can result from the intake of too much food, not enough food, or an imbalance of food. Malnutrition is a great cause of concern around the world, as its consequences can be fatal.⁹

Many health problems arise from lack of nutrients, and typically a malnourished person will suffer from two or more of coexisting deficiencies. Some of the more common deficiencies are explained below.

4.7.1 Iodine Deficiency

Iodine Deficiency disorder is a wide range of disorders affecting the growth and development of person due to the lack of iodine in the person's diet. Iodine plays an important role in regulating the function of thyroid in the body, as well as many others. Iodine deficiency causes brain damage, impairing the intellectual ability and work performance of the person suffering from the deficiency. It is most destructive during pregnancy and can cause spontaneous abortions, birth defects such as cretinism and deafness, as well as stillbirths.⁹

4.7.2 Vitamin A Deficiency

Vitamin A plays a role in various functions in the body, and is very important for vision health. Vitamin A deficiency is rarely seen in developed countries such as the United States, but it is the leading cause of blindness in children in developing countries.⁹

4.7.3 Protein-Energy Malnutrition

Lack of protein and energy can lead to devastating illness. There are two main complications that arise with protein-energy malnourishment. In kwashiorkor, the body and the face will swell with excess fluids, rashes develop, and the hair turns wispy and red. This eventually leads to death without proper treatment. In marasmus the body of the suffering person looks emaciated, with sunken eyes, shriveled limbs and a clear outline of its skeleton. This also leads to death without proper care.⁹

4.7.4 Iron deficiency Anemia

Anemia is one of the most common nutritional disorders in the world and affects 30% of the world's population. The anemia is mostly due to iron deficiency and is characterized by low

red blood cells count. This leads to many complications such as weakness, fatigue, low blood pressure, and in some cases even heart attacks.⁹

4.8 Body Mass Index (BMI)

The body mass index is a method of assessing body weight for height. It is a simple formula that takes the ratio of weight to height squares and correlates well with body fatness and health risks. The body mass index formula is as follows:⁹

$$BMI = \frac{weight(kg)}{height(m)^2} \quad (1)$$

The ratios then fall into four categories: underweight, normal range, overweight and obese, as is illustrated by Table 5 from the World Health Organization.

Table 5 - Body Mass Index Chart from World Health Organization²⁵

Classification	BMI (kg / m ²)	
	Principal Cut-Off points	Additional cut-off points
Underweight	< 18.50	< 18.50
Severe thinness	< 16.00	< 16.00
Moderate thinness	16.00 – 16.99	16.00 – 16.99
Mild thinness	17.00 – 18.49	17.00 – 18.49
Normal Range	18.50 – 24.99	18.50 – 22.99
		23.00 – 24.99
Overweight	≥ 25.00	≥ 25.00
Pre-obese	25.00 – 29.99	25.00-27.49
		27.40 – 29.99
Obese	≥ 30.00	≥ 30.00
Obese Class I	30.00 – 34.99	30.00 – 32.49
		32.59 – 34.99
Obese Class II	35.00 – 39.99	35.00 – 37.49
		37.50 – 39.99
Obese Class III	≥ 40.00	≥ 40.00

The USDA explains that the BMI does not directly measure body fat, and there will be some people, like athletes, with high BMI that identify as overweight or obese although they do not have any excess body fats.

4.9 Summary

The main nutrients composing food are lipids, carbohydrates and protein. Each of these nutrients has an important role in maintaining different body functions and processes. It is important to consume a balanced amount of these nutrients to maintain a healthy body. In addition to these nutrients, the body also needs water and vitamins in order to function properly.

When a person does not maintain a balanced diet, they may develop some deficiency or malnutrition. The FDA has specific recommendations for nutrition, and these are the basic guidelines for a person's daily food consumption:

- Make grains half whole, eat 6 oz. every day.
- Vary vegetables, eat 2½ cups every day.
- Focus on fruits, eat 2 cups every day.
- Get calcium-rich foods, eat 3 cups every day.
- Go with lean protein, eat 5½ oz. every day.

In the next chapter the food habits of Americans of the past few decades will be examined. The issue of obesity in the United States will also be discussed. Lastly, the relationship between fast food and obesity in the United States will be rationalized.

5.0 Food Habits of People

For the past few decades there has been a new phenomenon some refer to as “food confusion”. The questions of what to eat, when to eat, are questions that arise many times in the lives of many people around the US. Michael Pollan, a New York Times Journalist and the author of *The Omnivores Dilemma*, explains in his recent book *In Defense of Food* that there are currently a lot of sources in our lives telling us what to eat – the food companies, doctors, the Government, the media. He points out that no other organism on this planet needs this professional help to make such a basic, instinctual decision and that throughout history humans have been able to answer this question without the help of experts.²⁶

Pollan explains that in the past food was about culture. Culture directed humans how much to eat, what to eat, when to eat, in what order, and with whom to eat. Parents would teach their children, and they would learn how to eat, when, with whom and how to prepare the food. They would then eventually pass this information on to their own children. This has now changed in the Western World.²⁶

The biggest reason for the change in the way Americans eat has been the technological advances humans have made. As technology has evolved, new ways of producing food and marketing food has changed the way Americans eat. The introduction of ready-made dinners has changed how families cook their own meals. Fast food has become much cheaper and many families choose to eat out. Eating in and cooking more at home has now become more expensive.²⁶

Because of the technological advances, and the changes in food habits, there has been a great rise in obesity rates in the United States. In order to understand the problem of obesity, and its consequences, it is important to understand the food habits in the USA and see what has been happening in the past several decades.²⁶

According to the United State Department of Agriculture (USDA), in the past decade, the average food supply for an American has increased, as seen in Figure 31, from 3,500 Calories a day in 1909 to 3,800 Calories a day in 2004.

Food Supply

The U.S. food supply provided 300 calories more a day per person in 1994 than in 1909. Calories from the food supply, adjusted for spoilage and waste, increased from 2,220 per person in 1970 per day to 2,680 in 1997.

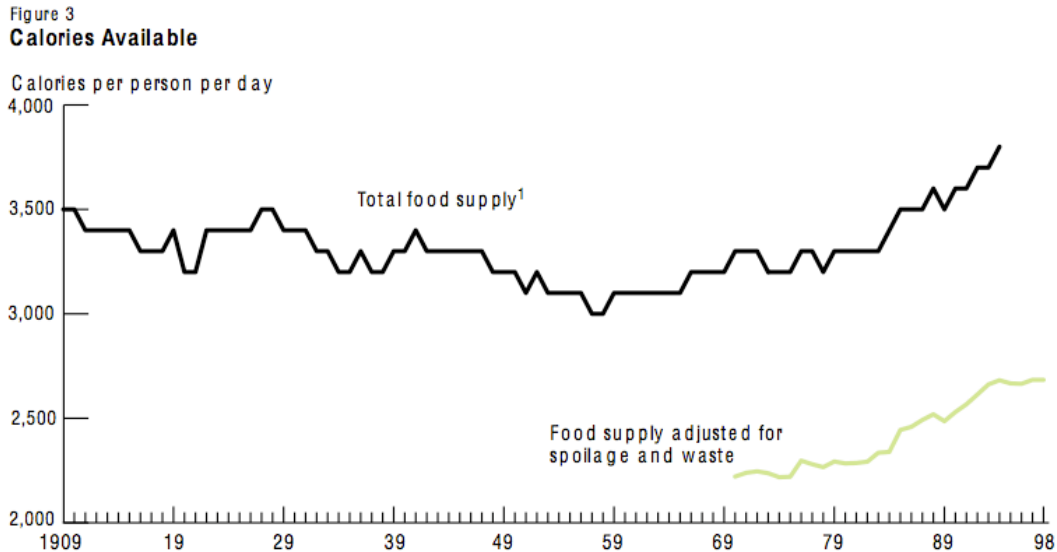


Figure 31 – Food Supply Change 1909- 2004²⁷

While 300 Calories may not sound like a big amount, that is an increase of 2100 Calories a week, and around 109,200 Calories a year. That is around 30 extra pounds that Americans consumed each year, as a pound translates to around 3500 Calories.²⁸

The growth in caloric intake can be explained by the large increase in consumption of foods, sweets, fast food and soda over the past couple of decades in the USA.

Total Meat Consumption

Pounds per capita, annual average¹

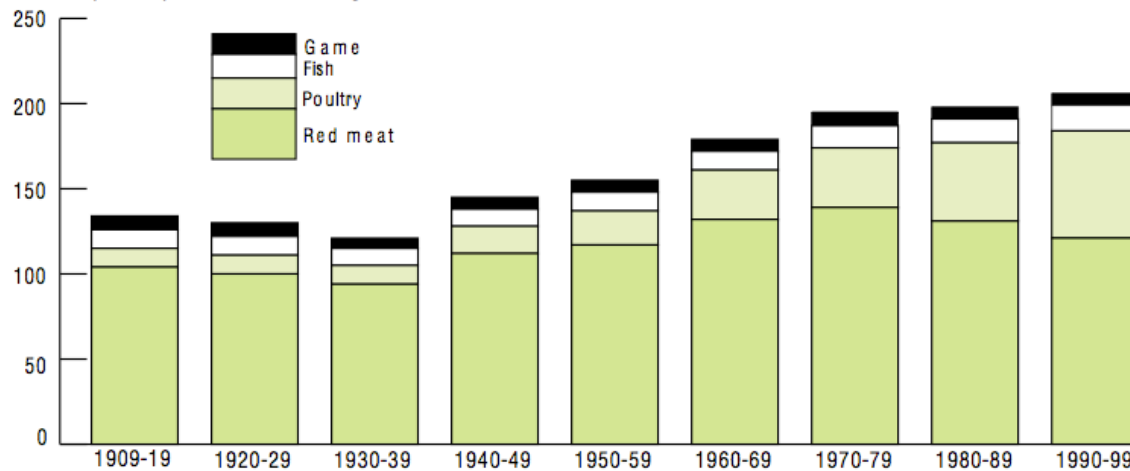


Figure 32 - Meat Consumption Changes 1970-1999²⁹

There has been a 19 pound increase of meat (red meat, poultry, and fish) consumption per person in the USA from 1970. In 1998, total meat consumption was 196 pounds, 19 pounds above the 1970 level. There has been a great decline in the consumption of red meat (21 pounds less) and an increase in the consumption of poultry (31 pounds). There has only been a 3-pound increase in the consumption of seafood. There has also been a big decline in the fat percentage in consumed meat, going from 35 percent in 1997 to 25 percent in 1994. This is summarized in Figure 32.

Although red meat consumption has declined from 1970 to 1998, the consumption of red meat was much lower in early 1900's. It seems like over the 60s and 70s the red meat intake had been at its peak. The increase in the consumption of poultry is also depicted in Figure 33, and appears to be increasing in the past few decades.

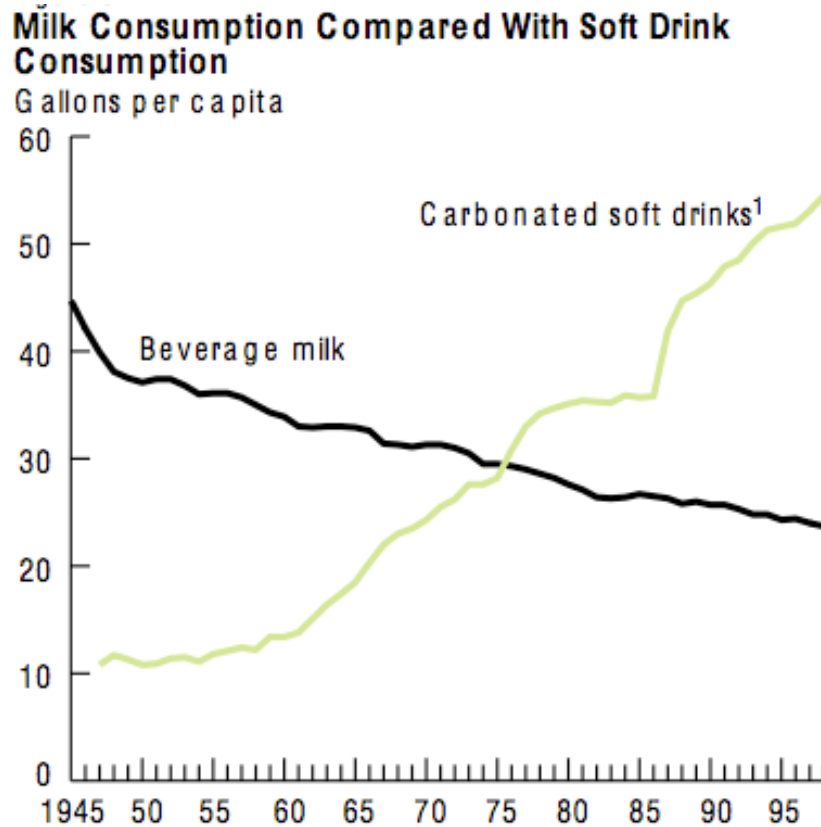


Figure 33 - Increase in Carbonated Drinks 1945 – 1997²⁹

There has also been a tremendous increase in intake of carbonated drinks over the past few decades. As seen in Figure 33, in 1945, Americans drank more than four times as much milk as carbonated soft drinks. The intake of milk in 1945 was around 45 gallons per capita, and the intake of soft drinks was around 10 gallons per capita. In 1997, the intake for carbonated drinks had increase to around 55 gallons per capita, whilst the intake for beverage milk had gone down to 25 gallons per capita. The intake of 55 gallons per capita for carbonated soft drinks translated to around 0.15 gallons of beverage a day.

A typical and popular carbonated drink is Coca Cola. The nutritional information the Coca Cola Company provides on their website is presented in Table 6.

Table 6 - Coca Cola Can Nutritional Information³⁰

Serving Size	240mL
Calories	97
Carbohydrates (grams)	27
Sodium (mg)	33
Potassium (mg)	0
Phosphorus (mg)	41
Caffeine (mg)	23
Saccharine (mg)	0
Aspartame (mg)	0
Acesulfame Potassium (mg)	0
Sucralose (mg)	0
Fat (grams)	0

There are 0.0634 gallons in 240mL. This translates to around 2.34 carbonated drinks a day for the average American. Looking at Coca Cola as a typical example of a carbonated drink, the average American is consuming 226 Calories a day just from soda. This is around an extra of 82,490 Calories a year, around 23 pounds of carbonated drinks.

Dr. Ronald Sturm, an economist from Stanford University explains that the recommendation of intake for snacks, biscuits, sweets and soft drinks by the Government has not been followed:

“In all areas and population groups surveyed, the average daily discretionary Calories from salted snacks, biscuits, sweets and soft drinks exceed the discretionary Calories recommended in the Dietary Guidelines for energy balance and essential nutrients, by over 60% in Los Angeles to over 120% in Louisiana. The ratio of consumed to recommended discretionary Calories is a significant predictor of BMI in the population, in contrast to fruit/vegetable consumption and physical activity.”³¹

Indeed, the amount of sugar consumption in food has increased over the years.

Added Sugar Consumption

Pounds per capita, dry weight

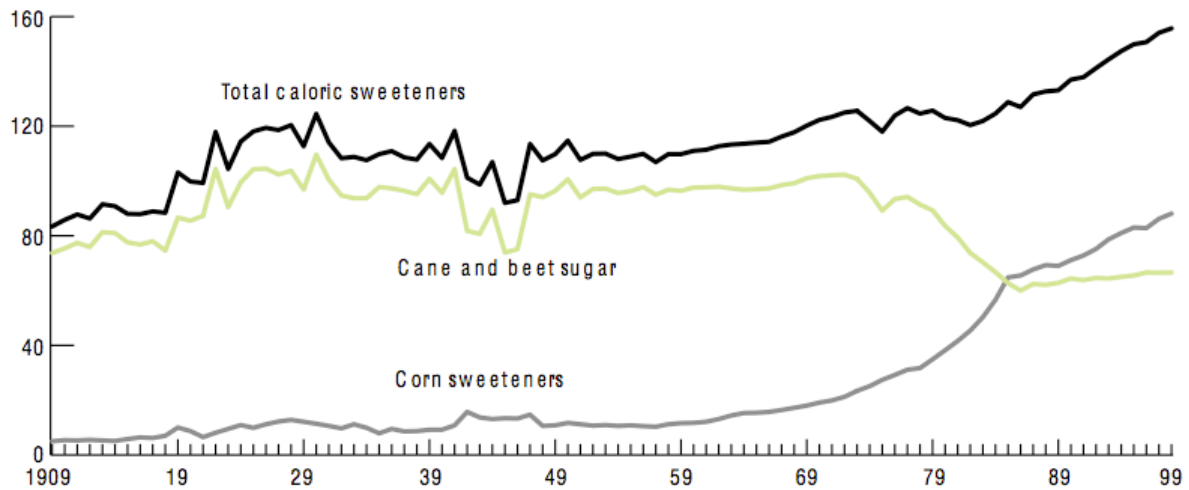


Figure 34 - Added Sugar Consumption³²

In the past few decades, there has been a huge increase in the consumption of added sugar and sweet-tasting food and beverages in the United States, as is illustrated by Figure 34. The main sources of caloric sweeteners come from sucrose – table sugar made of cane and beets – and corn sweeteners – such as high fructose corn syrup. The consumption of these sweeteners has increased in 28% between 1982 and 1997. This translates to the equivalent of 53 teaspoonfuls of added sugars per day in 1997, when the recommended intake by the USDA is only 6 teaspoons per day for a 1600 Calorie based diet.

There has also been an increase in the prices of fruits and vegetables between 1982 and 1997. In 1991 the National Cancer Institute sponsored the 5-A-Day Program for Better Health in which they promoted the importance of consuming at least 5 servings of fruits and vegetables a day.³³ However, the data that was analyzed by a study found that the sponsored program had no effect.

	NHANES II, 1976–1980 ¹⁴ (n=11,648)	NHANES III, 1988–1994 (n=14,997)	NHANES 1999–2002 (n=8910)	p value ^a
Fruit servings				
Mean (SE)	1.08 (0.03)	0.99 (0.03)	1.07 (0.04)	0.081
≥2 % (SE)	29 (<1.0)	26.7 (0.8)	28.4 (1.2)	0.196
Vegetable servings				
Mean (SE)	1.77 (0.02)	2.08 (0.03)	1.97 (0.03)	0.029
≥3 % (SE)	27 (1.0)	35.0 (0.7)	32.5 (0.7)	0.026
Vegetable servings, excluding fried potatoes				
Mean (SE)	—	1.83 (0.03)	1.71 (0.03)	0.025
≥3 % (SE)	—	29.9 (0.6)	27.4 (0.7)	0.020
Total fruit and vegetable servings				
Mean (SE)	—	3.06 (0.04)	3.04 (0.06)	0.754
≥2 Fruit & ≥3 Vegetable % (SE)	9 (<1.0)	10.9 (0.4)	10.8 (0.6)	0.963
≥5 Any F&V combination % (SE)	—	24.3 (0.6)	23.6 (0.8)	0.541

^aPearson χ^2 test for difference between NHANES III and NHANES 1999–2002.

Figure 35 - Mean Servings per Day of Fruits and Vegetables³³

The study concluded that between 1988–2002, as summarized in Figure 35, only 27% of adults met the USDA guidelines for fruit servings per day and only 35% met the vegetable guideline. Between 1992 and 2002 these numbers changed to 28% and 32% respectively, and only 11% of adults met the USDA guidelines for both fruit and vegetable requirements. The study also found that adults with higher income and greater education were “were significantly associated with meeting the guidelines in both data sets”.³³

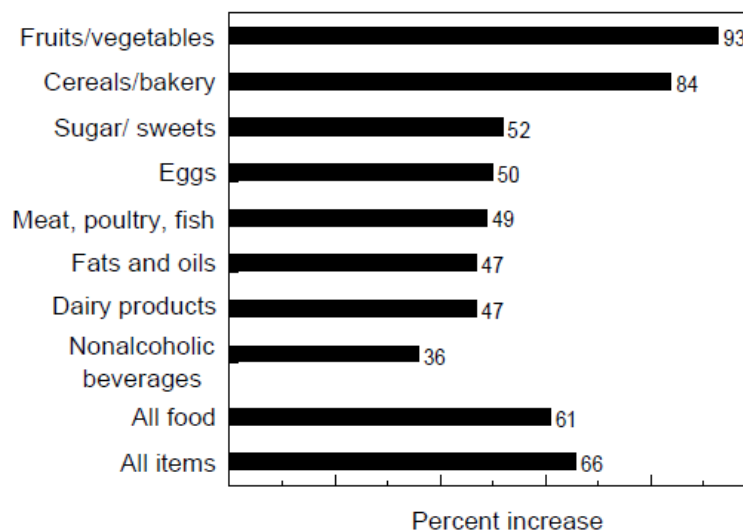
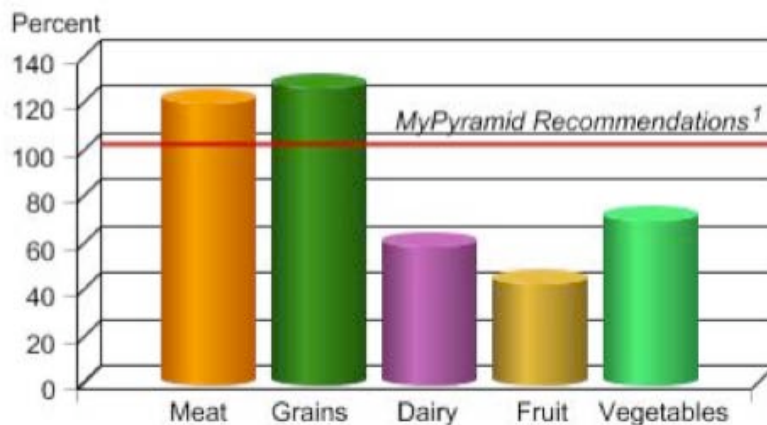


Figure 36- Percent increase in Price of Various Food. 1982-1997.²⁹

There was also a big increase in the price of vegetables and fruits in comparison to other food products. This increase can be seen in Figure 36. Between 1982 and 1997, the increase of the price of fruits and vegetables went up 93%, when other food products, like dairy products and meat only increased in around 50%.

According to the National Heart, Lung, and Blood Institute portion distortion has been happening in the past 20 years. They explain that many regular food items, such as bagels and hamburgers, have grown in size and Calories, and are too large for one person to eat.³⁴

A typical bagel was around 140 Calories, with a 3-inch diameter around 20 years ago. Today, the typical bagel is 6 inches in diameter and around 350 Calories. Similarly, a typical cheeseburger was 333 Calories, and today is around 590 Calories. French fries serving sizes have increased as well, averaging 610 Calories in a typical restaurant serving, in comparison to 210 Calories 20 years ago.³⁴



Note: Food availability data serve as proxies for food consumption. 2006 data based on a 2,000-calorie diet.

Figure 37 - American Diets are Out of Balance with Dietary Recommendations³⁵

Using available data the USDA can evaluate how American diets are following the food guide recommendations. In 2006 the USDA established that American diets are out of balance

with dietary recommendations, as is seen in Figure 37. The Americans consume too much meat and too many grains, and dairy, fruits and vegetables are not being consumed enough.

5.1 The Issue of Obesity

Obesity is a range of weight that is considered unhealthy for a given height, and a term that is usually associated with heart disease. The USDA defines obesity for adults using the body mass index, and an adult with a BMI higher than 30 is considered obese.³⁶

There are several factors that lead to the development of obesity. There are biological factors that contribute, as well as social and environmental factors. Additionally, the lifestyle and behavioral factors of different people help determine the development of obesity.

5.1.1 Biological Factors

In obese people, fat cells are larger than in lean people. Some people are born with hypercellular obesity, which means that they have a higher number of fat cells in their body. These can be developed over time because of overeating. By having a higher number of fat cells in their body it is much easier for them to gain weight.³⁷

Table 7 shows a study was conducted to see how the number of adipose, or the lipids in the cells, is different in obese people than in non-obese people. It was shown that in different tissues in the body, the number of adipose is greater in obese people than in non-obese.

Table 7 - Adipose (Lipids in Cells) in Obese Patients³⁷

Patient group	Subcutaneous			Deep			Mean		
	Gluteal	Abdominal	Triceps	Preperitoneal	Mesentery	Omental	Subcutaneous	Deep	All
$\times 10^6$									
Normocellular									
Nonobese (21)	28 ± 1	31 ± 2	38 ± 2	29 ± 1	36 ± 2	49 ± 3	33 ± 2	39 ± 2	37 ± 1
Obese (17)	36 ± 2*	37 ± 1*	39 ± 1*	38 ± 1*	39 ± 1*	45 ± 2	37 ± 1	41 ± 1	39 ± 1
Hypercellular									
Obese (61)	73 ± 3‡	78 ± 3‡	84 ± 3‡	78 ± 3‡	90 ± 4‡	100 ± 5‡	78 ± 2‡	89 ± 4‡	84 ± 3‡

Values represent the mean ± SEM for (n) patients in each group. Significance of differences was tested by analysis of variance:
 * $P < 0.05$, normocellular obese vs. nonobese.
 ‡ $P < 0.05$, hypercellular obese vs. normocellular obese.

People with hypertrophic obesity have larger than average fat cells. They enlarge when fat is stored in them, and when they are full the body produces more fat cells. This leads to hyperplastic obesity, when the number of fat cells is so big that so many of them have to be created and the person has a large number of fat cells that are also very large.³⁷

Once weight is lost, the number of fat cells remains the same, but they do become much smaller. This is also why it is so easy for people who have lost a lot of weight to gain it all back so quickly. The sex and age of the person also has a big impact on the development of obesity. Women have naturally more body fat than men, and when pregnant, fat storage increases to meet the higher energy needs of breastfeeding.⁹

Race and ethnicity also plays a role in the development of obesity. Studies have shown that Hispanic and black women are more likely to be overweight than white women. According to the Center for Disease Control and Prevention (CDC), between 2006 and 2008, Blacks “had 51 percent higher prevalence of obesity, and Hispanics had 21 percent higher obesity prevalence compared with whites.”³⁹

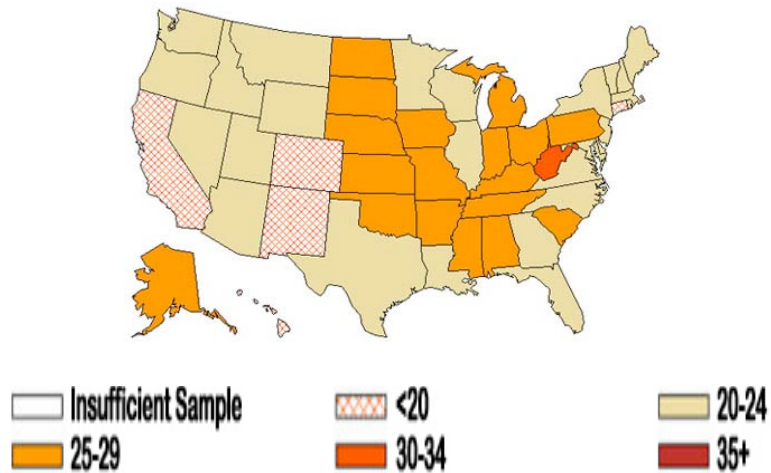


Figure 38 - Obesity trends among Whites 2006-2008³⁸

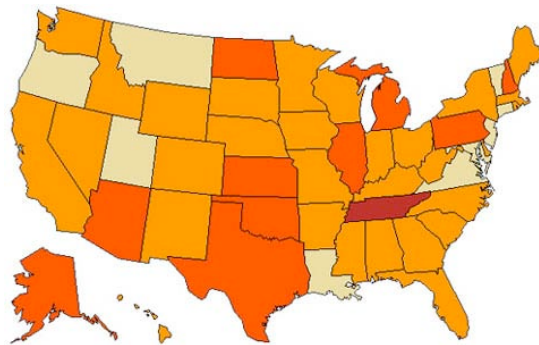


Figure 39 - Obesity trends among Hispanics 2006-2008³⁸

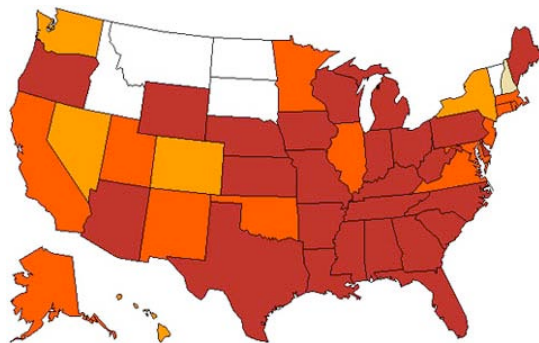


Figure 40 - Obesity trends among Blacks 2006-2008³⁸

This can further be seen in Figures 38 through 40 from the CDC. The data provided by the CDC shows that the prevalence of obesity among blacks and Hispanics is much larger than the prevalence of obesity among whites.

Trends in obesity for male and females also differ.⁹ Table 8 and 9 illustrate the study completed by Katherine Flegal and colleagues, which is used by the CDC. Table 8 shows the percentages of obese men, split into age based categories from 1999-2008.

Table 8 - Trends in the Age-Adjusted and Age-Specific Prevalence of Obesity in US Men over 20 Years or Older for 1999-2008³⁹

	No. (%) of Men [95% Confidence Interval]			
	Age ≥20 y ^a	Ages 20-39 y	Ages 40-59 y	Age ≥60 y
All^b				
1999-2000	2043 (27.5) [24.4-30.6]	666 (23.7) [20.5-27.0]	595 (28.8) [23.0-34.7]	782 (31.8) [27.3-36.3]
2001-2002	2219 (27.8) [25.8-29.7]	750 (22.3) [19.4-25.1]	773 (32.2) [28.8-35.5]	696 (30.2) [26.5-33.9]
2003-2004	2237 (31.1) [28.5-33.7]	756 (28.0) [23.7-32.4]	649 (34.8) [29.9-39.7]	832 (30.4) [26.6-34.2]
2005-2006	2237 (33.3) [29.3-37.4]	793 (28.1) [22.3-33.8]	709 (39.7) [33.9-45.4]	735 (32.2) [28.1-36.3]
2007-2008	2750 (32.2) [29.5-35.0] ^c	896 (27.5) [23.8-31.2] ^c	883 (34.3) [29.8-38.8] ^c	971 (37.1) [33.1-41.0] ^c
Non-Hispanic white				
1999-2000	946 (27.3) [23.8-30.8]	276 (22.0) [17.3-26.7]	262 (28.5) [21.8-35.2]	408 (34.3) [28.8-39.9]
2001-2002	1157 (29.1) [26.5-31.7]	322 (23.9) [19.5-28.2]	407 (33.2) [29.5-36.9]	428 (31.5) [27.7-35.3]
2003-2004	1183 (31.1) [28.1-34.2]	336 (27.2) [21.4-33.0]	340 (35.6) [29.3-41.9]	507 (30.6) [26.3-35.0]
2005-2006	1145 (33.1) [28.7-37.5]	328 (25.8) [18.6-33.1]	368 (41.0) [35.0-47.0]	449 (32.9) [28.6-37.3]
2007-2008	1335 (31.9) [28.1-35.7] ^c	383 (26.3) [20.9-31.7]	391 (34.0) [28.1-39.8]	561 (38.4) [34.1-42.6]
Non-Hispanic black				
1999-2000	374 (28.1) [24.8-31.5]	125 (27.4) [22.0-32.8]	127 (29.9) [23.3-36.4]	122 (26.4) [18.5-34.4]
2001-2002	435 (27.9) [24.0-31.8]	148 (22.2) [16.4-28.0]	161 (30.0) [23.9-36.1]	126 (34.2) [25.3-43.0]
2003-2004	432 (34.0) [27.1-40.9]	175 (32.3) [24.1-40.5]	146 (37.6) [31.6-43.6]	111 (31.1) [17.8-44.3]
2005-2006	507 (37.2) [32.5-41.8]	185 (39.7) [33.3-46.0]	170 (34.8) [26.2-43.3]	152 (36.8) [31.3-42.2]
2007-2008	554 (37.3) [32.3-42.4] ^c	187 (34.7) [28.5-40.9] ^c	173 (39.7) [30.0-49.5]	194 (38.0) [31.3-44.7] ^c
Mexican American				
1999-2000	538 (28.9) [25.2-32.7]	184 (30.4) [24.2-36.5]	157 (27.0) [19.6-34.3]	197 (29.7) [22.0-37.4]
2001-2002	480 (25.9) [21.8-29.9]	215 (17.4) [11.1-23.8]	152 (34.8) [27.5-42.1]	113 (25.9) [19.5-32.2]
2003-2004	458 (31.6) [26.6-36.6]	165 (32.7) [23.0-42.3]	118 (31.8) [21.3-42.4]	175 (29.5) [22.0-36.9]
2005-2006	443 (27.0) [23.2-30.7]	210 (24.7) [19.5-29.9]	128 (27.6) [20.9-34.3]	105 (30.0) [20.7-39.2]
2007-2008	460 (35.9) [28.9-43.0]	195 (33.8) [22.7-44.9]	164 (38.2) [26.3-50.1]	101 (35.8) [21.9-49.8]

Among men, obesity prevalence was 32.2% overall, and within racial groups from 31.9% among non-Hispanic white men to 37.3% among non-Hispanic black men.

Table 9 - Trends in the Age-Adjusted and Age-Specific Prevalence of Obesity in US Women Ages 20 years or Older for 1999-2008³⁹

	No. (%) of Women (95% Confidence Interval)			
	Age ≥20 y ^a	Ages 20-39 y	Ages 40-59 y	Age ≥60 y
All^b				
1999-2000	2072 (33.4) [30.0-36.8]	640 (28.4) [24.4-32.4]	653 (37.8) [31.2-44.4]	779 (35.0) [30.7-39.3]
2001-2002	2171 (33.3) [30.2-36.3]	712 (29.8) [25.6-34.1]	721 (35.7) [31.6-39.9]	738 (35.2) [31.2-39.2]
2003-2004	2194 (33.2) [29.7-36.6]	661 (28.9) [24.3-33.6]	662 (38.8) [33.4-44.1]	871 (31.5) [28.0-34.9]
2005-2006	2119 (35.3) [32.5-38.1]	707 (30.5) [25.9-35.0]	718 (41.1) [36.5-45.6]	694 (34.4) [29.7-39.1]
2007-2008	2805 (35.5) [33.2-37.7]	877 (34.0) [29.0-39.1]	910 (38.2) [33.8-42.6]	1018 (33.6) [30.2-36.9]
Non-Hispanic white				
1999-2000	885 (30.1) [25.9-34.3]	249 (24.4) [19.2-29.6]	249 (34.2) [25.1-43.3]	387 (33.3) [28.9-37.7]
2001-2002	1130 (31.3) [28.0-34.6]	313 (25.2) [20.5-29.8]	376 (35.4) [31.3-39.6]	441 (35.2) [29.6-40.8]
2003-2004	1174 (30.2) [25.9-34.4]	327 (23.8) [17.6-29.9]	333 (37.8) [31.1-44.5]	514 (28.9) [25.9-31.8]
2005-2006	1048 (32.9) [29.4-36.5]	288 (27.4) [20.5-34.2]	340 (39.3) [34.4-44.1]	420 (32.3) [27.2-37.4]
2007-2008	1283 (33.0) [29.3-36.6]	344 (31.3) [23.3-39.3]	402 (35.7) [29.7-41.7]	537 (31.4) [27.3-35.5]
Non-Hispanic black				
1999-2000	420 (49.7) [43.7-55.8]	140 (46.2) [38.3-54.1]	141 (53.2) [46.8-59.6]	139 (50.2) [36.1-64.4]
2001-2002	434 (48.3) [42.9-53.6]	157 (47.2) [39.6-54.9]	148 (47.8) [41.6-54.0]	129 (50.8) [37.8-63.8]
2003-2004	444 (53.9) [47.9-59.8]	153 (50.3) [41.1-59.6]	160 (57.5) [48.8-66.2]	131 (54.0) [43.9-64.2]
2005-2006	512 (52.9) [48.7-57.0]	175 (47.7) [40.3-55.1]	195 (53.3) [46.8-59.8]	142 (61.0) [54.3-67.7]
2007-2008	590 (49.6) [45.5-53.7]	191 (47.2) [41.3-53.1]	198 (51.7) [47.2-56.1]	201 (50.5) [40.5-60.5]
Mexican American				
1999-2000	567 (39.7) [32.1-47.2]	180 (30.6) [19.3-41.9]	193 (48.5) [38.9-58.1]	194 (41.0) [32.6-49.3]
2001-2002	445 (37.0) [30.6-43.4]	178 (31.5) [20.8-42.2]	139 (47.1) [38.8-55.4]	128 (30.2) [22.0-38.4]
2003-2004	415 (42.3) [36.8-47.7]	130 (35.7) [28.6-42.9]	110 (48.3) [38.5-58.1]	175 (43.8) [37.7-49.9]
2005-2006	400 (42.1) [36.4-47.7]	170 (36.5) [29.5-43.4]	124 (51.1) [42.2-60.0]	106 (37.1) [25.6-48.6]
2007-2008	485 (45.1) [38.9-51.2]	189 (39.6) [33.7-45.5]	158 (48.9) [38.0-59.8]	138 (48.1) [43.0-53.3]

Table 9 shows that among women, obesity prevalence was 35.5% overall, ranging from 33.0% among non-Hispanic white women to 49.6% among non-Hispanic black women.

5.1.2 Social Factors

There are many studies suggesting that socioeconomic status relates to obesity. According to the American Heart Association, in the early 1970s, 22.5 percent of the low-income adults were obese. On the contrary, 9.6 percent of higher income adults were obese in the 1970s. However, these numbers have been going up in the past few years. In 2002 32.5 percent of low-income adults were obese, and 26 percent of higher income adults were obese.⁹

Additionally, education is a factor that seems to associate with body weight of women. It was found that overweight and obesity among women ranges from 60 percent for those with less than a high school education, and 29 percent of those with postgraduate college degrees.⁹

5.1.3 Lifestyle Factors

Obesity is not caused by external factors but rather by the way Americans lead our lives. Exercise is one of the major factors contributing to obesity and gain of weight. The CDC defines the recommended physical activity as at least 5 days a week for 30 minutes a day of moderate intensity activity or at least 3 days a week for 20 minutes a day of vigorous intensity activity.⁴⁰

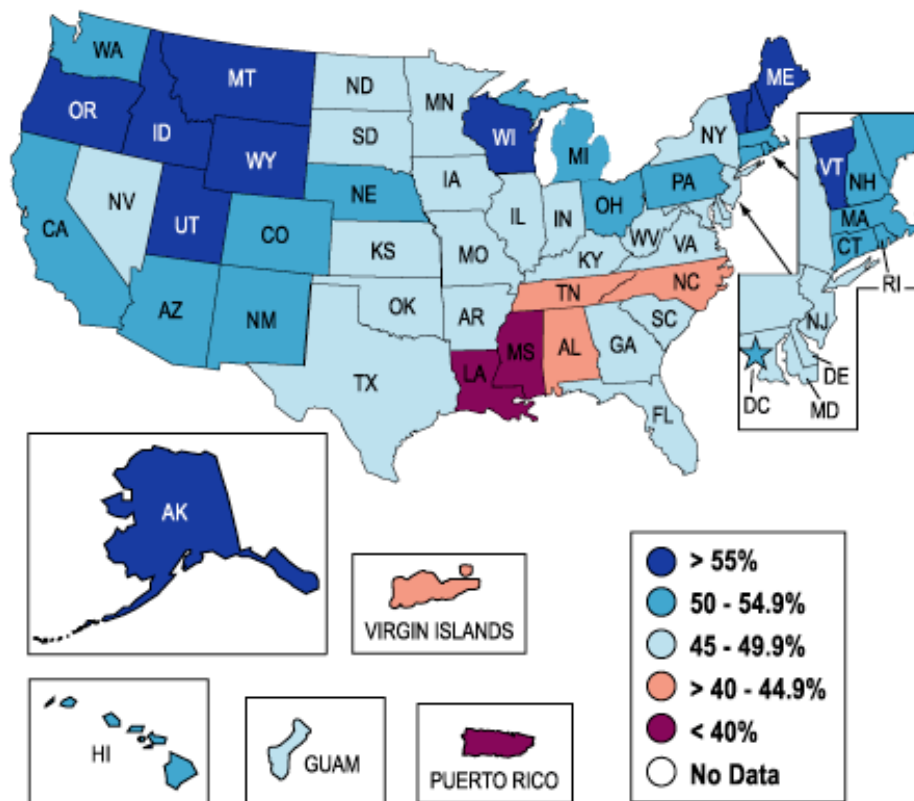


Figure 41 - Prevalence of Recommended Physical Activity in 2007⁴⁰

As seen in Figure 41, there were very few states in which more than 50 percent of Americans were following the physical activity recommendations from the USDA. It is estimated that in 2006 only 22 percent of adults in the US were getting the recommended amount of regular

physical activity, and that 60 percent were not active regularly. Additionally, 25 percent of Americans were not active at all.⁹

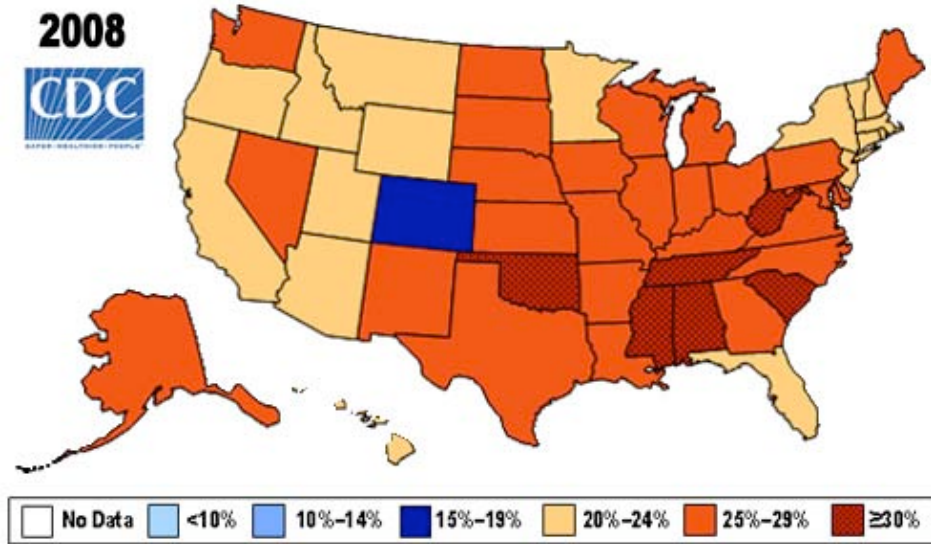


Figure 42 - Obesity Trend in US States⁴⁰

Obesity trends also change within states, as is illustrated in Figure 42. Studies done by the CDC suggest that Alabama, Mississippi, Oklahoma, West Virginia and South Carolina are amongst the fattest states in the US, with 30 or more percent of obese persons.

5.1.4 Consequences of Obesity

There are many health complication associated with obesity. According to the USDA, there is correlation between weight increase and the level of obesity to the following conditions: coronary heart disease, type 2 diabetes, cancers, hypertension, stroke, sleep apnea, respiratory problem, gynecological problems, liver and gallbladder disease.⁴¹

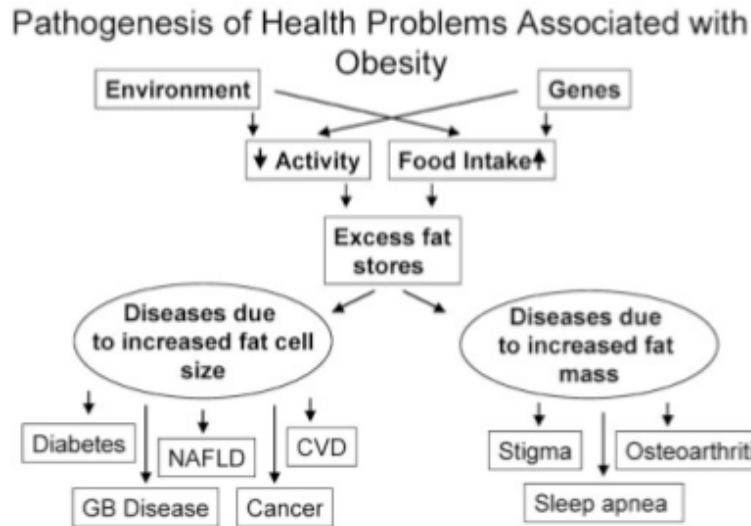


Figure 43 - Pathogenesis of Health Problems Associated with Obesity (CVD, cardiovascular disease; GB gallbladder)⁴¹

Figure 43 shows how the pathology of obesity produces the myriad of health related problems. All of these health related problems can be attributed to either the increases mass of fat or the increased release of peptides form the enlarged fat cells.⁴¹

It is therefore not surprising to see that many of the leading causes of death in the United States are related to obesity. Table 10 shows the leading causes of deaths in 2006 and their numbers.

Table 10 - Leading Causes of Deaths in 2006⁴²

Cause	Number of Deaths
Heart disease	631,636
Cancer	559,888
Stroke (cerebrovascular diseases)	137,119
Chronic lower respiratory diseases	124,583
Accidents (unintentional injuries)	121,599
Diabetes	72,449
Alzheimer's disease	72,432
Influenza and Pneumonia	56,326

Heart disease, also referred to as cardiovascular disease, is the number one cause of death in the United States and is directly related to obesity. This also holds true for Cancer, stroke, reparatory disease and diabetes, as indicated by Table 10.

Table 11- Deaths caused by Health Effects from Diet²⁹

Cause of death	Age at death				Total ¹
	< 55	55-64	65-74	75 +	
<i>Total number of deaths</i>					
Coronary heart disease	28,549	45,567	104,184	303,123	481,458
Cancer	68,857	89,251	163,795	212,391	534,310
Stroke	9,382	9,577	25,386	108,954	153,306
Diabetes	6,306	7,784	15,744	26,856	56,692
All 4 causes	113,094	152,179	309,109	651,324	1,225,766

¹ Numbers may not add up to total number of deaths because no age is reported for some deaths.

In a study conducted in 1994, the number of deaths from the four major causes of death influence by diet was analyzed. Table 11 shows that the numbers of deaths in the US for these four causes were very large.

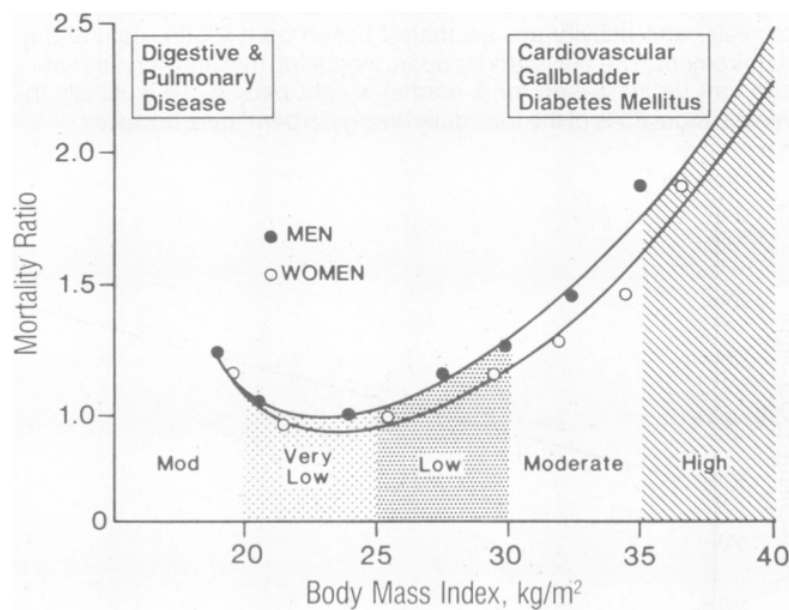


Figure 44 - Relationship of BMI to Mortality Risk⁴¹

There is also a direct link between the ratio of mortality and obesity. Figure 44 shows the relation of body mass index to mortality risk. A study, conducted by George Bray and colleagues, found that the mortality ratio increases for men and women with higher body mass indexes. It is also higher for men and women with very low BMI number who are underweight.

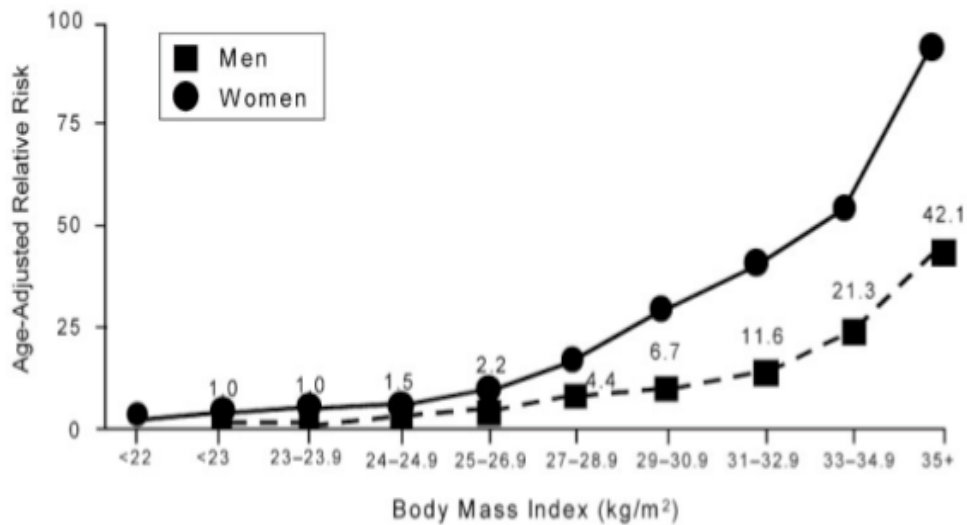


Figure 45 - Risk of Developing Diabetes Mellitus⁴¹

In another study conducted by George Bray, the risk of developing diabetes mellitus in men and women based on their BMI numbers was examined. Bray points out that diabetes mellitus is strongly associated with overweight in both genders in all ethnic groups. Figure 45 shows the relationship between the increasing BMI and the risk of developing diabetes mellitus. Brays further explains that the duration of being overweight and the central distribution of the fat also has an effect on this risk.⁴¹

Table 12 - Obesity Rates are Increasing²⁹

Gender and age	1977-78	1994-96
<i>Percent overweight</i>		
Males		
20-29	12	22
30-39	20	32
40-49	24	37
50-59	23	40
60-69	20	41
70+	13	22
20 and over	18	32
Females		
20-29	12	22
30-39	18	27
40-49	26	36
50-59	30	38
60-69	31	38
70+	24	33
20 and over	22	32

¹ Based on a Body Mass Index of 27.8 or more for men and 27.3 or more for women (DHHS, 1991).

Table 12 illustrates that the percent of overweight adults in the United States has increased in the past two decades. Between 1977 and 1978 only 18% of all adult males and 22% of adult females were overweight in the United States. Between 1993 and 1996 the numbers increased, with 32% of adult males overweight and 32% of females overweight.

5.6 Fast Food in the United States

Fast food is everywhere and contributing the obesity around the nation and world. Americans are eating out twice as much as often as they did in the 1970s, so the average adult and child consumes one-third of their Calories from restaurants and other food establishments.⁴³ McDonald's, one of the world's largest fast food restaurants, operating over 31,900 restaurants

worldwide and serving over 58 million people per day,⁴⁴ is one example of the fast food restaurants contributing to today's obesity rates.

Like many other fast food restaurants, McDonald's success can be contributed to its fast, cheap, on-the-go food. Its dollar menu allows people to buy specific menu items for only \$1. For example, for breakfast, they can purchase a sausage biscuit, or a sausage burrito, or a sausage McMuffin all for 1 dollar. For lunch and dinner the menu changes, and other appropriate items such as the McDouble and the regular fries are charged at \$1.⁴⁵

Many items, like popular BigMac, as seen in Figure 46, are high in Caloric value and provide a substantial amount of the day's Caloric intake in one part of the meal.



Figure 46 - McDonald's BigMac⁴⁵

According to McDonald's nutritional information the BigMac has a Calorie content of 540 Calories, supplying the average 25-year-old male who lives a sedentary lifestyle with 22.5% of their daily caloric intake. However, this is an average number on the nutritional information list for McDonald's menu. The hamburger placing first in Caloric intake is the Angus&Bacon Cheeseburger, with a Calorie content of 790 Calories. The large French fries contain 500

Calories, and the average milkshake, like the Vanilla triple thick shake (32fl oz) contains a whopping 1100 Calories. On average, it is found that people who eat fast food consume more than one-thirds of their day's energy needs from fast food.⁴⁶

Fast food restaurants are associated with obesity and are known for contributing to the greater prevalence of obesity in deprived neighborhoods.⁴⁷ People who are overweight eat more when they eat fast food. A recent study published in the Journal of the American Medical Association, tested the hypothesis that overweight individuals are more susceptible to the adverse effects of fast food than lean individuals. In the first part of the study, the participants were put in a food-court setting and were given an “extra large” fast food meal. They were instructed to eat as much as they want.⁴⁸

Table 13 - Energy Intake from Fast Food Meal⁴⁸

Variable	Mean (SEM)		P Value
	Overweight (n = 26)	Lean (n = 28)	
Energy intake, kcal	1860 (129)	1458 (107)	.02
Energy intake, % total energy expenditure	66.5 (3.1)	57.0 (2.9)	.03

The results, as indicated in the Table 13, show that the overweight individuals ate significantly more than the lean individuals. In the second part of the study, the participants' Caloric intake was monitored over a 4-day period. On the first 2 days, participants were allowed to eat fast food, while on the second 2 days they were not allowed to eat fast food.

Table 14 - Total Daily Energy Intake on Fast Food and Non-Fast Food Days⁴⁸

Group	Total Energy Intake, Mean (SEM), kcal/d		Difference, kcal†	P Value‡
	Fast Food Day*	Non-Fast Food Day		
Overweight (n = 24)	2703 (226)	2295 (162)	409 (142)	.02
Lean (n = 27)	2575 (157)	2622 (191)	-47 (173)	.76

*Recalled energy intake from fast food was a mean (SEM) of 1107 (80) kcal for overweight and 1047 (56) kcal for lean adolescents.

†Difference scores are for fast food day – non-fast food day.

‡The P value for the type of day (fast food vs non-fast food) by obesity status (overweight vs lean) interaction was .05 unadjusted and .04 after adjustment for self-reported relative amount of food intake.

The results, seen in Table 14, show that the overweight individuals consumed a larger amount of food on the days during which fast-food was allowed than on the days during which fast food was prohibited. The lean individuals did not have a major discrepancy between their energy intakes during the fast food and non-fast food days. These results indicate that overweight individuals are more likely to eat more when they eat fast food. A similar study conducted by Bowman and colleagues confirmed these results, and concluded that adults who reported eating fast food have a higher BMI than adults who did not report eating fast food.⁴⁶

There has recently been a shift in focus in the fast food industry, to cater to the health conscious crowd. Taco Bell has recently introduced the “Drive-Thru Diet” menu, sporting the motto “Eating Better Just got Easier”. This menu features 7 items with less than 9 grams of fat, and claims to have helped an individual, Christine Dougherty, to lose 54 pounds.⁴⁹

McDonald’s salads also offer an alternative to the usual burger and fries, and have been on their menu since 2003. They added a Fruit and Walnut desert in 2005, and introduced the “Go Active! Happy Meal” for adults in 2004. This happy meal included a pedometer, a booklet by Bob Greene (Oprah’s personal trainer), a salad, and water or a soft drink.⁵⁰ This program was introduced shortly after the Super Size Me Documentary debut, which caused a controversy over the healthy implication of McDonalds’ food, and was discontinued after a few months.⁵⁰

Dunkin' Donuts introduced the "Smart Menu" which consists of "Better-For-You choices that keep you running". The menu features lower Calories menu, such as egg white flatbread sandwiches, "lite" coffee drinks and iced tea, multigrain bagels, and reduced-fat cream cheese.⁵¹

There have been other fast food restaurants promoting their healthy or low- Calorie food items. Subway has claimed that their sandwiches are low-Calorie, and had help promoting their healthy products when Jared Fogle lost 245 pounds and claimed he did so by eating Subway twice a day.⁵² They had also been featured multiple times on the show Biggest Loser as an alternative to typical fast food when participants are on the road and need to eat.⁵²

However, many critics are expressing their doubts and are warning people to be wary of the healthy eating promotional activity from the fast food industry. In the article by the New York Times, Elizabeth Somer, the author of "Eat Your Way to Happiness" suggests that consumers should be "careful of anything the fast-food business has to say about reduce-Calorie, or healthy options."⁵³ In the same article, Kirsten Bibbins-Domingo explains that when the Calories are taken out of the meals, the sodium is then added to "make things taste good" and that "the salt is so far in excess" in these healthy fast food alternatives that "it counteracts any healthy benefits".⁵³

The American Heart Association recommends that people should "choose and prepare food items with little to no salt to reduce the risk of cardiovascular diseases" and to "aim to eat less than 1500mg of sodium per day."⁵⁴ Studies have shown that reduction in sodium can reduce the risk of cardiovascular disease,⁵⁵ yet most of the food items on the healthy fast food options are high in sodium content. Three items (out of seven) on the Taco Bell Drive-Thru Diet menu have sodium content higher than 1000mg, with the Chicken Fresco Burrito Supreme holding first place with 1410mg of sodium and all of the items on the Drive-Thru Diet menu of sodium content of at least 350mg.⁵⁶ The Ham, Egg White & Cheese on English Muffin on the Dunkin' Donuts Smart

Menu contains 1150mg of sodium, their Egg White Veggie Flatbread contains 680mg of sodium and their multigrain bagel contains 600mg of sodium.⁵⁸

Additional problems with the fast food industry are the faulty nutritional information reporting. Studies have shown that measured energy values from fast food restaurants and sit-down restaurants averaged 18% more than the stated energy values and frozen meals from supermarkets averaged 8% more.⁵³ With these results nutritionist Elizabeth Somer warns that “Even if [the fast food restaurants] are offering healthy fare, go into it with a wary eye — more likely they are tricking you.”⁵⁹

5.7 Summary

Chapter 5 reviewed food habits of Americans, the obesity problem in the United States and the relationship between fast food and obesity in America. Americans diets are out of balance with dietary recommendation, and many Americans are obese. This can be attributed to many factors. There has been a 300 Calorie increase in the mean Calories consumed per person per day in the United States since 1909. Total meat consumption has increased dramatically, especially with red meat and poultry. The consumption of carbonated soft drinks has increased from 10 gallons per capita to around 55 gallons per capita since 1945 and added sugar consumption has also seen a dramatically increase.

Additionally, fast food consumption in the United States is contributing to the rising obesity rates. Many fast food restaurants serve Calorie-dense foods, which are highly processed and high in sodium content, as well as a reduced amount of valuable nutrients. Overweight individuals tend to consume more food when eating in fast food restaurants. When obese individuals are unable to lose weight, their obesity can result in many different diseases that are often fatal. Chapter 6 reviews and analyzes the results obtained from the surveys introduced in chapter 3.

6.0 Food, Diet, and Nutrition Awareness

Surveys are a common mode of data collection to monitor changing food habits. Many Government agencies, such as the CDC and USDA conduct many surveys to gain insight into the food habits and trends in the United States. For the past 100 years, the USDA has been conducting the “100 Years of Eating in America” survey, gaining insight into the trends of the food consumption in America. Similarly, the CDC completed research every year regarding obesity percentages in the United States, to see how the obesity rates are changing. Several surveys were conducted for this project. This section discusses and analyses the results of each survey.

6.1 Efficiency of Diets

As indicated in the Methodology section, the Efficiency of Diets survey was sent out to participants online, and the full responses are outlined in Appendix 12.1.2. It was found that the most prevalent diets amongst survey takers were Weight Watchers followed by Atkins, South Beach Diet and then Jenny Craig, as illustrated in Figure 47. For the four popular diets (Atkins, Weight Watchers, Jenny Craig, South Beach) further data was analyzed.

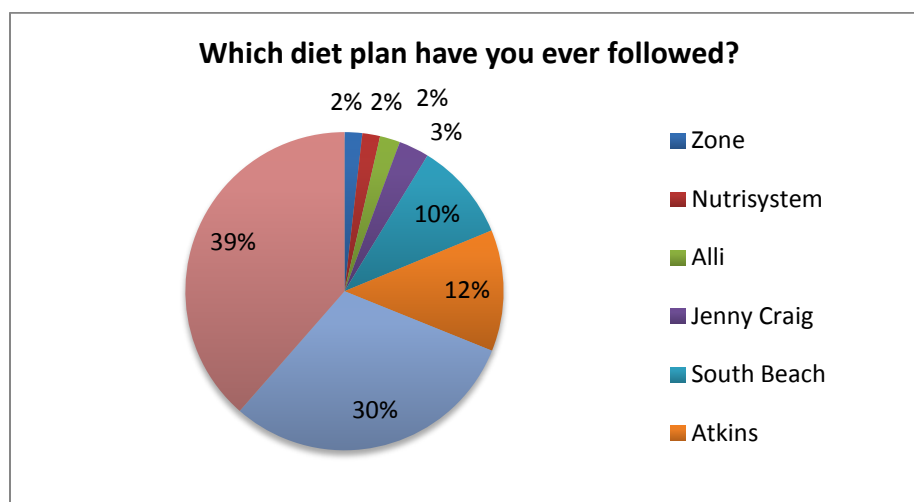


Figure 47 – Popular Commercial Diet Percentages

Weight Watchers was the most popular diet, and it was found that 118 out of the 633 survey takers had followed that program. Scientific publications were not found regarding the specific reasons for Weight Watchers' success. Weight Watchers' popularity can be attributed to different factors. The Weight Watchers marketing is a lot stronger than some of the other popular diets, and TV commercial and magazine advertisements are regularly seen. Dieting programs like Atkins and South Beach Diet do not have similar marketing programs. Additionally, during the Weight Watchers program dieters attend weekly group meeting where they receive the support that they need. Many people might find it comforting to lose weight with other people, and are motivated by their peers' loss and support. Additionally, group meeting are led by people who have lost a lot of weight on the Weight Watchers diet and provide dieters with first hand evidence that the diet does work, which can help push and motivate them.⁵⁹ Lastly, the Weight Watchers diet does not prohibit the dieters from eating specific foods (unlike Atkins or the South Beach diets), which can also appeal to many people – this is further discussed in chapter 7.4.

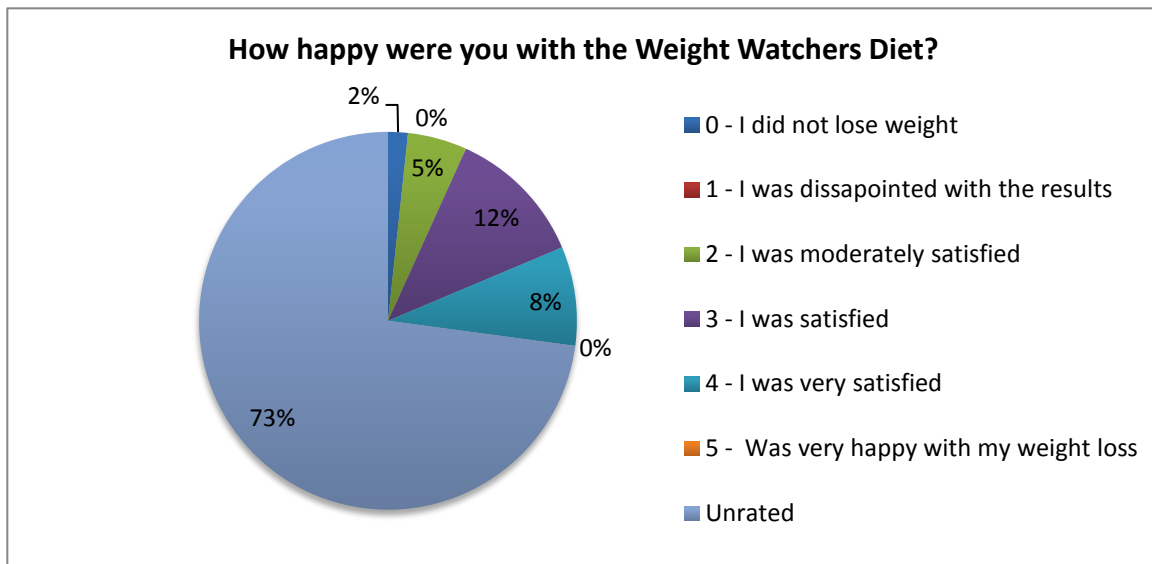


Figure 48 – Satisfaction with the Weight Watchers Diet

As seen in Figure 48, none of the dieters rated the Weight Watchers diet a 5, and most dieters rated the diet a 3, indicating that most were content with their diet, but not very happy. This may be the case since it was found that about 50% of participants in a Weight Watchers group attended less than seven sessions and lost only about 2.2lbs.⁵⁹ While dieters are able to lose weight, they do not lose a lot and usually stop the program after seven sessions.

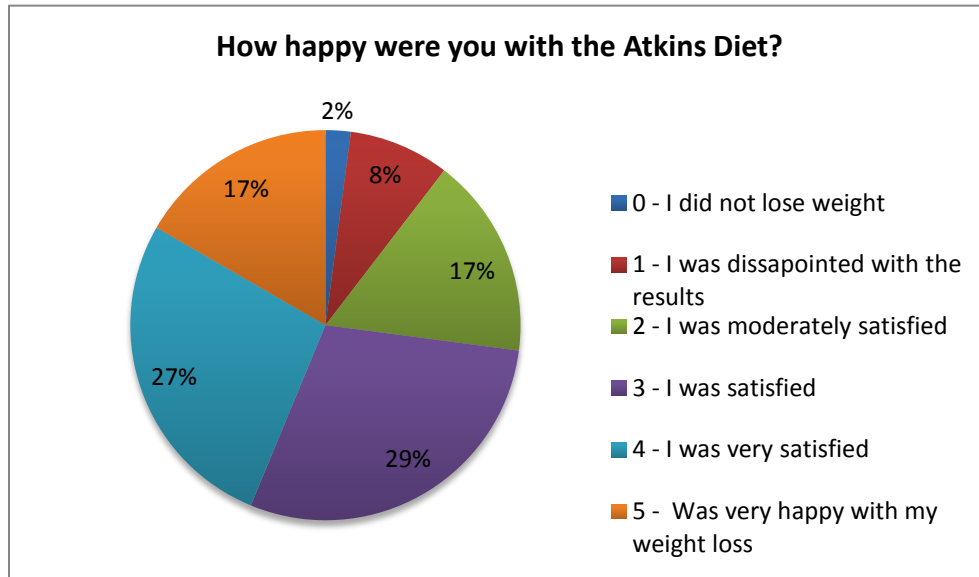


Figure 49 – Satisfaction with the Atkins Diet

Atkins was the second most popular diet amongst survey takers. Figure 49 shows that most dieters rated the diet either a 3 or a 4, although there was a significant amount of dieters that rated Atkins a 5, indicating that their results with the diet were very successful. In chapter 7.1, the Atkins diet is reviewed, and the nature of diet is such that many people are able to lose a lot of weight quickly due to the loss of water weight. This might be a factor that increases the satisfaction with the diet. The survey did not account for the long term results people had had with the diets, thus no conclusions can be drawn in saying if dieters were able to maintain the weight loss.

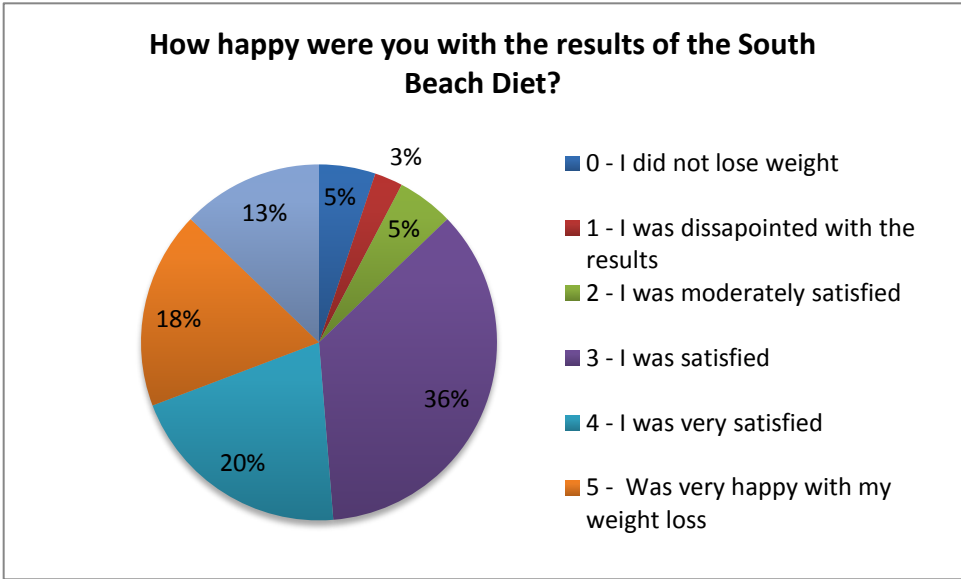


Figure 50 - Satisfaction with the South Beach Diet

The South Beach Diet was the third most popular diet, with only 5 out of 39 dieters with unrated satisfaction questions. Results, illustrated in Figure 50, were quite similar to those of the Atkins diet, although most dieters rated their satisfaction with the diet a 3. As the South Beach Diet and the Atkins diet are similar in nature, reasons for the satisfaction may be similar, due to the possibility of losing a lot of water weight during the diet.

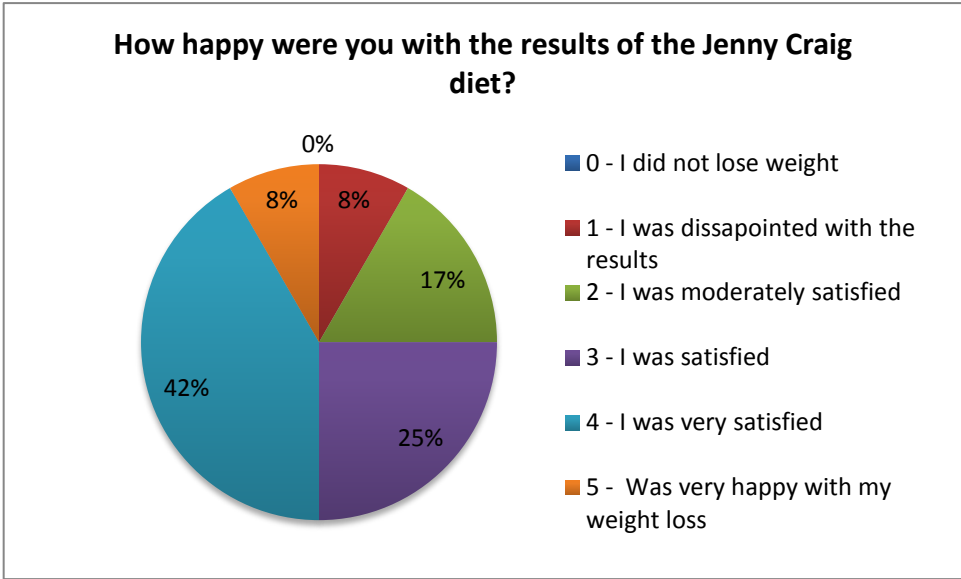


Figure 51 - Satisfaction with the Jenny Craig Diet

It was found that most dieters of the Jenny Craig diet rated the diet a 4. As seen in Figure 51, all participants that had been on the Jenny Craig diet lost weight. There was no participant who rated the diet as a 0. The Jenny Craig diet is further explained in chapter 7.3, the basic principle of the diet is pre-made meals delivered to the dieters' home from the company. The reason many people might have been satisfied was because they did not have to prepare any of their meal, and the meals they receive are tailored to the dieter's nutritional and caloric needs which will help them lose the weight. As this diet is easy to follow, this might be a reason many people were quite satisfied with their results.

It was also important to see the relationship between those who have been dieting and have tried the four popular diets and how they feel about their current weight. Of those who had followed at least one of the four diet plans, only 28% were found to be happy with their current weight. Studies indicate that higher, unhealthy BMIs are associated with lower weight satisfaction, as well as less inclination to exercise.⁶⁰ This indicates that most participants that have been on commercial diets were not able to maintain their weight lost, or never lost as much weight as they wanted, as their BMIs are probably higher. Additionally, according to the CDC, in 2005, 67% of Americans were overweight or obese.⁶¹ This is quite close to the 72% of people who had indicated in our survey that they were not happy with their weight. This indicates that for most of these people the commercial diets did not work and they were still unhappy with their weight.

6.2 Food Nutrition Awareness Survey in Morgan Dining Hall in Worcester Polytechnic Institute

As introduced in section 3.2, a survey was conducted in the Morgan Dining Hall at Worcester Polytechnic Institute. The Morgan Dining Hall at Worcester Polytechnic Institute is the main dining hall for the university. Students use a card to swipe into the hall, and then have free access to all of the food items and can eat as much as they want. The food choices range

from a salad bar, to a grill, hot meals that change daily, pasta bar, pizza bar, sandwich bar and a dessert bar.



Figure 52 - Salad Bar at Morgan Dining Hall

The salad bar option, as seen in Figure 52, at the Morgan Dining Hall allows students to create their own salads. They have a choice of Kraft salad dressings, or even just simply oil and vinegar.



Figure 53 - Pizza Bar at Morgan Dining Hall

The pizza bar, as seen in Figure 53, at the dining hall is a popular option. Students take as many slices as they want and new pizzas are prepared during the hours of operation of the dining hall.



Figure 54 - Cookie Selection at Morgan Dining Hall



Figure 55 - Pie Selection at Morgan Dining Hall

The dessert bar consists of a cookie and pie selection, as seen in Figures 54 and 55. Some cookies are pre-bought, but the favorite chocolate chip cookies are baked during the operation of the dining hall. All pies and cakes are baked as well. Other options, such as fruits for dessert are also available in the dining hall as seen in Figure 56.



Figure 56 - Fresh Fruit at Morgan Dining Hall

As mentioned in section 3.2, there were binders with nutritional information available in the front of the dining hall. The binders were borrowed from the dining hall with permission, in order to see how extensive the nutritional information in them was.

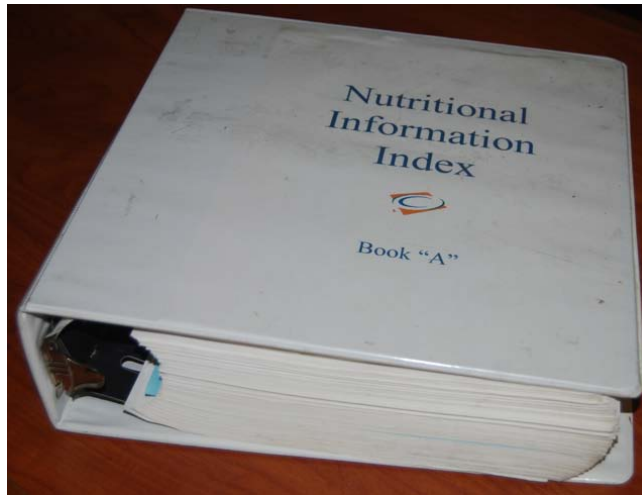


Figure 57 - Nutrition Binder

There were three binders named “Nutritional Information Index”, books “A” through “C”. The binders were big, and heavy, with over a 1000 pages per binder. Figure 57 illustrates the size and large amount of pages a binder. The binders did not include page numbers, an index, or a table of contents, which made looking up recipes and foods impossible. Although there was a fair amount of alphabetical listing arrangement, it was found that some binders had repeated recipes in them. Some of the binders had more recipes than others, and it was unclear if each binder was supposed to include the same information or simply to be an extension of the previous binder.

Specific recipes were looked up but were missing (French bread pizza, chicken nuggets, and special fries). Upon further investigation it appeared as if the binders were completely out of date. This was also confirmed with the manager, Leslie Lofgren. Figure 58 is an example of the nutritional information provided for a specific recipe:

DL/ Chicken w/ Scallion			
Total Weight:	12.00 oz-wt		
Serving Size:	12.00 oz-wt		
Serves:	1.00		
			Multi-Column
Basic Components	Water	179.46 g	Minerals
Calories	Vitamins		Calcium 47.21 mg
Calories from Fat	Vitamin A RE	45.08 RE	Copper 0.18 mg
Protein	A - Carotenoid	11.06 RE	Iron 3.34 mg
Carbohydrates	A - Retinol	34.02 RE	Magnesium 49.33 mg
Dietary Fiber	A - Beta Carotene	66.34 mcg	Manganese 0.12 mg
Soluble Fiber	Thiamin-B1	0.15 mg	Phosphorus 331.13 mg
Sugar - Total	Riboflavin-B2	0.42 mg	Potassium 527.59 mg
Monosaccharides	Niacin-B3	11.30 mg	Selenium 49.67 mcg
Disaccharides	Niacin Equiv.	20.06 mg	Sodium 664.24 mg
Other Carbs	Vitamin-B6	0.65 mg	Zinc 4.54 mg
Fat - Total	Vitamin-B12	0.53 mcg	Other Fats
Saturated Fat	Vitamin C	7.14 mg	Omega 3 Fatty Acids 0.27 g
Mono Fat	Vitamin D mcg	0.51 mcg	Omega 6 Fatty Acids 3.83 g
Poly Fat	Vit E-Alpha Equiv.	0.52 mg	Other
Trans Fatty Acids	Folate	37.14 mcg	Alcohol 0 g
Cholesterol	Pantothenic Acid	2.06 mg	Caffeine 0 mg
Notes			
Contains: Chicken, Scallion, Onion, Soy Sauce And Spices			

Figure 58 - Nutrition Example

There were many pages like this one in the binders, with plenty of nutritional information, unfortunately outdated. Students are usually in a hurry and have limited time they can spend in the dining hall, and it was suspected that not many students use them, disregarding the fact that the binders are out of date.

6.2.1 Results from the Morgan Dining Hall Survey

It was found that only 9% of the students were aware of the binders located in the dining hall and none of them had ever used them to look up the nutritional value of their meals as indicated in Figure 59.

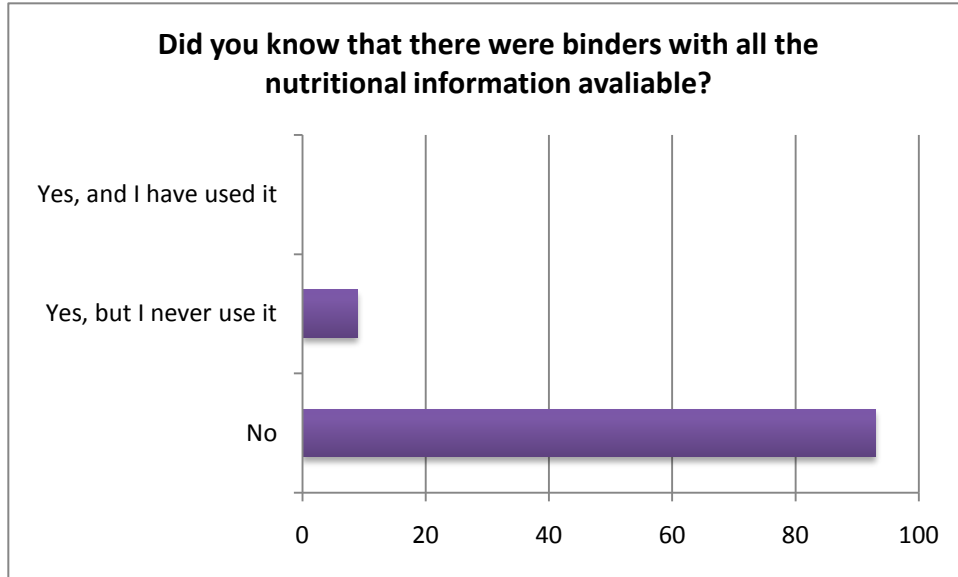


Figure 59 - Nutrition Binders Awareness

This suggests that the student population might not be interested in the nutritional information of their food. When students were asked if having the nutritional information available for all the food items in front of the food would influence their food choices in the dining hall 68% said it would. There was a noticeable difference between the responses of the males and the female population.

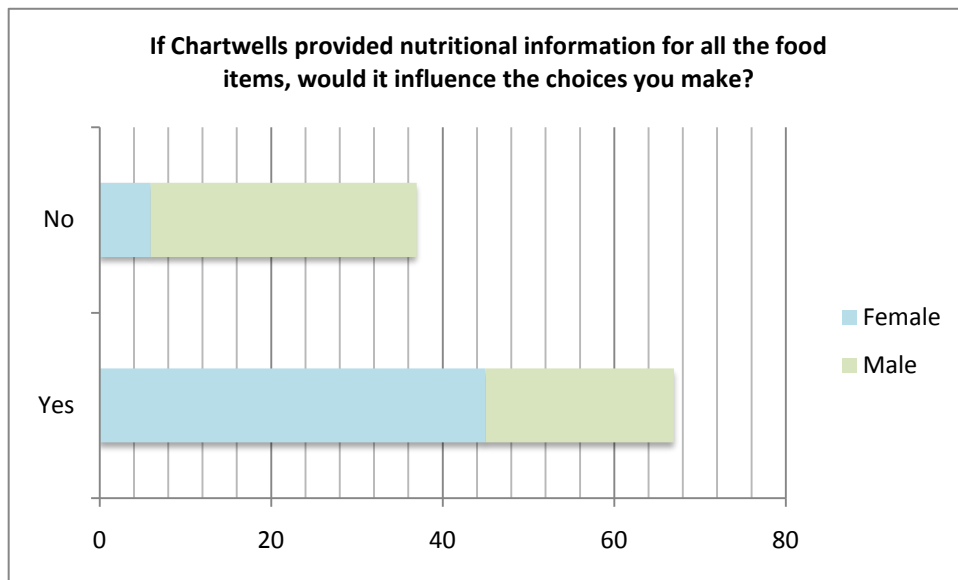


Figure 60 - Female versus Male breakdown

As seen in Figure 60, only 6 females (11% of females) – had answered that having the nutritional information for each food item would not change their choices. However, a larger percentage of males said no – 31 males, around 59% of the male population of the survey.

Overall, 68% of students believed that having nutritional information in front of each food item would influence their food choice decision. In order to find out if this is true, the second part of the survey was conducted.

As the first survey indicated, only 9% of students were aware of the binders with the nutritional information. This is why for the select food items that were chosen, the nutritional information (specifically - the Caloric value of one serving of that food item) was displayed in front of the food item, in a bold and large font.

After students had taken their food and sat down, they were asked if the amount of food that they had taken was influenced by the nutritional information that was posted. It was very surprising to see that although originally 68% of students thought that having the nutritional information there would influence their food choice, only 24% of the students found that having the nutritional information there helped them make a decision regarding their food choice. Some students indicated that although the nutritional information of the food item did not influence their choices, they liked the idea of having it there. In contrast, there were some students that indicated that they did not think it was necessary to put nutritional information for food items in the dining hall. Most students in the dining hall that saw the nutritional information “ignored” it, as they had reported.

A recent study by Yamamoto and colleagues was conducted to determine if adolescents would modify their ordering behavior if Calorie and fat nutrition information were posted on the restaurant menu.⁶² The adolescents were asked to choose a dinner of their choice from three different fast food restaurants. It was found that out of the 106 adolescents, 75 (70.7%) did not

change any of their order after being shown the Calories and fat content information. Of the 27 adolescents who rated themselves as too fat or slightly overweight, only 9 changed their orders.⁶² These results are quite similar to the results obtained in this survey, even though the study conducted by Yamamoto was targeted at adolescents. Yamamoto points out that adolescents may be particularly resistant to nutritional interventions, however, none of the subjects in this survey were adolescents – they were all college students over the age of 17.⁶²

Many studies have been conducted to see if age is a critical factor affecting the use of nutritional labels. Studies have found that as age increases, the probability of using nutritional labels decreases while other studies have found the opposite, therefore no concrete conclusion can be made. However, it was found that females were more likely to read nutritional information, as well people who have a higher level of education.⁶³



Figure 61 - Chicken Nuggets and Fries Serving Size

Figure 61 shows the actual recommend serving size (from the manufacturer) of the chicken nuggets and the special fries that were served during the survey. Random student's plates were then photographed as well for comparison.



Figure 62 - Student's Lunch

This student's entire meal is photographed in Figure 62. Note that the amount of fries and chicken nuggets is quite larger than that of the recommended serving size. Additionally, there is a large serving of blue cheese sauce, and two pork tacos with cheese, lettuce and tomatoes; the drink is Coca Cola.



Figure 63 - Student's Lunch



Figure 64 - Student's Lunch

Figure 63 shows another student's meal that consisted of the fries (a very large serving), 3 pieces of chicken Parmesan and pasta salad. The second student's meal in Figure 64 consisted of a large serving of chicken nuggets, fries and some steamed vegetables.



Figure 65 - Student's Lunch

Another student, whose plate consisted of fries and a serving of chicken nuggets is seen in Figure 65. Using the data from the survey, it was estimated that the average student consumed around 1100 Calories during their lunch meal. In chapter 4.5, the Government recommendation for nutritional intake is discussed. Accordingly, the average student at the Morgan Dining hall is consuming 55% of their daily Caloric intake needs at lunch. As the dining hall is open for three meals a day, students are consuming more than they should during their lunch session.

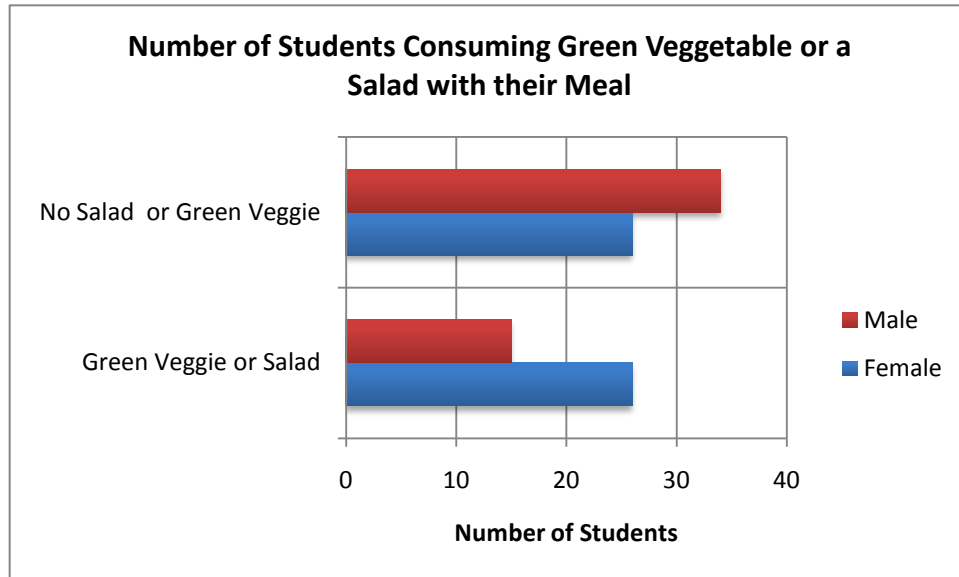


Figure 66 - Students Eating Vegetables

On average, most students did eat from the hot option (chicken nuggets and special fries), but most students did not eat any vegetables along with it. Overall, Figure 66 shows, 59% of students did not consume some sort of green vegetable (peas, green beans, peas and corn, pea and onions, squash) or a salad with their meal. Of the 41% that did eat a salad or green vegetables with their meal, 63% were female.

Specific data on the obesity rates on the WPI campus were not taken, however during the completion of the survey it was noted that most students in the dining hall were of normal weight. Studies indicate that on college campuses in the United States, exercise and dietary patterns did not meet the recommended guidelines for many of the students, and that on average women tend to gain 3.75 ± 9.92 lb [mean \pm SD] from freshman to senior year, and males gain 9.26 ± 14.11 lb. The weight many students gain may have long-term health implications.⁶⁴

It is apparent from the results of the surveys that there are a few problems on the WPI campus. While students believed that the nutritional information would influence their decision, most students did not care for the simple Caloric information that was displayed. Additionally, students consumed a large amount of food during their lunch meal, and most students did not eat

vegetables with their food. Possible solutions regarding these problems are introduced in section 9 of the report.

6.2.2 Changes

Shortly after the survey was conducted, it was found that the nutrition binders, albeit still out of date, were placed in a spot where they were easier to find. Additionally, the management has put up several nutritional information charts for a few select food items in the dining hall.

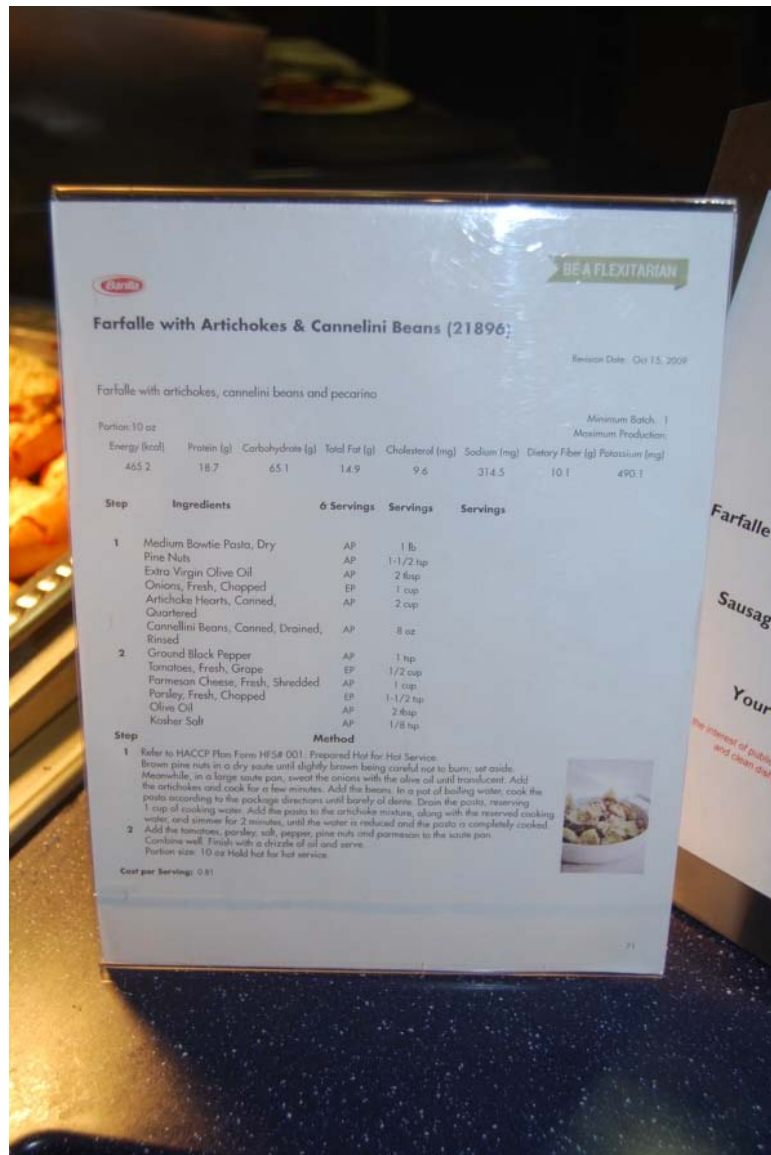


Figure 67 - Nutritional Information for Pasta Dish

Figure 67 shows the nutritional information that was put up for a pasta dish. There was no discussion with the management of the dining hall regarding the changes; it is suspected that they created the changes due to the surveys conducted.

6.3 Nutrition Label Awareness

As outlined in section 3.3, the nutrition label awareness survey was conducted in a local supermarket. This was conducted in order to find the percentage of people who use the nutritional labels when they pick out a new food item.



Figure 68 – Nutrition Label Awareness Results

The study found, as seen in Figure 68, that only 16% of the participants always read the nutritional label when they buy a food item they are unfamiliar with. On the other hand, 40% of the participants said that they never read the nutritional labels on their food items. These results are distinctly different from the ones outlined in the New York Times article as discussed in section 3.3. One hypothesis for this may be because this survey was conducted in an actual supermarket, and the participants were actively grocery shopping when they were being surveyed.

They were more aware of their nutrition label awareness, as they were buying food items at the time of surveying.

6.4 Healthy Living and Easy Dining on \$37 a Week

As indicated in chapter 3.4, in this survey healthy food and unhealthy food was purchased in a supermarket for \$37. Additionally, a weekly food menu consisting of items from a fast food restaurants was created using \$37.

Table 15 - Unhealthy Dining

Item	Amount (\$)
Potato Bread	2.00
3x Chicken Cheddar Cheese Patties (27oz total)	3.00
3x Pre Made Pasta Dish	3.00
Hungry Jack Mashed Potatoes	2.50
12 pack of Soda	5.00
Large Doritos	3.00
Fruit Loops Cereal	4.00
0.5 gallon milk	1.89
Large frozen pizza	5.99
Ice cream 0.5 gallon	2.99
Premade frozen Breakfast egg and sausage sandwiches	4.00
Total Price	37.37

Table 15 shows the unhealthy processed food that was bought using 37.37 dollars. Table 16 shows the healthy natural food that was bought using 37.73. All food items, on both the healthy and the unhealthy lists were bought in the same supermarket the *Price Chopper* in

Worcester, MA. When creating the food items in the supermarket it was obvious that there was a lot more food in the unhealthy food item list.

Table 16 - Healthy Dining

Item	Amount (\$)
4 tomatoes	3.99
Lettuce mix	3.99
2 lb carrots	2.00
2 cucumbers	2.00
5lb apples	4.00
5 bananas	1.50
5 lb potatoes	1.99
Fresh angel hair pasta	2.99
Jarred pasta sauce	2.00
Chicken breast 1.5 lbs	6.99
Dozen eggs	2.39
½ gallon of milk	1.89
Whole wheat bread	2.00
Total Price	37.73

Table 17 shows the list that was made for a week's worth of food from Fast Food Restaurants. Although for all days the total Calories does not exceed 2000 Calories, it must be noted that all items were taken off of the value menus from the restaurants in which the food items are smaller.

Table 17 - Fast Food Dining^{65,66,67,70}

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Restaurant	McDonald's	Taco Bell	Burger King	Jack In the Box	McDonald's	Burger King	Taco Bell
Breakfast	Premium Roast coffee, Sausage Biscuit	Bean Burrito, Caramel Apple Empanada	Coffee, Ham Omelet Sandwich	Grilled cheese	Premium Roast coffee, Sausage Biscuit	Coffee, Ham Omelet Sandwich	Bean Burrito, Caramel Apple Empanada
Lunch	Small Fries, Soft drink, Mc Double	Cheese roll up Cinnamon Twists	Double cheeseburger, coca cola, onion rings	Taco nachos, chicken sandwich	Small Fries , Soft drink, Mc Double	Double cheeseburger, coca cola, onion rings	Cheese roll up, Cinnamon Twists
Dinner	McChicken, Soft Drink	Triple Layer nachos	Apple pie, whopper junior	Hamburger deluxe	McChicken, Soft Drink	Apple pie, whopper junior	Triple Layer nachos,
Total Cost (\$)	7	4.45	7	4	7	7	4.45
Total Calories	1780	1390	1365	1626	1780	1365	1390

Figure 69 shows the specific nutritional information for the McDonald's daily Menu. The Caloric value comes out to be 1780 Calories. While this is 220 Calories less than the average 2000 Calories recommended, the sodium is 3100mg, more than double the amount of the recommended sodium intake.

Products	Calories	Calories From Fat	Total Fat (g)	Saturated Fat (g)	Trans Fat (g)	Cholesterol (mg)	Sodium (mg)	Carbohydrates (g)	Dietary Fiber (g)	Sugars (g)	Protein (g)	Vitamin A (IU)	Vitamin C (mg)	Calcium (mg)	Iron (mg)
<input checked="" type="checkbox"/> Coffee (Small) \$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+ <input checked="" type="checkbox"/> Sausage Biscuit with Egg (Regular Size Biscuit)	510	290	33	14	0	250	1170	36	2	2	18	300	0	100	3.5
<input checked="" type="checkbox"/> Small French Fries	230	100	11	1.5	0	0	160	29	3	0	3	0	5	10	0.5
<input checked="" type="checkbox"/> Coca-Cola® Classic (Small) \$	150	0	0	0	0	0	10	40	0	40	0	0	0	0	0
+ <input checked="" type="checkbox"/> McDouble	390	170	19	8	1	65	920	33	2	7	22	280	1	200	3.5
+ <input checked="" type="checkbox"/> McChicken ®	360	150	16	3	0	35	830	40	2	5	14	45	1	120	2.5
<input checked="" type="checkbox"/> Coca-Cola® Classic (Small) \$	150	0	0	0	0	0	10	40	0	40	0	0	0	0	0
Total :	1780	710	79	27	2	350	3100	219	8	94	56	620	7	440	9.5
% Daily Value ** :	-	-	122	136	-	116	129	73	33	-	-	10	10	45	50

Figure 69 - McDonald's Menu Nutritional Information⁶⁵

Figure 70 shows the nutritional information for the Burger King menu. The caloric value of this menu was lowest from all fast food restaurants. In this menu the sodium content was very high as well, around 1000mg of extra sodium than needed.

1365 calories	161.9g carbs
60g fat	79g sugar
24g saturated fat	46.7g protein
1g trans fat	2590mg sodium
190mg cholesterol	

[View Your Meal](#)

Figure 70 - Burger King Menu Nutritional Information⁶⁶

Figure 71 shows the nutritional information for the Taco Bell menu. With only 1300 Calories and only 5 different menu items the sodium content was 3040mg, twice the amount of the recommended daily intake.






YOUR TRAY		SERVING SIZE (G)	CALORIES	TOTAL FAT (G)	SATURATED FAT (G)	TRANS FAT (G)	CHOLESTEROL (MG)	SODIUM (MG)	CARBOHYDRATES (G)	DIETARY FIBER (G)	SUGARS (G)	PROTEIN (G)
	(1) Cinnamon Twists Cinnamon Twists	35	170	7	0	0	0	200	26	1	10	1
QTY <input type="text" value="1"/> Update Delete this item												
	(1) Triple Layer Nachos Beans, Nacho Cheese Sauce_NoEdit, Nacho Chips, Red Sauce	142	350	18	1.5	0	0	740	39	7	2	7
QTY <input type="text" value="1"/> Update STYLE: <input checked="" type="radio"/> REGULAR <input type="radio"/> CUSTOM Delete this item												
	(1) Bean Burrito Beans, Cheddar Cheese, Onions, Red Sauce, Tortilla	198	370	10	3.5	0	5	1270	55	11	3	14
QTY <input type="text" value="1"/> Update STYLE: <input checked="" type="radio"/> REGULAR <input type="radio"/> CUSTOM Delete this item												
	(1) Caramel Apple Empanada Caramel Apple Empanada	85	310	16	2.5	0	0	310	39	2	13	3
QTY <input type="text" value="1"/> Update Delete this item												
	(1) Cheese Roll-Up Three Cheese Blend, Tortilla	64	200	10	5	0	20	530	19	2	1	9
QTY <input type="text" value="1"/> Update Delete this item												
TOTALS		524	1390	60	14	0.5	30	3040	178	22	29	35

Figure 71 - Taco Bell Nutritional Information⁶⁷

Figure 72 shows the nutritional information for the Jack in the Box menu. The Jack in the Box menu consisted of only 4 items, however it was 1626 Calories. This is most of the Caloric intake for the average person per day,⁶⁸ but does not include important nutrients at all. Most importantly, the nutritional requirements for fruits and vegetables are not met, and the sodium requirements are exceeded by around 1500mg.⁶⁹

Tray		Calories	Calories from Fat	Total Fat (g)	Saturated Fat (g)	Trans Fat (g)	Cholesterol (mg)	Sodium (mg)	Potassium (mg)	Carbohydrate (g)	Dietary Fiber (g)	Sugars (g)	Protein (g)
<input checked="" type="checkbox"/> Remove Item													
Grilled Cheese	<input checked="" type="checkbox"/>	328	147	16	6	0	22	802	129	34	2	3	11
Chicken Sandwich	<input checked="" type="checkbox"/>	438	207	23	3	0	34	906	254	41	2	3	15
Taco Nachos	<input checked="" type="checkbox"/>	498	272	31	9	1	40	655	356	41	3	3	16
Hamburger Deluxe	<input checked="" type="checkbox"/>	362	171	18	5	1	38	579	301	33	1	5	14
TOTAL		1626	797	88	23	2	134	2942	1040	149	8	14	56

Figure 72 - Jack in the Box Nutritional Information⁷⁰

Overall the food items from the fast food menu were high in sodium and highly processed. The unhealthy food list that was created in the supermarket had a lot more food content than the healthy one. This information will be beneficial for the discussion of obesity in the report.

6.5 Worcester Polytechnic Institute Healthy Eating Campaigns Survey

As indicated in chapter 3.5, the survey was conducted online to gain a better understanding of WPI's community reaction to healthy eating campaigns.

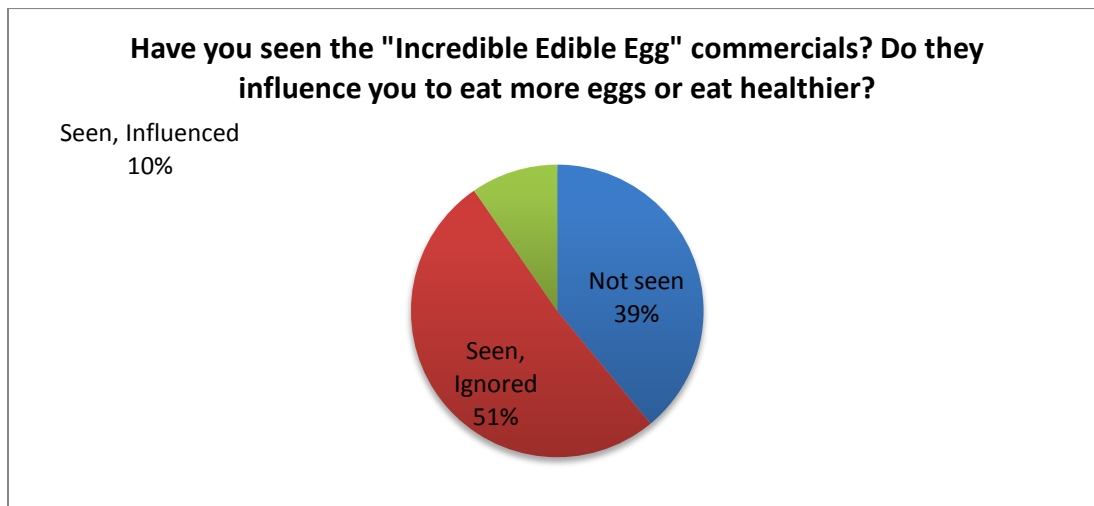


Figure 73 - Incredible Edible Egg Results

The Incredible Edible Egg is a campaign sponsored by the American Egg Board, promoting eating eggs and eating healthy. Figure 73 shows that only 61% of the participants were aware of this campaign. Only 10% of the participants were influenced by this campaign.

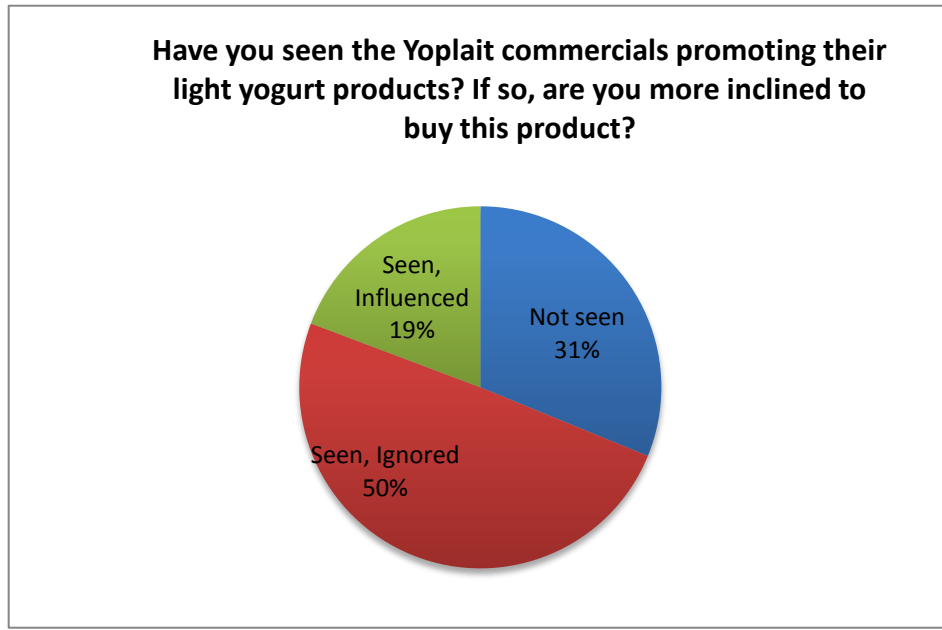


Figure 74 - Yoplait Commercial Results

It was found that 69% of the participants had seen the Yoplait commercials promoting their low-fat attributes. Figure 74 shows that 19% of the participants were influenced by these commercials.

Have you seen the Cheerios commercials? If so, have they influenced you to eat "healthy" cereal?

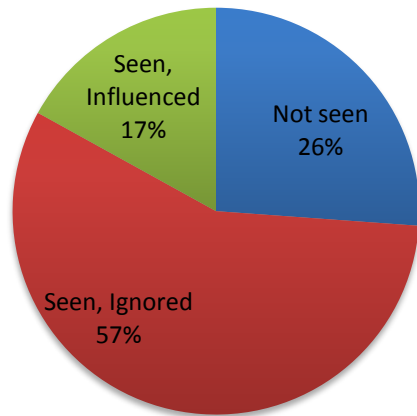


Figure 75 - Cheerios Results

Figure 75 shows the results to the Cheerios commercials question. It was found that 74% of the participants had seen these commercials, and 57% of the participants also ignored them.

Have you heard of MyPyramid.gov? If so, do you use it?

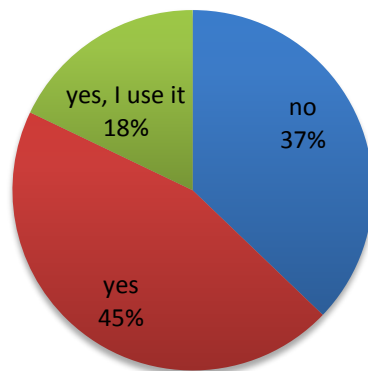


Figure 76 - MyPyramid.gov

Finally, the MyPyramid.gov website is a US Government website containing all the nutritional information, food guides and data that is needed for someone to research and make

healthy food choices. It was found, as illustrated by Figure 76, that 37% of the participants had never heard of this website, and only 18% of the participants used it.

6.4 Summary

Chapter 6 reviews the results obtained from the different surveys. It was found that the most popular commercial diets were Weight Watchers, Atkins, South Beach Diet and Jenny Craig. In the survey conducted in the Morgan Dining Hall at WPI it was found that only 24% of the students who saw the nutritional information of the food items were influenced by the information displayed. Initially, 68% of the students expressed that they would be influenced if nutritional information of the food items were displayed.

In the survey conducted in the local supermarket it was found that 14% of the participants always checked the nutritional labels of all the food items they purchased, and 40% never check the nutritional labels of any food item they buy. It was found that with \$37, a person is able to purchase more food if they purchased a variety of processed foods in the supermarket. However, a person purchasing a variety of healthy, fresh food will not be able to purchase as much for the same amount.

Finally, in the healthy eating campaign survey it was found that only 18% of the population utilized the tools in myPyramid.gov, and that healthy eating campaigns such as the Incredible Edible Egg are not practical in influencing the community towards a healthier lifestyle.

7.0 Overview of Popular Commercial Diets

One way Americans try to fight obesity is through the use of commercial diets. From the survey discussed in section 6.1, the most popular commercial diets were the Atkins Diet, The South Beach Diet, Jenny Craig, and Weight Watchers. This section discusses and analyzes these diets and their effectiveness.

7.1 Atkins Diet

The Atkins diet has been around for decades and has contributed to the weight loss of thousands of people. Dr. Atkins developed this diet program in the early 1970s and it continues to be popular amongst many Americans. On average, approximately 12% of Americans are on a low-carbohydrate diet, and more than half the population has at least tried the Atkins diet.⁷¹

7.1.1 Basic Principle

The Atkins diet is a program limiting carbohydrate intake in order to lose weight quickly. By limiting carbohydrates, the body's glucose income is depleted and it must use fat cells in the body as an energy source.

7.1.2 Scientific Justification

The Atkins diet is a ketogenic diet which relies on the reduction of insulin levels. As glucose or sugar levels in the blood rise, insulin is released in response. When sugar is absent from the blood stream, hormonal changes within the body cause stored fat cells to be used as energy. When blood glucose decreases below a certain level ($<3.58\text{mmol/L}$), the growth hormones epinephrine and glucagon are released to maintain energy metabolism. Within the adipocyte (fat cell), the two hormones that are released as a result of the decrease in glucose are then responsible for the breakdown of triacylglycerol to fatty acids. The oxidation of free fatty acids gives rise to acetyl-CoA, which can enter the Krebs cycle directly. However, in the liver, excess acetyl-CoA derived from fatty acid oxidation is converted to the following ketone bodies:

lyacetoacetate, gamma-hydroxybutyrate, and acetone. This conversion occurs only in the liver, and the resultant ketone bodies are transported to peripheral tissues such muscle or the brain, where they are converted back to acetyl-CoA for entry into the Krebs cycle. Glucagon has a vital role in maintaining an adequate blood glucose level and provided there is adequate glycogen stored in the liver, can activate its reduction to glucose. This is then used as the body's fuel source for energy. However, this stabilization of blood glucose only functions in the presence of stored glycogen. Since the human body is unable to store more than a two-day supply of carbohydrate in the form of glycogen, restricting carbohydrate intake necessitates a conversion to fat as the primary fuel after glycogen has been depleted.⁷²

7.1.3 Diet Program

The diet consists of four phases. Phase 1, the induction phase, is the most restricting phase, as dieters must limit their carbohydrate intake to just 20 grams per day.⁷³ This is a large drop from the recommended FDA carbohydrate intake of 275 grams per day.⁷⁴ In the first phase, dieters are to eat fish, poultry, eggs, beef, leafy greens, and non-starchy vegetables like broccoli and zucchini.

Table 18 - Atkins Diet Program⁷⁴

Phase	Duration	Carbohydrate Intake
1-Induction Phase	2 weeks	20 grams
2-Ongoing Weight loss Phase (OWL)	Within 5-10 lbs of weight goal	Add 5 grams/week after Phase 1
3-Pre-Maintenance Phase	Until weight goal is reached	Add 10 grams/day until weight loss is steady but not significant
4-Lifetime Maintenance	In order to maintain weight loss	Find ACE (Atkins Carbohydrate Equilibrium)

Phase 2 is known as the Ongoing Weight Loss (OWL) phase. Table 18 shows the changes in carbohydrate intake from phase to phase. In phase 2 the amount of permitted carbohydrates is increased by 5 grams each week. This continues until the weight loss ceases. This usually occurs after the intake has increase to around 40-60 grams of carbohydrates per day. When this point is reached, the dieter should stay at that level until they are within 5 to 10 pounds of their goal weight.⁷³

Phase 3 is the Pre-Maintenance phase. This phase begins when there is only 5-10 pounds of weight to lose. The dieter then adds another 10 grams of carbohydrates to their diet. In this phase, adding an additional 20 to 30 grams per day twice a week is encouraged in order to treat the dieter and help keep them on track.

Phase 4 is the Lifetime Maintenance portion of the diet. Not all carbohydrates are allowed, but eating a healthy amount of whole, unrefined grains and a variety of fruits and vegetables is recommended. As Table 18 indicates, the carbohydrate intake of the dieter is determined by the Atkins Carbohydrate Equilibrium (ACE). This is the number of carbohydrates in grams that the dieter consumes and does not lose or gain weight.⁷³

Table 19 - Atkins Diet versus FDA Approved Diet⁷⁴

Nutrient	Atkins' induction	Atkins' ongoing	Atkins' maintenance	Food guide pyramid	RDAs, DRVs, DRIs*
Total energy (calories)	1152	1627	1990	1972	2000–2200
Total fat, g (% total kcal)	75 (59)	105 (58)	114 (52)	54 (24)	65 (30)
Saturated fat, g	29	49	44	17	20
Monounsaturated fat, g	31	36	41	19	20
Polyunsaturated fat, g	6	11	19	15	20
Cholesterol (mg)	753	1115	955	154	300
Total protein, g (% total kcal)	102 (35)	134 (33)	125 (25)	90 (18)	75 (15)
Total CHO, g (% total kcal)	13 (5)	35 (8.6)	95 (19)	292 (59)	55%–60%
Dietary fiber (g)	3	8	13	22	20–35
Vitamin E (mg)	3	7	10	40	15
Vitamin A (RE)	669	2183	2231	4140	700
Calcium (mg)	294	1701	889	1749	1000
Potassium (mg)	1734	2562	3339	4718	3500

Table 19 shows a detailed nutrient breakdown of each Atkins phase, as well as the nutrient recommendation of the FDA and the Food Guide Pyramid. There is a decrease in overall Calories for the induction stage of the Atkins diet, in comparison to the FDA recommendations, as well as a large decrease in carbohydrate consumption. Another drastic difference between the FDA's recommendation is the fat intake during the Atkins' maintenance phase and the fat intake under a normal diet.

7.1.4 Advantages and Disadvantages

The Atkins diet has both advantages and disadvantages. Table 20 outlines the main advantage and disadvantages of the diet.

Table 20 - Atkins Advantages and Disadvantages⁷⁵

Advantages	Disadvantages
<ul style="list-style-type: none"> • Weight-Loss • Decrease in serum triglyceride levels • Increase in serum HDL, reduction of LDL • Reduction of pediatric epileptic seizures 	<ul style="list-style-type: none"> • High attrition rate • Acidic urine and Calcium Depletion • High Cholesterol • Kidney Stones • Poor Vitamin Absorption

The Atkins diet, forces the body to burn fat stores as opposed to carbohydrates. The liver converts fat into fatty acids and ketone bodies. The ketone bodies now become the brain's source of energy. One of the negative effects is the state of ketosis that is caused a large build up of ketone bodies occurs in the body.⁷⁵ Ketosis has a detrimental effect on the human body. Incidents of dehydration, constipation, and kidney stones were reported in the children participating in a study conducted to see the effects of the Atkins diet.⁷⁶ The ketone bodies create acidosis, which produces excess calcium in the urine. Urine is effective for dissolving free calcium in the body, but when there is a high acidity the urine is unable to properly dissolve these formations of calcium and thus kidney stones can form.⁷⁴ As the calcium is being expelled, bones are weakened and over time osteoporosis may occur.⁷⁴

However, ketone bodies are helpful for controlling refractory epilepsy in children. A study conducted took 20 children between the ages of 3-18 with at least three seizures per week. They were prescribed to a 6-month period of a modified Atkins diet. Their daily intake of carbohydrates was reduced to 10 grams per day without reducing Calories or modifying the diet significantly.⁷⁷ At the end of the 6-month period, 13 had more than 50% improvement in their seizure occurrence and 7 had greater than 90% improvement. Out of the 7 children, 4 were seizure free. Their weight did not change, but their cholesterol did rise from an average 192 to 221 mg/dl.⁷⁶

Other adverse side effects caused by this diet are hyperlipidemia (excessive amounts of fat in the body), optic neuropathy (damage to optic nerves), and alterations in cognitive function.⁷⁷ These are all serious complications that could result in long-term adherence to the Atkins diet.

Additionally, cholesterol increase is another possible complication with Atkins diet. To determine if the Atkins diet results in cholesterol increase, 24 individuals completed the 4 week induction phase of Atkins followed by a 4 week maintenance phase. The study concluded that most of the participants cholesterol increased by almost 20%.⁷¹

Another area that has been researched in order to conclude whether it is overall a safe diet or not, is its effect it has if any, on cognitive function. A study conducted compared low-carbohydrate diets to conventional low-fat, low-Calorie diets.⁷⁵ The study lasted a year and there were more than 100 subjects.⁷⁵ The results show that of the mood measures, the low-carbohydrate diet regressed in improvement over time as shown in Figure 77.⁷⁵ There was no significant difference between the two diets in the first 8 weeks, but a considerable gap formed after the 8 week mark and low-fat diets remained low on mood disturbance score. This concludes that diets

improves overall mood but low-carbohydrate diets will not keep at such a desired level over time.⁷¹

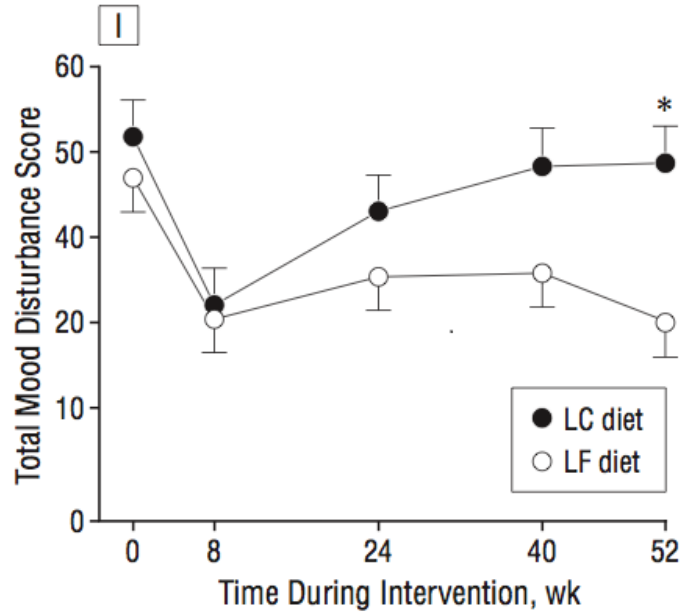


Figure 77 - Mood over Time⁷⁵

An advantage of the Atkins diet is the effect it has for people with type 2 diabetes. The diet eradicates glucose and all other sugars that affect the insulin level of one with diabetes. This is due to the body using the fat storage of the body for fuel as described before and therefore decreasing the fat that stores in unwanted parts of the body.⁷⁷

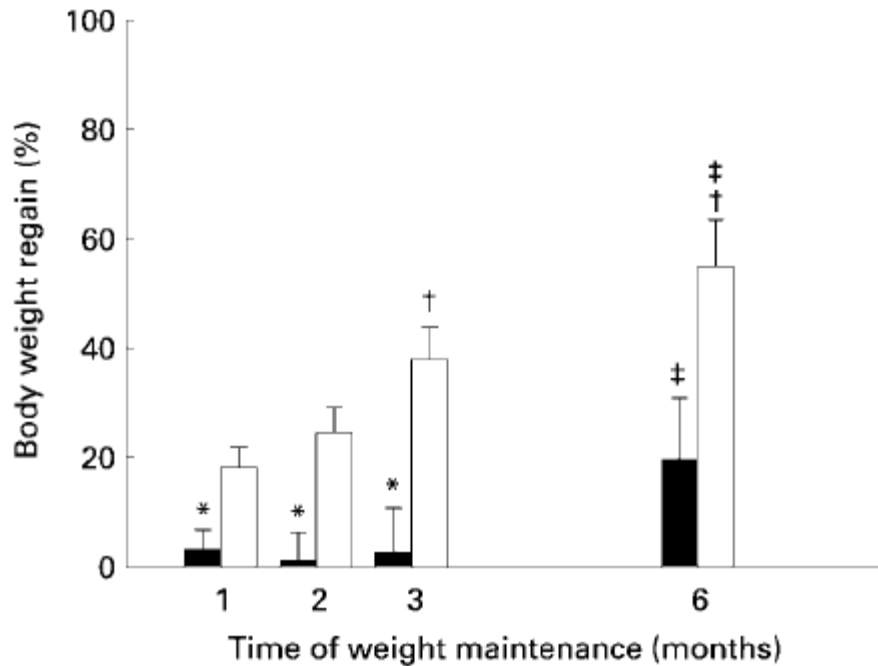


Figure 78 - The Weight Regain During Weight Maintenance for the Protein Diet (black) and the Control (white)⁷⁸

Another drawback of the Atkins Diet is weight regain. As seen in Figure 78, weight maintenance for the studies conducted, showed some body weight percentage gain but not as significant in the first 3 months compared to the 6 month mark.⁷⁸ This shows almost a 20% weight gain and according to the trend, will still rise.⁷⁸ Although the non-dieting control group is significantly higher than the high-protein diet, the increase in weight may reach those levels of the control group over time.

7.1.5 Response to the Diet

Despite the studies that show the Atkins diet can result in weight loss and reduce cholesterol levels, the general public is still unconvinced. A wide range of people from Atkins diet participants to professional nutritionists, find the general consensus on the diet program to be that it is neither healthy nor effective for long term adherence.⁷⁹ The American Dietetic Association has even criticized the low-carbohydrate diets, saying they are a "nightmare."⁷⁹ There have also been modifications to the diet as well. These modifications were a response to the

amount of saturated fat those on the diet were consuming. An article in the Times published in 2004, states that the officials of the diet company have put a limit on the amount of saturated fat intake. The program, in the induction stage, says 60% of the Calories should be from fat and of that percentage, a third should come from saturated fats.⁸⁰ The Atkins diet never focused on high saturated fat but those on the diet were more inclined to consume those foods due to the restrictions of the other main food groups like fruits and grains. The diet, however, still permits more saturated fat than other commercial diets like the South Beach diet.⁸⁰

7.2 The South Beach Diet

The South Beach Diet was created by Dr. Agatston in 1995, in order to help cardiology patients improve their health.⁸¹

7.2.1 Basic Principle

The South Beach diet is a moderate carbohydrate diet, in which the dieter has to eat carbohydrates with a low glycemic index, the right kinds of fats, and lean proteins in order to lose weight.⁸²

7.2.2 Scientific Justification

Carbohydrates are digested and broken down into sugars, which circulate in the bloodstream. As sugar levels in the blood rise, so does insulin. Peaks of insulin push the body to store excess sugar as fat. The South Beach diet works because when carbohydrate intake is limited, sugar surges are cut out and the body stores less fat but keeps using existing fat as an energy source.⁸³ The theory goes a step further, claiming that high insulin levels produce hunger, thus helps to prevent a person from overeating or craving and can help with weight management.⁸⁴ It has also been suggested that carbohydrate restriction causes the body to mobilize its fat storage which can lead to weight loss.⁸⁵ Additionally, if a dieter controls their fat

intake and increases their protein intake, they will increase satiety, which may lead to a decrease in energy intake.

7.2.3 Diet Program

The South Beach Diet consists of three phases. The first phase of the diet lasts for two weeks, during which dieter cannot consume any carbohydrates. Dieters can consume vegetables, low-fat protein, and low-fat dairy. The restricted and allowed foods for this phase are listed in Table 21. This phase is the strictest and most difficult phase of the diet. However, in these two weeks the dieter can expect to lose between eight to thirteen pounds.⁸¹

Table 21 - List of Restricted and Allowed Foods during Phase One of the South Beach Diet⁸¹

Restricted Foods and Drinks	Allowed Foods and Drink
Candy, Cake, Cookies, Ice Cream, Sugar, Bread, Rice, Potatoes, Pasta, Fruit, Fruit Juice, Beer or any other alcoholic beverage.	Lean Beef, Chicken, Turkey, Fish, Shellfish, Large amounts of Vegetables and Eggs, Low-fat Cheese and Yogurt, Nuts, Olive, Canola, and Peanut Oils, Coffee and Tea

The second phase of the diet lasts until the dieter reaches their weight loss goal. During this phase dieters should expect to lose one to two pounds a week. In this phase dieters can start adding certain carbohydrates back into their diet. Dieters are instructed to slowly add in good carbohydrates. Dieters are also instructed to make sure that they are still losing weight when they start adding the carbohydrates back into their diet. These good carbohydrates include whole grain rice, pasta and breads; high fiber cereal. Dieters can also add back fruits with a low glycemic index such as berries and cantaloupe. However, these fruits should not be consumed early in the morning. Dieter may also consume small amounts of dark chocolate. Eating plenty of fiber is also highly recommended to stop sugars from being absorbed. Dieters should avoid carbohydrates that consist of white flour, white sugar, or carbohydrates that are highly processed.⁸¹

The third and final phase of the diet lasts for life. In this phase the dieter will not lose any more weight but only maintain their weight. In this phase the dieter can add back foods in normal portions, while trying to stay away from the bad carbohydrates that have a high glycemic index. The diet also suggests that if dieters find that they are gaining weight to start at phase one again until they are satisfied with their weight.⁸¹

Exercise is not imperative in the South Beach Diet. The dieter can expect to lose the weight without exercising. However, the diet explains that adding exercise will speed up the weight loss and help improve the body's health and composition.⁸¹

7.2.4. Advantages and Disadvantages

The South Beach diet has both advantaged and disadvantages which are listed in Table 22.

Table 22 - South Beach Diet Advantages and Disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none"> • Less Cravings • Improvement in insulin and cholesterol levels 	<ul style="list-style-type: none"> • Difficult to follow • Vitamin Deficiency • Ketosis

By the end of phase one, dieters should have more results then just the weight loss. The dieter should no longer crave sugary snacks and other carbohydrates. The diet also claims that it will improve the body's ability to process sugars and starches. The dieter's blood sugar, insulin and cholesterol levels should also improve.⁸¹

Dieters can expect to see benefits from the second phase. Weight loss will be the many benefit of this phase. Another benefit is that the dieter's cholesterol should improve by increasing the good HDL cholesterol and lowering the bad LDL and triglycerides as well as by increasing the size of the LDL particles. The dieter's body should also be able to process the carbohydrates

properly because the dieter is providing their bodies with the right form and amount of carbohydrates.⁸¹

High cholesterol is common in overweight and obese people.⁸⁶ According to a study conducted for the American Heart Association, the South beach diet lowers total cholesterol and LDL cholesterol.⁸⁶ Therefore many patients can benefit from the South Beach Diet in their weight loss and cholesterol management.

The South Beach Diet also has some drawbacks. Participants of this diet find it difficult to follow the diet for longer periods of time, as cravings and bingeing often sabotage their progress. This often leads to gaining back weight that has been lost, unless the dieter returns to the diet immediately.⁸¹

Another drawback to the South Beach Diet, like other low-carbohydrate diets, is the deficiency in vitamins A, B₆, C, and E, as well as thiamine, folate, calcium, magnesium, iron, and potassium. Phase one of the program can also cause ketosis, which is explained in the Atkins Diet section 7.1.4.⁸⁷

7.2.6 How the diet has changed over the years

There have not been any significant changes to the South Beach Diet since it has been introduced. However, the newer version of the program introduces an exercise plan. The exercise plan is not mandatory but “supercharges” the diet and weight loss.⁸⁸

7.3 Jenny Craig

The Jenny Craig diet was founded by Sidney and Genevieve Craig in 1983 in Australia and expanded to the United States in 1985.⁸⁹

7.3.1 Basic Principle

The Jenny Craig diet method consists of a three-level-food-mind-body plan that helps people lose weight and also keep it off at the same time. The diet is based on a moderated, balanced diet and exercise.⁸⁹

7.3.2 Scientific Justification

The scientific justification behind the Jenny Craig program is weight loss due to caloric restriction. When caloric intake is decreased and exercise is increased, weight loss is achieved because there is a negative energy balance. This is typically obtained by eating 500 kcal per day less than what is required to maintain current body weight.⁹⁰

7.3.3 Diet Program

The first level of the program teaches the dieter to eat the foods they want in smaller, frequent portions. Dieters are taught how to eat rational portions, how to plan and prepare healthy menus, and how to control their urge when eating unhealthy food or what to choose to eat when ordering at restaurants. The second level consists of teaching the dieter how to increase their energy by the use of undemanding activity. Dieters are taught how develop ways to be more physical in their new lifestyles. The third level teaches the dieter how to build more nutritional balance into their diet, to help maintain a healthy diet and lose weight. Each dieter's menu is based on their weight, height and weight loss goals. The Jenny Craig program can either be done by going to one of the local Jenny Craig centers, or by telephone and mail.⁹¹

On this program dieters eat the Jenny Craig prepackaged meals. These prepackaged meals contain 50% to 60% carbohydrate, 20% to 25% fat, and 20% to 25% protein (based off the USDA food pyramid and the 2005 federal guidelines). These packaged meals also have a specific amount of Calories which vary from person to person depending on their weight loss goal.⁹¹

7.3.4 Advantages and Disadvantages

The Jenny Craig diet has both advantaged and disadvantages which are listed in Table 23.

Table 23 - Jenny Craig Diet Advantages and Disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none">• Prepackaged Meals• Consultation Program	<ul style="list-style-type: none">• Cost

There are several advantages to the Jenny Craig diet. One advantage is that the meals are prepackaged and the dieter does not have to think about what food they should prepare and eat. The prepackaged meals are also supposed to help the dieters to learn correct portion sizes. Another advantage to the Jenny Craig Diet is their consultation program. Every week the dieter meets with or calls their counselor to discuss their diet for the week, and the clients weight loss goals. The counselor helps keep the dieter on track and is there to motivate them during their weight loss process.

There are several drawbacks to the Jenny Craig diet. The major drawback of this diet is the cost. The program costs approximately \$199 for a six month membership and between \$70 and \$105 per week. This diet can cost a participant anywhere from \$2019 and \$2929 for six months.⁹² As discussed in chapter 6, the average American spends about \$37 a week on food, so for most Americans the Jenny Craig Diet is expensive.

7.4 Weight Watchers

The Weight Watchers program is based on four basic principles: eating smarter, moving more, getting support, and developing better habits.⁹³

7.4.1 Basic Principles

During a Weight Watchers diet, the dieters follow a Calorie controlled eating plan that fits their lifestyle. They learn how to control their hunger, as well as choose food that help keep them fuller for longer periods of time. The Weight Watchers program focuses on a healthy lifestyle change and is planned to be used as a long-term commitment for weight management.⁹⁴

7.4.2 Scientific Justification

The Weight Watchers program is based on recommended restrictions of portion sizes, Calories and long-standing medical advice². With fewer Calories being taken in because of the smaller portion sizes, there will be less fat getting stored in the body. Usually to lose half a kilogram a week, a consumption of 500 fewer Calories will be needed. To help with this weight lose, points are given to food items of certain portion sizes. The points system helps determine how much food can be consumed with in one day and still help lose weight daily.⁹⁵

7.4.3 Diet Program

While on a Weight Watchers diet, dieters keep total daily points in the range that is determined by their current weight. Points are given to each food item that a member eats. The Weight Watchers Corporation has already determined the point value for most common foods. Each point is about 50 Calories, and most members have about 24 to 32 points daily.⁹⁵ Equation 2 is used to determine the point value of a food item.

$$p = \frac{c}{50} + \frac{f}{12} - \frac{\min\{r, 4\}}{6} \quad (2)$$

Where p=points, c=Calories, f= Fats (in grams), r = Diet fiber (in grams)⁹⁶

Most members of weight watchers will not know the equation to determine how many points each food item is worth. Instead of using the equations members will use a points calculator that will help save them time for this low-carbohydrate low-Calorie Diet.

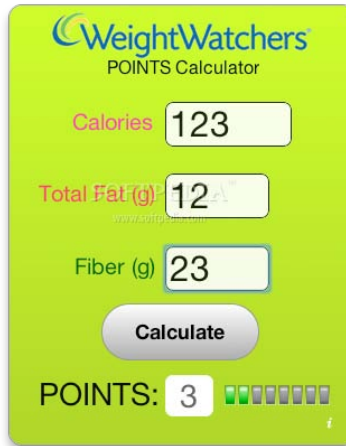


Figure 79 - Weight Watchers Point Calculator⁹⁷

Figure 79 shows what the online points calculator that a dieters of Weight Watchers use. Before eating a food item, one will find the Calories, fiber, and total fat of the food item. Then entering in these values, the calculator automatically uses Equation 2 and calculates how many points the food item is worth.

Over the years, Weight Watchers has changed their diet program to accommodate new information received. In August 2004 the Turnaround Program was introduced, which included parts from other plans done in past years through Weight Watchers. The purpose of the Turnaround Program was to help people with developing a healthy lifestyle to live by and to follow a few healthy guidelines. In the Momentum plan the dieter is given a list of foods that are nutrient-rich and filling. Even though the dieter is given the list, they are still allowed to make the actual choice with what they eat based on their personal preference and total amount of points. The dieter will follow a Calorie controlled eating plan. Each food is assigned a certain amount of points based on its Calorie, fat, and fiber content.⁹⁷ This way the dieter is allowed to eat any type of food and no food is restricted. Every individual member has a target Daily Points Range, which is calculated, based on their body weight and activity level.⁹⁹

Members are encouraged to spend more time being active, and are given extra points for eating if they are active in fitness or any physical activity. Physical activities are each assigned a point value based off of the intensity of the exercise and the individual's weight. While they are not forced to do these activities, they are encouraged to do about 90 minutes of exercise a day or at least a minimum of 2 daily activity points worth of exercising. The points system tries to make the dieter learn how to get more value out of what they eat by making a healthier food choice. The goal in Weight Watchers is to reduce body fat by 5% to 10% and to ultimately have a body mass index of less than 25. With a dieter that has more weight to lose, the increments go up by 10% to help keep the dieter more motivated to lose the weight.⁹³

7.4.4 Advantages and Disadvantages

The Weight Watchers diet has both advantaged and disadvantages which are listed in Table 24.

Table 24 – Weight Watchers Advantages and Disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none"> • No restrictions on types of food eaten • Feedback and support given with meetings and telephone support • Some restaurants have Weight Watcher meals on their menus 	<ul style="list-style-type: none"> • Calculating points for every food item • Costs money to use program

There is no limit to the type of food that can be consumed on Weight Watchers Diet. The points system, even though it can be a hassle to calculate points for every food item, allows the dieter to eat any type of food they choose as long as they have enough points for the food. Even though the program costs about \$37 a month, there is telephone support and meetings that can be gone to once a week.⁹⁹ Restaurants are even starting to adapt to Weight Watchers, by putting Weight Watcher meals on their menus.

Controlling portion size, making wise food choices, and being physically active during weight-loss are more likely to be done in an environment of support. Getting support during weight-loss can help relieve some stress that can help lose weight. A study was done with two groups of women who followed a weight-loss diet, one group was in the program with support and the other was not. It was found that the ones who did not receive the support had higher levels of cortisol, a hormone that the body makes more of during times of stress. The group had a decrease in the ability to perform tasks and pay attention. The group without support had none of these problems.⁹⁹

Spouses have a connection between each other with body weight due to couples eating the same meals and sharing a common food environment. Studies have found that it was beneficial when husbands or wives were involved in their partner's weight-control efforts. Research has helped determine that by the support of friends, women participated more in physical activities. Men's participation increased with support of friends and family, and women's participation in sport-related activities increased with family support. To help maintain weight loss, it has been determined by research that programs that provide internet motivation or in-person weight-loss support help out a lot.¹⁰⁰

7.5 Comparison of Diets

Table 25 - Comparison of Diets¹⁰¹

Diet	Type of Diet	Average Total Caloric Intake (Calories)	Carbohydrate per day (grams)	Protein per day (grams)	Fat per day (grams)	Advantages	Disadvantages
Typical American Diet	Varies	2200	275	82.5	85		Varies - Obesity - Under eating
Atkins	Low-Carbohydrate	1152	13	102	75	- Lose weight fast - Health benefits	- Ketosis - High Cholesterol - Kidney Stones - Poor Vitamin Absorption
Introductory Phase		1627	35	134	105		
Ongoing Phase		1990	95	125	114		
Maintenance Phase							
South Beach	Moderate-Carbohydrate					- Less Cravings - Improvement in insulin and cholesterol levels	- Difficult to follow - Vitamin Deficiency - Ketosis
Phase one		1500	76	130	71		
Phase two		1600	118	140	77		
Phase Three		1800	150	140	80		
Jenny Craig	Low- Fat, Low-Calories	1450	218	54	49	- Meals are pre-made - Consultation Program	- Cost
Weight Watchers	Low- fat, Low-Calories	1462	207	73	42	- No restricted foods - Support - Restaurants include points on menus	- Calculating points - Cost

Listed in Table 25 are the four diets discussed in this chapter along with the Typical American Diet. As seen early in this chapter the Atkins diet and the South Beach Diet are both carbohydrate restrictive, Weight Watchers is a low-fat and low-Calories diet, and Jenny Craig is also a low-fat low- Calories with pre-made packaged meals. The Typical American Diet varies from person to person depending on their lifestyle choices. Each of these diets has advantages and disadvantages to the diet as listed in Table 25, and discussed previously in this chapter.

People consuming the Typical American Diet usually consume about 2,200 Calories, 275 grams of carbohydrates, 82.5 grams of protein, and about 85 grams of fat daily. This diet out of all the diets listed in Table 25 has the highest amounts of Calories and carbohydrates consumed daily because the dieter does not have any restrictions. In each of the three phases of the Atkins Diet and South Beach Diet, there are different amounts of nutritional needs consumed. After each phase, the amount of Calories, carbohydrates, protein, and fat consumed each day is increased as the phase increases. In the Atkins Diet the Calories went from 1,152 in the introductory phase to about 1,990 Calories in the last, maintenance phase. Similarly, the South beach diet went from 1,500 to about 1,800 Calories. Weight Watchers had only one phase that had about 1,462 Calories. This shows that

In the Atkins Diet, the low-carbohydrate diet, the carbohydrates went from 13 grams to 35 grams to 95 grams in the last phase. Compared to the Typical American Diet which the daily average carbohydrates consumed is about 275 grams, Atkins Diet has lower carbohydrate intake as shown in Table 25. South Beach, being similar to the Atkins with low amount of carbohydrates being consumed, had an intake of about 76 grams of carbohydrates in the first phase, 118 grams the second phase, and 150 grams of carbohydrates the third and last phase. Weight Watchers on average had about 207 grams of carbohydrates, which is not as low as the Atkins diet and South Beach diet carbohydrates. The amount of fat consumed on Weight Watchers being 42 grams is low compared to the Typical American Diet being about 85 grams of fat, and South Beach and Atkins being higher in fat than the Typical American diet. Weight Watchers program also deals with a low amount of Calories being consumed, about 1,462 Calories, compared to the Typical American Diet with 2,200 Calories.

7.5.1 Low-Fat, Low-Calorie and Low-Carbohydrate

Table 25 in section 7.4 shows a comparison of the diets discussed in chapter 7. From this table one can see that the diets discussed fall into two major groups, low-carbohydrate and low-

Calorie, low-fat. With most commercial diets falling into these two categories, several studies have been conducted comparing the effectiveness of low-carbohydrate diets and low-fat/ low-Calorie diets.

Table 26 - Effect of Low-Carbohydrate Intake on Body Weight in Obese Subjects⁹⁹

Study	n	Duration	CHO ^a (g/day)	kcal/day	Weight change (kg)
Kekwick and Pawan	14	5-9 days	10	1,000	N/A
Rickman, et al	12	1 wk	7	1,325	-3.1
Benoit, et al	7	10 days	10	1,000	-6.6
Yudkin and Carey	6	2 wk	43	1,383	~ -2.8
Fletcher, et al	6	2 wk	36	800	~ -3.125
Lewis, et al	10	2 wk	27	1,115	-5.2
Kasper, et al	16	16 days	56	1,707	-4.8
Bortz, et al	9	3 wk	0	800	N/A
Worthington and Taylor	20	3 wk	17	1,182	-12.0 ± 3.7
Rabast, et al	13	25 days	48	1,871	-8.76 ± 0.74
Wing, et al	11	4 wk	10	800	-8.1
Krehl, et al	2	30 days	12	1,200	N/A
Rabast, et al	25	30 days	25	1,000	-11.77 ± 0.77
Evans, et al	8	6 wk	80	1,490	-3.2 to -5.0
Golay, et al	22	6 wk	37.5	1,000	-8.0
Young, et al	3	6 wk	30	1,800	-16.18
Alford, et al	11	10 wk	75	1,200	-6.4 ± 7.59
Larosa, et al	24	12 wk	6	1,461	-6.8 ± 0.91
Golay, et al	31	12 wk	75	1,200	-10.2 ± 0.7
Baron, et al	66	3 months	50	1,000	-5.0
Cedarquist, et al	7	16 wk	85	1,500	-8.8 to -16.8
Yancy, et al	43	16-24 wk	22	1,427	-9.7 ± 3.4

Table 26 created by Kennedy et al, summarizes key points from 20 published studies on the effects of low-carbohydrate diets. The studies, as seen in the table, have small sample size and short duration. However, from the data provided it can be concluded that subjects consuming low-carbohydrate diet lost between 2.8 and 12.0 kg during the studies.⁹⁹

Table 27 - Relationship Between Dietary Fat Intake (20% To 30% Kcal) and Weight Change in Overweight Subjects⁹⁹

Author	N	Duration (weeks)	Fat g (%)	Energy end (kcal)	Weight change (kg)	
Appel, et al	151	8	N/A (26)	N/A	-0.4	
Buzzard, et al	17	13	35 (23)	1,365	-2.8	
Carmichael, et al	39	0-17	40 (22)	1,608	-3.0	
		17-26	46 (25)	1,658	-2.6	
Golay, et al	21	6	30 (26)	1,027	-7.0	
Golay, et al	37	12	34 (26)	1,178	-9.0	
Hammer, et al	4	16	37 (23)	1,450	-5.8	
Harvey-Berino	29	24	45 (27)	1,477	-11.8	
		28	24	38(21)	1,650	-5.2
Jeffery, et al	39	26	36 (23)	1,363	-4.6	
		52	40 (26)	1,346	-2.1	
		78	40 (26)	1,300	0.4	
Knopp, et al	57	52	63 (28)	2,019	-2	
		55	52	58 (26)	1,995	-2
		62	52	52 (25)	1,917	-6
Pascale, et al	15	16	30 (22)	1,201	-7.7	
		16	16	31 (22)	1,246	-7.5
Powell, et al	8	12	26 (20)	1,163	-5.0	
		9	12	37 (28)	1,190	-4.6
Prewitt, et al	6	1-4	70 (37)	2,047	-1.5	
		5-20	58(21)	2,428	-0.6	
Puska, et al	35	6	51 (23)	2,001	-0.7	
Rumpler, et al	4	4	34 (20)	1,542	-5.0	
Shah, et al	47	26	37(21)	1,580	-4.4	
Siggaard, et al	32	12	55 (28)	1,792	-5.2	
Skov, et al	23	0-13	80 (29)	2,533	-5	
		13-26	86 (29)	2,676	-5	
Swinburn, et al	49	52	52 (26)	2,195	-3.1	

Table 27 also created by Kennedy et al, summarizes key points from 16 published studies on the effects of moderate-fat/ high-carbohydrate diets. The studies, as seen in the table, indicate that a diet moderate in fat and high in carbohydrates is related to weight loss.⁹⁹ From these two tables it is concluded that both low-carbohydrate diets and moderate-fat/high-carbohydrate diets result in weight loss.

In a 24 week study, conducted by Yancy et al, comparing low-carbohydrate diets to low-fat/ low-Calorie diets, researchers found that the low-carbohydrate diet led to greater weight loss.¹⁰⁰ Figure 80 shows the average weight loss of the 24 week period for both the low-fat/ low-

Calorie diet and the low-carbohydrate diet. From this figure one can conclude that the low-carbohydrate group lost more weight over the 24 week period than the low-fat/ low-Calorie group did.

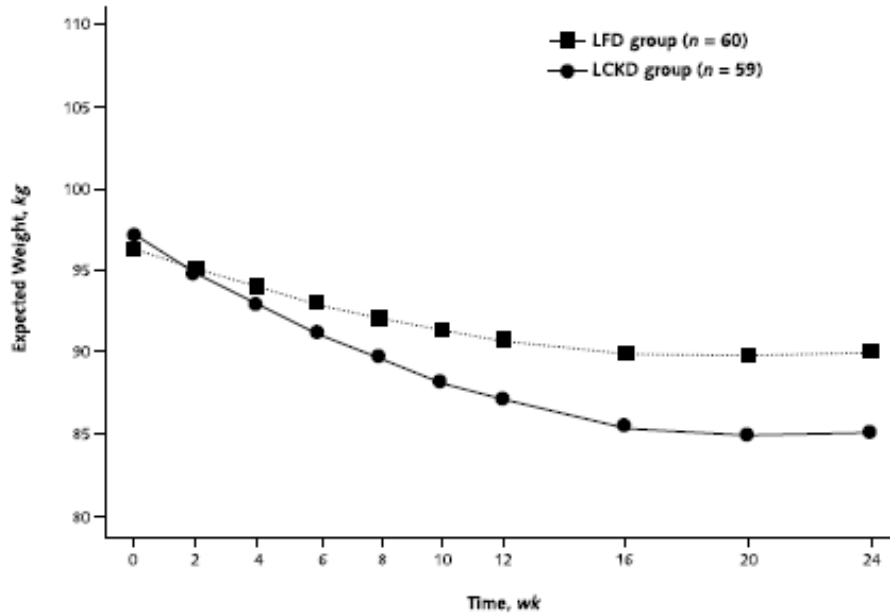


Figure 80 - Mean Body Weight Over Time. LCKD=Low-Carbohydrate, Ketogenic Diet; LFD = Low-Fat, Low-Cholesterol, Reduced-Calorie Diet¹⁰⁰

Similarly to the results of the Yancy et al study, a study conducted by the Foster et al, researchers found that the low-carbohydrate diet provided greater weight loss in the first 6 months than the conventional low-fat / low-Calorie diet. However the study by Foster et al found that the difference in weight loss between the two diets was not substantial over one year.¹⁰² Figure 81 show the results of the study conducted by Foster et al. The graph illustrates that in the first six months the low-carbohydrate diet resulted in more weight loss. It also shows that over the longer one year period the diets results in about the same weight loss.

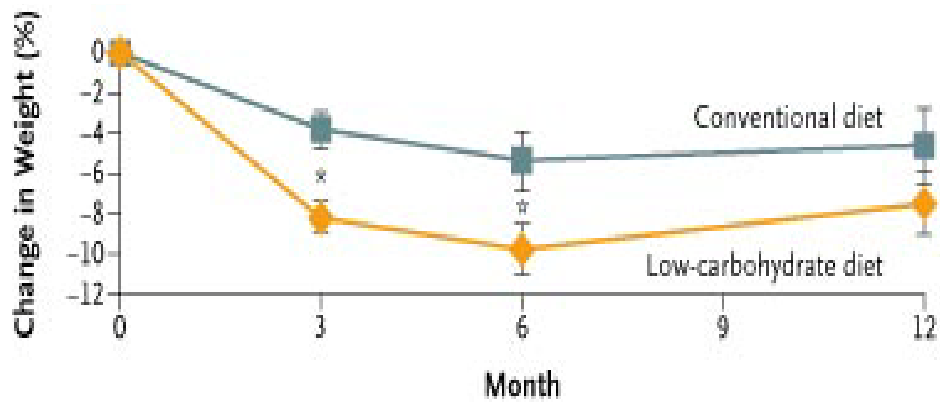


Figure 81 - Weight Loss in Percent of the Low-Carbohydrate Diet Versus the Conventional (Low-Fat/ Low-Calorie Diet) Over One Year¹⁰²

From these studies it can be concluded that low-carbohydrate diets lead to quicker short term weight loss than the low-fat, low-Calorie diets, but in the longer term of one year the weight loss is almost the same.^{90,103} Although these studies show that these diets can work for weight loss, little research is available to show whether weight loss is maintained past one year.¹⁰⁴

8.0 Other Weight Loss Options

This chapter highlights other weight loss options that people turn to besides commercial diets. These other weight loss options include weight loss pills, hypnosis, surgeries, and exercise.

8.1 Weight Loss Pills

Diet pills are used as a type of weight loss option. Diet pills can be obtained over-the-counter or as prescription from a doctor to lose weight.¹⁰⁵ Diet pills are controversial and there have been studies to see whether or not they work.

Table 28 –Reasons for Obese Patients to Seek Dietary Supplements¹⁰⁵

Social stigma of obesity
Health benefits of weight loss
Desire for a “magic bullet” for weight loss
Less demanding than accepted lifestyle changes, such as exercise and diet
Frustration with previous attempts at dieting and/or exercise
Easily available without a prescription
More easily accessed than a professional consultation with a physician, nurse, or nutritionist
Inflated advertising claims
Appeal of a “natural” remedy
Perception that natural equals safe

There are many reasons that people choose to seek dietary supplements for weight loss. Many obese patients are frustrated with previous attempts at dieting and use pills to see if it can help them with their weight loss. Other reasons, such as the health benefits of weight loss and the desire of a “magic bullet” for weight loss appeal to obese patients as Table 28 indicates. The supplements listed appeal to the consumer as a magic pill that involves less work compared to special diets or physical activity. Weight loss dietary pills are sometimes seen as an easy way out of being overweight or obese¹⁰⁵.

Table 29 -Common Dietary Supplements Used to Lose Weight¹⁰⁴

Increase energy expenditure	Increase satiety	Block dietary fat absorption
Ephedra (56)	Guar gum (10)	Chitosan (16)
Bitter orange (49)	Glucomannan (7)	Increase water elimination
Guarana (34)	Psyllium (6)	Dandelion (15)
Caffeine (27)	Increase fat oxidation or reduce fat synthesis	Cascara (5)
Country mallow (13)	L-carnitine (49)	Enhance mood
Yerba maté (9)	Hydroxycitric acid (43)	St. John's wort (19)
Modulate carbohydrate metabolism	Green tea (42)	Miscellaneous or unspecified
Chromium (117)	Vitamin B ₅ (18)	Laminaria (18)
Ginseng (20)	Licorice (17)	Spirulina [also known as blue-green algae] (13)
	Conjugated linoleic acid (7)	Guggul (10)
	Pyruvate (6)	Apple cider vinegar (7)

*—*The Natural Medicines Comprehensive Database*⁵ was searched for individual dietary supplements used or studied for weight loss. For each supplement identified, the number of commercial weight-loss products listed in the database which contained the supplement was determined. Commercial products in the database were deemed for weight loss if they contained any of the following words or syllables in their name: diet, thin, trim, fat, lean, weight, slim. Individual supplements found in at least five commercial products are listed. The number of commercial products containing the supplement is listed in parentheses.

†—*Classification according to purported mechanism schema adapted from DeBusk RM. A critical review of the literature on weight loss supplements. Integrative Medicine Consult 2001;3:30–1.*

Table 29 lists common dietary pills and supplements that are used by people to lose weight. Stores are still allowed to sell pills that have not been approved by the FDA, but if the pill has been tested and is too dangerous then the FDA has the right to take the diet pills off the shelf from ever being sold.

8.1.1 Over-The-Counter Weight-Loss Pills

In 2001 there was an estimated retail sale of \$1.3 million in weight-loss supplements. In a survey done in 1998 it was determined that about 7% of adults used over-the-counter weight-loss supplements. It is estimated that 28% of adults using diet pill are young obese women.¹⁰⁵

Phenylpropanolamine is the main ingredient in the over-the-counter pills *Decatrim* and *Acutrim*, which help reduce appetite. Phenylpropanolamine was assumed to be a safe short-term weight lose pill, but then found to give people with adverse cerebrovascular, cardiac events, and an increased risk of stroke. After all of these negative effects were found, phenylpropanolamine was taken off the market in November 2000.¹⁰⁶The over-the-counter product *Ephedra* was

brought up for review by the Food and Drug Administration (FDA) in 1997 because of safety concerns. This product has stimulant properties that help decrease weight when used with caffeine through thermogenesis and reduced appetite. The General Accounting Office did not have enough evidence to help support these restrictions, so it is still allowed on the market.¹⁰⁶

8.1.2 Prescription Weight-Loss Pills

There are several reasons a doctor would consider writing a prescription for diet pills:

- Body mass index (BMI) is greater than 27 and you have a medical complication of obesity, such as sleep apnea, high blood pressure or diabetes
- BMI is greater than 30
- Other methods of weight loss have not worked¹⁰⁷

Weight-loss prescription drugs are intended for people who are unable to achieve or maintain a healthy weight through diet and exercise alone, and who often have some health problems as a result of these. Prescription drugs are not for people who want to just lose a few pounds for superficial reasons.¹⁰⁷

Older weight-loss prescription drugs that were once approved by the Food and Drug Administration (FDA) were only approved to be used for short-term use, less than 12 weeks. The only two prescription weight-loss drugs that were FDA approved for long-term use are *Sibutramine* and *Orlistat*. *Orlistat* blocks the absorption and digestion of fat in the intestines and stomach, which can cause increased intestinal cramps, gas, oily spotting. *Sibutramine* affects the brain chemistry, making the patient feel fuller with less amount of food consumption. The side effects of *Sibutramine* may cause increased blood pressure and increased heart rate. In Table 30 the advantages and disadvantages of *Orlistat* and *Sibutramine* are summarized.¹⁰⁷

Table 30 - Advantages and Disadvantages of Weight Loss Pills

Advantages	Disadvantages
<ul style="list-style-type: none"> • <i>Orlistat</i> <ul style="list-style-type: none"> ○ Blocks the Absorption and Digestion of Fat • <i>Sibutramine</i> <ul style="list-style-type: none"> ○ Makes Patients Feel Fuller 	<ul style="list-style-type: none"> • <i>Orlistat</i> <ul style="list-style-type: none"> ○ Intestinal Cramps ○ Gas ○ Oily spotting • <i>Sibutramine</i> <ul style="list-style-type: none"> ○ Increased Blood Pressure ○ Increased Heart Rate

8.1.3 Effectiveness of Diet Pills

When using diet pills, a dieter can lose more weight if they also reduce their caloric intake and exercise. It has been shown that under these conditions dieters are able to lose between 5-10% of their total body weight within a year.¹⁰⁷ By losing this percentage of total body weight there will be a decrease in blood pressure, blood glucose levels, insulin levels, and blood triglyceride levels. Using dietary pills improve the chances of losing weight and taking these pills do not replace the need for changes in activity level or eating habits. It has been said that using diet pills can help lose the weight, but along with that comes negative side effects, suppress appetite, and temporary weight-loss. Once the drug is no longer taken, the weight that was once lost will return.¹⁰⁷

A Behavioral Risk Surveillance System survey was done in 1998 in Michigan, Iowa, Florida, West Virginia, and Wisconsin. They selected adults at the age of 18 years or older to participate in this survey. The survey was conducted by state health departments and compiled into one data sheet. Each of the respondents was prompted with questions, at which they were to answer. The reason behind the survey was to compare the association between nonprescription weight loss products and demographic characteristics, current BMI, prescription weight loss pill use in the past 2 years, and lifestyle characteristics.¹⁰⁶ Table 31 shows the different associations between nonprescription weight loss products and all of the characteristics chosen for this study.

More than half of the respondents were women, with the majority being non-Hispanic white. People with at least a high school diploma are more likely to use nonprescription products than those with less education. It was found that the common users of nonprescription drugs are obese women of all ethnic groups 18 to 34 years of age.¹⁰⁶

Table 31 –Comparison of Weight Loss due to Selected Characteristics¹⁰⁶

Characteristic	Women, % (SE) (n = 8546)	Men, % (SE) (n = 6133)	Total, % (SE) (n = 14679)
Race/ethnicity			
Non-Hispanic white (n = 12 629)	81.1 (0.6)	82.1 (0.7)	81.6 (0.5)
Non-Hispanic black (n = 993)	8.6 (0.4)	7.5 (0.5)	8.1 (0.3)
Hispanic (n = 806)	8.4 (0.5)	7.7 (0.5)	8.0 (0.4)
Other (n = 251)	1.9 (0.2)	2.6 (0.3)	2.3 (0.2)
Age, y			
18-34 (n = 3699)	26.9 (0.7)	31.6 (0.8)	29.2 (0.5)
35-54 (n = 5780)	36.3 (0.7)	38.0 (0.8)	37.2 (0.5)
≥55 (n = 5200)	36.8 (0.7)	30.4 (0.8)	33.7 (0.5)
Education			
<High school (n = 1861)	5.8 (0.9)	12.9 (0.6)	12.7 (0.4)
High school/GED (n = 5153)	10.4 (0.7)	31.8 (0.8)	34.2 (0.5)
Some college (n = 4103)	13.5 (0.9)	27.8 (0.7)	28.7 (0.5)
College or more (n = 3562)	11.0 (1.0)	27.5 (0.7)	24.4 (0.5)
Marital status†			
Married (n = 7859)	56.2 (0.7)	63.3 (0.8)	60.0 (0.5)
Not married (n = 6805)	43.8 (0.7)	36.7 (0.8)	40.3 (0.5)
Body mass index			
Normal weight (n = 6532)	52.3 (0.7)	36.0 (0.8)	44.3 (0.6)
Overweight (n = 5166)	27.9 (0.6)	44.8 (0.8)	36.1 (0.5)
Obese (n = 2981)	19.8 (0.6)	19.3 (0.6)	19.6 (0.4)
Current weight status			
Trying to lose (n = 5600)	45.4 (0.7)	29.4 (0.8)	37.6 (0.5)
Trying to maintain (n = 4884)	32.7 (0.7)	37.2 (0.8)	34.9 (0.5)
Neither (n = 4195)	45.4 (0.7)	33.5 (0.8)	27.6 (0.5)

*Data are weighted for age, race, and sex using the 1990 state census data; GED indicates graduate equivalent degree.
†Marital status data missing for 15 individuals.

Another similar study was done comparing the prevalence of prescription weight loss drugs by age, race or ethnicity, and sex by using a telephone survey in a sample of U.S. adults in 1996-1998. The state departments made phone calls to individuals of the age 18 years or older. In the study it was estimated that about 2.5% of U.S. adults used prescription weight loss pills¹⁰⁸. Use of prescription weight loss pills increased with current body mass index as seen in Table 31.

Table 32 – Two Year Prevalence of prescription weight loss pills among U.S. adults¹⁰⁸

Characteristic	Survey Respondents				
	Non-Hispanic White (n = 112 009)	Non-Hispanic Black (n = 11 384)	Hispanic (n = 11 311)	Other (n = 5075)	Total (95% CI) (n = 139 779)
	←----- % -----→				
Male	0.9	0.6	1.3	0.2	0.9 (0.7-1.1)
Female	3.9	3.8	5.2	2.8	4.0 (3.8-4.2)
Total	2.4	2.4	3.2	1.4	2.5 (2.3-2.7)
Age					
Male					
18-24 y	0.4	0.0	0.5	0.5	0.4 (0.2-0.6)
25-34 y	0.7	0.7	1.3	0.1	0.8 (0.6-1.0)
35-44 y	1.2	0.3	0.9	0.1	1.1 (0.9-1.3)
45-54 y	1.2	0.3	1.4	0.3	1.1 (0.9-1.3)
55-64 y	1.1	1.4	2.1	0.3	1.2 (0.8-1.6)
≥65 y	0.4	1.4	2.9	0.6	0.7 (0.5-0.9)
Female					
18-24 y	3.0	3.2	3.8	0.6	3.0 (2.4-3.6)
25-34 y	5.9	6.1	6.6	2.8	5.9 (5.3-6.5)
35-44 y	5.8	5.2	6.4	5.0	5.8 (5.2-6.4)
45-54 y	5.2	4.1	7.1	4.1	5.3 (4.7-5.9)
55-64 y	2.8	1.7	2.0	1.0	2.6 (2.2-3.0)
≥65 y	1.2	0.6	0.7	0.6	1.1 (0.7-1.5)
Current body mass index					
Male					
<25 kg/m ²	0.1	0.3	0.5	0.1	0.2 (0.198-0.202)
25-29 kg/m ²	0.4	0.1	1.3	0.5	0.5 (0.3-0.7)
30-34 kg/m ²	2.1	1.3	1.9	0.2	2.0 (1.6-2.4)
35-39 kg/m ²	6.2	4.1	5.0	0.5	5.6 (3.8-7.4)
≥40 kg/m ²	11.0	4.3	1.5	0.0	9.1 (6.7-11.5)
Female					
<25 kg/m ²	1.5	1.0	1.8	0.8	1.5 (1.3-1.7)
25-29 kg/m ²	5.0	2.9	6.5	3.7	4.9 (4.5-5.3)
30-34 kg/m ²	8.3	6.2	8.9	12.4	8.1 (7.1-9.1)
35-39 kg/m ²	11.8	8.4	13.0	7.3	11.2 (9.6-12.8)
≥40 kg/m ²	19.7	13.7	15.3	12.9	17.7 (15.2-20.2)

It has been said that combining weight loss agents will result in a greater loss of weight. Obese patients want to lose two to three more weight than is typically possible with current medications.¹⁰⁹ A study was conducted in 2000 that researched the benefits of adding *Orlistat* to *Sibutramine* in obese women. These women had lost an average of $11.6 \pm 9.2\%$ lbs of their initial weight during 1 year of treatment with *Sibutramine* alone. Figure 82 shows the change in body weight for patients either assigned to *Sibutramine* and *Orlistat* or *Sibutramine* and placebo

for a 16 week trial.¹⁰⁹ From Figure 82 one can see that for the first few weeks just the *Sibutramine* alone lost weight faster, but as the weeks increased the weight was lost faster with the combination of the *Sibutramine* and *Orlistat*.

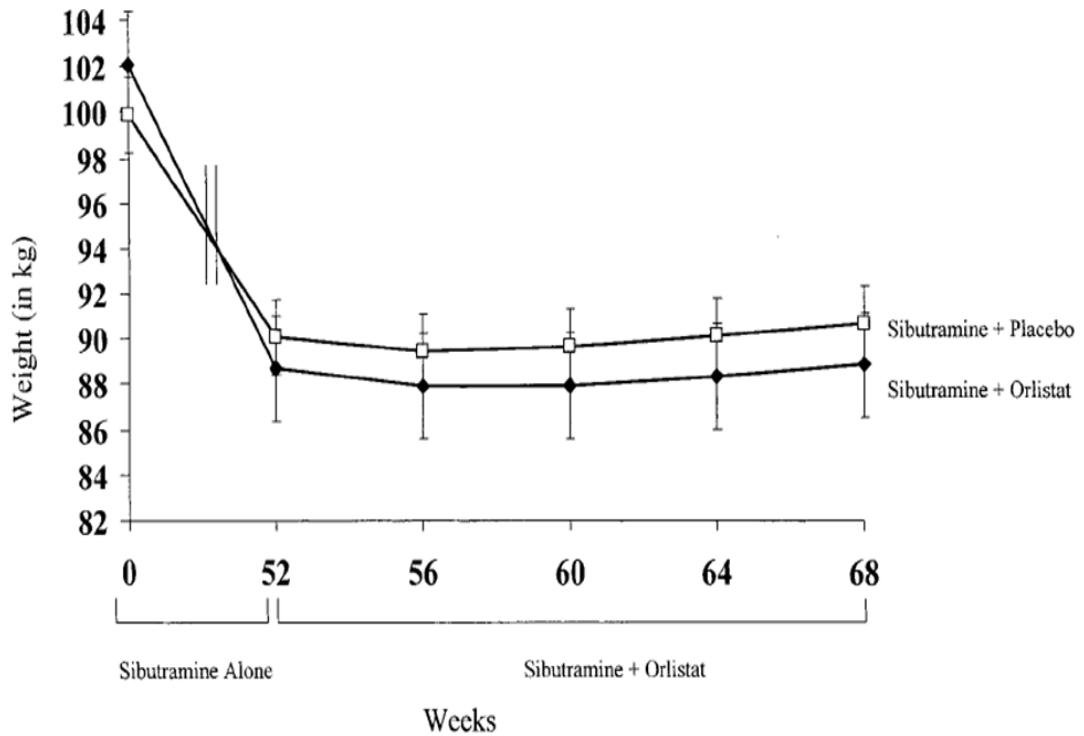


Figure 82 -Change in Body Weight During a 16-Week Trial with Different Combinations of Medications¹⁰⁹

It has been seen through studies over the past 10 years or so, that prescription or nonprescription weight loss products have different effects on people with different ethnicity/characteristics. From the studies it is seen that obese women use nonprescription pills more than most Americans, and they also lose weight more effectively with prescription weight loss products. Combining different weight loss pills may be more effective for individuals trying to lose weight at a faster rate than just one weight loss product at a time.

8.2 Hypnosis

When it comes to losing weight, it is not the actual weight loss that proves the most difficult, but maintaining the loss long-term. Aside from the typical methods aiding weight loss

like exercise, pills, and surgery, therapeutic treatments are surfacing and making their mark as successful alternative weight loss methods. Hypnosis among others is being viewed as an adjunct to the typical increase activity, decrease Calorie method. Although there have not been extensive and innumerable studies that have shown this to be an undeniable success, studies done have shown that this has been valuable.

Hypnotherapy is a 5 step process that progresses from inducing a deep-relaxing state to amnesia, or when the hypnotherapist will cause the subject to erase the memory of what was scripted in the session.¹¹⁰ This is done in order for the subject to be affected only on their subconscious level. The following list describes each state of the hypnotherapeutic weight loss session:

- Induction – this causes the subject to enter a state of relaxation by setting a calm scene.
- Deepening - creating the deepest state of relaxation, by continuing to set a calm scene.
- Script - a script is read in order to change or alter the unwanted behavior. For weight loss it is necessary to empower the patient by eradicating disempowering foods, by using bad adjectives to describe bad foods and good adjectives for healthy foods.
- Amnesia - created in order to erase it completely from conscious memory.
- Trans-termination - coming out of the hypnotic¹¹⁰

Those that seek hypnotherapy as a supplement to weight-loss justify it through the characteristics of the hypnotic state. In the hypnotic state, by nature, one has hyper-suggestibility, more vivid imagery, more primary process thinking, and more availability of childhood memories which can be used in order to diminish the problem from the root itself.¹¹¹ These characteristics are then utilized in order to influence the subject under the hypnotic state.¹¹¹

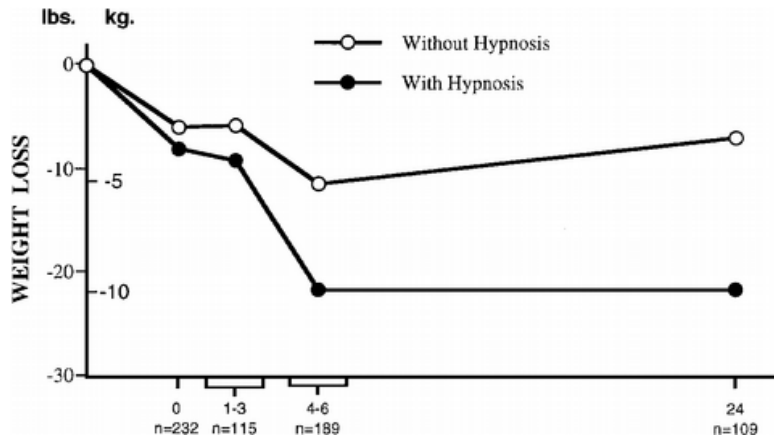


Figure 83 - Weight Loss as a Function of Assessment Interval and Inclusion of Hypnosis in Treatment¹¹²

A study that was conducted with over 330 participants, divided the participants into two control groups. Participants underwent a low-Calorie diet either with or without hypnosis. In Figure 83, it can be seen that supplementing hypnotherapy into a weight loss plan, helped with weight loss and weight loss maintenance.¹¹²

Table 33 - Summary of Means and Standard Deviations of Weight Variables¹¹³

Group	n	Initial weight		One-month weight loss		Six-month weight loss	
		M	SD	M	SD	M	SD
Hy-T	17	215.99	34.19	-6.53	1.05	-17.82	2.73
Hy	17	184.76	29.23	-8.00	0.97	-17.12	2.54
Cont	20	175.79	40.13	1.50	0.95	-0.50	2.45

Note. Hy-T = hypnosis treatment plus audiotapes; Hy = hypnosis treatment alone; Cont = control group.

Table 33 shows that the adjusted mean weight losses for both hypnosis treatments were greater than the control group of simply just adhering to the diet as best they could.¹¹³ The first column of the table shows the number of subjects for the study and M is the mean weight loss for each variable at specific time intervals.¹¹³ This clearly shows that the presence or addition of hypnotherapy in a weight-loss program improves the overall success rate.

Table 34 - Advantages and Disadvantages of Hypnosis for Weight Loss

Advantages	Disadvantages
<ul style="list-style-type: none">• More Weight Loss• Therapeutic, Relaxing	<ul style="list-style-type: none">• Ineffective For Those Unable to be Hypnotized• Costly

Table 34 shows the advantages and disadvantages of hypnotherapy for weight loss. As previously discussed people who are responsive to hypnosis are able to lose more weight with the therapy. However, if a dieter tries to lose weight using hypnosis and finds that they are not receptive to the therapy, money is wasted without seeing results.

The effectiveness of hypnosis as an adjunct to a typical low-Calorie diet is clearly positive in those individuals that prove to be both able to be hypnotized and have the positive attitude about being hypnotized. This method is being further researched in order to find conclusions to tell if this would be a viable option for the cure of obesity or if it is the answer for those people that feel as if they “cannot” lose weight. Hypnosis, although not as widespread as the other weight loss methods in this chapter, is proving to aid those in the attempt to lose weight and will expand its effect on overweight individuals with the spread of knowledge and education.

8.3 Surgery

Weight-loss surgeries change a patient’s digestive system, often restricting the amount of food that the patient can eat. These surgeries require patients to change their lifestyles and eating habits. With a healthy diet and exercise weight-loss surgeries provide patients with long-term consistent weight loss. These surgeries are usually considered for people with a BMI of 40 or higher, or people with a BMI of 35 or higher with a serious weight related medical problem, such as diabetes or high blood pressure.¹¹⁴ The main criteria for patients eligible for weight loss

surgeries can be found in Table 35. Some of the common weight-loss surgeries are gastric bypass, lap-band, and stomach stapling.

Table 35 - Criteria for Patient Selection for Surgical Treatment of Severe Obesity¹¹⁴

- Weight
 - 100 pounds or 100% above desirable weight
 - BMI 40 kg/m²
 - BMI 35 kg/m² with medical comorbidities
- Failure of Nonsurgical Attempts at Weight Loss
- Absence of Endocrine Disorders that can cause Massive Obesity
- Psychological Stability
 - Basic understanding of how obesity surgery causes weight loss
 - Realization that surgery itself does not guarantee weight loss
 - Absence of alcohol and drug abuse
 - Commitment to post-operation follow-up

8.3.1 Gastric Bypass Surgery

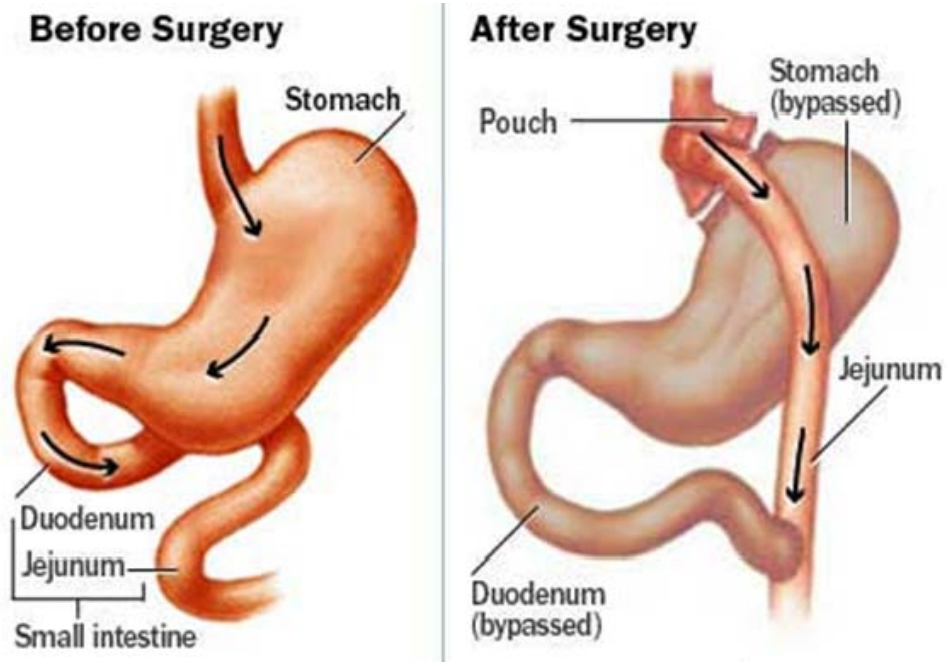


Figure 84 - Stomach Before and After Gastric Bypass Surgery¹¹⁴

Figure 84 shows a stomach before and after gastric bypass surgery. During the surgery a small balloon is placed in the stomach, the surgeon then cuts and divides the stomach creating a new stomach referred to as a pouch, as seen in Figure 84. The small intestine is then divided and the duodenum section of the small intestine is bypassed and the jejunum is connected to the pouch with either staples or stitches.¹¹⁵

This weight loss surgery works for several different reasons. The pouch created is much smaller than the patient’s original stomach so they cannot eat much. Another reason is that one of the parts bypassed in the surgery is the one that produces hormone ghrelin, which stimulates appetite, making patients want to eat less, and have less cravings.¹¹⁵

According to Brolin MD, a bariatric surgeon, the weight loss for gastric bypass is usually around 65% and 80% of excess weight between 12 and 18 months. After five years weight loss results are around 50 to 60 percent of excess weight, showing that weight loss is well maintained.¹¹⁶

Table 36 - Advantages and Disadvantages of Gastric Bypass

Advantages	Disadvantages
<ul style="list-style-type: none"> • Weight Loss 	<ul style="list-style-type: none"> • Intestinal Leakage • Small Bowel Obstruction • Incisional Hernias • Protein Calorie Malnutrition • Micronutrient deficiencies

Although this surgery option has the advantage of significant weight loss, as is seen in Table 36 there are also some disadvantages. These disadvantages are the potential for complications such as intestinal leakage, small bowel obstruction, incisional hernias, protein Calorie malnutrition, and micronutrient deficiencies including iron calcium and vitamin B12.¹¹⁷

8.3.2 The Gastric Band

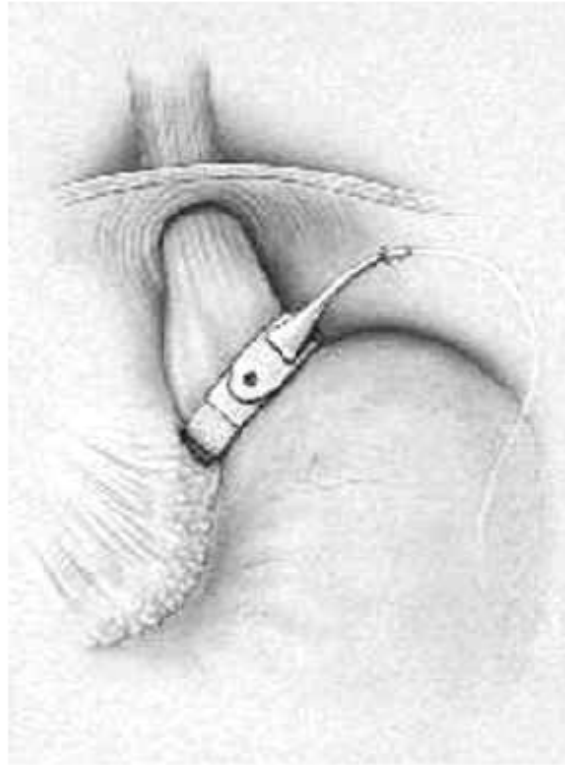


Figure 85 - Stomach with Gastric Band in Place¹¹⁸

The gastric band more commonly known as the Lap-Band is another weight loss surgery option. This surgery is done laparoscopically, through several incisions in the abdomen. The band, made of silicone and Silastic, is sewn in place around the upper stomach as seen in Figure 85. The band has “a balloon on the inner surface, which is connected to a tube, which leads to a small port (a small plastic connector about the size of a half-dollar) under the skin, on top of the muscle of the abdominal wall”.¹¹⁵ Through this port the patient's doctor can add or remove saline making the balloon tighter or looser.

Table 37 - Advantages and Disadvantages of Gastric Band Pass

Advantages	Disadvantages
<ul style="list-style-type: none">• Weight Loss	<ul style="list-style-type: none">• Slipping of the band• Internal Infections• Stomach pains after eating• Port rotation

The gastric band works by stretching of the stomach above the band. This sends a message to the patients brain saying that their stomach is full, and makes the patient eat much smaller portions. Some complications of gastric banding, as illustrated in Table 37, are slipping of the band, internal infections, and stomach pains after eating. Port rotation is another complication, when a patient loses weight the port can rotate making it difficult for doctors to adjust the balloon.¹¹⁹

According to the study conducted by Belachew, Belva, and Desai, there was significant weight lost with the gastric band. This study included 168 males and 595 females. The mean age was 34 years and the mean initial BMI was 42 kg/m². The mean excess weight loss was 30% at 6 months, 40% at 12 months, and 50% at 24 months and 50-60% at 48 months and beyond (seen in Figure 86)

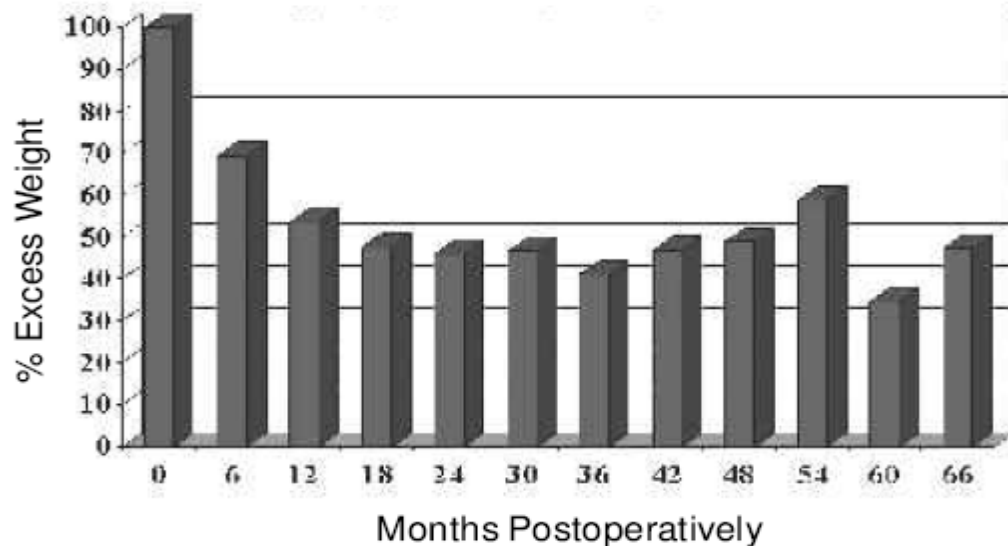


Figure 86 - Mean Percent of Excess Weight Present Following a Gastric Band Surgery¹¹⁸

8.3.3 Vertical Banded Gastroplasty

Vertical Banded Gastroplasty

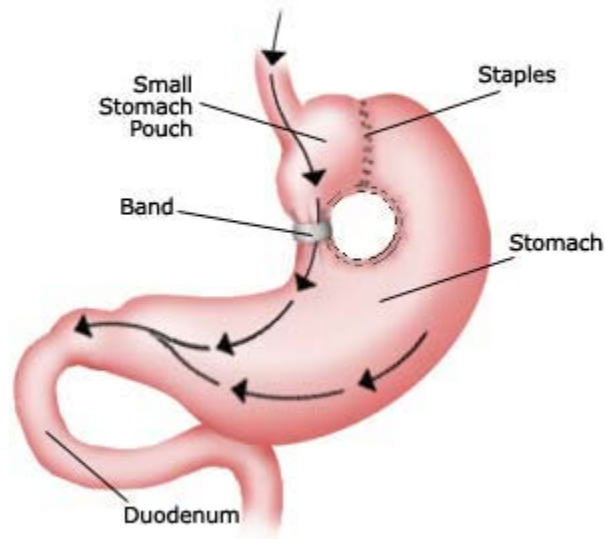


Figure 87 - Stomach after Vertical Banded Gastroplasty¹²⁰

Vertical banded gastroplasty, also referred to as stomach stapling, divides the stomach into two parts, this can be seen in Figure 87. This makes the patients stomach smaller making them feel full sooner and eat less. The upper pouch (as seen in Figure 87) of the stomach is small and empties into the lower pouch. Some of the risks involved in vertical banded gastroplasty, as illustrated in Table 38, involve incisional hernias, staples can come loose, nausea and vomiting, and vitamin deficiencies.¹²¹

Table 38 - Advantages and Disadvantages of Banded Gastroplasty

Advantages	Disadvantages
<ul style="list-style-type: none">• Weight Loss	<ul style="list-style-type: none">• Incisional hernias• Staples can come loose• Nausea and vomiting• Vitamin deficiencies

In a study conducted about the long term weight loss of patients that had vertical banded gastroplasty found that only 26% of those patients lost and keep off more than 50% of their excess weight. The study therefore found the procedure not effective.¹²²

8.3.4 Surgery options

These weight loss options work very well for those who use them and maintain a proper diet and exercise. Without diet and exercise the patients can gain the weight back. The most common weight loss surgery performed is the gastric bypass because it does receive the best results. The gastric band or lap band is also popular especially for those patients who do not want an invasive surgery. With the gastric bypass and gastric band being so successful, vertical band gastroplasty is not very common today.

8.4 Exercise

There is often a debate on whether it is necessary to exercise in order to lose weight and maintain it. The different fad diets that are popular among the public do not put a heavy emphasis on exercise. The relationship between physical activity and weight has been studied extensively, as well as the role it plays in weight loss and weight loss maintenance.

8.4.1 Physical Activity and Weight Loss

Research conducted by Skender and colleagues, compared weight loss trends in obese people using three intervention methods: diet, exercise, and combination intervention.¹²³ The need for the research was found as prior research concluded that under normal circumstances, dieters find that within 2 or 3 years they regain all of the weight they had lost after going through an “obesity treatment programs that rely solely on diets”.¹²³

In the research a total of 127 men and women with at least 14kg to lose were assigned a random intervention method. The research then followed up with the men and women to see their

long term weight loss. The research found that after 2 years, most of the groups had regained the weight.¹²³

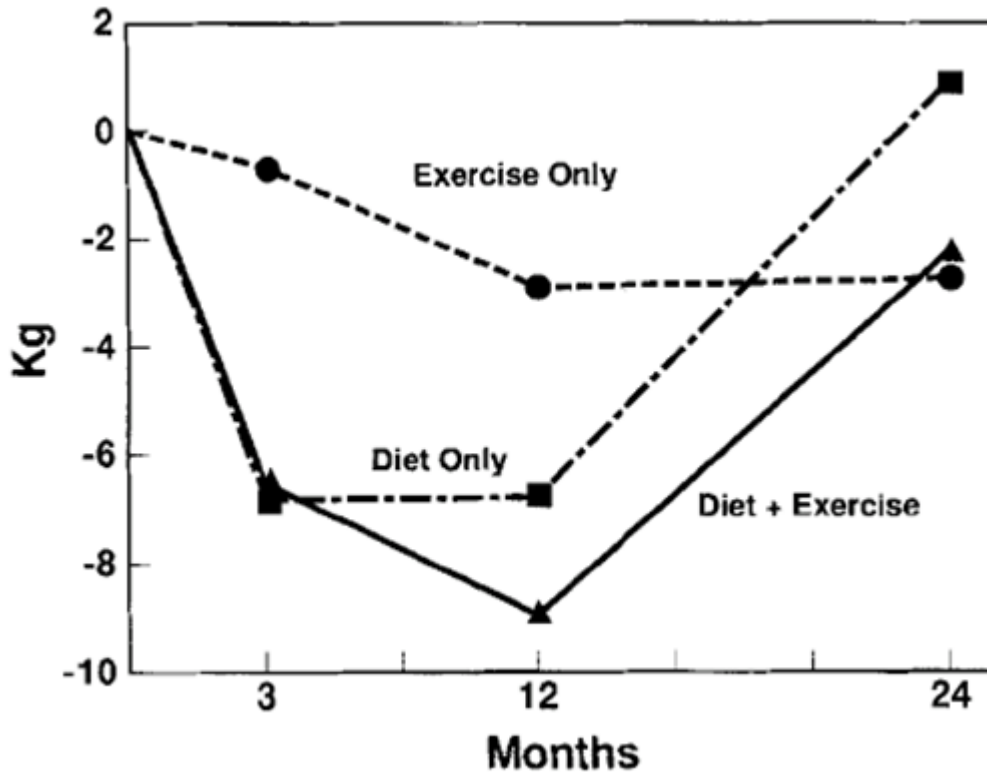


Figure 88 - Weight Changes for Treatment Groups at 3, 12 and 24 months¹²³

Figure 88 depicts the weight trend of the three groups over the 24-month period. The results show that both the diet-only and diet and exercise group regained the weight while the exercise only group did not gain back any weight. While the two diet groups did lose a lot of weight faster, they did gain it all back, and in some cases gained back more weight than they had when they started the program. The exercise only group lost less weight initially but managed to maintain it over a longer period of time, and on average did not gain any weight over the 2 year duration.

In a similar research conducted by a team of doctors from the University of Pennsylvania School of Medicine, 77 women were put on a diet combined with either aerobic exercise, strength

training, aerobic plus strength training or no diet. The research then followed their weight loss up till a year after diet plan. ¹²⁴

The women were prescribed a 16-week diet plan of around 925 Calories per day. Thereafter they consumed a diet of 1,200 Calories to 1,500 Calories. Additionally, the women who were put in a the 3 groups which included exercise, were provided with three on-site supervised training sessions per week for the first 28 weeks, and then two workouts per week from week 28 to 48. ¹²³

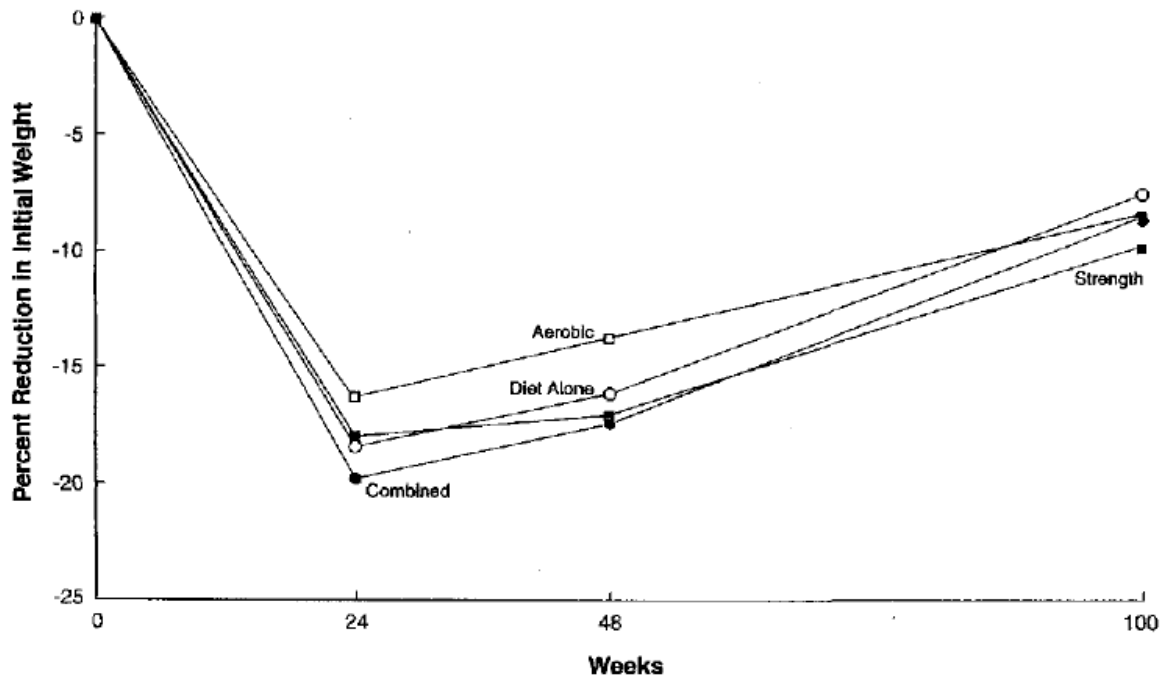


Figure 89 - Weight Loss and Regain Pattern¹²⁴

A year after the treatment ended the participants returned to be weighted. The research found that all four groups lost an average of 13.5kg the first 48 weeks of the program, but regained approximately 35% to 55% of their weight loss up to the 1-year follow up. Figure 89 shows the steady increase of weight after the 48-week mark. ¹²⁴

The researchers indicate that although there was no real difference between the weight loss and weight regain of the four different groups, they do mention that participants who reported exercising regularly in the 4 months period preceding the follow-up assessment regained significantly less weight than did non-exercisers.

Another experimental study to illustrate the relationship between exercise and weight loss was conducted by Pavlou and colleagues.¹²⁵ In this study 160 adult males from the Boston Police Department who were overweight (22% above their ideal weight for their height), were randomly assigned to one of four diet conditions. They were then randomly assigned to exercise or not to exercise, but rather to maintain their current exercise levels throughout the study period. Those who were assigned to exercise had 3 supervised 90 minute exercise sessions per week.

The four diet conditions varied in their content and caloric content. They included a balanced diet of 1000 Calories deficit (BCDD), a protein sparing modified fast (PSMF), and two liquid forms of the balanced and ketogenic diets (DPC-70, DPC-800).¹²⁶

The treatment was conducted over a 12-week period, and follow up was then conducted at the 8-month and 18 month mark.

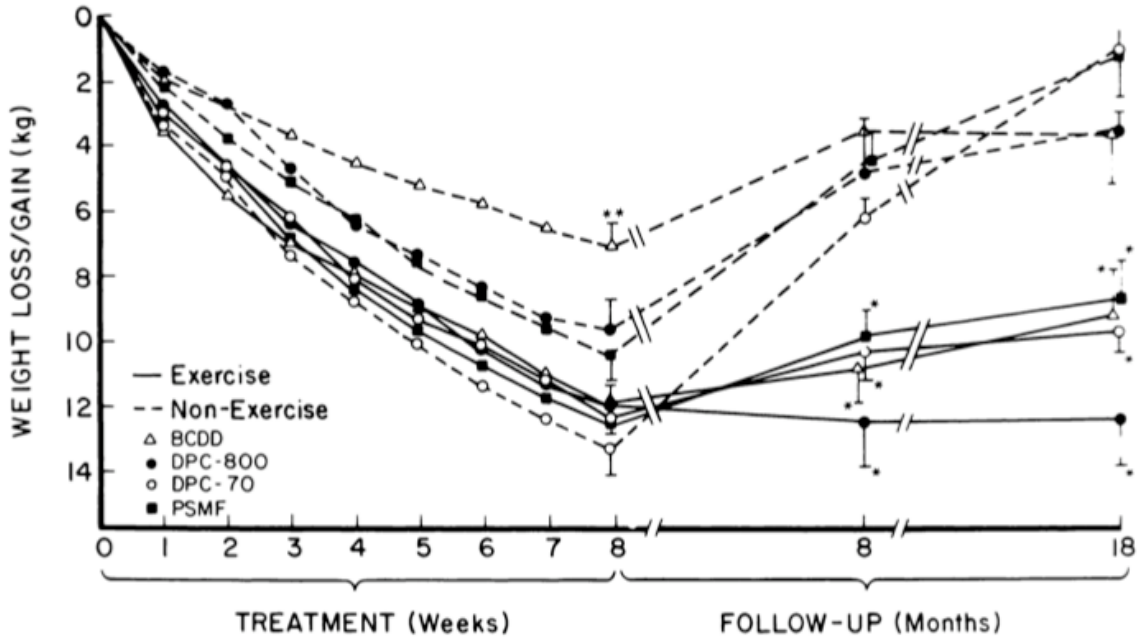


Figure 90 - Weight Loss over 18 Months¹²⁶

Figure 90 illustrates the weight loss of all 8 groups. Regardless of diet condition, at the 18-month period all non-exercisers were found to have gained most, or all of their weight back. However, the exercise group maintained their weight loss.

Professor Carlos Grilo of the Department of Psychiatry in Yale University remarks that the finding of Pavlou may be “limited since the participants were only slightly overweight, presumable in fairly good physical shape since they were active policemen...” However, Grilo points out that the “differences in exercise patterns within this particular population predicted weight changes”, implying that overall exercise has an important role in weight loss and weight loss maintenance.¹²⁶

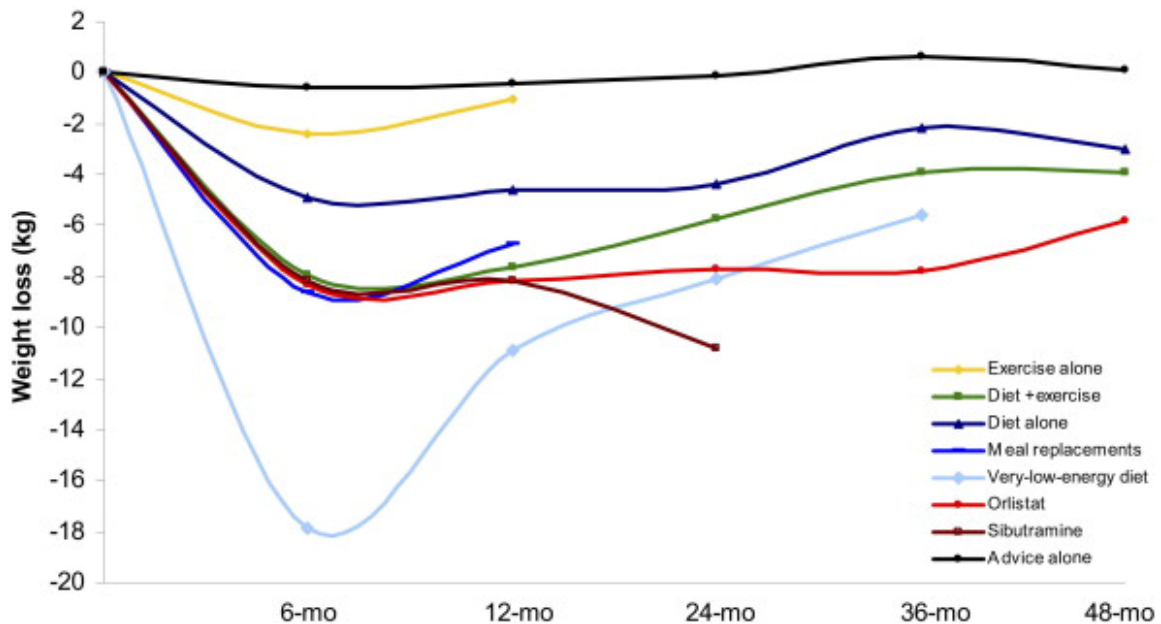


Figure 91 -Average Weight Loss of Subjects Completing a Minimum 1-Year Weight-Management Intervention; Based on a Review of 80 Studies¹²⁷

Marion Franz and colleagues conducted a systematic review of weight loss trial clinics based on 80 studies. Figure 91 shows a visual comparison of the mean weight loss per subject by different intervention methods. All groups were able to lose weight in the initial 6 months of the different studies besides the participants who were simply advised to lose weight with minimal support, and the participants who were in the exercise-alone group.

Participants who received the intervention plan of diet and exercise lost 7.9kg at 6 months, which was more than participants who were dieting alone. Exercise alone, without a focus on food intake, was not very effective, resulting in a mean 2.4 kg (2.7%) weight loss at 6 months and a mean 1.0 kg (1.0%) at 24 months.¹²⁷

8.4.2 Physical Activity and Health

While the relationship between physical activity and weight-loss is critical, it is also important to note the relationship between physical activity and general health. Research has

consistently found that exercise is associated not only with improved health, but also with psychological well-being.

Research conducted by Stephens, in which an analysis of four population surveys in the United States and Canada shows an imposing support for the positive relationship between exercise and psychological well-being. In the research physical activity and general well being, as well as lower depression and anxiety were related in four population surveys.¹²⁸

In Finland, a population study was conducted to explore the association between psychological well-being and regular physical exercise. It was found that out of the 3403 participants, those who exercised regularly (at least two times a week) experienced less depressing thoughts, anger, cynical distrust, and stress than those exercising less frequently or not at all.¹²⁹

These improvements in psychological well-being are not only important for their obvious health benefits. Professor Carlos Grilo points out that “improvements in mood may result in fewer instances of overeating, in response to negative emotions which represent high-risk situation for dieters.”¹²⁶ This implies that a person who is already overweight, and perhaps even obese, who struggles with the problem of overeating, will not only benefit from exercise because they will probably lose weight, but they will also experience less desire to overeat.

Besides the psychological benefits that regular exercise offers, there are a number of physical health benefits as well. Figure 92 represents the risk of mortality for both men and women and its relationship to fitness level.

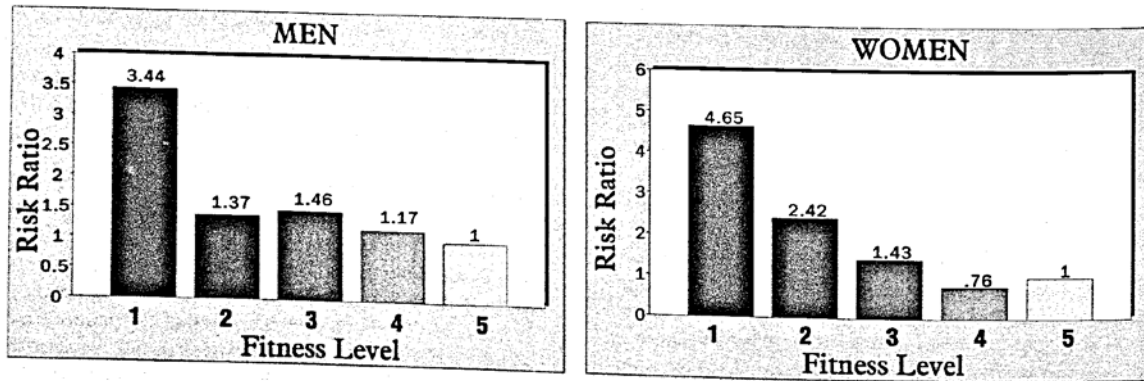


Figure 92 - Risk of Mortality versus Fitness Level¹³⁰

In the study, 10,224 men and 3120 women were categorized into 5 fitness levels, from very unfit (Level 1) to very fit (Level 5). Studies were based on a 5 year period, and concluded that the risk of death for men who were categorized in Level 1 had a 3.44 greater chance of dying from their health problems. Women had a higher ratio with a 4.65 greater chance. It is also important to note the sharpest decrease in risk ratio that is observed between individuals who are unfit (Level 1) and individuals that are moderately fit (Level 2). This shows that even if the fitness level is not quite high, being active helps reduce the risk of mortality. Additional studies have been conducted to prove that a higher level of fitness reduces the risk of development of hypertension,¹³¹ coronary heart disease,¹³² improve lipid levels, and cardiovascular function.¹³³

8.4.3 Recommended Exercise

The USDA recommends to make physical activity a part of every persons' life. The USDA explains that "being physically active is a key element in living a longer, healthier, happier life." The USDA further explains that there are many benefits to physical activity such as improving self-esteem and feelings of well being, managing weight, controlling blood pressure, increase fitness level and even reduce the feelings of depression and anxiety.⁹

The American College of Sports Medicine recommends the following guidelines for promoting health in adults:

- Participate in any type of physical daily activity
- Daily activity may be of any level of intensity
- Daily activity must be a minimum of 30 minutes¹³⁴

To achieve and maintain physical fitness, the American college of sports medicine recommends the following for adults:

- Exercise 3 to 5 days per week
- Intensity of exercise should be 50 to 90 percent of maximum heart rate
- Exercise should be 20 to 60 minutes of aerobic activity
- Complete resistance training 2 to 3 days per week in order to exchange strength and muscular endurance¹³⁴

The American college of sports medicine explains that age in itself is not a limiting factor to exercise training, however a more gradual approach in applying the prescription at older ages seems sensible.¹³⁴

For resistance training, the college recommends one set of 8-10 exercises that condition the major muscle groups 2-3 days per week, and that most people should complete 8-12 repetitions of each exercise. For older and frailer persons (50-60 years of age and above), 10-15 repetitions may be more appropriate.¹³⁴

The college further explains that middle-ages sedentary and older participants may take several weeks to adapt to the initial rigors of training and will need a longer adaptation period to get optimal benefits from a program.

They also explain that older persons have a higher chance of suffering from injuries when beginning an exercise program, and that the risk is much higher for women. Being unfit and overweight, or having a previous injury also increases the risk of suffering from an injury. The college therefore recommends being cautious when exercising, and for those in a high risk to sustaining an injury, keep exercising at a moderate pace. Avoiding high impact types of activities such as running and jumping helps reduce the risk to sustaining an injury. For example, instead of completing a high-intensity interval training of running and walking, completing a continuous jogging pace is much better in order to avoid injury.¹³⁴

Overall, the College does not make a specific distinction in exercise programs between overweight, unfit, or older people from healthy fit people, but recommends minor changes that might help the person to adapt to the program faster.

8.5 Summary

These four alternative weight loss methods show different ways to lose weight compared to the commercial dieting programs described before. Dieting pills are prescribed to those individuals that are unable to receive the results they would like through just changing their diet and exercising. They are typically prescribed to those individuals that have a BMI of over 30 or clinically obese.

Hypnosis is another alternative option that uses the power of the hypnotic state to alter the subconscious thinking that an overweight person may have. Through scripts, hypnotherapy is a process that attempts to trick the mind into thinking good eating habits are the only option. Patients will then make better choices and therefore lose weight.

Surgeries, however, is a much more invasive option. This option is typically only for the morbidly obese, those patients which have a BMI of 35 and over or for those with health risks

such as high blood pressure or diabetes. These options restrict the amount of food one can consume in a day and therefore cause the patient to lose weight.

Lastly, the healthiest option and most successful for weight loss and weight loss maintenance is exercising; those that include exercise in their weekly routines are healthier and control their weight more easily. Additionally, exercising on a regular basis reduces the risk of mortality and many diseases.

9.0 Discussion

This section highlights the main issues that were presented in this report, and outlines some possible resolutions to these concerns.

9.1 Why are Americans obese?

The obesity epidemic is one of the most serious public-health problems in the United States. Food culture has changed in the United States; families no longer sit at the dinner table with home cooked meals, but rather sit in front of the television or in their car with takeout from the local fast food chain. Although information about healthy eating and nutrition is widely available, obesity is still a major problem.

The federal Government controls the law governing nutritional labeling on food items. Additionally, the Government provides further resources for people to learn about nutrition such as MyPyramid and the Dietary Guidelines for Americans. With all of these resources, one must wonder why obesity is still a problem in the United States.

During the Morgan Dining Hall Food Awareness Survey outline in section 3.2 and 6.2, it was observed that although some students believe that they would look at the nutritional value of their food, they did not do so. Most students (76%) ignored the nutritional information for the popular food items, even though many of them (68%) had previously stated that they would use this information if provided.

In the additional survey that was conducted in the local supermarket, it was observed that only 16% of the customers always read the nutritional label on the back of a new food item they were buying. Most customers (40%), said that they never check the nutritional labels on the back of the food items.

The results from these two surveys reflect the overall attitude towards nutritional labels and nutrition awareness in the United States. In section 5.0, Figure 37 shows that the average American does not meet the US Government's recommendation for food. Additionally, in Figure 41 in section 5.1.3 the percentage of people meeting the exercise recommendation of the Government is shown, and most states do not meet these recommendations.

Fast food is another major contributor to the high obesity rates in the United States. Fast foods, high in sodium, have dense Caloric values and contain more of the nutrients over-consumed and less of the nutrients under-consumed in the United States which was observed in section 5.6.¹³⁵ For many Americans fast food is a convenient option because of the fast pace lifestyle. With 80% of Americans work at least 40 hours a week if not more,¹³⁶ and over 130 million of Americans commute to work every day,¹³⁷ it is not surprising that so many Americans choose to eat fast food instead of cooking at home.

Fast food is also very cheap. As seen in chapter 6, the average American spends about \$37 on groceries per week. It is possible to create weekly diet just off of fast food with only \$37, as was presented in sections 3.4 and 6.4. In the same experiment the amount of unhealthy groceries that were bought using \$37 was much larger than the amount of healthy groceries that were bought.

Many obese people consume an excessive amount of sugar and fats, which are found in greater quantities in fast food.¹³⁸ Foods that are high in fat and sugar have been found to be much cheaper than other foods.¹³⁹ Eating a diet high in fruits and vegetables is much more expensive than eating a processed or a fast food diet.¹³⁹ Energy-dense diets are those that are higher in fast food, snacks, desserts, and sweetened beverages.¹⁴⁰

There are many products on the market claiming to be healthy or low-Calories, such as Cheerios cereal, Yoplait light and the Lean Cuisine products. Michael Pollan explains that these

products are highly processed “food-like substances”, and with each “step of additional processing” the products become “less nutritious.”¹⁴¹ He further explains that in order to make health claims about these food products the companies need to artificially add more nutrients to the products and reformulate the food. In the survey that was conducted in section 6.1.5, many people had indicated that the health claims on Cheerios and the low-fat claims on Yoplait influenced their decision to buy these products.

There also appears to be a relationship between the number of fast food restaurants per capita in a country and its obesity rates. There are currently 0.433 McDonald’s restaurants per 10,000 people in the US. The US is also the country with the highest obesity rate in the world, with an obesity rate of 30.6%. In Sweden, where the obesity rates are around 9.6%, there are only 0.12 McDonald’s restaurants per 10,000 people.¹⁴² Likewise, Italy has a low obesity rate of 8.5% and only 0.05 McDonald’s restaurants per 10,000 people.¹⁴³

Another interesting relationship is the relationship between obesity rates and the adherence to the national exercise guidelines in each state. Figure 41 and 42 in chapter 5.1.3 show the percentages of exercise in different states and obesity in different states respectively. Certain trends can be seen between the states with the lower percentage of people following the Government recommendation for exercise and the obesity rates in that country. Colorado has the lower obesity rates in the country, and is one of the states with a higher percentage of people following the Government exercise recommendations. On the other hand, Mississippi, the state with one of the highest obesity rates is one of the two states with the lowest percentage of people following the Government exercise recommendations.

It appears that the increased consumption of processed food and the widespread consumption of fast foods have contributed substantially to the current obesity problem in the United States. Additionally, portion sizes have increased dramatically over the past few decades,

which have also been contributing to the obesity rates. Finally, the average American does not follow the US Government's recommendation for food intake and exercise.

9.2 Suggestion on Weight Loss and Weight Loss Maintenance

From the conclusions drawn in chapter 7, there is no definitive evidence that one of the commercial diets is more effective for long-term weight loss than the others^{90,144}. The key to weight loss with commercial diets is to follow the diet program correctly. This can be difficult for many dieters as commercial diets, like the Atkins Diet often restrict how much and what the dieter can eat. This means that many people are unable to follow the commercial diets. When the dieters can no longer follow the diet they often end up gaining back much of the weight they lost. These diets can also have adverse side effects such as ketosis and vitamin deficiency as discussed in chapter 7.

To be successful in weight loss a dieter should create a diet plan that fits with their lifestyle. This diet plan should create a negative energy balance, where the dieter consumes less Calories than they burn. In order to reach this negative energy balance the dieter should avoid processed and fast foods, as processed and fast food are often Calorie-dense as has been discussed in section 5.6. It is recommended that the diet plan includes a variety of fresh produce, lean meats, and a variety of dairy products. Portion size is another key factor to a successful diet plan. Portion sizes should be moderated to avoid overeating.

Another key component to a successful diet plan is exercise. Section 8.4 reviewed the many benefits of exercising. People who exercised were able to lose more weight and maintain the weight loss. Exercise has both many physical as well as mental health benefits. The positive benefits of exercising should motivate people to exercise in both their weight-loss journey and once they have reached their ultimate weight loss goal.

Some people try other weight loss options such as hypnosis, diet pills and surgery. Chapter 8.2 discussed the effectiveness of hypnotherapy treatment as an adjunct to dieting. For individuals that are effected by hypnotherapy, hypnosis is an option that could help in the weight loss process. As this method has no negative side effects, some people may benefit from it. Chapter 8.1 discussed over-the-counter and prescription diet pills. For obese patients who are unable to lose weight, diet pills can sometimes help to achieve weight loss. Surgery is another option for severely obese individuals. This option is only used as a start to the weight loss process for morbidly obese patients who are unable to begin their weight loss with a diet and exercise plan. After surgery the patients have to adhere to a strict diet and exercise plan to continue and maintain their weight loss.

It is important to realize that the key to weight loss requires a lifestyle change that is permanent. With a healthy, moderate diet plan and the addition of exercise, most people should be able to lose weight in a healthy fashion.

9.3 Suggestions on Improving Healthy Eating on the WPI Campus

As outlined in section 6.5, a number of people from the WPI community participated in a survey regarding healthy eating campaigns. One of the questions asked in this survey was what WPI could do to improve healthy eating on the WPI campus. While there were several participants felt that WPI should not need to interfere with people's food choices, while other participants gave good suggestions.

Some suggestions were to improve the quality of the salad bar in the Campus Center food court. The Campus Center food court serves most of the upperclassmen, graduate, faculty and staff of the WPI campus. The options in the Campus Center include a Quiznos, Pizza bar, hot meal option, Coyote's Jack, Dunkin' Donuts, as well as a salad bar and vast array of sodas and snacks.

One possible suggestion would be to lower the cost of the salad bar in the Campus Center. At the moment, the salad bar costs 0.40 dollars per ounce, and several people had indicated on their survey response that this was too high.

Another possible suggestion would be to either eliminate or replace the large amounts of soda in the Campus Center. There are currently 14 fridges full of soda and juice, and a wall with a soda fountain. There are over 25 types of soda and juice in the Campus Center. In section 5 the consumption of soda and its relation to obesity rates had already been discussed. Soda consumption has vastly increased over the past few decades, and adds a surprising amount of Calories to a diet if consumed on a regular basis. By only having a select few soda and juice options, many people might only drink water.

Another concern that many survey participants had voiced, was the breakfast option at the Campus Center. Many people on campus go to the Dunkin' Donuts for breakfast, which, as discussed in section 5, is not usually a healthy choice. A healthier option would be to introduce a breakfast bar at the Campus Center. This could include items such as an omelet station, hot cereal and fresh fruit.

Additionally, one thing that could vastly improve the healthy eating options on campus, and not just in the Campus Center, are the vending machine options. Currently, all vending machines on campus are soda, snacks (such as chips and chocolate) or ice cream vending machines. This means that during late nights during which students are studying on campus, the only food option they have are these vending machines.

There are other vending machine options available. The Aramark Refreshment Services Company offers vending machine with a "fresh selection" that ranges from sandwiches, soups, and salads to fruit and vegetable cups.¹⁴⁵ WPI could replace their current vending machines with

Aramark's "fresh selection" vending machines to give students, staff, and faculty members healthier snack choices.

Lastly, WPI is currently planning to rebuild the main floor of the library and would like to build a small café that would offer snacks and refreshments to students. The café could prepare snacks such as salads, sandwiches and soups and buy vegetables and fruits from local farmers' markets. Additionally, pastries and baked goods the café could be purchase from local business owners and not from commercial companies. By purchasing from local business owners, the quality of the food items will be better, as it will not be mass produced and highly processed. In section 5.6, the downsides to processed foods are discussed.

9.4 Suggestions on what the Government can do to Promote Healthy Eating

In the survey presented in section 6.5, participants were asked what they think the US Government could do to promote healthy eating in the United States. Again, numerous participants replied that they did not think that it was the US Government's responsibility to promote healthy eating, but that people should be responsible for their own actions.

However, the obesity epidemic can be compared to smoking and its health effects. It is widely known that smoking can lead to lung cancer, heart disease and even pulmonary diseases, and that people who experience second hand smoking have a higher risk of lung cancer as well.¹⁴⁶ The two issues in hand – smoking and obesity – are both known to lead to major health problems and in certain cases even death. The Antismoking campaign in the United States started in the late 1960s and early 1970s. Cigarette consumption then dropped from 4,356 cigarettes per capita in 1963 to 2,261 cigarettes in 1998.¹⁴⁷

During the tobacco control movement, the US Government passed laws to ban smoking in public areas. In 1975, Minnesota was the first state to ban smoking in public spaces such as

restaurants, but this excluded bars.¹⁴⁸ Following Minnesota's actions, in 1990 California was the first state to ban smoking in all public spaces including bars, which encouraged many other states to do the same.¹⁴⁹ Additionally, the Government frequently increases taxes on cigarettes, which is expected to reduce smoking.¹⁵⁰

The tobacco control movement made a large difference and the use of cigarette per capita went down significantly. This is why the Government should promote healthy eating and try to reduce the obesity percentages in the United States. It is important that the Government intervenes and promotes healthier eating and lifestyle in the United States. Not only are millions of people suffering from obesity and its consequences, but obesity is also costing the Government a lot of money. It is estimated that by 2030, 86.3% of adults in the United States will be overweight or obese, and that Black women and Mexican Americans would be the most affected. This will mean that total health-care costs attributable to obesity/overweight would double every decade to 860.7–956.9 billion US dollars by 2030, accounting for 16–18% of total US health-care costs.¹⁵¹

In the survey outlined in section 6.5, participants were asked how they perceive different health eating commercials such as the Incredible Edible Egg that the US Government sponsors. Of the participants, 51% had seen and ignored the Incredible Edible Egg commercial and only 10% had indicated that the commercial had influenced them. Similarly, only 63% of the survey participants had heard of MyPyramid.gov, whose mission statement is to “improve the nutrition and well-being of Americans”¹⁵² and only 18% had ever used it.

An 8-week community advertising campaign promoting heart health menu items failed to show a statistically significant increase in the percentage of heart-healthy menu items ordered. In this study, 9 restaurants advertised their healthy menu items during the 8-week period. There was no difference in the amount of times the healthy menu items were ordered before the campaign

started and while the campaign was going on.¹⁵³ In chapter 6.5 survey participants were asked if the Cheerios commercials and the Yoplait commercial influence them to buy these items. Results indicated that 17% of the people were influenced by the Cheerios commercials and 19% of the people were influenced by the commercials.

There are a few methods the US Government can implement to try and promote healthy eating in the United States. The Government could implement a higher sales tax on fast food, soda and snacks similar to how they implemented a higher sales tax on cigarettes. A study indicated that raising the sales tax of unhealthy energy-dense foods, a large statistical association between the increase in price and the consumption was found for low-socioeconomic status population and for those at risk for being overweight or obese.¹⁵⁴

Another method that the Government could implement is to create a tax exemption or a tax credit for people who purchase gym memberships. The importance of exercising to maintain weight loss maintenance as well as improving ones health has already been discussed.

The Government could also help local farmer and farmers' market organization by reducing the sales tax on fruits and vegetables sold in farmers' markets and also reducing the income tax for the farmers. Another idea would be to follow the warnings placed on cigarette packaged. Similar warnings could be placed on fast food, as well as soda, unhealthy snacks and candy. These warnings would remind the consumer that eating a larger amount of the food is unhealthy and can contribute to gaining weight and can lead to obesity.

9.5 Summary

There are many factors contributing to the obesity problem in the United States. Many Americans do not follow the recommended guidelines for food consumption and do not exercise enough which can lead to weight gain. Fast and processed foods are another major contributor to the obesity rates, because they are cheap and readily available.

Some Americans turn to commercial diets in the hope to lose weight. However, commercial diets are often restrictive and many people are unable to adhere to the diets for long periods of time. To be successful in weight loss a dieter should create a diet plan that fits their lifestyle that includes exercise and a healthy balanced diet.

The surveys concluded that Worcester Polytechnic Institute (WPI) students are not concerned about the amount of food they are consuming or its nutritional value. It was also found that within the local communities, only a small percentage of people read the nutritional labels on food products. WPI can make several improvements to create a healthier campus, such as introducing healthier vending machine snacks and breakfast options, and reducing the amount soda available on campus. The US government can promote healthy eating by placing warnings on unhealthy food items, reducing taxes on fresh produce, and increasing taxes on fast and processed food.

10.0 Conclusions

- Most Americans do not pay attention to the nutritional value of the food they consume. In the survey conducted in the local supermarket, it was found that only 16% of people always read the nutritional labels on food items.
- One survey concluded that WPI students' dietary habits are not affected by nutritional labeling. Of the students surveyed in the WPI dining hall only 24% utilized the nutritional information provided, even though 68% indicated that having the nutritional information in front of each food item would influence their food choice.
- In the same survey, it was observed that the caloric intake of these students is well above the FDA recommended guidelines.
- It was also found that most Americans are not influenced by healthy eating campaigns, such as the Incredible Edible Egg and healthy food commercials such as Cheerios and Yoplait products. Therefore, the government should try a different approach at promoting healthy eating.
- The average American spends \$37 on groceries per week. With this amount, one can purchase more processed and fast food than fresh, healthy food. This is one reason contributing to the high obesity rates in the United States.
- The US is the country with the highest obesity rate in the world of 30.6%. It is also the country with the highest McDonald's restaurants per capita. Due to the American lifestyle, fast food is a convenient and cheap option for many Americans. Fast food plays a major role in the increasing obesity rates in America.
- Low-Carbohydrate diets lead to quicker weight loss than low-fat low-Calorie diets during the first six months, however over a one year period the difference in weight loss is insignificant.

Because these diets can be restrictive, many dieters are unable to adhere to the diet restrictions for long periods of time. Therefore, there is little research on the efficacy of the long term results of these diets.

- The key to weight loss with commercial diets is to follow the diet program correctly, if the dieter stops following the diet they often end up gaining back much of the weight they lost. These diets can also have adverse side effects such as ketosis and vitamin deficiency.
- Exercise proves to be a vital part in weight loss and weight loss maintenance. Additionally there are many health benefits to regular exercise.
- For individuals that are affected by hypnotherapy, hypnosis is an option that could help in the weight loss process. And for obese patients who are unable to lose weight, diet pills can sometimes help to achieve weight loss.
- Weight loss surgery can be a start to the weight loss process for morbidly obese patients, who are otherwise unable to begin their weight loss with a diet and exercise plan alone.
- To be successful in weight loss a dieter should create a diet plan that fits with their lifestyle. To achieve weight loss the diet plan should have a negative energy balance. Dieters should eat a variety of fresh healthy food, and supplement an exercise plan to maintain weight loss.

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12.0 Appendix

<i>12.1. Efficiency of Diets Survey Results</i>	182
<i>12.2 Food Nutrition Awareness Survey in Morgan Dining Hall in Worcester Polytechnic Institute</i>	275
12.2.1 Questionnaire	275
12.2.2 Results.....	276
<i>12.3 Worcester Polytechnic Institute Healthy Eating Campaigns Survey Results</i>	291

12.1. Efficiency of Diets Survey Results

Gender	Age	Have you ever been on a diet to lose weight?	Have you ever been on one or more of the following diets?	Did your diet plan include exercise or did you exercise while you were on a diet?	How would you rate the Atkins diet?	How would you rate the South Beach Diet?	How would you rate the Weight Watchers Diet?	How would you rate the Jenny Craig diet?	How would you rate the Nutrisystem diet?	How would you rate the Alli diet?	How would you rate the Zone diet?	If you selected other, how would you rate this diet?	Are you happy with your weight?	Do you exercise? How much? What kind of exercise do you do?	If you could, please provide your weight and height
Male	30-39	No	Never been on a diet	N/A - Never been on a diet plan									Yes	yes. few hours a week. rock climbing, soccer.	5'10" 135 lbs
Female	60-69	Yes	Atkins, I've been on diets - but not a fad diet	Yes	5							1	No	Goal is daily. Actually manage about 4 days a week. Use a recumbent exercise bike for 30 minutes to an hour.	5' 6" 180 pounds
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes		
Female	50-59	No	diabetic diet	N/A - Never been on a diet plan								2	Yes	Tai Chi 3 times per week	
Female	70 and over	Yes	I've been on diets - but not a fad diet	No								4	Yes	Tai Chi three days a week	5ft61/2in - 130 lbs

Female	50-59	Yes	Atkins, South Beach Diet	Yes	3	3	3					No	Walking--50 minutes about 3x/week	5'8" , 185 lbs
Female	50-59	Yes	Atkins, Blood Type	No	5						5	No	no. Hip pain	165 lbs. 5'3"
Female	50-59	Yes	Atkins, South Beach Diet, Weight Watchers	Yes	2	3	3					No	Eliptical, regularly for a period of time and then nothing for a while.	5.5 170
Female	50-59	Yes	South Beach Diet, Weight Watchers	Yes		5	4					No	I work out with a personal trainer 3 times a week - 30 minutes of fitness/strength training plus 30 minutes of cardio. My job is one that keeps me on my feet and active as well.	245, 5'6"
Female	60-69	Yes	Atkins, Nutrisystem, Zone	Yes	4				4			No	recumbant bike; total knee replacement and neurocardiogenic syncope prevent additional exercise.	5'10" and 225 lb
Female	60-69	Yes	Weight Watchers	Yes	0							No	I used to and then I had surgery and stopped and haven't gotten back into it.	5 feet no inches 184#
Male	50-59	Yes	Atkins, Weight Watchers, Jenny Craig, liquid (to lose weight before surgery)	Yes	1			4			4	No	Walk about 2-3 miles daily in summer occassionally the rest of the year.	5ft. 7in. 240lbs.
Female	20-29	Yes	Atkins, Weight Watchers	Yes	5							No	Yes, frequently work out with weights, cardio exercises, etc. Approximately 4 times/week.	5'5" 160 lbs
Female	40-49	Yes	Weight Watchers, I've been on diets - but not a	Yes							3	No	Yes, I exercise 4 to 5 times a week with	145 lbs. 5'3"

			fad diet											weights, cardio, and spin bike.	
Female	50-59	Yes	Weight Watchers	Yes								No	Sporadically - try to get to the gym 3x a week. Spinning and group classes	184.5 / 5' 7"	
Female	40-49	Yes	Atkins, I've been on diets - but not a fad diet	Yes	5						5	No	Not at the moment	5'5" 170	
Male	60-69	No	Never been on a diet	N/A - Never been on a diet plan								No	a little walk	5' 6" 280	
Female	40-49	Yes	Weight Watchers	Yes								No	Not enough, I walk.		
Female	40-49	Yes	South Beach Diet, Weight Watchers, Nutrisystem	Yes		2	2			2		No	I have physical limitations. I try to walk a few miles a week, and do some aerobic dancing when I can.	179 lbs, 5'4"	
Male	30-39	No	Never been on a diet	N/A - Never been on a diet plan								Yes			
Female	30-39	Yes	Weight Watchers	Yes								Yes	yes 4-6 times a week walking 2-4 miles	5'2" 120lbs	
Female	30-39	Yes	I've been on diets - but not a fad diet	Yes								No	yes, stair stepper with weights, not often enough		
Female	30-39	No	I've been on diets - but not a fad diet	Yes							4	No	Yes, approximately 14 or more hours per week. Walking.	145, 5'4"	
Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan								Yes	Yes. 3x/wk Strength training,	118, 5'1"	

														cardio, pilates	
Female	30-39	No	Never been on a diet	N/A - Never been on a diet plan									Yes	yes, 3 times a week, gym workout	5'3' 140
Female	60-69	Yes	Dr. Phil	No								5	No	No	165 lbs 61 inches
Female	60-69	Yes	Sugar Busters	Yes									No	I walk	5' 6" 189 lbs
Female	20-29	Yes	Weight Watchers, Alli	No						4			No	curves 3 times a week for 30 mins weights and cardio	165 5'6"
Female	60-69	Yes	Weight Watchers	Yes											
Female	50-59	Yes	Atkins, South Beach Diet, Weight Watchers, Alli	Yes	2	2	2			5			No	Some times not regular but weights, tread mill try for a few times a week	5'6" 164 lbs
Female	50-59	Yes	Atkins, South Beach Diet, Weight Watchers, Alli	Yes	5	3	3	0	0	3	0		No	yes 2x wkly treadmill and exercises	5'4" 226
Female	40-49	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes								5	No	treadmill	5'8" 195lbs
Male	50-59	No	Never been on a diet	N/A - Never been on a diet plan	0	0	0	0	0	0	0	0	Yes		
Female	40-49	Yes	Weight Watchers, low carb	Yes								4	No	cardio 20 min 3x or more times weekly resistance training 20 min 3x or more times weekly walking 1 1/2 hours 5x week	5' 7" 155
Female	30-39	Yes	Atkins, South Beach	Yes	3	3	3						No	Cardio	145, 5'0"

			Diet											
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5					No		
Female	30-39	Yes	I've been on diets - but not a fad diet	Yes								No		
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan								Yes	No, just occaional walking	125 lbs, 6'4"
Male	30-39	Yes	Zone	Yes						5		No	When I was on the "diet", I was exercising at least twice a week, doing the treadmill or the stationary bike. Now that my big push to lose weight is over, I only exercise once in a while. Life is too busy, and I'm not really giving it a priority just yet. In case you care... I was on The Zone for 16 weeks. I was very strict. It is not so much a diet as a way of life. It helps you understand the way different components of food (fat, protein, and carbs) interact and how your body needs all of them in a certain	205lbs and 5' 10"

														balance. I lost 46 pounds in 16 weeks. Now that I understand how the "diet" works... I am more-or-less in the Zone all the time. Sometimes, I'm more strict. Other times, I am less strict. But I have maintained my weight. It is an amazing diet. It was developed by Barry Sears. He spent his life working with Diabetics, and The Zone is built on his life's work. Good luck with your project.	
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Running one to three times per week.	5'7", 150 lb.
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5								5'7 135
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Not regularly.	155 lbs, 5'9"
Male	19 and under	Yes	Nutrisystem	Yes	5	5	4	5	5	5	5	5	No		
Female	20-29	No	low carb, high protein and fat, but not	Yes			5						Yes	I exercise by doing yoga, walking, and	5'7", 130 lbs

			specifically "atkins"											farming. Yoga - 2x per week, 1 hour each time Walking - 1x per week, 1 hour each time Farming - 3x per week, 4 hour each time	
Male	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Weekly. HIke Bike Walk	160 LBS / 5' 7.5"
Female	20-29	Yes	South Beach Diet, Weight Watchers, I've been on diets - but not a fad diet	Yes		3	3					2	No	Very little. I do not much time outside of work. Sometimes I use my Wii Fit to do yoga and step aerobics.	180lbs, 5ft 8in
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Yes, at least once a week.Different activities: kickboxing, tennis, snowboarding, dance, wall climbing, hiking.	120lb 5'3"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, cardio and freeweights (60 minutes) twice a week and rock-climbing twice a week (120 minutes)	5'7" 143lbs.
Male	20-29	Yes	Weight Watchers	Yes									Yes	In the winter, I exercise on average three days in the week but in the spring and summer when the weather is nicer, I	245 and 5'11 3/4"

														exercise between 5-7 days in the week (running)	
Male	50-59	Yes	I've been on diets - but not a fad diet	No										Note: I do not think the above question (happy with weight) is a yes/no question. I am not completely happy, but I am not actively unhappy either. Onto the exercise: I walk regularly, especially in the summer, when I walk 5 miles 2-3 times per week (golfing). I do core exercises about once per week. I should do more.	6'2", 195 lbs.
Male	30-39	No	Never been on a diet	N/A - Never been on a diet plan									Yes	NO.	160 lb/5'10"
Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Daily. Walk one hour/day. Strength training 3x/week for 1 1/2 hours.	130 - 5' 5"
Male	50-59	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Run 20-40 miles/week	132lbs/5'8"
Female	30-39	No	Never been on a diet	N/A - Never been on a diet plan									No	Yes ~3x week. Running, yoga, weight training.	5'8" 156

Male	30-39	Yes	I've been on diets - but not a fad diet	Yes									Yes			
Male	40-49	Yes	I've been on diets - but not a fad diet	Yes								2	No	Yes. Outdoor cycling. Indoor gym (various aerobic and weight lifting equipment). Frequency is inconsistent.	220 lbs, 5' 9"	
Female	20-29	Yes	Alli, I've been on diets - but not a fad diet	Yes						3		2	No	Yes, 3-5 times per week, 1hr each... cardio some weight training	5'9"	
Male	60-69	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Try to walk at least a mile a day, but not in bad weather.	5'9' 150 lbs	
Male	50-59	No	Never been on a diet	N/A - Never been on a diet plan									Yes	No	168 lb, 5'9"	
Male	60-69	Yes	Prune diet, kelp and lecithin diet	Yes									3	When committed, I jog 6 miles or swim one mile and I do one or the other of these at least 4 times per week. I am a winter wuss so swimming in an indoor pool predominates. It does not drop the weight like jogging does.	5 feet 6, 180 pounds	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Running 3X a week Weights 1-3 Times a week	205 6' 2"	
Male	40-49	Yes	Weight Watchers, P90X	Yes									5	Yes	At least three times per week. Lately	176 lbs and 5'10"

																		basketball at lunch for an hour. Also, just completed P90X extreme workout routine. That was intensive 6 days per week for one hour and 15 minutes of exercise with varieties of exercise including synergistic training, jump training, Kenpo Karate, arm,shoulders,leg,back and core training. That was for 90 days and I lost 36 pounds and have only fluctuated within a couple of pounds since then. I also took protein supplements,daily multivitamins, and fish oil. Best thing I ever did for myself!	
Male	40-49	Yes	self-imposed raw veggies and cottage cheese for 4 weeks to eliminate "freshmen 15"	Yes									5	Yes	Yes, run about 3-4 miles outdoors, anywhere from 1 to 3 times a week.	165 pounds, 5'11"			
Male	30-39	No	to gain muscle. shakes	Yes										Yes	yes 2-3 a week Soccer, Yoga, outdoors (hiking, snowboarding)	170, 5'10"			
Male	50-59	Yes	Weight Watchers	Yes										No	No.	5' 10" 280 lbs.			

Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	I do not exercise for the purpose of exercising, but I do get physical activity.	#####
Male	60-69	Yes	South Beach Diet, Weight Watchers	Yes		3	3						No	Walk 1 hour each day, karate twice/week (1 hour each)	139#, 5'5"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No	Weight lifting usually 4 days a week. Occasionally row for 20-45min.	194lb 5' 11"
Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Jazzercise - at least once a week, three times if I can get to a class. Otherwise I take stairs always (less than 5 stories up), walk as much as possible.	128 lbs, 5'4"
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Yes. 1-3 hours a day. 1 hour of yoga or pilates 4-5 times per week 40-60 minutes of cardio per day (swimming, elliptical, running, biking--sporadically) 1 hour of dance 2 times per week Lift several times a week as well. Other activities include: rockclimbing, hiking, skiing,	125 lbs, 5 ft 6.5 inches
Male	20-29	Yes	I've been on diets - but	Yes									Yes	4 times a week. 2	190 5'9"

			not a fad diet											times weight training and 2 times cardio. Every time at least 40 minutes	
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	Yes, 5 times a day. Running.	
Male	40-49	Yes	Atkins	No	1								Yes	The Atkins diet I tried and failed many years ago. Now I exercise, 5 days a week for 20-30 minutes per day. Recently ran a 5K in 21:50, not bad for an old man. Key is to eat good food (lots of fruits and grains) in moderate quantities and get some exercise.	175 pounds 6 feet 0"
Female	60-69	Yes	I've been on diets - but not a fad diet	Yes								2	No	I go to a gym 2-4 times a week. In good weather I walk 3 miles 1-2 times a week. I spend 30 minutes on an elipical machine then 4 weight machines.	5'1" 128
Male	60-69	No	Done carbo-loading	Yes								3	Yes	4-5 days/week. 45-60 minutes each. 3-4 days running; 1-2 days racquetball/squash.	73 in; 165 lbs
Male	30-39	Yes	I've been on diets - but not a fad diet	Yes								4	Yes	I play with my infant daughter 5 days a week. Involves more running around than more sports.	182, 5'9"
Female	30-39	Yes	Atkins, Weight Watchers	Yes	2								No	No, I do not make the time in my schedule to	160 lbs. 5'4"

															exercise. I have a lot of excuses as to why I do not go to the gym I am a member of, but they are just excuses. The fact is, I'm just not motivated to go. I'm on Weight Watchers now. When I lose some weight, I'll feel like I'm making a difference and see the weight coming off, then I'll be motivated go to the gym. I hope!	
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes								3	No	Usually cardio and weights 3-4 times a week	5'5", 145lb	
Male	30-39	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Regular cardio and weight training.	5'9", 160 lbs	
Male	30-39	No	Never been on a diet	N/A - Never been on a diet plan									Yes	In warm months I ride my mountain bike on outdoor trails once a week. That's about it!	135 lbs, 5'10"	
Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Run three miles every morning.	5'4" 120 lbs.	
Female	50-59	No	Atkins, South Beach Diet, Weight Watchers	Yes	0	0	0						No		5'4 200lbs	
Male	60-69	Yes	I've been on diets - but not a fad diet	Yes									No	A little - 15 - 30 minutes on a bike several times a week.	6 feet 250 pounds	
Female	50-59	Yes	Weight Watchers	Yes									No	walking occasionally	5' 6" 163	

Female	40-49	Yes	I've been on diets - but not a fad diet	Yes								2	No	Daily Yoga and Walking (weather permitting)	5'8", 213lbs
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	Yes. Running 5 days a week.	5'5" 120lb
Male	40-49	Yes	nu4you.net	Yes								5	Yes	resistance training, cardio. Four times a week.	6' 1", 180lbs
Female	30-39	Yes	Weight Watchers	Yes									No	none right now...	
Female	40-49	Yes	Weight Watchers	Yes									No	Walking, treadmill, some strength training. Not enough. Work out in spurts	5'8" 165 lbs
Female	60-69	Yes	Atkins, South Beach Diet, Weight Watchers	Yes	3	4	4						Yes	walk as much and as far as time permits	5'4" ; 126#
Female	40-49	Yes	Weight Watchers	Yes									Yes	30 minute brisk daily walk during lunch. I also do additional exercise at home with abs, cardio and weights.	152 lbs. 5'8"
Female	20-29	Yes	Weight Watchers	Yes									No	Off and on cardio and weight training at the gym - currently off.	5' 4" 180 lbs
Female	30-39	Yes	I've been on diets - but not a fad diet	Yes									Yes	Yes, 3 times a week, Cardio and Strength Training.	126 pounds, 5'5"
Female	30-39	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes									No	Cardio, including running, walking, elliptical: 3-4 times per week Yoga - 1-2 times per week Strength Training - 2	172, 5ft7in

														times per week	
Female	40-49	Yes	South Beach Diet, Weight Watchers	Yes		3	3		0				No	walk for a half hour daily	5'4" 160lbs
Female	40-49	Yes	Weight Watchers	Yes									No	I recently began exercising again. 3x week weights and cardio	170 5'5"
Female	40-49	Yes	I've been on diets - but not a fad diet	Yes								3	No	3 days a week. 1 mile on treadmill and weights	5'7" 147lbs
Female	60-69	Yes	South Beach Diet, Weight Watchers	Yes		5	4						Yes	3 x week, weights, cardio	150, 5'5"
Female	20-29	Yes	Weight Watchers	Yes									No	Not enough	140 lbs/ 5'1"
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes								2	Yes	Exercise 3-5 times per week. Cardio 3 days, weight training 2 days	5 ft. 6 in. 138 lbs
Male	60-69	Yes	I've been on diets - but not a fad diet	Yes									No	Walking - I try to reach a goal of one mile per day at work.	240 5'6"
Female	50-59	Yes	Weight Watchers, diabetic pyramid by myself	Yes								5	Yes	used to swim a mile a day and do an hour of aerobics and a half hour or more of dumbbells and an ab/stretching routine in my younger years. Now I do a half hour of interval walking on the treadmill, still do the ab/stretching routine in the early am and still lift dumbbells only lighter weight ones and less sets. (still want to get down at least 5 more lbs in	5'6" 159lbs

														weight)	
Female	50-59	Yes	cutting out the junk food- sweets	Yes								4	Yes	in the good weather- run 3-4 times a week aerobics class just joined a gym- treadmill- bike and weights- 3 times aweek	not sure
Female	50-59	Yes	Atkins	Yes	5								No	Yes - I do cardio for 45 minutes x 5-6 times per week; also do pilates 3 x per week for 40 minutes; lastly, I do strength training 3-5 times per week for 30 minutes.	5'5", 146lbs.
Female	40-49	Yes	South Beach Diet	Yes		5	4						No	Yes. Try to three times a week - abs, cardio/weight lifting and swimming	102 5'2"
Female	50-59	Yes	Atkins, Weight Watchers, Jenny Craig	Yes	3			4					No	I do use a treadmill at home, and walk in my neighborhood	135 5'
Female	20-29	Yes	Atkins, Weight Watchers	Yes	4								No	Yes. 3-4 days a week. Cardio and Weight training.	220 5'10"
Female	30-39	Yes	South Beach Diet, Weight Watchers	Yes		2	2						No	Yes, training for a triathlon so I swim, bike or run 5-6 times per week. This helps a lot with weight loss and body trimming.	5'3, 180
Female	30-39	Yes	South Beach Diet, I've been on diets - but not a fad diet, soup? cabbage soup? something like that.	Yes		3	3					1	No	Currently, I'm pregnant which is making things a little tricky! But when not pregnant, I usually	5 ft, 3 in. Pre-pregnant weight was 147 (let's go with that! :))

														would walk 30-45 minutes 3-4 days a week.	
Female	70 and over	Yes	Cabbage Soup Diet	No								5	No	Some	5'6" 150
Female	70 and over	Yes	Cabbage Soup Diet	No								5	No	Some	5'6" 150
Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan									No	Yes, 2-3 miles/per day	145/5'6"
Female	30-39	Yes	South Beach Diet, Weight Watchers	Yes		0	0						No	I use Wii Fit to exercise. I was exercising 3-5 times a week for most of 2009, and I lost more than 20 pounds doing that while on Weight Watchers, but lately it hasn't been as often. Outside of walking the dog and doing housework, I've been exercising only a couple times a month.	5'8" tall; 195 lbs.
Female	50-59	Yes	Atkins, Weight Watchers, Dr. Stillman	Yes	2								Yes	Running, pilates, yoga 3-4 times per week	5'4" tall, 115 lbs.
Female	30-39	No	I am on a gluten free diet	N/A - Never been on a diet plan									Yes	Walk every day for about a half hour. Sometimes do the elliptical machine.	W=115 H=5'6"
Female	20-29	Yes	South Beach Diet, I've been on diets - but not a fad diet	Yes		3	3						Yes	Yes - a few times a week, but not as much as I'd like. Life's so busy!	5'7" / 130 lbs.
Male	30-39	Yes	I've been on diets - but not a fad diet	Yes	4	4	4						No	run, elliptical, swim, weight lifting	6'2" - 245lbs

Female	60-69	Yes	Weight Watchers, Just me trying to eat fewer carbs and get more exercise	Yes									No	I walk a lot, go to the gym sporadically-- couple of times a week on average But I have to add that the effectiveness of diets changes with age: all diets I ever did were highly effective before I turned 50 and have been almost hopeless since then.	5'5" and +/-144 ough
Female	70 and over	No	Never been on a diet	N/A - Never been on a diet plan									No	Do not exercise much at all. Used to dance and walk quite a lot.	135lbs 5/3 1/2"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Much more active in spring/summer/fall - (sports leagues, etc) winter- not much. but if I needed to average- prob. about 3 hours/week	6'3" 175lb
Female	40-49	Yes	South Beach Diet, Weight Watchers	Yes		3	3						No	walking-1 time/week yoga-2 times/week	5'6" 155 lbs
Female	50-59	No	Never been on a diet	N/A - Never been on a diet plan									No	Hardly at all. But I know if I simply got on the treadmill that I have for an hour a day maybe I'd lose 10 lbs	5'6" , 152 Lbs
Female	40-49	Yes	South Beach Diet, Weight Watchers	Yes		4	3						Yes	I walk quite a bit, I also belong to Worcester Fitness and work out there at least a couple of times a	135 lbs., 5'5"

														week. I have also participated in the lunchtime yoga offered at WPI.	
														PLEASE NOTE: Weight Watchers is NOT a diet - it's a program to help people learn healthy eating habits and learn to avoid bad eating habits.	
Female	60-69	Yes	Atkins, South Beach Diet, Weight Watchers	Yes	1	2	2						No		
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	Daily walking.	132 lbs; 63"
Female	30-39	Yes	South Beach Diet, Weight Watchers, Jenny Craig, Nutrisystem, Alli	Yes	2	5	4	3	3	2	2		No	Not very often, if I exercised more it would make weight control easier	190 pounds 5'6"
Female	20-29	Yes	Weight Watchers	Yes									No	Not as much as I would like since I dont seem to have a workout buddy.	155 lbs, 5'3"
Female	50-59	Yes	Weight Watchers, Jenny Craig	Yes				2					Yes	I work out at the WPI fitness center 3 times a weeknow- 15 minutes on treadmill, 15 minutes on stationary bike. I also walk as much as I can.	5'6" 142lbs
Female	40-49	Yes	South Beach Diet, Weight Watchers	Yes		5	4						Yes	30 minutes 3-4 times/week	5'6 - 140
Female	40-49	Yes	Counting Calories and Fat	Yes								5	No	Mostly walking as I have arthritis.	5'5" 259
Female	30-39	Yes	Atkins, Weight	Yes	2			4					Yes	I try to exercise 3	177, 5 foot 2

			Watchers, Jenny Craig											times a week doing water aerobics.	inches
Female	20-29	No	diet to gain weight only	No			5						No	No.	5'4" 103 lbs
Female	40-49	Yes	Atkins, I've been on diets - but not a fad diet	Yes	4							1	No	I walk for 1/2 hour daily at lunchtime and in the spring, summer, and fall I jog 2.5 miles 5 days a week as well. Also 1.5 hours of lawn mowing once each week during those seasons. So one day each week during decent weather I jog, walk and mow the lawn. I feel good about myself that day!	5' 1" and 135 lbs
Female	30-39	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Walk 20 minutes twice a week, yoga every evening, weight lifting (picking up 20 pound toddler)	130 lbs, 5'6"
Female	50-59	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, I exercise. 2-3 times a week. Light weights, cardio, yoga and walking at noontime	5' 8" 130 lbs
Female	40-49	Yes	Atkins, South Beach Diet, Weight Watchers, best life	Yes	4	4	3					5	Yes	30 minutes daily at least 5 times a week	175 5' 7"
Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Not as much as I would like.	185lbs, 6'0"
Female	50-59	Yes	Atkins, Weight Watchers	Yes	4								No	I have exercised regularly since my late twenties. Aerobics on	5'2" 125 lb

														a machine of some sort (it varies) and weight lifting (machine and free). Three to four x week for this. Plus I walk my dog daily. Gloria Vanderbilt said you can never be too rich or too thin.	
Male	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Somewhat, tennis, racquetball, walk dog	150 lbs, 5ft 9in
Female	30-39	Yes	South Beach Diet, Weight Watchers, LA Weightloss	Yes	3	3	3					4	No	yes, average 3 times/week; dancing, walking, aerobics	250, 5'4"
Female	30-39	Yes	I've been on diets - but not a fad diet	Yes									No	Not enough -- I do some flow exercises when I get a chance -- walking whenever possible. Otherwise, farm chores are the only exercise opportunities I get.	5' 7" -- 170 lbs
Female	50-59	Yes	Physician-assisted plan	Yes	0								No	Limited - want to get back to a 4 day wk. regimen	139 - 5'1"
Female	30-39	Yes	Jenny Craig, Cutting Calories based on goal weight over time	Yes				5				3	No	I exercise four times a week. Two days are an hour of cardio: 30 minutes of treadmill running or elliptical and the other 30 is on a stationary bike. The other two days are one	5'6" & 160 pounds

														hour of a group weights class, plus 30 minutes of treadmill running or elliptical.	
Female	30-39	Yes	Weight Watchers	Yes	0	0	0	2	0				Yes	walk daily	143 5'6
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Gym twice a week: 20 min of treadmill 30 min cycle 30 min exercises + abs	79kg ; 1m80
Female	50-59	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes									Yes	walk, swim, 3x/week minimum	165#, 5'10"
Male	60-69	Yes	Weight Watchers	Yes									Yes	Not as often as I should in the winter. I bicycle.	200 lbs, 6ft
Female	50-59	Yes	Atkins, South Beach Diet, Weight Watchers	Yes	4	4	3						No		
Female	30-39	Yes	low carb and sugars	Yes								4	Yes	Yes. At least 3-4 times a week. Strength training and yoga	
Male	30-39	No	Never been on a diet	N/A - Never been on a diet plan									No	yes, 1/4 - 1 hour per day. Brisk walk	222 lbs, 6'2"
Female	50-59	Yes	Weight Watchers	Yes									No	walking about 3 to 4 times a week	
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes		110, 5'3"
Female	30-39	Yes	organized by my gym	Yes								5	No	No time for any right now, besides shoveling snow. I miss it!	160 lbs - 5'6"

														(Comment: The low-carb diet my gym provided was fantastically effective, but prohibitively expensive. Lots of raw fruits and vegetables just aren't sustainable on a grad student stipend. So now I'm back to my usual ramen-potatoes-rice based cuisine.)	
Female	50-59	Yes	Weight Watchers, Grapefruit	Yes									Yes	Walk up stairs	145 5'5"
Male	20-29	No	South Beach Diet	Yes	3	3	2						Yes	I try to get to the gym three days a week. I do cardio and lift weights.	150
Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	yoga, skiing, gardening, walking	5' 3" 118 lb
Male	40-49	No	South Beach Diet	No		3	3						Yes	Just walking as I go about my day	5'9, 160 lb
Female	50-59	Yes	Weight Watchers	Yes									No	Yes. Walk/jog 4 - 5 times per week.	157 5' 5"
Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	yes, walking	108 lbs 5'4"
Female	40-49	Yes	Atkins, Weight Watchers	Yes	4								No	gym twice a week, bicycle and elliptic and weights. once a week water aerobics	5ft 4" 148 pounds
Male	20-29	No	Never been on a diet	N/A - Never									Yes		6'0" 175 lbs

				been on a diet plan											
Female	40-49	Yes	Atkins, South Beach Diet, Weight Watchers, Nutrisystem	Yes	3	5	4		1			No	3-4x per week - yoga, elliptical, pilates, weights		
Female	40-49	Yes	Weight Watchers, Jenny Craig	Yes				4				No	Yoga 3x per week. Gym - Cardio 1-2x per week.	5'6" - 160 lbs.	
Female	30-39	Yes	I've been on diets - but not a fad diet	Yes							5	Yes	yoga 2x/week, cardio & weights 3x/week	120 lbs. and 5 feet tall	
Female	60-69	Yes	I've been on diets - but not a fad diet	Yes							4		try to walk daily for 35 minutes to an hour, usually turns out to 5 times a week cross country skiing when possible yard work -- including firewood moving in the winter, shoveling	132, 5 feet 3 inches	
Female	50-59	Yes	I've been on diets - but not a fad diet	Yes								Yes	Yes several times a week. Walking, yoga and aerobics	5'5" 130	
Male	50-59	No	Never been on a diet	N/A - Never been on a diet plan								Yes	run, walk, hike, lift etc.. Daily for an hour or so with longer on weekend	6' 173#	
Male	30-39	Yes	Weight Watchers, Zone, Body for life	Yes							1	3	No	I used to before a wife and kids, Weights and cardio	5'7" 210lbs
Male	60-69	No	Never been on a diet	No									Yes	Walk 2-3 miles a day with and without the dogs. Ride bike in summer from 14-20 miles every couple of days.	197 pounds, 5'11"

Female	20-29	Yes	I've been on diets - but not a fad diet	Yes								2	No		
Female	50-59	No	Never been on a diet	N/A - Never been on a diet plan									No	I get some form of exercise half to most days of the week, although nothing on a regular basis that's very strenuous. Walking, dancing, hiking, skiing, occasional "regular" exercises at home. Regarding above question (happy w/ weight) it's not so much the few pounds I'd like to lose as it is I'd like to be in better shape. And chances are, I'd probably lose those few pounds if I got more exercise!	115# 5'2"
Female	40-49	Yes	I've been on diets - but not a fad diet	Yes								3	No	I do normally exercise about 2-3 times per week at Worcester Fitness. I do cardio and strength training and have had some work outs designed for me that target my core. I do not consider myself to be overweight but just not toned and not in the best shape I could be in.	5'2" and 140

Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	1 hour 3 times a week	145
Female	50-59	Yes	Atkins, Weight Watchers	Yes	5								No	used to exercise 3-4 weekly 1-1 1/2 hrs. Cardio, arobic, walking, strength training. Injuries occured and prevent me exercising.	5'2" 185lbs
Female	30-39	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes									Yes	I exercise 4-6 times per week at the gym for 45+ minutes each day. (Closer to 60 minutes on the weekends, if I can.) I do cardio (fast walking, biking, ellyptical trainer) and some strength training. In the better weather, I prefer to walk outside.	145, 5' 7"
Male	50-59	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, 5x a week. Aerobics and weight training.	5'10" 200#
Female	40-49	Yes	Weight Watchers, Alli	Yes						2			No	Sporadically, typically all or nothing. If I am in an exercise mood, I typically walk/hike/treadmill or play tennis in the summer. Try to get at least a half hour in at least five times per week.	5' 4", 200 lbs.

Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	3-6 times per week. Cardio, weight training, spinning, and yoga	5' 6" apx 150 (guess i do not weight myself) size 6-8
Female	40-49	Yes	Atkins, Weight Watchers, overeaters anonymous, nutritionist, doctor plans	Yes	5							1	No	Daily floor exercises. 400 straight Leg lifts with arm lifts (2lb weights on each arm) in various positions. 100 bent knee leg lifts with arm lifts. Stretching exercises. Half-crunch "holds" with arm lifts (about 5 minutes total in various configurations). I have arthritis and stenosis of the spine, so walking or standing up exercises are harmful to my joints and back.	5'6", 350lbs
Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, at least 5 to 6 days a week. Three days of cardio and three days of lifting weights and machines. Also include power lifting, agility, speed work, and core strength training.	140, 5 Feet, 7 Inches
Male	40-49	Yes	I've been on diets - but not a fad diet	Yes									Yes	Elliptical trainer 55 mins per day, 3 - 5 times per week	155 lbs. - 71"
Female	60-69	Yes	Weight Watchers	Yes									No	Walking. Daily in	131, 5'4"

														good weather (30-60 min). 3 times per week on treadmill during winter (30 min).	
Male	60-69	No	Never been on a diet	N/A - Never been on a diet plan									Yes		150 lbs 5'9"
Male	30-39	Yes	Atkins	Yes	4								No	Once or twice a week	5'11", 185 lbs
Female	50-59	Yes	Weight Watchers, Own regimen	Yes									No	No but know I should.	
Female	30-39	Yes	Atkins, South Beach Diet, I've been on diets - but not a fad diet	Yes	4	4	3					3	Yes	Yes. Once a week. Running and Yoga	130lbs , 5'4"
Male	30-39	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I exercise nearly every day (probably 5 days a week on average). I generally do weight lifting for 40-50 minutes, and then cardio for 30-40 minutes. Cardio is a mix of running, elliptical machine, or stationary bicycle.	6'0", 175 lbs.
Female	30-39	Yes	Weight Watchers	Yes									Yes	Try to exercise four times a week. Combination of kickboxing and running.	5'8' 186 pounds
Female	40-49	Yes	Weight Watchers	Yes									No	Walking	
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes								5	Yes	During the diet period, 3-4 times a week. I lost around 15 pounds between February and September by eating	126lbs - 5'7"

																	carefully and exercising (elliptical, abs, mild weight training, and some fun classes at gym). I then came down to a maintenance schedule of 1-2 times a week and didn't put back any weight. Over the last 1-2 months, I haven't exercised at all and have probably put back 2-3 pounds.	
Male	50-59	Yes	I've been on diets - but not a fad diet	Yes									No	weights;3x/wk physical labor, cutting cordwood, land clearing etc			245#/ 6-0"	
Female	50-59	Yes	Atkins, Weight Watchers	Yes	0								No	Walking (3-4 hours/week), canoeing (once a month in the winter, 4-8 times a month in the spring, summer and fall)			5'2", 144 lbs	
Female	40-49	Yes	Atkins, Weight Watchers, Alli	Yes	3	1	2				1		No	1 hour elliptical - 4 tmes a week and 1 hour of scupling toning class 3 times a week			156 lbs, 5'2"	
Male	30-39	No	Never been on a diet	N/A - Never been on a diet plan									No	I play racquetball every couple of weeks or so and try to walk instead of drive when I can. Other than that, being a grad student, I'm			185lbs, 5'11"	

														pretty sedentary.	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Not as often I would like, but I would like to try to go to the gym 2-3 times a week. I like to do cardiovascular exercises in order to keep a healthy heart.	5'11" - 160 lbs
Female	40-49	Yes	Weight Watchers	Yes									No	Walking or elliptical machine some weights- all infrequently-once or twice a week.	5'3" 170lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Varsity rower	6'3" 175lb
Male	19 and under	Yes	I've been on diets - but not a fad diet	No	0	0	1	0	0	0			Yes		
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	yes. 6 days a week, weight lifting for bulking phase during cutting phase, 6 days a week weight lifting, plus 3-4 cardio sessions	5 feet 10; 180lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	3 to 4 times per week, mostly weightlifting for sports, small amount of running	178lbs, 5-11
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	yes, but only when I have time. And not as frequently as I used to because I am injured	165 lb, 5'5"

Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, Squash / Racquetball regularly, lifting 3-4 times a week	5'10, 180lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I exercise a couple hours a week.	5'10" 150 lbs
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						Yes	3 times a week. regular cardio and lifting	180 lbs and 5'8"
Female	19 and under	Yes	Atkins, I've been on diets - but not a fad diet	Yes	2							4	No	Sometimes. I use the elliptical or the treadmill. Occasionally I lift weights.	5'7", 200lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes		5 foot 9 165 pounds
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes								3	No	Not currently.	180lb, 5'11"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	normally I run 3 miles times a week but I am currently injured.	150 lbs 5'10'
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Fencing for 1.5 hrs. twice a week	5'9" 145 lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes. 30 min day of cycling with another 10 min of upper body strength exercise.	140, 5'8"
Male	19 and under	No	Never been on a diet	N/A - Never									Yes	Rarely. Went to the gym over the summer	6'1", 155lbs.

				been on a diet plan										once a day for a half an hour for weight training, not weight loss.	
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes											
Female	20-29	Yes	Just eating a lot less and working out a lot more	Yes								3	No		
Male	60-69	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Walking.	175; 6'
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						No	No	120, 5'2"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	exercise 4-5 times a week. weightlifting and basketball	6' 160 lbs
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	Not much, usually just the running around that I have to do on campus everyday	147 pounds, 5'4"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, somewhat regularly. I run twice a week, usually about 3.5 miles each day, and play intramural sports.	5'10", 155 pounds
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	I exericse when i can, or my schedule allows me to. I do elipticle, stationary bike, and weights	130lbs. 5'6"

Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	I exercise for about 30 minutes 6 days a week, generally cardio and some strength training.	5'8" 135lbs
Female	20-29	No	I've been on diets - but not a fad diet	N/A - Never been on a diet plan			5						Yes	I dance twice a week for probably an hour each time.	110, 5'4"
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									Yes	Everyday I run at least 4 miles, sometimes I do the bike for a half hour too.	125, 5'2"
Female	19 and under	No	Never been on a diet, I've been on a weight gain type thing- it involved drinking a lot of Boost	N/A - Never been on a diet plan			4						Yes	I dance (ballroom) three days a week, 1-2 hours of lessons, plus dancing socially once a week and usually on weekends.	Weight: 130ish, Height: 5'7"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Pushups/situps and stretches every night. Weight training when I have time.	155 lbs, 5'11"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	about 40 minutes every weekday, cardio and strength building alternately	6' .5" 165lbs
Male	19 and under	No	Never been on a diet, I've been on diets - but not a fad diet	Yes									Yes	Yes, 6 hrs per week. 45 min of cardio, and 30 min of weightlifting	165 cm, 65 kg
Female	20-29	No	I've been on diets - but not a fad diet	Yes			5						Yes	Every day - either 2 hours of swimming or running. I also weight lift.	
Female	20-29	Yes	Atkins, I've been on diets - but not a fad diet	Yes	4								Yes	Yes, Im now on the Varsity Swim team for	136 5'6"

															WPI, so about 2 hours a day of swimming and 1 hour a day of weight lifting	
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	Run, go to the bikes, swim in the summer	5'4" 160lbs	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						No	Before college I exercised every day. Since I came to college I only exercise about once every two weeks. I run, do the elliptical, or take a dance class.	5'7" 150lbs	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	During the summer I would bike 10 miles a day (about an hour). Now I do 10 miles each week. It's not about the exercise though, it's about the food: not-in-a-box, organic, and mostly vegetables. It's about eating only until you're not hungry. It's about eating on purpose. It's about lifestyle.	124 lbs, 5 foot 8 inches	
Female	20-29	Yes	South Beach Diet	Yes		3	3						No			
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes								2	No	Walking, 30 minutes a day	~140, 5' 6"	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						No	Sometimes, about a half hour to an hour, bike, weights	163, 5' 1"	

Male	19 and under	Yes	I've been on diets - but not a fad diet, wrestling diet	Yes									Yes	Yes. 50 minute run every morning. plus workout at night which lasts 1-1.5 hours.	140lb 5 foot 7 inch
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						Yes	Play varsity sports and in my off-season, swim, run, lift, etc.	150, 5'8"
Female	20-29	Yes	Never been on a diet	N/A - Never been on a diet plan	0								Yes	Exercise 5-7 times a week 3-4 times a week I run on the elliptical on high resistance for 40 minutes 2 times a week I walk for an hour or play basketball for an hour	110 pounds, 5'1"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No	4 Days a week, mostly weight lifting but with a couple days of cardio thrown in as well when time permits	6'6" 280
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						Yes		
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									Yes	Not really. I used to exercise more by playing sports. Now I occasionally go to the gym and do the bike, and lift weights. If it's nice outside I'll play frisbee and outside	150 lb 5'4"

														games with friends.	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						Yes	Yes. WPI crew team. If not doing crew, do running on myself.	50 kg 1.66m
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	yes, not alot, running sometimes	5 feet, 5 inches, 145 lbs
Male	19 and under	No	Never been on a diet	No									No	i try for three times a week.. Muscular endurance	6 foot 160
Female	19 and under	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes							2		No		
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	I exercise when I have the time. When I am not busy I usually exercise about 2-3 times a week for 20-30 mins. I do aerobic exercises.	110, 5'1"
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						Yes	Yes, about an hour + a day, I run distance with track	112 lbs, 5 ft 5.5 in
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5						No	Yoga, twice/week	163cm/66kg
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5						No	3 times a week for an hour. Running and weight lifting	5'11" 140 lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Ultimate frisbee a couple times a week. Snowboarding in winter. Jogging.	140lbs, 5'10"

Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan				5					No		
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	I exercise a lot. I run 2-3 miles on my lifting days, and 4-6 miles on my non- lifting days. My lifting and non- lifting days alternate.	148lb, 5'7"
Female	20-29	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes								2	No	No i do not because of my busy schedule I do not have time to and when I do have time I am too tired and unmotivated to exercise. When I do exercise, I run and do abs.	5 foot 2 inches 145lbs
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									No	I do fifty push ups a night.	5'9" 160 lbs
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									No	yes, not enough	180 lbs, 6'2"
Male	19 and under	Yes	Zone	Yes							0		Yes		
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I jog basically every day for an hour or so. Sometimes (1 to 2 times a week) I lift weights.	135 lb, 5'8"

Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I exercise 4 times per week for an hour each time. I mostly do calisthenics or low weight, high rep exercises	180lbs, 6ft 2 in
Male	60-69	No	Never been on a diet	N/A - Never been on a diet plan									No	Infrequently. Hiking. Gardening. Wood splitting. Biking.	6'0" 185 lb.
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Some biking in summer	5' 8". 180 lbs
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes								3	No	does dragging a bookbag full of textbooks up the hill count?	I would but I dont' remember them
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									Yes	I exercise often, I go to the gym, play field hockey for my school, play intramurals, club lacrosse, tennis, and I ski and enjoy outdoor activities.	140 5'7"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I used to do marching band, but had to stop due to a foot injury. Now, I just settle for playing on a drumset regularly. It's intense.	5'9" and 130lbs
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes.Not Sure. Recreational Sports/Running.	5'8" 150 lb
Female	20-29	Yes	Weight Watchers	Yes									No		

Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Not enough, usually hill climbing (a.k.a getting to class) and occasional bicycling when I'm home	6'0", 135 lbs
Male	20-29	No	Atkins, South Beach Diet, Weight Watchers, Jenny Craig, Nutrisystem, Alli, Zone, Never been on a diet, I've been on diets - but not a fad diet	Yes	5	5	4	5	5	5	5	5	No		
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Yes, approximately 4 times a week, Cardio and weights	112 lbs, 5ft 4"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	No, i do not exercise.	6 ft 160
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes								3	No	On a varsity athletic team	5'9, 197lbs
Female	19 and under	Yes	South Beach Diet	Yes		4	3						No	yes, half an hour of cardio per day	130lb, 63 inches
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, workout in the gym around three times a week and play two varsity sports for WPI	6'3" 185 pounds
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes								4	No	I currently exercise over 7 hours a week through dancing. I also try to fit in time for going to the gym.	150, 5 foot 4 inches
Female	20-29	No	Never been on a diet	N/A - Never been on a			5						Yes	I run cross country and track, so that's about an hour or two of	140 lbs, 5'10"

				diet plan											exercise six days a week.	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	1.5 hours a day of running, lifting 2 - 3 times a week along with core 2 - 3 times a week	6'4" 158lbs	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Not as much as I should.	6'1" 279lbs	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes		150 pounds, 5'7"	
Female	20-29	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes									No	1hr a day of any of the following (except during finals week) running yoga rowing elliptical aerobic workout video	169lbs 5' 7"	
Female	20-29	Yes	Atkins	No	4								No	Some, just walking and jogging a few times a month.	5'6", 270lbs	
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	I do not go out of my way to exercise at a gym, but I make sure to make walking and biking part of my daily routine. I also swim and dance sometimes. As a note, I do not know if this affects my relevance in this	5'5" 220 lbs	

														survey, but my weight problems are due to an underactive thyroid.I've only recently begun taking medication for it, and we're still trying to work out the dosage, so my weight doesn't necessarily reflect how I eat and act.	
Female	20-29	Yes	South Beach Diet	No		1	1						No	not usually. basically just the normal walking to classes and the store and stuff like that. I dance alot on the weekends but i dont do structured exercise while in college	ht: 5'4" wt: 130
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	yes, swimming and running when i can	6 foot 2 inches. 140 lbs
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						Yes	I run if I have free time. And I play on the Women's basketball team so it's about 2 hours of exercise 6 times a week.	5'5" and 150 lbs
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes								5	Yes	I exercise an hour or hour and a half a day. I run for 3-7 miles and do pushups and sittings.	215, 6' 5"
Male	19 and	No	Never been on a diet	N/A -									Yes	I am an athlete. I try to	150 lb 5' 9"

	under			Never been on a diet plan										exercise at least 4 times a week though that varies depending on my class load. I try to mix cardio and strength training. I also pole vault.	
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			5						No	Yes. Two hours a day. 1.5 cardio and .5 lifting.	170, 6'1
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			80						Yes	I do not exercise.	5 feet 6 inches 135 lbs
Male	50-59	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes. 3 days per week, about 30 minutes each. Exercise bicycle and stretching exercises.	5 feet, 11 inches. 176 lbs.
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, running, 50-80 miles a week.	143, 5' 11"
Male	19 and under	No	Never been on a diet	No	0	0	0	0	0	0	0	0	Yes		74 in 165 lbs
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						Yes	yes- i'm a member of the fencing club-so 2 1.5hr practices a week	5'6" ~150lbs
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									No	3x a week treadmill and weight lifting	5'3", 158lbs
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						No		

Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes		
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, a few times a week, upper body, cardio, flexibility	150 lbs and 6 feet
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan			181						No	i try to go running everyday though school work has not allowed it for the past couple weeks.	150 - 5'4"
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									No	I do not really exercise anymore, but I used to run a lot. I miss it, but I just do not feel like I have time for it anymore.	140, 5' 4"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Minimally. Walking counts, right? I used to run CC, but have become a lazy slob since. A skinny lazy slob, mind you.	130lbs, 5'9"
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									Yes		120 lbs 5'6"
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						Yes	not often enough. tough being in Stoddard and being busy... gym is far	160 lbs 5 ft 7 in
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Not much at all	5'2, 110
Male	20-29	Yes	Never been on a diet, I've been on diets - but	Yes								4	Yes	ran 2 miles a couples times a week	150 lbs, 5 foot 10

			not a fad diet													
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	Nope, I do not exercise at all except for walking up the hill several times daily. :)	5'3.5", 127 lbs	
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, play ultimate frisbee several times a week, jog on treadmill several times a month	170lbs 5'9"	
Female	20-29	Yes	Atkins, Weight Watchers, I've been on diets - but not a fad diet	Yes	3							2	No	I play rugby, exercise about an hour a day in the gym in the off season. Mix of cardio and weights.	5'8" 200 lbs	
Male	20-29	No	Never been on a diet	Yes									Yes	Yes Right Now 3 times a week. Most times 5-6 times per week Weight Lifting w/ HIIT (High intensity Training)	183 6'1"	
Female	19 and under	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes									No			
Male	20-29	Yes	My own diet	Yes								5	Yes	Yes. About 5-10 hours a week. Running, biking, weightlifting.	183 lbs, 6'1"	
Female	19 and under	No	I've been on diets - but not a fad diet, I guess you can say that I've been on a diet, but it's more of a diet to help me eat healthily, rather than lose weight.	Yes				4				3	Yes	Yes, I exercise when I have the time. I'm very busy with school so unfortunately I do not find very much time on my own to exercise, but this term I scheduled two physical education classes (Swimming for	I am about 103 lbs, and 5'3".	

																Fitness; Mat Pilates) to help me exercise regularly again. If I do exercise on my own, it is typically running.	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4							Yes	Yes, I walk up and down the hill multiple times a day	89, 5'2"	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan										Yes	Varsity cross country and varsity track I run around 60 miles per week	145lbs 5ft 9in	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan										No	I walk two miles on the treadmill about once a week.	5'6" - 160 lbs	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan										Yes	about 2-3 hours/day Rowing machine, weights, rowing, running	6'4", 190 lbs	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan										Yes	I exercise about twice a week, although I plan on going more often when we come back for Christmas. I do about a half hour of cardio and then about 45 minutes of weights	6 feet, 150 pounds	
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes										Yes	Short walk every day of the week. Exercised at the gym 3 days a week.	120 5'3	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan										Yes	Not especially. Walking to campus from my apartment and back a few times a	5'11" 130	

															day (probably totals around half a mile each day).	
Male	20-29	Yes	Personal Diet	Yes								5	Yes	When I was training, about 15 hours a week. Kind of busy now that I'm in grad school, but about 3 hours now.	180 lbs, 6'	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	either bike or run at least 3 times a week	180 lbs, 6'2"	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									No	I try and exercise everyday but when it is late in the term it is reduced significantly. I try and do some cardio, strength training, and playing sports like basketball.	150, 5'5	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			4						No	no. sometimes sit ups...	125, 5'6"	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I'm a member of the track team, and typically spend 1-3 hours exercising per day.	5'10" and 148 pounds	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, I lift weights 3 times a week	5'4", 120 lbs	
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									Yes	Dancing/ Aerobic exercises/running, total of about 8 hours a week	5 feet and 4 inches, 120 pounds	

Male	50-59	Yes	South Beach Diet	Yes		0	1						No	Yes. 3-4 times a week. Walk on treadmill.	210 lb, 5' 11"
Male	19 and under	No	I've been on diets - but not a fad diet	Yes	4	2	2	2	3		5	4	Yes	I walk and run about 2 or 3 times a week.	165 lbs., 5'10"
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes								4	Yes	yes. Everyday. cardio + weights	1.7m 72.6kg
Female	20-29	No	Zone	Yes	2	1	1	0	0	0	4	0	No	I exercise every couple of weeks doing construction and other work around that house. I have an elliptical, but it is currently broken. When it was working, I used it a few times a week. The parts just came in to fix it, so it should be back up and running soon :)	5'5", 150lbs
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									No	yes, I do a lot of cardio such as jogging and using the elliptical as well as doing some conditioning exercises	135, 5'2
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						No	I play a varsity sport at wpi	133lb and 5feet4inches
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Only walking up and down the library stairs twice a day to class.	5'3" 100lbs
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, I play ultimate frisbee, ride my unicycle or bike fairly often, and play ping-pong. That's pretty	145 lbs., 6' 2"

															much it. The only real dietary thing I do is I do not drink any carbonated beverages, but that's more of a personal preference thing then health related.	
Male	20-29	No	Never been on a diet	Yes	3									Yes	play soccer 2-3 times a week. swim twice a week.	175 lbs, 5'10"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan										Yes	Yes, lot of walking, nothing else regular	175 lb. 5' 9"
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5							No	A bit. Marching Band, I like to swim. No real official exercise, since I do not swim often enough. I do not really have time.	5'7", 150 lbs.
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan										Yes	I'm on WPI's varsity track team: 2-5 hours of running, lifting, and stretching every day; 50 miles of running a week	5'10" 140lbs
Male	20-29	No	no	N/A - Never been on a diet plan										Yes	yes. about 3 times per week in B term, play roller hockey once a week and swim twice a week	169, 6 feet 2 inches
Male	19 and under	Yes	I've been on diets - but not a fad diet	Yes										No	Running, weight lifting and boxing	68", 165 lbs
Male	19 and under	No	Never been on a diet	N/A - Never										Yes	I exercise every few days, doing push ups	145 lbs 6 feet

				been on a diet plan										and ab work outs. I occasionally throw in some curls and other arm workouts, but not often enough.	
Male	60-69	Yes	Weight Watchers	No									No	Just walk the dog and walk to school half the time- about 10 minutes away.	5 ft 9 in 220lbs
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes								3	No	Used to do 30-40 min on the treadmill or elliptical 3-4 times a week. Haven't been doing it recently, but I plan to get back into it soon.	5'2" 125 lbs
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes									No		5'10", 240 lbs.
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes								2	No		
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I play basketball all the time. I do not work out much during the school year because of the time restrictions but I do in the summer.	5'11 145lbs
Male	19 and under	Yes	Never been on a diet, I've been on diets - but not a fad diet	Yes									Yes	yes, i try to exercise 3-4 times a week. I go to the gym and lift weights, run, erg and play basketball	175 lbs. Height: 5-9
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan	0	0	0	0	0	0	0	0	Yes	Yes, cycling and running. Your weight is depended on your lifestyle. Diets are stupid because once	168lbf 6ft

														your off them you go back to you regular eating habits (lifestyle) and you gain that weight back. So the answer is permanently change your eating habits or increase your daily acitivity or both.	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Four times a week, Weight lifting, practice	250, 6ft
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No		191 and 5'10"
Female	20-29	No	Never been on a diet	Yes									Yes	I try to work out four to five days of week doing at least 40 minutes of cardio and 20 minutes of abs and upper body. I like running, doing the elliptical, stairs, crunches, push-ups, and lunges.	155, 5'9"
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	I used to run every day for about 30 minutes. Nowadays too busy to do any exercise	5'1, 120 lbs
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						No	I usually exercise about 40 minutes weekdays on the stairmaster machine, the bike machine, or treadmill while I am at	155, 5'2"

														WPI. When I am home I go to the YMCA and do various cardio and spinning classes there weekdays ranging from 45 minutes to 1 hour and 15 minutes.	
Female	20-29	Yes	Atkins, Weight Watchers	Yes	3								Yes		
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes		160 pounds, 5 feet 9 inches
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I swim twice a week.	5 foot 10, 150 lbs
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I exercise at least 3 times a week. I usually run, use a stationary bike, and/or lift weights.	130, 5'3
Female	19 and under	No	i just eat in moderation	N/A - Never been on a diet plan			5						Yes	Yes. In field hockey season 6 days a week, average 2hrs a day. Out of season about 3-5 days a weeks 1-2 hrs. 40-60 min cardio, 30-60 min abs and core strengthening.	5'5" 140 lbs
Female	20-29	Yes	Weight Watchers	Yes									No	We go to WPI, I do not know about other students, but I barely have time to hang out with friends, let alone exercise every day, maybe it's just me, I	130-140 lbs, 5'3"

														do not know. But I really would like to exercise every day, I just can never seem to find the time. I think it's more effective to focus on working out vigorously and often, running, stretching, lifting, cycling, just being very active, and then eating appropriate foods not to excess. I suppose I'll do that someday but for now I'll have to live with being a bit chubby.	
														Oh, and as far as weight watchers goes, yea it's great for losing weight, it totally works, but at least for me, when I'm using my brain a lot, studying and doing projects, I need more food. And I just can't work when I'm hungry because it's so distracting. While the diet itself works, it just wasn't working with my needs as a student.	
Female	20-29	Yes	I've been on diets - but not a fad diet, 1200 Calorie diet	No								5	No	sometimes, fast walking, elliptical	5'0" 130lb

Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes								5	Yes	<p>My "diet" consisted of small frequent snacks with three small meals. I tried to stay away from processed foods and switched to wheat/whole grains and skim milk. I tried to restrict my Calories to 1300 (my goal weight 130) along with exercise.</p> <p>I ran 5+ miles every day (interval, pyramid, and pace workouts) with three alternating days of weight training as well. I also tried to stay active all day not just during workouts.</p>	5'5" 133
Male	20-29	No	Lots of marijuana, = too much food :(No	1							0	No	<p>I try to get a girlfriend so maybe we can exercise in the bedroom (lol!), but instead I just smoke myself silly and constantly munch on high saturated fat snack food. my life is a deep dark cavern of sadness. I have very high self esteem though so its ok.</p> <p>Body image these days is causing massive</p>	220 lb, 5'4"

														mental illness in all the poor girls out there who suffer emotionally just because of stupid media BS and their genetic makeup. F that right?	
Female	30-39	Yes	Atkins, South Beach Diet, low-fat diet	Yes	3	2	2					3	No	I have a dog, so I walk 4 times per day: twice for about 30-40 minutes, then twice for 10-20 minutes, very briskly, in a hilly area. I have rheumatoid arthritis, so I have to stick with low-impact forms of exercise.	5'12", 146 pounds
Male	20-29	Yes	Atkins, I've been on diets - but not a fad diet	Yes	3							4	No	Weights 3x a week. No planned cardio workouts but played pickup sports typically twice a week.	5'9" 250lbs
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes								3	No	I lift weights 3 times a week, and have day long sessions of extreme cardio a few times a month.	180 5'9"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	No. I plan on doing some over break :-)	6'0" 150lb
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes								4	Yes	Dance class, 3 hours per week Gym on occasion Walking - all the time	5' 5" 140lbs
Female	20-29	Yes	Jenny Craig	Yes				4					Yes	Not much, Just	165lbs, 5' 9"

														walking	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Play football, work out, play sports for fun (basketball, tennis...	5 foot 10 170lbs
Female	20-29	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes									Yes	I have begun exercising for at least a half hour at least 5 days per week. This usually includes a run on an Eliptical machine, and then pushups and crunches if i feel up to it (usually i do them).	~160 lbs 5' 4"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, mid distance running and some weightlifting once a week.	180lbs 6ft 3in
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	Yes. 15 Hours a week. Brazilian Jiu Jitsu, kettlebells, interval conditioning	5' 9", 150 lbs
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Not on regular basis. I go to the gym from time to time; using mostly treadmill and stairmaster	101 pounds, 5ft 6in
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Not much	165 lb, 5'8
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	yes. a couple hours a week. i run a bit, some push ups and sit ups.	5'9" and 135lbs

Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									Yes	Yes, I take gym classes every term so I exercise at least twice a week. In addition, I try to go rock climbing a few hours a week when I get the chance.	133 lbs, 5 ft 7 in
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes		5'6" 130
Male	60-69	Yes	I've been on diets - but not a fad diet	Yes								4	Yes	Walking plus other exercise.	
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes								5	Yes	I try to work out ~3 times a week. Push ups/pull-ups/ab exercises. Play some basketball/pick up games	155lb 5'7"
Female	19 and under	No	I've been on diets - but not a fad diet	Yes			5						Yes	Depends on time and season. I play soccer so in the summer and fall I get a lot more than in winter and spring. I stay in shape over winter by skiing	135, 5'6"
Female	20-29	Yes	South Beach Diet, I've been on diets - but not a fad diet	Yes		3	3					3	Yes	Yes, 5 times per week, usually 1 hour of cardio each day either running outside or on the elliptical at the gym.	5'1" tall 112 lbs.
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I exercise between 1 and 5 hours a day I am a member of the mens varsity crew	6'4" 215lbs

														team and the alpine ski team I also run, lift, mountain bike, and swim	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes		5'9" 160 pounds
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	Yes, not often enough. ~ 3 hours per week. Tennis, Squash	165 lb, 5' 10"
Female	19 and under	Yes	South Beach Diet, Weight Watchers	Yes		4	3						No	Yes, but not every day. I do elliptical, crunches, Wii Fit, and the bike.	180 5'7
Female	60-69	No	Never been on a diet	N/A - Never been on a diet plan									No	A few times a week I walk for about 20-30 min. I would like to lose maybe 5-8 lbs. I have, however, always found diets to be ridiculous. I eat healthy and adequately. What I do not get is enough exercise....very hard with my job of sitting at a computer a lot and working most of 7 d/wk!	143 lb 5ft 6 in
Female	19 and under	Yes	Weight Watchers	Yes									Yes	I play a lot of field hockey and run. Probably 5 days a	5'8" 155lbs

														week for an hour in the offseason. During season its more like 2 hours a day.	
Female	20-29	No	Never been on a diet	Yes									No	I dont get the change to exercise	~130 lbs, 5'6"
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	At least 3 times a week, either running for about an hour, or if I have studying/reading to do, I use the elipticals in Harrington. Core exercises like sit ups, leg raises, etc	6'2", 175 lbs
Female	19 and under	Yes	Weight Watchers	Yes									No	In the fall I did Colorguard, and would take walks. Now that it's colder, when I have the time to spare, or really need to destress, I'll do some DDR on heavy for around an hour and a half.	5'8" 202lbs
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	3 Varsity sports practicing at least 2 hours a day.	5'4" 130lbs
Female	20-29	Yes	Jenny Craig, Nutrisystem, Zone	Yes									Yes		92lb 5.3ft
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, About 1 hour a day, mostly road biking or playing sports	6'1" and 140lbs
Female	20-29	No	I've been on diets - but not a fad diet	N/A - Never									Yes	I am a track and field runner I exercise	135, 5'9"

				been on a diet plan										almost everyday, different types of interval and endurance workouts	
Female	19 and under	No	Never been on a diet	Yes			5						No	I do, when I have time to. In-season i have 2 hour practices 3x a week, off season i generally try to 30 mins of cardio at least 2x a week	140, 5'5"
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes		#####
Male	19 and under	No	I've been on diets - but not a fad diet	Yes									Yes	I swim varsity and excersise intensely 3-4 hours a day	6'1" 167.5 lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, 4-5 times/week Pull-ups/push-ups/curl-ups, dips, other calisthenics occasionally upper body/ lower body w/ weights run 2-3 times/week, ~12-15 miles/week	165 lbs 5' 11"
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Cardio, light weights, abs. Once or twice a week usually	5'4", 125
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes								3	No	running 30 minutes a day (when there is time) weights	5'5 140
Female	19 and	No	Never been on a diet	N/A -			5						Yes	Yes - weightlifting 3X	5'3" - 135 lbs

	under			Never been on a diet plan										a week, softball related activities	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	I run everyday as a member of the track and field team. I've also gone hiking in the mountains.	105lbs, 5ft
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No	Depends on the time of year. Summer and fall- mostly lifting. End of fall early winter - nothing. Late winter and spring lots of running.	6'5" 265
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									No	I play rugby A and D term (about 1 hour of cardio a day). During the winter I climb the library stairs to get to class.	5'6", 195 lb
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Yes. Every day I run two miles and do sit ups.	5'6, 122lbs
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No	Yes. Usually 2-3 times a week. I dance (partner dances i.e. tango, swing, etc.). Occasionally I will also use exercise machines like treadmills for exercise as well.	180lb, 5ft 11in
Male	20-29	No	Never been on a diet	N/A - Never been on a									Yes	I do not really exercise (go to the gym, go for a run, etc.) but I feel as	150, 5'9"

				diet plan										though I am fairly active between walking to and from campus and other every day activities.	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5					Yes	No...I pretty much walk up the stairs to my dorm room =]	5'3" 120 lbs	
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan								Yes	I started exercising more recently. Usually it is about 3 times a week. I generally either run on the treadmill or do the stationary bike. Most of the time I do ab work outs too.	5'8", 140 lbs	
Female	20-29	Yes	I've been on diets - but not a fad diet	No							4	No	Only minimal exercise - walking ~30 minutes per day.	160lbs, 5'4"	
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan								Yes	Running, Rock climbing	118lbs 5' 0"	
Male	20-29	Yes	personal diet plan	Yes							5	Yes	Exercise every day. Running, weight lifting, swimming. Between 30 minutes to 1.5 hours. I was on a diet for making weight during wrestling; I wasn't over weight	5'6 at 150 lb	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5					Yes	Yes, College Track and XC	115, 5'5"	

Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes								1	No	Yes. I swim at least ten hours a week and run for about 2 hours a week. Currently I am not "dieting", but I try to eat more fruits and vegetables, get enough protein and limit my carb intake. --- If this helps with your survey: At one point I thought I was overweight, so I consumed <1500 cal/day (went from 130 to 116 lbs) and exercised at least 2 hours a day. After going back to a normal diet and exercise routine, my current weight is higher than what my normal weight used to be.	135 lb, 5' 2"
Male	19 and under	No	Just avoid greasy foods	N/A - Never been on a diet plan								3	Yes	I do not exercise as much as I would like to. When I do, I climb, swim, or spar.	170 lbs, 6ft
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Yes I exercise daily alternating between cardio plus abs, and lifting plus jumprope.	I'm 150lbs 5'11"
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									No	No I try to when I can, for instance this Christmas break I will be. But, it is hard at	5'7" and 130 lbs

														school with all the homework and stdying. However, if I can I will jog at Alumni or play basketball, along with situps and different muscle building exercises.	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						No	Not enough, besides walking to classes I need to get on the exercise bikes more than once every 2 weeks.	135 pounds, 5'6"
Female	30-39	Yes	Weight Watchers	Yes									No	moderate walking	188lbs, 5'8"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Not really, unless running to classes count. And the PE requirement.	120 lbs., 5' 6"
Male	19 and under	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes								5	No	Yes. When time permits, 4-5 times per week. Running on treadmill, elliptical, and weight machines.	185, 5'8"
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes. I love rockclimbing, dancing, kendo - do not do any with regularity though	180ish, 5'8"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I run 2 miles everyday and do calisthenics. I'm also a vegetarian.	5'9 145 lbs
Male	50-59	No	Never been on a diet	N/A - Never been on a									Yes	3-5 times per week	#####

				diet plan											
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						No	I try to do some kind of cardio	5'3" 125 pounds
Male	19 and under	Yes	I've been on diets - but not a fad diet	Yes								3	No	Play Basketball, soccer, hike, run, tennis, and other outdoor activities	6" 225
Female	20-29	Yes	Never been on a diet, I've been on diets - but not a fad diet	Yes									Yes	Yes. Everyday. Either going to the gym and using cardio equipment, running outside or swimming laps in a pool	weight= 157 height 5 foot 11 inches
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes		150 66inches
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, about twice or three times a week. Muscle building	135, 6ft.
Male	20-29	No	South Beach Diet	Yes		4	3						No	Walking/treadmill, not often enough	165 lb., 6'1"
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Yes: crew practice, 1-2 hours 5-6 days a week	150 lbs, 5'10"
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						No	Gym couple times a month for 2+ hours	190 5'6"
Male	20-29	Yes	Never been on a diet	Yes									No	20-30 minutes on bicycle trainer per day. I'd do it for hours, but	187- 6' 1"

															I do not have time (and it's boring as all hell)	
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes								3	No	Nope.	180 lbs 5'6 feet	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Yes, at least three times a week. I do mostly cardio workouts with a good portion muscle development.	140lbs 64inches	
Female	20-29	Yes	South Beach Diet, Weight Watchers	Yes		3	3						No	I do whenever I can, but not as regularly as I would like. I walk and do various workout videos	5'4" 175	
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	Running or Lifting depending upon my strength goals	5'11, 183	
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes								5	Yes	Yes. I exercise at least 6 days a week and many times twice in one day. I weight train and run.	165 lbs, 5 Ft. 8 in.	
Male	50-59	Yes	Count Calories / Count sat fats	Yes									No	Walking. Highly variable... from 0 mi/wk to ~15 mi/wk when I'm doing well and have the time.	5' 10" 190 lbs	
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes		5'3" / 140	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	About an hour a day. Muscle training for physical therapy (hips and thighs to support	105, 5'5"	

														knees)	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I exercise, not always regularly. it depends if im involved with a sports team or not. I lift weights every few weeks sometimes more often.	170 lb. 6'1"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									No	Usually 30-45min 3-5 days a week. Usually biking, push ups, sit ups,	6 feet 4inches 213lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No	Swimming once a week, gym workout a couple times a week	185lb, 5ft 9in
Female	20-29	Yes	Weight Watchers	Yes									Yes		
Male	20-29	No	Zone	N/A - Never been on a diet plan									Yes	I exercise 6 days a week for 1 - 1 and 1/2 hours each time. I do cardio, and weightlifting	5'10" tall, 185 pounds
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Sweet Navy workouts	170 lbs 6'1"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	1hr per day. Running, boxing	5'9" 165
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									No	Yes. 30-50 minutes of erging or rowing a day. six days a week.	5'11" 142lbs
Male	19 and under	No	Never been on a diet	N/A - Never been on a									Yes	Not much. Maybe once a week if that. Run for a few miles.	130lbs, 5' 9"

				diet plan											Lift for 30-40 min switching up exerises.	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan										Yes	Not enough	6' 145lb
Female	20-29	Yes	Weight Watchers	Yes										Yes	I will get into month-long periods which I will exercise daily and then stop for other month-long periods.	5 ft 2 - 140 lbs
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan										Yes	MQP won't give me time to exercise, but normally I'd do a few hours of elliptical a week.	115-120lbs, 5'2"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan										Yes	fairly regular basis	6' 1" 165
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5							Yes	Yes, but not often. Generally running or sports.	118 lbs, 5'6"
Female	19 and under	Yes	not eating too much	Yes										Yes	Yes, at least 2 hours a day. I run on the track team (sprinting, mid distance, hurdles). During the off season I just go on runs from 3-5 miles.	130 lbs, 5'5"
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5							No	Bike and treadmill, try to three times a week.	140 lbs 5'4"
Male	19 and	No	Never been on a diet	N/A -										Yes	Not really, just have	5'9" and 185 lbs

	under			Never been on a diet plan										fun	
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes								4	Yes	I do some mid-distance (3-6 miles) running (2-3 times per week) and I do sprint and lifting workouts on a regular basis (3-5 times per week). I also play a lot of pickup and club sports in my free time.	5'8", 140
Male	20-29	Yes	Atkins, I've been on diets - but not a fad diet	Yes	4								No	ran 3 miles a day 5 days a week	250, 6'2"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes. Everyday for approximately an hour. Consisting usually of alternating days of weight training and running.	6'1" 175 pounds
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Running when I can. Gym twice a week. Dance twice a week or more. Rock climbing on occasion.	6'0" 145 lbs.
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I try to exercise about twice a week or more, but I often find I do not have the time with my coursework. I usually do a cardio routine focusing on the core muscles and endurance, occasionally with	145-155 lb, 6'-0"

														some light weight training.	
Female	50-59	Yes	I've been on diets - but not a fad diet	Yes								4	Yes	Yes. 30 minutes/day. Walking, yoga.	5'3", 120 lbs.
Female	19 and under	Yes	Weight Watchers	Yes									No	I do various cardio several days a week	145 lbs, 5'7"
Female	19 and under	Yes	Weight Watchers, Nutrisystem, I've been on diets - but not a fad diet	Yes						2			No	1.5 hours a day. Cardio for an hour(erging or biking or jogging). Abs every day. Weights every other day. Food is the factor. Did you know that only 2% of loosing weight is how much you work out? Excercise alone without caloric restriction does barely anything, but restricting caloric intake always effects weight. Therefore you should probably be asking what I eat..... I have had more luck loosing weight and sticking too it by being a vegetarian than by trying any mainstream diet. I believe that mainstream diets are just too applicable to the masses who are not varsity athletes.	140 5'3
Male	50-59	Yes	I've been on diets - but not a fad diet	Yes									Yes	out with dog at least twice per day -- mix of	145 lbs; 5 ft 9 in

														walking and running.use stairs as much as possible.park at a distance from stores and walk.walk to downtown and other locations rather than drive.	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Rarely	6'8" 150 pounds
Female	50-59	Yes	Atkins, Weight Watchers	Yes	3								No	Yes. Mostly walking whenever I can.	5'5", 150 lbs
Male	19 and under	No	I've been on diets - but not a fad diet	Yes									Yes		5'11" and 185
Female	20-29	Yes	I've been on diets - but not a fad diet	No									Yes	I play racketball once a week	107lb 5'1"
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes								2	No	Very on and off. Some months, it's multiple times a week. Some months, it's once or twice in the entire month. Elliptical, stationary bike, jogging.	155lbs, 5'8"
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	Weight room (weight lifting) Jogging (30 minutes) Breakdancing	5ft7, 175pnds
Male	20-29	Yes	I've been on diets - but not a fad diet	No									Yes	I lift weights tri-weekly for about about 60-90 min. and i play sports in the spring summer and fall	180 lbs 5' 11" ft.

Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes... approximately: fencing 3 hours a week, karate 3 hours a week, cycling 5 hours a week, plus ~2 hours of work outs for core strengthening and weightlifting...	150 lbs, 6'0"
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									No	Rowing maching 4 times per week for 30- 60 minutes	5'3", 142 lbs
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	When I feel I need to. Twice a week or more usually keeps me feeling pretty good. I do push ups and crunches regularly. I occasionally go running but I prefer to walk. Contra dancing!	140lbs, 5'-6"
Female	30-39	Yes	I've been on diets - but not a fad diet	Yes								5	Yes	I try to walk 30 minutes a day, or use the elliptical machine for 20 minutes. I enjoy hiking and kayaking, as well, when the weather is good.	122lb, 5'4"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No	I do not exercise.	130 lbs 5'9"
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	yes, i go to the gym 2- 3 tims a week for about an hour to do some cardio and lift	125 lbs, 5' 5"

														some weights.	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Jogging/walking	5'9" 140 lb
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No		160, 5'5"
Female	30-39	Yes	I've been on diets - but not a fad diet	Yes							5	Yes	Run, walk, dance, play basketball	5'6, 138	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I play tennis, squash, basketball, and soccer whenever I get the chance.	150 lbs. 5'11"
Female	19 and under	Yes	South Beach Diet, I've been on diets - but not a fad diet	No		5	4						No	No	150, 5'4"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I only exercise during school breaks..when I actually have the time I play various sports	150lb 6'1"
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan							5		No		
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									No	dance for 2 hours 3 days a week. and running when i get the chance. about 2 miles once a week.	5'3 115lbs
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									No	Running everyday. 2 miles	175 - 5'8
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I complete aerobic exercises every day, mainly by walking around campus (and occassionally	weight=135 lbs, height= 5 ft, 10 in

														jogging). Every once in a while, I will complete a 20-minute workout on a stationary bike.	
Female	20-29	No	Never been on a diet	Yes									No	I do on occasion. I enjoy sports like basketball and volleyball.	5'10" 160lbs
Male	50-59	Yes	I've been on diets - but not a fad diet	Yes								3	No	A bit, should do more.	6ft 2 inches 249 lbs
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes I do, I am a varsity athlete, so during season I exercise almost everyday and out of season I try to go to the gym at least 3 or 4 days a week. I usually run about 3 miles, sometimes bike, do abs, and lift.	I am 5'3" and about 102 lbs
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes								4	Yes		
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan											
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	yes, 3 times a week - half hour cardio and 150 crunches.	125 lbs, 5'4"
Female	20-29	No	Never been on a diet	No	4	4	3	4	4	4	4	4	Yes		
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No		5'2" 170 lbs

Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes. Every other day to every day. Whenever I have time. I usually run for 2 miles and do the ellyptical for 2 miles. Or I just run 4 miles.	5'5", 108 lbs
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes. Every other day to every day. Whenever I have time. I usually run for 2 miles and do the ellyptical for 2 miles. Or I just run 4 miles.	5'5", 108 lbs
Male	20-29	Yes	Atkins, I've been on diets - but not a fad diet	Yes	3							5	Yes	Yes, everyday, alternating between total body workouts every other day and cardio on the other days for about an hour to an hour and a half each day	6'5" 195
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I play soccer and basketball. I go to the gym and lift weights, and during the off season I go running.	145 lbs, 5'9"
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	yes, in the spring and summer months i play tennis, and i use my exercise bike as frequently as i can	5'5", 128
Male	60-69	Yes	Weight Watchers, Zone	Yes								4	Yes	some	5'9" 215
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	Atleast 3 times a week I run on the elliptical for 25 mins then I lift for an hour. I also play	164lbs, 5ft 8 inches

															club sports during the fall and spring.	
Female	20-29	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes								3	No	Yes lifting 5 days a week and throwing for the track team 6 days a week and occasional cardio	5'7 160 lbs	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I exercise by running for half an hour five times a week and doing lots of pushups and pullups	height: 6 ft. 1 in. weight: 170 lbs	
Female	20-29	Yes	Alli	No							3		No	I walk up the hill every day.	180; 5'8	
Male	20-29	Yes	I've been on diets - but not a fad diet	N/A - Never been on a diet plan								2	No	Yes ~4hr/week (at home) ~1hr/week (during school) Bike/elliptical/other	210lb/67in	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Nope. Walking to classes and around campus is all the exercise I do. I just eat right to not gain weight.	135lbs 6'1"	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	yes, I lift weights at the WPI gym every other day	140lbs & 5'8'	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Basketball once a week	5'10" 160lb	
Male	20-29	No	Never been on a diet	Yes	5	5	4	5	5	5	5	5	Yes			

Female	19 and under	No	Never been on a diet, I've been on diets - but not a fad diet	Yes			5					Yes	yes. everyday. basketball, running		
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5					Yes	If walking up stairs counts, I do that.	125, 5'5"	
Female	19 and under	Yes	I've been on diets - but not a fad diet	No							3	No	Not frequently.	200lb, 5'8"	
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes								Yes	Army PT. Callestetics and running	5'7 135	
Male	70 and over	No	Never been on a diet	N/A - Never been on a diet plan								Yes	Walk a mile a day on a treadmill. Some free weight exercises	170 lbs, 6'1"	
Female	30-39	Yes	Weight Watchers	Yes								Yes	Yes. About 3 times per week. A combination of cardio and weights. 30 minutes of running on the treadmill plus sit-ups, push-ups, arm weights, leg lifts, etc.	Height= 5ft, 3 in Weight=120	
Female	50-59	Yes	Atkins, South Beach Diet, Weight Watchers, Jenny Craig, grapefruit, cabbage....	Yes	5	3	3	1			5	Yes	Yes everyday walk the dog water aerobics/water fitness	200 - 5'5"	
Male	30-39	Yes	Never been on a diet	N/A - Never been on a diet plan								No	sporatic walking, golf, hiking, swimming	6'1" - 270 lbs	
Female	20-29	Yes	Atkins, I've been on diets - but not a fad diet	Yes	4							No		6ft. 165lbs	
Male	20-29	Yes	Bacon Diet	Yes	1	1	2	1	1	0	0	1	Yes	I play lawn darts and eat spicy cinnamon rolls. Occasionally I will engage in	4'11" 350lbs.

														aerobic roof jumping to work out my quads for the ladies. The ladies like the quadriceps. I tried flying once, but it didn't work out I ended up getting locked up for a few weeks under a Government conspiracy to lock me up as insane.	
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	I take basketball as a PE class so that's about 40 minutes twice a week. I play badminton and basketball on Fridays for at least 3 hrs and sometimes on other days if I have time. So about 5 hrs a week. I do not like to exercise. I do not see sports as exercise but understand that some people do.	Last time I checked, which was my doctor's appointment in Jan. 2009, I was 5' 2.25" and 111.5 lbs. I am happy with my weight but and not happy with my height.
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan										I do not exercise too much. I do marching band in the fall, and swim long distance (3 miles) once a year.	210 lbs, 6 ft 1 in
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Running. Usually 2-3 miles 4 times a week.	Height: 5'10" Weight: 145lbs

Male	20-29	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes									Yes	Yes, daily work construction push ups and other dumbbell free weight exercises	210 6'1"
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	A little, a couple of hours a week. Yoga, dance, or pilates	5'3" 95lbs
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						No	Yes I exercise, on average twice a week depends if I have time. I go running, basketball, and using the weight machines.	145lbs, 5'5"
Female	20-29	Yes	I've been on diets - but not a fad diet, vegetarian	Yes								4	Yes	Yes, 3-5 times a week, light weightlifting(high reps,low weights) and run 10-30min.	Weight- 120,Height- 5'2"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes. A lot. I am a cross country runner so I run roughly 50 miles a week on average. I also weight train on the side.	6'0" 175 lb
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes									Yes	yes everyday. i run/elliptical/bike, lift a little and do abs.	5'7 125 lbs
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes. During sports season, I have rugby practice/games 4 times a week for 2 hours. On off days I'll spend another half hour doing cardio and half hour lifting or core	115 lb 5'0"

														exercises. In the off season, I exercise 3-4 times a week for about an hour a day.	
Male	19 and under	No	I've been on diets - but not a fad diet	Yes									Yes		
Female	20-29	Yes	Weight Watchers	Yes									No	At least 4 times a week. I run, ride a stationary bike, lift a few weights, and do an ab workout.	approximately 5 feet 6 inches and currently 160 pounds
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	3-5 times a week. walk, bike, jog, gym sometimes	135lbs 6'
Female	30-39	Yes	I've been on diets - but not a fad diet	Yes									No	Yes, but not enough due to time constraints. I like to walk, hike, jog. Jogging 3 times per week for 30-40 minutes is the best for me along w/eating healthful foods but I haven't been doing this so gained weight.	5' 6" 182 lbs
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5								
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes	0	0	0	0	0	0	0	3	Yes	rarely, once or twice a week	119 lbs 5'2"
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						No	Yes, 4times/week, weight training, calisthetics, etc.	5'1' 105lbs.
Female	19 and	No	Atkins	Yes	3		5						Yes	In high school I did	107 lbs. 5'3"

	under													cross country and track, so I exercised regularly in the fall and spring. In college I tried cross country and dropped out, now I just occasionally do the elliptical machine for 30 minutes (twice in this past week).	
Female	19 and under	No	I've been on diets - but not a fad diet	Yes			5					4	Yes	Sometimes, for like 30 min to an hour, jog/run/dance.	125 lbs, 5.4 feet
Male	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	work outside doing farm work for exercise	168 lbs 5'6"
Male	19 and under	No	Zone	Yes							5		Yes	yes. daily. crossfit	5'8" 150lbs
Female	20-29	Yes	Atkins, Weight Watchers	Yes	2								No		
Male	19 and under	Yes	I've been on diets - but not a fad diet	Yes								4	Yes	Yes 5 times a week 2 cardio 2 weights	6 ft 190
Male	40-49	Yes	The "No S Diet" see http://www.nosdiet.com/	Yes								5	No	Yes. I walk 6 days per week for half an hour per day plus lift at the gym one day per week for 30 minutes	204 pounds five foot eleven inches
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Yes 6 times a week i play basketball	175/ 6'0"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	not really, im kind of a lazy shit. i play on the hockey team here and there so maybe that counts.	150lbs 6foot 3inches

Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	not really, im kind of a lazy shit. i play on the hockey team here and there so maybe that counts.	150lbs 6foot 3inches
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes								3	No	5 days a week, strength training and some cardio	5'5"/178
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I exercise when I can by running. The backpack I carry also has some heavy materials.	6' 1" 175 pounds
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I try to swim at least 1-2 times a week depending on school work and other responsibilities, this term i haven't been able to do that as often as i'd like. Other than that while i'm home i tend to ride my bike with my brother for exercise.	#####
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, I exercise at least an hour a day - running, lifting, and playing tennis/basketball.	158 lbs 5'11"
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, running, lifting, sports	5'7" 134lbs
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	Not since coming to college.	115 lbs, 5'1"
Male	19 and	Yes	I've been on diets - but	Yes								3	No	Biking in intervals of	5'7" 150lbs

	under		not a fad diet												5-20-5, 3 times a week along with ab exercises.	
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan										Yes	I run ~30 miles a week during the summer.	145 pounds, 5 foot 10
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan										Yes	Some. I play wii fit and do Yoga, go rock climbing.	Height: 5' 7.5", Weight: 140 lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan										Yes	walk around, sports on weekends, sex	62kg, 5ft 10inches
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan										Yes	Yes, I swim 2 hours a day for 5 days a week and I lift weights 3 days a week.	165 lbs. 5'9"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan										Yes	Yes, about 4 times a week. Push-ups, situps, run and sometimes go to the gym to lift	165, 5'11"
Male	19 and under	Yes	Atkins	No	3									Yes	Yes at least four times a week. Includes cardio, lifting, and various other exercises	5'10" 175lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan										Yes	I exercise somewhat irregularly, usually just through walking/hiking for fun. I do take time to work out and/or run (3+ miles at about 7min/mile) when I can (and am not feeling	6'1" 165lb

														lazy).	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No	No	230 lbs 6ft 1in.
Female	40-49	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Try to jog a couple of times a week. Otherwise mostly walk a lot, take stairs, etc.	140 lbs, 5'4"
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, a few hours a week.	5'2" 105lbs
Female	20-29	Yes	Never been on a diet, I've been on diets - but not a fad diet	Yes								3	No	Not much, but I wish I did have more time to exercise more.	150 lb, 5'2"
Female	19 and under	Yes	Vegetarian	Yes									No	Yes, about an hour a day, running and "ellipticalling" half and half.	133, 5'4"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes		#####
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes 4-6 days a weekstrength training muscle building	6ft 180lbs
Male	20-29	No	Keystone diet	N/A - Never been on a diet plan									Yes	no, never. I havent run to get in shape since high school	135 lb 5'4"
Male	19 and under	No	Never been on a diet	N/A - Never been on a									Yes	only crunches and push-ups every other day	6 ft, 145 lbs

				diet plan													
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, usually about 5-6 times a week for about 1 to 2 hours. I like to run, I alternate between sprinting and long distance for soccer and track and field training. I also enjoy the elliptical and bike and I like to lift weights.	I am 5'4" and weigh 145 lbs		
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, I ski in the winter and mountain bike in the summer. Usually around 5 times per week.	5'-10" 185 lb		
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I exercise once a week at the gym.	160, 6feet		
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, running, 2-3 times a week for 30-60 minutes	5'6" 150 lbs		
Female	40-49	Yes	South Beach Diet, Weight Watchers	Yes		4	3						No	Yes. 3-4 hours per week. Walking	172 5'4"		
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes		180 lbs and 6 feet		
Female	40-49	Yes	Weight Watchers	Yes									No	at the gym 6 days a week alternating 60 minutes of cardio and 60 minutes of strength training	5'4", 182		

Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	Rarely due to academic and extra curricular demands. Want to exercise more often. Typically run 30 minutes, set of abs, set of free weights.	120, 5'1"
Female	50-59	Yes	Atkins, Weight Watchers	Yes	2								No	I walk. 4x a week	5'2 137
Male	40-49	Yes	Atkins, Nutrisystem, Herbalife	Yes	3				5				No	I would exercise all day if the time allowed. Earning a living has top priority.	310 6' 0"
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, some exercise. Maybe 1-3 times a week. Some classes, such as Yoga.	130 pound, 5 feet and 8 inches
Female	20-29	No	Do my best to make healthy decisions.	Yes								3	No	I need to exercise more. Without doing school sports and other activities as such, I've started to gain unwanted weight.	5'8" 175
Female	40-49	Yes	Atkins, South Beach Diet, Weight Watchers	Yes	1	2	2						Yes	yes, three times a week for an hour. I run, use elliptical machine, lift free weights and some nautilus	5'6" 140
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes								4	Yes	I played varsity basketball for WPI when I was an undergraduate. I still play a lot of sports, run and lift weights. I usually work out 5-6 times per week for 1-2	6 feet, 195 lbs.

														hours at a time.	
Female	19 and under	Yes	Weight Watchers	Yes									No		5'2;130lbs
Female	50-59	Yes	Weight Watchers	Yes									No	No, I use too exercise all of the time and one day I just stopped and I am having a hard time getting motivated to start up again. And for the question "Are you happy with your weight?" Is anyone ever happy with their weight?	4ft 9 in and approx. 124lbs
Male	19 and under	Yes	I've been on diets - but not a fad diet	Yes									No	not regularly	195, 5' 9"
Female	40-49	Yes	Weight Watchers, Jenny Craig	Yes				2					No	not as often as I want. Treadmill, elliptical, free weights.	5'10, 199
Male	19 and under	Yes	I've been on diets - but not a fad diet	Yes									Yes	Run 30 mins 2-4 times/week	5' 8", 165
Male	20-29	No	Never been on a diet	Yes									Yes	Used to exercise 6 days a week, four days lifting weights and 2 days cardio. However, that became impossible when I started my MQP.	6'4" 230 lbs
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Ultimate Frisbee, twice a weak while in season.	6 ft 1.5 in; 125 lbs
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	elliptical 3-6 times per week, 30-45 minutes per workout Ab riper X 3-4 times per week	5' 9.5" 138lbs

Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, at least 4-5 times a week. I run, play basketball, play soccer, lift.	5' 8" 150lb
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	about 5 times a week, treadmill and rowing machines	5'11" 135lbs
Female	30-39	Yes	Weight Watchers	Yes									No	Walking- 3 times a week, try to go to the gym as often as possible to do liptical & weights.	225, 5'8"
Female	50-59	Yes	Weight Watchers	Yes									Yes	I run 2-3 miles every other day and walk half an hour on the others. I put that I'm happy with my weight, but wouldn't mind losing 5 lbs.	5'6"-150 lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Running, general monkey-ness. nothing in particular	150 lb, 5'10"
Female	50-59	Yes	I've been on diets - but not a fad diet	Yes									No	Noon dance class, 1-2 times/week cycling: 6 miles round trip to work or 20-30 minutes stationary about 4-5 times/week Walking: occasionally.	165; 5'4"
Male	20-29	Yes	I've been on diets - but not a fad diet	Yes									Yes	Yes, 3-5 times a week. Lifting weights, play hockey, cardio.	205, 5' 10"

Female	20-29	Yes	Weight Watchers	Yes									Yes	None, I would love to use the gyms in East Hall, but since I dont live there I cant. Maybe when WPI builds the new athletic center, the gyms on campus might be nicer, but for now they are awful	height: 5'6"; weight 150 lbs
Female	60-69	No	Diet to keep weight at current level	Yes									Yes	Walking & strengthening exercises. Varies, depending on weather for walking. 1/2 hr. for others.	
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	When time allows. I preffer 3-5 times a week. Generally 20 minutes of cardio and 30 minutes of wight lifting.	5'7" 157 lbs
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No	Exercise atleast 5 days a week at a local gym. Cardio exercises every day and lifting every other day. Cardio is usually elliptical or treadmill, sometimes bike. Lifting is based on a workout plan from my coach for offseason.	135, 5'3"
Female	19 and under	No	Never been on a diet	N/A - Never been on a			5						Yes	daily sports- crew and track	5'7" 160 lbs

				diet plan											
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes		170 lb, 6'1"
Male	50-59	Yes	I've been on diets - but not a fad diet	Yes									No	Swim laps for 30 minutes three times per week.	5'8" 180 lb
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Infrequently. Now and then I try and get out of the rez hall, maybe walk around the park. In C and D term I am looking to take a couple PE courses to get me to be more active.	200-odd, 6'1
Female	20-29	No	I've been on diets - but not a fad diet	Yes									No	yes. I play rugby. In season, 3 2 hr practices + 80-160 mins of game play a week. Possibly also some supplemental running and/or lifting. Winter, ~100 mins of cardio a week and moderate strength and conditioning exercises. Summer, ~3-4 hours of touch/7's rugby a week	5'0", 170lbs
Female	50-59	Yes	I've been on diets - but not a fad diet	Yes								4	No	I exercise 6-7 days a week. 30-45 minutes at a heart rate of 140 5	5' 5" 136 lbs

														times a week and 2x a week I do weight training for 20 minutes plus an hour of yoga	
Female	19 and under	Yes	Zone	Yes							2		No	Yes. On the rare chances I get. I run and swim laps.	150; 5'4"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									No	I walk up to my dorm room on the third floor a few times daily.	6ft, 165lbs
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No		
Female	20-29	Yes	Weight Watchers	No									Yes	Not much. Walking to and from class mostly.	157 5'4
Male	70 and over	Yes	Weight Watchers	Yes									No	Very moderately. I go to deep water exercise class at the Greendale YMCA 3 times a week. Incidentally, I've been on Weight watchers MANY times. I almost always lost weight, but after I quit the meetings, I gained it all back. I have lost hundreds of pounds that way!	6' 0" ; I weigh just 6' 00" ; wgt. under or about 200 pounds
Female	60-69	Yes	Weight Watchers, I've been on diets - but not a fad diet	No									No	walk the dogs	
Female	19 and under	Yes	I've been on diets - but not a fad diet	Yes								3	Yes	Yes. I try to exercise for at least 30 minutes	110 lbs, 5 ft

														cardio everyday, but once in awhile I skip a day here and there due to busy schedule. I'm on ROTC Army so I get intense workouts through that. I go to the gym in Morgan Hall for cardio and the Alumni gym for weight lifting. Sometimes I do my situps and pushups and extra workouts in my dorm room.	
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Workout twice every week for 1 hour.	165LB, 6 feet
Female	50-59	Yes	Weight Watchers	Yes									No	Do not exercise (but should). Have found all weight from the past that had been misplaced!	5'7 and 260 lbs
Male	20-29	Yes	on my self diet	Yes									No	I usually go to fitness center 3 times in a week	176 cm - 72 kg
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes	Yes, two hours of dance workout three nights a week including cardio, stretching, and ab work.	109, 5'4
Female	60-69	No	Never been on a diet	N/A - Never been on a diet plan									No	Walking -- I am slightly overweight and try to cut down on desserts, but wouldn't	175 lb. 5'8"

														say I have done a dedicated diet	
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, twice a week, weight-training.	5'2", 135
Female	19 and under	No	Never been on a diet	N/A - Never been on a diet plan			5						Yes		120lbs 5'6"
Female	30-39	Yes	Weight Watchers, I've been on diets - but not a fad diet	Yes								0	Yes	run 5kilometers 2x a week. walk with double stroller	5 foot 6, 128 lbs.
Female	20-29	Yes	I've been on diets - but not a fad diet	Yes									No	Yes. Running outside during the spring, summer, and fall. Dance during the spring and summer. Crunches every other night. Ballet jumps every other night.	5'2" 130lbs
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									No	Occasionally, lift weights, bike in the gym	140 lbs. 5' 11"
Male	19 and under	No	Never been on a diet	N/A - Never been on a diet plan									Yes	often sports, etc	120lbs 5'7"
Male	30-39	No	Never been on a diet	N/A - Never been on a diet plan									No	not enough snowboard work	6'5" 240 lbs
Female	50-59	Yes	I've been on diets - but not a fad diet, Low carbs similar to Atkins	Yes	4							4	Yes	15 min fast walk twice a day.	127 lb., 5' 2"

Male	20-29	No	Allergy restrictions, vegetarian	N/A - Never been on a diet plan									Yes	I walk to and from campus and for grocery shopping, I try to get more rigorous exercise once or twice a week to help me sleep.	5'10.5" 145 lbs.
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	I do not exercise but I do walk to and from campus every day.	125 lbs, 5'6"
Female	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Not really. I occasionally do a gym class. I also opt to take the stairs and walk around campus whenever possible.	140lb and 5'6.5"
Female	50-59	Yes	Weight Watchers	Yes									No	Run, X-C ski, aerobics classes, swim 3-5 days/week	137 lbs; 5' 2"
Male	20-29	No	Never been on a diet	N/A - Never been on a diet plan									Yes	Yes, I mainly do weight training. Currently I work out about once a week.	180 lbs, 5' 9"

12.2 Food Nutrition Awareness Survey in Morgan Dining Hall in Worcester Polytechnic Institute

12.2.1 Questionnaire

- Male / Female
- What are they eating, and their Caloric guess
- What are they drinking, and Caloric guess
- How many Calories should you be eating a day?
- Do you watch what you eat, or do you just eat whatever you're in the mood for?
- If Chartwells provided nutritional information in front of each food item they serve in the dining hall, would that influence your food choices?
- Did you know that there was a binder full with nutritional information the dining hall?

12.2.2 Results

Male or Female	What are they eating, and their Caloric guess	What are they drinking, and Caloric intake	How many Calories should you be eating a day?	Do you watch what you eat, or do you just eat whatever you're in the mood for?	If chartwells provided nutritional information for all of the food they serve in DAKA, would that influence your food choices?	Did you know that there was a binder full with nutritional information in DAKA?
Female	fried chicken - 1000 special fries - 1000	apple peach juice - 500	3000	I never watch what i eat	No	No
Female	fried chicken - 500 special fries - 500 eggplan parmesan - 300 beef stroganof - 400	powerrade - 100	2000	I try to watch what I eat but I sometimes eat junk food	No	No
Female	Salad -- 100 Calories Thousand Island dressing - 200 Calories Fried Chicken, 8 pieces - 600 Calories	Water	1800	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	Fried Chicken - 400 Special fries - 280 Pork Taco - 300	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	sandwich with ham, salami, cheese -	water	1500	I try to watch what I eat but I	Yes	No

	300 apple - 50			sometimes eat junk food		
Female	special fries - 300 pasta - 100 french bread pizza - 200	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	grilled cheese sandwich - 500 minestrone soup - 300	2500	2500	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	sandwich with turkey and ham - 400 fried chicken - 600 special fries - 300	milk - 100	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	salad - 100 balsamic sauce - 30 special fries - 500 fried chicken - 400	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	thousand island dressing - 100 salad - 100 fried chicken - 1000	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	salad 100 thousand island dressing 80 5 chicken fingers 500	nothing	3000	I never watch what i eat	Yes	No
Female	special fries 200 green beans 90 chicken fingers 300 bbq sauce	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No

	50					
Female	sandich with cheese and ham - 400 fried chicken - 400 salad - 100 italian dressing - 100	coffee 250	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	sandwich with cheese and turkey 300 special fries 500 ketchup 50	lemonade 100	2000	I try to watch what I eat but I sometimes eat junk food	Yes	Yes, but I never use it
Female	french bread pizza (2 slice) - 300 salad - 50 blue cheese dressing - 200 2 chocolate chip cookies - 400	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	tomatoes (1 full tomato) - 100 bean salad - 100 eggplant Parmesan - 200 apple pie - 400	water	1500	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	pesto pizza slice - 250 eggplant parmesan - 150 special fries - 300 banana - 200	water	1200	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	plain pizza slice - 350 cucumber - 70 2 cookies - 300	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No

Female	cookie - 60 special fries - 150 fried chicken - 600 sweet and sour sauce - 40	powerrade - 100	2000	I never watch what i eat	Yes	Yes, but I never use it
Female	pork taco - 400 beef stroganof - 300 cookie - 90 special fries - 250	1 cup of milk - 50	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	fried chicken - 500 special fries - 400 ketchup - 25 honey mustard sauce - 25	ginger ale - 50	2000	I never watch what i eat	Yes	No
Female	fried chicken - 300 special fries - 300 green beans - 100 cookie - 50	dr pepper - 50	2000	I never watch what i eat	Yes	No
Female	fried chicken - 300 special fries - 250 ranch dressing - 90 salad - 100	sprite - 150	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	fried chicken - 350 special fries - 400 honey mustard sauce - 150 squash - 300	diet coke - 0	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	special fries - 300 green	water	1750	I try to watch what I eat	Yes	No

	beans - 80 beef stroganoff - 250 ketchup - 50			but I sometimes eat junk food		
Female	special fries - 300 grilled cheese - 300	milk - 120	1500	I try to watch what I eat but I sometimes eat junk food	Yes	Yes, but I never use it
Female	special fries - 700 fried chicken - 800 beef stroganof - 800	chocolate milk - 400	1200	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	Turkey Mashed Potatoes Stuffing Fried 500 Calories	2% Milk 50 Calories	2500 Calories	I never watch what i eat	No	No
Female	Chicken with Stuffing 500 Squash 200 Cranberry Sauce 100 Pears and Carrot 50	Chocolate Milk 20	2000	I try to watch what I eat but I sometimes eat junk food	Yes	Yes, but I never use it
Female	Mashed Potatoes 200 Squash 70 Peas and Onions 10 Chicken and Stuffing 200 Banana Creme Pie 300	Chocolate Milk 90	2200	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	Chicken with Stuffing 400 Stuffing on the side 200 Mashed Potatoes 200 Garlic Bread 350	Cheery Coke 210	3000	I never watch what i eat	Yes	Yes, but I never use it

Female	chicken with stuffing 200 mashed potatoes 200 cranberry saurce 50 peas and carrots 50	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	chicken and stuffing 200 mashed potatoes 100 shepards pie 300 pizza 300 desert (cookies) 500	coke 400	3000 (runner)	I never watch what i eat	No	No
Female	fries 500 burger 1000	sprite 400	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	fried chicken 500 fries 500	diet coke 0	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	shepards pie 300 bread 80 cookies 300	OJ 200	1800	I never watch what i eat	Yes	No
Female	1/2 wrap 500 salad 300 cookie 100	water	1800	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	1/2 wrap 600 salad 500 cookies 200	cherry coke 160	2500	I never watch what i eat	Yes	No
Female	wrap 500 pasta and sauce 500	juice100	2000	I try to watch what I eat but I sometimes eat junk	Yes	No

				food		
Female	waffles with butter 400 fruit 150 salad 100	juice 50	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	sandwich 550 cookie 150	water	1200	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	turkey mached potatoes butternut squash 800	iced tea 200	2500	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	mixed veggies 100 garlic bread 150 squash 100 pasta with marinara sauce 150	mango flavored water - 0	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	chicken 250 mashed potatoes 100 peas and onions 80 pasta 100 cheese 50	water skim milk 80	2500	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	stuffed chicken - 150 rice 100 butternut squash - 60 shrimp pasta - 300 carrots / tomatoes 100	cranberry juice w/ sprite 150	2500	I never watch what i eat	Yes	No
Female	mashed potatoes - 500 peas and carrots - 100	water	2000	I try to watch what I eat but I sometimes eat junk	Yes	No

	sweet potatoes - 200 turkey - 300			food		
Female	1 plain pizza 100 ice cream 50 cookie 50	orange soda 20	2000	I never watch what i eat	No	No
Female	stuffed chicken - 450 peas 100 squash 150 mashed potatoes 250 garlic bread 150	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	stuffed chicken 850 garlic bread 300 mashed potatoes 200	ice tea 150	3000 (swimmer)	I never watch what i eat	Yes	No
Female	shepards pie 300 squash 100 peas 75 cranberry sauce 150	diluted cranberry juice 150	2000	I try to watch what I eat but I sometimes eat junk food	No	No
Female	mashed potatoes 300 cheese 100 tomatoes 100 eggplant parmesan 200	water	1500	I try to watch what I eat but I sometimes eat junk food	Yes	No
Female	salad - 100 mashed potatoes 500 turkey 500 feta cheese 200	lemonade with green tea 200	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	fried chicken - 500	water	2000	I try to watch what I eat but I sometimes eat junk	No	No

				food		
Male	3 Chicken wraps - 300 per wrap special fries - 400	green tea - 100	3500	I never watch what i eat	No	No
Male	Chicken - 300 pork taco - 400 special fries - 300	ginger ale - 50	2000	I try to watch what I eat but I sometimes eat junk food	No	No
Male	chicken fries - 300 chicken patty - 300 special fries - 400	root beer - 200	2000	I try to watch what I eat but I sometimes eat junk food	No	No
Male	pork taco - 450 squash - 150 green beans - 50	chocolate milk - 300	2500	I try to watch what I eat but I sometimes eat junk food	No	No
Male	special fries 50 fried chicken - 100 bbq sauce - 25	cherry coke - 110	2000	I never watch what i eat	No	No
Male	fried chicken - 1000 special fries - 1000 bbq sauce - 100	sprite 200 cranberry juice 300	3000-3500	I never watch what i eat	No	No
Male	fried chicken - 300 special fries - 350 apple pie - 350	diet coke - 0 Calories	2000	I never watch what i eat	No	No
Male	fried chicken - 400 special fries - 200	powerrade - 80	2000	I never watch what i eat	No	No
Male	cookies 2 - 800	citrus peach and	2500	I try to watch	No	No

	fried chicken - 600 ketchup - 50 special fries - 420	cranberry juice - 3 cups - 800		what I eat but I sometimes eat junk food		
Male	plain pizza 2 slices - 400	dr. pepper - 200	3500	I never watch what i eat	No	No
Male	cake - 300 fried chicken - 450 special fries - 200	dr pepper (2 cups) - 150	2500	I never watch what i eat	No	No
Male	beef stroganof - 400 fried chicken - 200 special fries - 100 cake - 800	lemonade - 100	2000	I never watch what i eat	No	No
Male	grill cheese with egg - 200 special fries - 150 fried chicken - 100 bbq sauce - 75 buffalo sauce - 75 2 bananas - 100 pepperoni pizza - 100	milk - 15 powerrade - 75	2000	I never watch what i eat	No	Yes, but I never use it
Male	turkey sandwich - 600	juice - 120	3000	I try to watch what I eat but I sometimes eat junk food	No	No
Male	Fried Chicken - 350 Special fries - 400 Honey Mustard sauce - 40	Apple peach juice - 50 Calories	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No

Male	Chicken - 500 special fries - 500 pork taco - 320	green iced tea - 100	2500-3000	I never watch what i eat	Yes	No
Male	tuna wrap with cheese - 300	milk - 100	1750	I try to watch what I eat but I sometimes eat junk food	Yes	Yes, but I never use it
Male	fried chicken - 500 salad - 200 italian dressing - 100 cookie - 150	lemonade - 150	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	pork taco - 450	orange juice - 100	2200	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	fried chicken - 250 special fries - 200 apple - 40 cookie - 150	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	fried chicken - 400 special fries - 400 squash - 100 pork taco - 520 minestrone soup - 280	apple juice 2 cups - 180	3200	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	fried chicken - 450 special fries - 160 italian dressing - 75 salad - 50	coke - 100	3000	I never watch what i eat	Yes	No

Male	beef and pepper stromboli - 450 1 chocolate chip cookie - 100 green beans - 100	apple and peach juice - 100	2500	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	fried chicken - 300 special fries - 200 ketchup - 50 italian dressing 50 salad - 50	powerrade - 50	2500	I never watch what i eat	Yes	No
Male	fried chicken - 250 bbq sauce - 100 special fries - 300	dr. pepper - 150	2700	I try to watch what I eat but I sometimes eat junk food	Yes	Yes, but I never use it
Male	Turkey 300 Peas and Onions 100 Mashed Potatoes 250 Cake 300	Skim Milk 170	2350	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	Hamburger 500 Fried 600 Ice Cream 400	Root Beer 200	2000	I never watch what i eat	Yes	No
Male	Stir Fry 1000	Water	2000	I never watch what i eat	Yes	No
Male	Pizza 400 Veggies 15 Garlic Bread 150	tea 100	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	turkey leg 1000 Mashed potatoes shepards pie with grave 1100 cranberry	chocolate milk 200	8000-9000 (swimmer)	I never watch what i eat	No	No

	sauce desert (cake and ice cream and cookies) 2000					
Male	chicken and stuffing 1400 mashed potatoes 600 peas and carrots 350 salad 300	protein shake 120 powerrade 150	8000- 9000 (swimmer)	I try to watch what I eat but I sometimes eat junk food	No	No
Male	chicken 450 salad 200 veggies 100 turkey 250- 300 corn flakes 100	apple juice 75	3500	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	hamburger 500 pasta 600 fries 400 garlic bread 400 salad 200	sprite 400	1800	I never watch what i eat	No	No
Male	mashed potatoes pizaa garlic bread 650	water	2500	I never watch what i eat	No	No
Male	turkey mashed potatoes peas salad 800 Calories cookies 300 Calories	water	2500	I try to watch what I eat but I sometimes eat junk food	No	No
Male	chicken with stuffing 1000 shepards pie 1000 veggie chicken soup 500 cookie 1000	skim milk 250	3000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	2 slices of pizza (buffalo	water	2350	I try to watch what I eat	Yes	No

	chicken) 700 both wrap with turkey hame and cheese 200			but I sometimes eat junk food		
Male	turkey 1100 mashed potatoes 400 cranberry sauce 300 2 cookies 600	apple juice 150	2400	I never watch what i eat	Yes	No
Male	turkey 200 mashed potatoes 250	kiwi strawberry jice 20	2000	I never watch what i eat	No	No
Male	Shepard's pie - 600 2 cookies - 250	water	2200	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	roast beef with cheese sandwich - 300 cookie 100 cherry pie 2- -	-	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	stuffed chicken 300 butternut squash - 100 peas and onions 75 2 cookies 200	milk (2 cups) - 200	2000	I never watch what i eat	No	No
Male	turkey 500 mashed potatoes 300 gravey 400 cranberry sauce 50 stuffing 150	water	2000	I try to watch what I eat but I sometimes eat junk food	Yes	No
Male	sauteed veggies - 300 shrimp pasta 500 3 cookies	hot chocolate 500 green tea with ice cream 800	5000	I never watch what i eat	No	Yes, but I never use it

	with ice cream 700 regular pasta with tomato sauce and cheese - 1000 4 pieces of garlic bread 1200					
Male	shepard's pie 800 cranberry sauce 50 turkey 600 stuffed chicken 800	chocolate milk 200 diet coke 0	7000 (swimmer)	I never watch what i eat	No	No
Male	stuffed chicken 1300 steak sauce with sheppards pie 1000 mixed veggies 250 2-3 cookies 150 buffalo chicken pizza 500	powerrade 75 dr. pepper 100	5000 basketball	I never watch what i eat	No	No
Male	mashed potatoes 400 cranberry sauce 250 corn and peas 100 stuffed chicken 450	2% milk 150	4000 (runner)	I never watch what i eat	No	No
Male	squash 80 shepards pie 250 turkey and cheese sandwich - 120	apple peach juice 80	2200	I never watch what i eat	No	No
Male	3 beef patties (kosher) - 500 garlic bread 150 2 pieces of bread 80	water	2200	I try to watch what I eat but I sometimes eat junk food	Yes	No

12.3 Worcester Polytechnic Institute Healthy Eating Campaigns Survey

Results

Have you seen the Cheerios commercials promoting this "healthy" cereal? If so, are you more inclined to buy Cheerios?	Have you seen the Yoplait commercials promoting their light yogurt products? If so, are you more inclined to buy this product?	Have you seen the "Incredible Edible Egg" commercials? Do they influence you to eat more eggs or eat healthier?	Have you ever visited MyPyramid.gov to get information about healthy eating?	Some of the items in the vending machines around campus have a "balanced option" sticker (denoted by a leaf). Have you seen this? If so, has it influenced your snack choice?	What can WPI do to promote healthy eating on campus?	What can the US Government do to promote healthy eating in the United States?	Gender
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have seen these stickers and I ignored them	Serve better food in cafe's	It's not the Government's responsibility to make sure people eat healthy.	Male

						Every person in the US needs to take responsibility for themselves to become healthier.	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have seen these stickers and they helped me choose a snack	Place Calorie and fat information on the glass of the food lines in the cafeterias.	Stop talking about obesity issues and tax unhealthy foods. Live more like Europeans where they go to the market on a daily basis to get healthier fresher foods.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and	I have not seen these commercials	I have never heard of MyPyramid.gov	I have seen these stickers and I ignored them			Female

	they influenced me						
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	Advertise healthy eating alternatives and make these alternatives available.	Make people more aware of the obesity problem and how the US is now the fat country in the world.	Male
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	I am in the long distance learning program	encourage people to exercise, forbid patents for animal and plant life, monitor effects from corporations (Monsanto) who genetically incorporate herbicides in crops (e.g., corn)	Male
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
No, I have not seen these	Yes, I have	I have not seen	I have never	I have not seen these			Female

commercials	seen these commercials and they influenced me	these commercials	heard of MyPyramid.gov	stickers			
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have seen these stickers and they helped me choose a snack			Female
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
Yes, I have seen these commercials and they influenced me	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers		Create less Government Lower our taxes Stop spending money Stay out of our lives Yeah that's gonna happen!!!	Male

Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
Yes, I have seen these commercials and they influenced me	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	I do not know or care, I'm a grad student who is taking classes as part of the corporate education program, I am never on campus.	It's not the Government's job to promote healthy eating. It's the parents job to promote healthy eating and activity and to raise a child in a home where balanced meals are provided instead of fast food and video games all the time.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Female

No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	give healthy options out for free	switch from corn syrup to sugar, and to keep the farmers afloat use the corn for biofuels or something like that	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have seen these stickers and I ignored them	Offer more low-fat, vegetarian options. I do not have a gluten allergy, but more gluten free choices would be welcome as well.	Stop making processed foods so cheap and stop making fruits and vegetables and organic foods so expensive so Americans can eat better without spending a lot of money. The restaurant business should provide meals with smaller portions, too.	Female
No, I have not	No, I	I have	I have	I have not			Female

seen these commercials	have not seen these commercials	seen these commercials and I ignored them	never heard of MyPyramid.gov	seen these stickers			e
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers	offer healthier meal alternatives	ban trans fats and ban advertising of fast food establishments on television	Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers	Offer more healthy food options.	Limit junk food in vending machines - especially in schools. I do not know if this would be under Government's jurisdiction, but restaurants (and other food providers) should cut back on portions.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and	I have seen these commercials and I	I have never heard of MyPyramid.gov	I have not seen these stickers	Make healthier options less expensive. Many	Food stamp or reimbursement programs for a	Female

	they influenced me	ignored them			Americans are influenced in different directions more by their wallets than their waistlines. As an example, the exorbitant tax on cigarettes has resulted in more people quitting smoking than any anti-smoking campaign before.	wider set of Americans that are only usable for fresh produce at farm stands/farmers' markets and the like. This would also support buy local campaigns and financially uplift our agricultural industry.	
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers		healthy snacks in vending machines	Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have seen these commercials and they have influenced me	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have seen these stickers and I ignored them	fruit of the day on sale at campus center; promote healthy breakfast alternatives ; WPI - biggest loser contest;	SCHOOL S!!!!!! - healthier lunches, banning soda machines and substituting bottled water/milk	Female

					weight loss program alternative to Weight Watchers such as "Transitions" - medical based; lunch time health seminars	k/juice and healthier items in vending machines . Make healthier food LESS EXPENSIVE and more available. Exercise campaigns in schools and work places. Tax breaks for preventive services.	
Yes, I have seen these commercials and they influenced me	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	Close Coyote Jack's. Have healthy eating seminars with good-tasting healthy food samples and recipes.	Publicize facts about health problems related to obesity.	Female
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and they have influenced me	I have never heard of MyPyramid.gov	I have not seen these stickers	they now list weight watcher points on the daily menu	better advertising in the markets	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored	I have seen these commercials and I ignored	I have never heard of MyPyramid.gov	I have not seen these stickers			Female

	them	them					
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	I have never heard of MyPyramid.gov	I have not seen these stickers	Portion control would be one thing to focus on - this also keeps the cost down. I'd also like to see more gluten-free options.	Perhaps require that every restaurant posts the health facts in the menu rather than on an optional leaflet. I think a lot of people would be surprised how unhealthy some of the seemingly healthy foods are when dining at a restaurant.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	More healthy + affordable choices in the campus center.	Revamp the farm bill to reduce the favoritism shown to	Male

						large-scale agribusinesses like Archer Daniels Midland, and to instead promote local production of food.	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers	change the way they serve food in the food court. Instead of being given huge servings, we should be allowed to self-serve and pay by weight (like the salad bar). Current serving sizes are enough for two meals. Not enough quality vegetarian options. Vegetarians do not want to eat cheese-based food all the time, or pasta. If those meals were more interesting, non-veg students would be also more likely to	Increase awareness for high quality vegetarian meals, increase number of vegetarian options on menus (and I'm NOT vegetarian!) besides just salads or french fries! Offer whole foods, not processed junk. Avoid fake sweeteners. Get rid of promotional restaurant advertising that encourages	Female

					<p>order them. Food court food in general is fatty, cheesy, has too much gravy, etc. The salad bar is reasonable, but all cold foods, and rarely changes. Why do we even HAVE the "fast food" option there in the back corner? Yuck! Way too much soda available.</p>	<p>people to order an entree AND desert. Cut portion serving sizes dramatically, or offer small plate or large plate options. Sodas should be 8oz per serving, not jugs. Produce should be organic. You should not be allowed to buy food in places like drug stores, where they offer long shelf-life "snacks" that are highly processed (full of chemicals).</p>	
<p>Yes, I have seen these commercials but I ignored them</p>	<p>Yes, I have seen these commercials but I ignored them</p>	<p>I have not seen these commercials</p>	<p>I have never heard of MyPyramid.gov</p>	<p>I have not seen these stickers</p>	<p>Offer a wider variety of foods, more dining halls, restaurants, etc.</p>	<p>The Government should stay out of affairs like this, it isn't up to the</p>	<p>Male</p>

						Government to babysit people's diets.	
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and they have influenced me	I have never heard of MyPyramid.gov	I have not seen these stickers	Promote Michelle Obama's healthy eating campaign. Eliminate the poor quality snacks. I know for myself, if I do not buy it at the grocery store I can't have it at home. We know that visuals are effective: have big posters featuring fruits or vegetables. Ideally, free healthy choices vs costly snacks. I would imagine our junk food vendors would have a problem with that, but I do not care. I do not think they should be allowed (on any school campus) but I bet WPI makes money off of them. So	Again, promote Michelle Obama's healthy eating campaign. Remove junk food vending machines from every school property (including soda). Remove junk food choices from the school lunches, OR offer free healthy food. One's definition of healthy can be extremely loose. I knew a woman who sincerely believed that if her son ate Fig Newtons he was having a serving of fruit and if he ate french	Female

					<p>the first step is to stop being hypocritical and taking money from junk food operations. I would be happy to walk around Morgan and the Quad with a sandwich board that says "Stop Eating Crap!" Karen Rossow, staff</p>	<p>fries he was having a vegetable. Junk food is another mega industry that would fight labeling them as simply junk. Many ignorant Americans (and that's most of us) think that if a product is sold as food then it is safe to eat...which is of course nonsense in a capitalist society where we'll serve cow to cows if it costs less than grain. Sorry for the rant, but I could pull together a dissertation on this in 3 hours.</p>	
Yes, I have seen these	Yes, I have	I have seen	I have never	I have not seen these	I think WPI offers a	Healty eating	Female

commercials but I ignored them	seen these commercials but I ignored them	these commercials and they have influenced me	heard of MyPyramid.gov	stickers	good number of healthy alternatives already (i.e. fresh fruit in the campus center.) But it would be helpful if they could provide more nutritional information on the entrees they serve. They do provide the Points for some meals. But I would like to see it for more meals so that I can plan my day accordingly.	starts with being educated on what is and is not healthy. Beyond providing people with information, I do not think the gov't should really be involved.	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have seen these commercials and they have influenced me	I have never heard of MyPyramid.gov	I have not seen these stickers	Have more healthy alternatives ie, try having a healthier alternative over with the pizza and other entres.		Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	Have a monthly meeting for employees with a registered dietician/nutritionist. Have it cover healthy eating for adults and families.	Advertise on TV. Americans watch so much TV, I think the only way to get through to people is on TV. Gear the advertisin	Female

					<p>Have a "Biggest Loser" contest on campus. My aunt's employer has done this for 2 years now. It's by department and individual.</p> <p>Promote area events, like walk-a-thons and marathons.</p>	<p>g to all ages and at all times of day. Also they should be advertising on the internet, like social networking sites...Facebook, Twitter and such.</p> <p>Have a tax deduction for all gym/fitness expenses ! That would get people moving!!</p>	
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers	<p>sometimes the food court menu that is emailed out includes Weight Watchers points for certain items on the menu. I think this is helpful.</p> <p>More (reasonably priced) healthy 'to-go' snack options would help. Example: carrots and</p>	<p>Vegetables are expensive. When budgets are tight, families reach for satisfying, inexpensive meals, like pasta, eggs, and prepared foods which may are not as healthy.</p> <p>The</p>	Female

					<p>celery with a low-fat dip or fruit with yogurt dip snack cups.</p> <p>I think some people shy away from heavier items on the salad bar because they are paying per ounce for the salad. This does not promote healthy eating.</p>	<p>same thing happens in the public schools. When faced with feeding hundreds or thousands of kids in a short amount of time, it is easier to prepare less healthy options for quick bulk distribution. Schools need to find healthy foods that kids will eat. Since more prep time is needed to prepare things like salads or cut fruit or grilled vegetables and the like, schools will need increased budgets to staff adequate</p>	
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						<p>ly for this.</p> <p>Healthy eating alone won't solve the obesity issues facing the US. Long work and school days have led to increased inactivity in the United States, most students and workers spend 8 or more hours sitting behind a desk and then more inactive time doing homework or commuting to and from work leading to up to 10 hours of inactive time each day. There are fewer and fewer US</p>	
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						<p>jobs that require physical activity.</p> <p>Until we as a society embrace the idea of changing our priorities, reducing work days, work weeks and school days (+homework time) and decide to focus more on integrating active time into our day (not as discretionary, but as a necessary part of each day), then the problem will continue to get worse. No amount of healthy eating will make up for the lack of physical activity</p>	
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						that is becoming the norm in our society. Perhaps desks should come floor pedals so people can exercise while reading their email and filling out online surveys. ;)	
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have seen these stickers and they helped me choose a snack	WPI already does a pretty good job of offering healthy eating options. I would love to see a wider variety of healthy snack and	Introduce strict regulations to eliminate all the crap that companies put into processed foods. Increase subsidies to	Female

					a la carte breakfast options offered by the catering folks.	organic farmers and local distributors to make organic/local food more affordable and to discourage large corporations from following business models based on wide distribution of over-homogenized, over-processed foods.	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have seen these stickers and they helped me choose a snack	Provide better vegetable dishes in the campus center. How can you mess up steamed vegetables? It's difficult, but they manage to ruin it somehow.	Tax junk food, discount healthy food. It's too late anyway, there are too many enormously fat people now.	Male
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have seen these stickers and I ignored them			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored	I have seen these commercials and I ignored	I have never heard of MyPyramid.gov	I have seen these stickers and they helped me choose a snack	I think that the weight watchers options at the campus center is a good idea.	get education into the schools like sex ed classes	Male

	them	them			<p>salads tend to be very expensive at the campus center so people may not get them. provide Calorie postings for all the foods. when you look at the Quizno site and get the nutritional information for their "Honey Mustard Chicken Salad" you can see that there is 1090 Calories, 23.5g saturated fat and 1830mg sodium. someone my think "hey I had a salad today for lunch that was healthy" Also sodium is a big problem and it never seems to be addressed. for anyone with high blood pressure or at risk this can be a major</p>	<p>there should be a mandatory nutrition class to give people the tools to understand what they are putting in their bodies. Crack down on the claims of "lite" and "healthy" on packaging.</p>	
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					factor in their health. Maybe offer a class with a nutritionist that would give people the basics of how to read a nutritional label the "lite" and "low-fat" marketing on packages may not translate to the most healthy option.		
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers		eliminate supersizing, free refills of sodas and amount of TV and video games watched at home. PEOPLE NEED TO GO OUTSIDE AND SIMPLY MOVE!!!!!	Female
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I	I have never heard of MyPyramid.gov	I have not seen these stickers	As far as WPI goes, to me it's more about what's used in the	I doubt the US Government really cares about	Male

		ignored them			<p>cooking as opposed to doing something in particular. For example --</p> <p>1) Use less oil and butter and their cooking in the campus center food.</p> <p>2) Use lower fat oils when cooking.</p> <p>3) ALWAYS have 100% olive oil available for salads as opposed to the cheaper mixed blend.</p> <p>4) Have options that do not contain heavy amounts of cheese / cream in cooking</p> <p>5) Prepare food in a different manner; very rarely if ever do I see a steamed dish.</p>	<p>healthy eating despite Michelle Obama's newfound endeavor to attack obesity.</p> <p>That said, the Government could step up and give breaks/credits to companies that produce and see natural/organic products (i.e. those you see at Whole Foods or Trader Joe's) only if they lower their prices to make such food accessible to everyone as opposed to the upper-middle class population. They could also give such benefits</p>	
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						to companies who use real sugar as opposed to high fructose corn syrup in their products. . You get the idea -	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
No, I have not seen these commercials	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have seen these stickers and they helped me choose a snack	I think chartwells does a fine job.	PSAs!	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers		Make healthy food less expensive and more convenient and/or make it harder/more expensive to buy the unhealthy foods	Male
Yes, I have seen these	Yes, I have	I have not seen	I have never	I have not seen these	Products that are	Have a healthy	Female

commercials and they influenced me	seen these commercials and they influenced me	these commercials	heard of MyPyramid.gov	stickers	classify as "healthy" should be sold at a lower price. Promote this decision through emails and also poster in front of the store/vending machine.	eating week/month where schools should do presentation/promotion of healthy eating.	
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers	Allow meal plan members to have all-day access to come in and eat smaller portions throughout the day. All you can eat should be called Overeat!	figure out a way to cut the cost of healthy food. Many people are on a limited budget and have to feed 2 or more children. You can't blame them for buying food that is less healthy but inexpensive. Have you ever tried buying fruit and vegetables and lean meats for a 7 day period. It is well over \$100.00 This is the major	Male

						reason as to why people do not eat healthier.	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have seen these stickers and I ignored them	Healthier options at dining halls.	Healthier options in public schools, museums, etc.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have seen these stickers and they helped me choose a snack			Male
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	Healthier food in vending machines on campus.	Establish healthy-food databases.	Male
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	More information on nutrition, balanced diet	PSAs perhaps, Michelle Obama's recent messages about healthy lifestyle are good...we need	Male

						better educated parents in re: diet	
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers	Reduce the AVAILABILITY of high fat or high sugar snack foods.	Put limits on the allowable salt content of ALL packaged foods, not just snack foods. If this means that chips won't taste as good, the goal will have been met. But first, require all nutritional information be reported on practical size servings (bad examples of inappropriate serving sizes: 4/5 of a pickle, half a can of soda, half a can of tuna fish (which is already smaller than it	Male

						was just a few years ago).	
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers	Offer those healthy items at a cheaper price.	Prepare our crops and such in a more healthy environment.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	No	I have seen these stickers and I ignored them			Female
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have seen these stickers and I ignored them			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have seen these stickers and they helped me choose a snack			Female
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	No	I have seen these stickers and I ignored them			Female
No, I have not seen these commercials	No, I have not seen these	I have not seen these commer	No	I have not seen these stickers			Male

	commercials	commercials					
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have seen these stickers and I ignored them			Male
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and they have influenced me	No	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	No	I have not seen these stickers	Cheaper rates on salads.		Female
Yes, I have seen these commercials and they influenced me	No, I have not seen these commercials	I have seen these commercials and they have influenced me	No	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	No	I have not seen these stickers	Eliminate most junk foods from the cafeteria and just offer healthy options. Or make the junk food more expensive so people tend to buy healthy foods.	Have more programs for healthy eating, have more ads on TV, and reach to the community.	Female
Yes, I have seen these commercials	Yes, I have seen	I have seen these	No	I have seen these stickers and they		funding for health classes	Female

and they influenced me	these commercials but I ignored them	commercials and they have influenced me		helped me choose a snack		in schools (all grade levels), funding for improved cafeteria choices, free fruit in schools	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	No	I have seen these stickers and they helped me choose a snack			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Do not sell or make available junk food, soda, or other highly processed food.	Ban junk food, soda, or other highly processed food from the school system (public and private). Tax overweight people to compensate for	Female

						the drain on health care.	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	No	I have seen these stickers and they helped me choose a snack	have more fresh food, i.e. veggies	Continue the campaigns to educate the public, and start with younger children in school.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have seen these stickers and I ignored them	Keep offering fresh, healthy alternatives . But do NOT take away other choices as people prefer to make up their own minds in what they choose to eat. Taking this option away would create disharmony .		Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Get rid of Chartwells..		Female
Yes, I have seen these	Yes, I have	I have seen	No	I have not seen these			Female

commercials and they influenced me	seen these commercials and they influenced me	these commercials and I ignored them		stickers			
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	No	I have not seen these stickers			Male
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers	Offer healthier choices, less sugar, more whole grain products both at food venues and in vending machines.	Public service campaigns in multiple media, social networking sites, celebrity spokespersons that appeal to various age levels.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	The menu in the campus center food court seems to offer a wide and well balanced selection (except for the donuts!).	Educate citizens on healthy food habits, discourage cheap fast food choices, stop emphasizing "extra large portions" on TV	Female

						ads.	
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers	Get rid of Dunkin Donuts (much as I like it).	Make the food pyramid (why is it a pyramid in its new form?) much less confusing Encourage/enable more gym classes in school. Make the students really get exercise in gym.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers		I do not think it is the Government's job to "promote" this type of thing. They try to do way too much as it is and we are going bankrupt.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have seen these stickers and I ignored them			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials	I have seen these commercials	No	I have not seen these stickers			Female

	ials but I ignored them	and I ignored them					
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	No	I have not seen these stickers	My problem is that I have Celiac Disease and most of the snack-type options on campus I cannot eat. I bring most of my own stuff in as it's safer for me.	I do not really know. I feel the gov't has their nose in too many things anyway. They should be concentrating on certain other things, in my opinion.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	No	I have not seen these stickers	Add nutrient/sugar/fat info on foods offered.	Education is helpful. Perhaps the Government can influence vending choices in k12's. Working on the problem of food deserts, or the problem with local stores not carrying healthy foods.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Offer more healthy options available in the later evening hours and early		Male

					<p>morning hours.</p> <p>Have the dining hall - Morgan, allow for a staff/faculty /alacarte pricing for meals.</p>		
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Put nutritional information (Calories, fat, salt, etc) on all menu choices (post signs in Chartwells, etc). Seems invasive but I think it'd be effective.	I think they're doing what they can - any more might start to feel Big Brothery	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	No	I have not seen these stickers		Billions of dollars are spent each year on caring for diseases that are the result of being overweight: diabetes, high blood pressure, heart disease, etc. The Government should require all health care plans to rebate	Female

						premium dollars to anyone who has maintained a healthy weight over a one-year period.	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	No	I have not seen these stickers	Provide healthier choices.		Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	No	I have not seen these stickers	I believe they are trying to offer more healthy snacks and meals on campus now.		Female
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	More healthy options. Chartwells does a crappy job.	More healthy fast food chains	Male
Yes, I have seen these commercials and they influenced me	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers	Healthy options in the dining halls and student center. We're doing a pretty good job with this, but more information on Calories, fat and fiber would be helpful.	More information that is easily translatable to whether something is healthy, including prominent and realistic portion size information.	Male

Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Serve more foods that are lower in sodium, fat, sugar and cholesterol; eliminate foods with hydrogenated fats, MSG, HFCS, high sugar content, artificial colors and preservatives; serve free range meats and eggs and organic vegetables and salads.	Ban hydrogenated fats, MSG, HFCS, artificial colors and preservatives. Support organic farmers.	Female
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers	WPI is doing a fine job with promoting healthy eating. However, I never purchase any food on campus. Everything I eat at WPI was homemade in my kitchen and heated in the microwave. I raise my own lamb meat, fruits, and	Michelle Obama is doing a great job address the issues of obesity and diet. I hope that more leaders and celebrities will take on this task as well. Sadly, healthy eating is often expensive in	Female

					<p>vegetables in Hardwick. I barter with other farms for beef, yogurt, veal, and eggs. To live my lifestyle, I spend most of my free time outside our work in kitchen, my gardens, and the local farmer's market. Healthy eating is part of the lifestyle that I was raised with as a child. Growing up my peers shunned me for eating weird, healthy stuff. I was envious of my classmate's lunches packed with Cheetos, Hostess Cupcakes, and chips. At the age of 50 now, my eating habits are now fashionable!</p>	<p>terms of cost and kitchen time preparation. Parents need to have healthy eating habits in order to be role models for their children.</p>	
Yes, I have seen these commercials	Yes, I have seen	I have seen these	No	I have seen these stickers and I ignored			Male

but I ignored them	these commercials but I ignored them	commercials and I ignored them		them			
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Offer healthy options at discounted rates or give samples away for free. Anything to make the healthy options more attractive than the unhealthy (since apparently just being healthy isn't enough to make everyone switch over).	I think starting with school lunches is a good idea, to build healthy eating habits in at a young age.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	No	I have not seen these stickers	Make healthy eating just as easy as/easier than eating junk food.		Female
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	No	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored	No	I have not seen these stickers	remove candy and soda vending machines		Female

		them					
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	No	I have seen these stickers and I ignored them	<p>Get rid of the Moo Bella machine, and stop soaking everything made by the campus center in oil. Literally, the *only* healthy option there most days (that is, the days when low-sodium vegetable soup isn't available) is the salad bar, and since that somehow never fails to give me diarrhea, I've brought my own lunches since the first week I arrived here.</p> <p>WPI definitely enables nerd obesity by serving total shit-- e.g., pizza, fried chicken, and Red Bull--in the campus center.</p>	<p>Stop giving unbelievably huge subsidies to farmers who produce crops used in making high fructose corn syrup and other cheap additives that add to the problem of lower-class obesity because they're used in cheap, disgusting food-like products ? Get former Monsanto lawyers the fuck out of our Government? (currently they've got a Supreme Court justice (Clarence Thomas), and in the past they've had the Secretary</p>	Female

						<p>of Agriculture (Anne Veneman), and even the last Secretary of Health (Tommy Thompson).) Stop staffing the USDA with governors of farm states? (That's been the case for the last 11 years). Stop the dairy subsidies?</p> <p>Do away with the ridiculous nutrition guides printed on the backs of every Triscuit box I've ever owned, that tell me I need to be eating dairy, meat, and astronomical amounts of carbohydrates in</p>
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						<p>order to be healthy? Or possibly start requiring that an ingredient label contain the name of *everything* in the food, including getting rid of the nastily misleading 'natural flavors' item that many manufacturers use to disguise the presence of things like beef fat?</p> <p>Yes, there are a *lot* of things the US Government could do to promote healthy eating, or at least to start promoting less disgusting eating than it promotes now--but while</p>	
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						farm lobbyists still have politicians in their pockets, and while half of those politicians have come right from Monsanto's legal department anyway, and while the people they're governing are too ignorant to realize there's a finely-tuned structure in our Government that's designed to make them obese and unhealthy, I'm betting that, like always, nothing's really going to change.	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers		Actively promote healthier food options in school cafeterias with significant	Female

						tly reduced fattier foods. This would include increased activity for children.	
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers	Just have offerings available -- It can post nutritional posters more clearly by food areas esp in campus center but I do not think taht makes much difference..	work within elementary schools with educational pieces... Introduce more veggies and the like into food programs and food stamps.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	No	I have seen these stickers and they helped me choose a snack			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	No	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials	I have seen these commercials	No	I have seen these stickers and they helped me choose a	Provide greater availability for healthy snacks, via	Develop a business model that	Male

	ials but I ignored them	and I ignored them		snack	<p>vendor machines or food services. For example, there are several classroom buildings with NO vending services. This drives hungry consumers towards a "first available" food choice instead of allowing them to make a smart decision.</p>	<p>encourages the manufacture and sale of healthy foods (eg. organic or low-fat, or steroid-free, antibiotic-free products) relative to cheap, unhealthy foods. For example, it cost A LOT more money for me to feed my family of 4 healthy meals (produce from Whole Foods, etc...), than it does to feed my family cheap, fast food. We have the priviledge of being able to make that choice, but most Americans on tight budgets do not. Unhealth</p>	
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						y, processed foods are the cheapest and easiest option. The result is increased heart disease, diabetes and health care costs.	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and they have influenced me	No	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	No	I have not seen these stickers	Continued healthy food options available in the dining areas.	Promote education starting at a young age, subsidize farmers who grow fresh, healthy foods, put limits on amounts of "bad" foods (high fructose corn syrup, transfat) that can be used as additives, etc.	Female
No, I have not seen these	Yes, I have	I have not seen	No	I have not seen these			Male

commercials	seen these commercials but I ignored them	these commercials		stickers			
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Instituting a "buy local" campaign would result in healthier eating habits and a better environment (less transportation costs to transport junk foods, less food packaging.. ..)		Female
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	No	I have not seen these stickers	Lower the prices of Quizzno's. Bad food is cheaper than healthier food....	Lower the price of healthier food and increase the price of bad food.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	-you know you loaded the previous question with it's wording?	-I think is more an issue of what consumers need to do. If	Male

	them	them			-Campus groups can do something other than pizza for feeding large group meetings. So a list of alternatives that are just as cheap and easy. Add on others that take a bit more work and are just as easy.	we buy more healthy foods than the producers will want to make healthier foods so we will buy them. -Make it less profitable for consumers to make junk food in and more profitable to make healthier foods. ex: not tax on milk, fruit, vegetables. tax on desserts, fried foods. At restaurants tax unhealthy food more than healthy food. Ect....	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Healthy lunch specials and catering options. we always seem to have soda and	Offer discounts on healthy foods. Junk food is much cheaper to buy	Female

					cookies-a deadly combination!	than healthy food is.	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Have better quality food available at the campus center. I do not know what kind of preservatives or whatever goes into their products, but I feel sick every time I eat at the campus center, so I've stopped doing it.	Make chemically modified and processed foods and additives so ridiculously regulated that it makes food containing them more expensive than natural foods. Stop allowing effectively processed surplus garbage food from being served in our schools. Encourage school kitchens to actually make food on site like they used to instead of heat and serve chicken 5 different ways.	Male

Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Offer a good variety of food choices in the foodcourt and dining room.	I'm not sure.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	No	I have not seen these stickers	promote the benefits of eating healthy rather than just slick advertising for the sake of advertising.	This may sound somewhat brash-but allow the Darwinian process to take place and spend less of our taxes on informing people about what should be common sense anyway. Is it an education issue or a common sense issue? I'm not sure.	Male
Yes, I have seen these commercials and they influenced me	No, I have not seen these commercials	I have not seen these commercials	No	I have seen these stickers and they helped me choose a snack	Put the right food in the healthy choice vending options. I have purchased snacks from them that were high in fat.		Male
No, I have not	Yes, I	I have	No	I have seen	more food		Female

seen these commercials	have seen these commercials and they influenced me	not seen these commercials		these stickers and I ignored them	choice at the dining hall or food court		e
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	No	I have not seen these stickers			Male
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	No	I have seen these stickers and I ignored them	I do not know.	Ban McDonald's, Wendy's, and Burger King. Or spend as much on advertising healthy options as they do on unhealthy options.	Male
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers			Male
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	No	I have not seen these stickers	Brief meetings led by a knowledgeable and competent speaker. Most of the folks are ignorant about the good nutrition.	Tell the folks the truth about food. Promote the Mediterranean diet (Fish, vegetables, fruit)	Male
Yes, I have seen these commercials but I ignored	No, I have not seen these	I have not seen these commer	No	I have seen these stickers and I ignored them			Female

them	commercials	commercials					
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	No	I have not seen these stickers	Have nutrition information in the campus center cafeteria. Having to go online and wade through a terrible website is ridiculous.	Have nutrition information in every restaurant for every food item, and give fines if it is not readily available.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	No	I have not seen these stickers	continue to add notes for healthy options and to expand the healthy options available		Female
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers	Provide more options for fresh fruits and vegetables and healthy meals. By healthy snacks I would like to see limited use of preservatives, no artificial sweeteners or flavors (including MSG), and possibly even	- Stop advertising to promote 'diet' and 'sugar free' as healthy. Aspartame and other artificial sweeteners are in no way healthier than naturally occurring sugars. - Create greater regulations for	Male

					<p>gluten-free options. It would also be pretty sweet if we had better options than Dunkin Donuts in the campus center.</p> <p>Another thing that WPI can do is to be more engaged in the Green movement. One thing my undergrad school (Clarkson University) did was eliminate styrofoam from food services, including coffee cups. They replaced these with eco-friendly products (http://www.ecoproducts.com/va-cms/index.php), which also had the side effect of eliminating toxic intake from drinking hot fluids out of styrofoam cups.</p>	<p>listing ingredients on packaging so that the consumer may be more accurately informed.</p> <p>- Encourage individuals do their own research regarding health</p>	
Yes, I have seen these	Yes, I have	I have seen	No	I have not seen these			Male

commercials and they influenced me	seen these commercials but I ignored them	these commercials and I ignored them		stickers			
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have seen these stickers and they helped me choose a snack	More available, affordable food in the campus center.	Provide incentives to companies that make their food products "healthier".	Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	No	I have not seen these stickers	Increase healthy eating options, specially affordable ones.	Increase information available about healthy eating - i.e. nutrient content benefits vs. Calorie content. Make availability of nutritional information for restaurants and fast food chains mandatory.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials	I have not seen these commercials	No	I have seen these stickers and they helped me choose a	I like that WPI has a fruit and salad bar at the campus	I'd love to not have food commercials air	Female

	ials but I ignored them			snack	center, but these are often very expensive and you can't really weight out how much you want to see the cost until you get to the cash register. I do believe that there are more healthier choices than there has been in the past.	after 6p.m. I'm fine and do not crave anything really after dinner, unless I see a commercial and then I think that bowl of ice cream or chips look good. I do not they will every pass a law to outlaw commercials though. And, if I think about it, I do not think in a free country they should.	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	No	I have not seen these stickers			Female

Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers			
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have seen these stickers and they helped me choose a snack			
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have seen these commercials and they have influenced me	Yes	I have not seen these stickers	Have a place that sells fruit right on the way before you get to Dunkin Donuts in the campus center	Outlaw sugar soda vending machines at schools. Provide healthy snacks to school children for free. At my daughter's kindergarten the kids pack a snack in the morning and it is often a sugary snack; if the school were to provide fresh fruit it would help encourage lifetime healthier eating. Public service announc	Male

						ements on TV and radio to eat right would help too, as long as it is not overly influenced by packaged foods lobbyists.	
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	Yes	I have seen these stickers and I ignored them			Female
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	Yes	I have seen these stickers and I ignored them			Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have seen these stickers and they helped me choose a snack	WPI food is very unhealthy. I prepare my own food and rarely eat anything bought on-campus. The only "healthy" option seems to be buying a salad from the salad bar. All the other food is just loaded with fat and sodium. For		Male

					<p>example, vegetables served with entrees at the campus center are drenched in butter. Coyote Jacks is just sad... terrible quality and no nutritional value. Quiznos.. fat and sodium. I think WPI should post the nutritional contents of all food they serve (Calories, fat, protein, carbs, etc...) next to all food items they serve. Literally right next to and not on some website that no one will check. This may help the members of the WPI community make healthier choices. It really is up to them to change their eating habits.</p>		
No, I have not seen these commercials	No, I have not seen	I have not seen these	Yes	I have seen these stickers and they	Remove all junk food from	My son is in an excellent	Female

	these commercials	commercials		helped me choose a snack	campus, including in vending machines	<p>elementary public school in an affluent neighborhood. On the one hand he is taught by his teachers that eating junk food is to be avoided, including pizza, etc. On the other hand the children are served pizza and other bad or poor quality foods at lunch every day. Needless to say, my son does not eat the school lunch. Also, every time the school tries to raise money, they sell as much pizzas and cookies as possible (no</p>	
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						<p>ingredients given, they look very cheap) or have local poor quality pizza "restaurants" participate. I'm a recent immigrant from Europe and am deeply shocked by this contradiction; it is outright immoral. These foods should completely be banished from schools and school fundraisers, especially in America which has a very poor relationship to food, a twisted image of food and has the highest obesity rate in the world by a</p>	
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						significant margin. Actually, the schools should be obligated by law to provide VERY healthy foods for lunch, use lunch time and lunch food every day to teach about healthy eating and provide the parents with the nutritional values and ingredients of each lunch they serve the students. Also, TV programs for kids should be obligated by law to advertise healthy foods and healthy eating habits and should be	
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						prohibited from advertising "junk" food.	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers			Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers	Offer nutrition counseling. Everybody is different in their likes/dislikes, metabolism, etc.	The U.S. Government could be honest with the public about the dangers in most of our food, especially the ones they claim to be healthy. I do not ever recall in my reading of the Constitution where it was the Government's job to "promote" healthy eating.	Female

Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have seen these stickers and I ignored them	Offer classes to students on healthy eating	Train kids to eat healthier by starting good habits as soon as possible. Nutrition should be a focus point as early as possible.	Male
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	Yes	I have not seen these stickers			Male
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have seen these stickers and they helped me choose a snack	I'd like to see more Calorie listings. I was at Au Bon Pain a few days ago, and was about to order a sandwich but changed my mind when I saw the Calorie listing on the menu. I switched to a healthier option.	I think Calorie listings at restaurants and realistic portion sizes are important. Some people might be moved to eat healthier if the information was right in front of them. Also, portion sizes need a makeover. Restaurants serve too much food. They should	Female

						scale back instead of encouraging overeating. Some serving sizes listed on packages are not realistic. If a package of cookies lists one cookie, 6 chips or half of an energy bar as a serving, not many people are going to eat just that serving size. Most people do not even pay attention to serving size and have no idea what they're consuming.	
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	Yes	I have not seen these stickers	Continue offering a variety of healthy foods in the Campus Center food court.		Female
Yes, I have seen these commercials	Yes, I have seen	I have seen these	Yes	I have not seen these stickers	Continue to offer healthy	Continue information	Female

but I ignored them	these commercials and they influenced me	commercials and I ignored them			choices	campaigns	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and they have influenced me	Yes	I have not seen these stickers	Require/offer more physical activity options to the campus	clean up the school lunch program - good habits start young	Female
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	Yes	I have not seen these stickers	<p>the vending machine choices are still pretty poor. Pretzels seem about the most harmless thing and they still have lots of salt (I only recently came to appreciate what a problem salt is in America).</p> <p>Try to develop a mindset on campus that there are other foods beside PIZZA!!!</p> <p>The Campus Center salad bar has a collection of dressings for salad but none</p>	<p>give tax credits for weight loss. The part of health care reform that is being ignored is the people themselves. We are overweight, don't exercise enough and eat poorly. In short we are our own worst enemy.</p>	Male

					are labeled as to Low-fat or Fat Free so they are useless. Dunkin Donuts is a joke...		
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	Yes	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers	Make the fat content clearer. Make it clear which products are "real" meat and which are processed with added salt. Provide more options with low salt and low-fat. Ditto for sugar.	Not a lot -- cynical, but true I suspect. They've already got a lot on their plate (so to speak) anyway.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	Yes	I have seen these stickers and they helped me choose a snack	have more options on campus for healthy eating. More natural food options (whole grains, organic produce, etc).	promotion of whole grains (just b/c the pyramid now states grains, whole grains are critical to a healthy diet (aka not white flour nor enriched	Female

						flour).	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	Yes	I have not seen these stickers	Provide more information about the "unhealthy" choices that we make - if I knew more about how bad something might be for me, I might be more inclined to chose the healthy alternative.		Female
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	Yes	I have seen these stickers and they helped me choose a snack			Female
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	Yes	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers	Provide better choices at the food court in the campus center. I cannot eat wheat, but	Require food manufacturers list ALL ingredients on all food labels,	Female

				<p>want to eat low-fat. That means more choices and larger portions of REAL (not processed) meats/cheeses and fresh veggies in their cooked food WITHOUT extra wheat or corn or rice. In general, salad bars at restaurants give me the runs, so I avoid the one on campus (salads at home are OK--I assume it has something to do with washing the vegetables and allowing them to drain well). Many times the "chicken breast" choices on campus are a processed and contain extra carbs. Provide "seltzer" as</p>	<p>including incidental "trace" additives. Require factory farming provide food that has the same nutritional value as home-grown food (apparently studies of that need to be made). Remove GMO products from food chain--obviously it's not working... we keep getting fatter and fatter (could that be the cause?). Outlaw chemical additives and chemically-modified foods (trans fats, methyl cellulose, colorants, preservatives, etc.)</p>	
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					a choice in soda vending machines.		
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have seen these stickers and I ignored them	Make health foods besides soup and salad available at the campus center. Nutrition facts available for campus center foods (and if they are available tells us where).	They currently do a good job	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	Yes	I have not seen these stickers	show nutrition and Calorie information on each menu.	replace the content for vending machine with the healthier snacks.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers	Promote and serve more organic, locally harvested meat, produce, and dairy products.	Monitor and limit the practice of giant meat farms, which have a negative effect on both the environment and people's health (the meat is loaded with antibiotics), and is cruel to the animals	Female

						<p>raised in this manner; Work with state and local agencies to promote local farmers markets and food co-ops thus increasing the availability of locally grown, organic dairy, meat and produce for everyone . Air commercials with information about the negative fat/Calorie/sugar content of common fast food and processed food items, and the benefits of buying locally grown products.</p>	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I	I have seen these commercials and they	Yes	I have not seen these stickers			Male

	ignored them	have influenced me					
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	Yes	I have not seen these stickers	Healthy quick snack options	encourage schools to incorporate healthy eating habits in the curriculum - case on point...my older son had, as part of his preschool class, learning about veges (and they ate them for snack each day), 'mix-it-up' where the kids were introduced to measuring and "made" salad, etc. This stuck with him-he's 13 and still loves veges, will eat salad with meals, and snacks on fresh fruit as opposed	Female

						to cookies. He was in this preschool (in California) for 3 years and as this was part of his daily routine, it became second nature.	
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	Yes	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers	I think that as much attention as possible should be paid to making the recipes offered on campus healthy for students, faculty, and staff. Given the levels of obesity that we see in our country, coupled with our sedative culture, every attempt to keep fat content and Calorie levels low can help!	I'm not sure if this is done already, but I think that all children should be educated at a very early age on good nutrition, healthy eating choices, and the importance of daily exercise. I think some kids do not know how bad chips, hot dogs and	Female

						sugar sodas and drinks are for them...until a lot of damage to their health may already be done.	
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	Yes	I have seen these stickers and they helped me choose a snack	Reduce availability of soda and energy drinks.	School lunches should be made to be more healthful. Agricultural policy should provide more supports to farmers growing non-cereal crops (fruits, vegetables, nuts) and significantly less support to corn and soy growers. Provide incentives for farmers markets to be in city settings, where fresh produce is either not fresh, very	Female

						expensive or unavailable.	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	I rarely eat on campus, I bring my food in with me to be sure that it is healthy (I prepare all my meals and try to live a healthy life). If they do not already do this, it would be helpful to list the nutritional content of items sold at the campus center directly next to the menu, so if I am thinking about a slice of pizza I can see exactly how many more Calories and fat might be in a slice of pepperoni rather than cheese.	I think advertising where to find information that has been properly researched is the main concept. The MyPyramid.gov site may be very useful, but I have never heard of it until this survey. Also, maybe information on different types of diets, based on goals, activities, or genetics may be helpful. Also, I centralized database of nutritional content for foods sold at restaurants and grocery stores. I	Male

						know the information is available from each source, but a "one-stop" database containing the information would be helpful.	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Female
No, I have not seen these commercials	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	No	I have seen these stickers and I ignored them			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers			Male
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers			Male

Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	Lots and lots of PR	Lots and lots of PR	Male
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	No	I have not seen these stickers	I believe there is plenty of healthy food options at the campus center.		Male
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	No	I have seen these stickers and I ignored them	Less "organics", which are no healthier, but take up much more land to grow the same amount of food. That drives up the cost of healthy fruits and vegetables, which will make it less likely that people in general will eat them.	The Government should provide information, but should *not* start yet another multi-billion dollar Government agency. At best, they should outsource to a commercial advertising company that can do it better, faster and cheaper.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials	I have seen these commercials	I have never heard of MyPyramid.gov	I have seen these stickers and I ignored them			Female

	ials but I ignored them	and I ignored them					
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	No	I have not seen these stickers	Convince me that you really know something about healthy eating and have not just bought into the trend of the moment on what constitutes healthy eating.	Take a more balanced and evidence based view of healthy eating.	Male
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers	I actually do not eat on campus - I make my own food, I bring a bagged lunch to school, and I bring my own snacks. I also do not ever watch TV, so I do not see commercials.	Not allow high fructose corn syrup to be in EVERYTHING. (I'd like some variety in my sweeteners - too much of anything isn't healthy or good for the economy).	Male
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and	I have not seen these commercials	I have never heard of MyPyramid.gov	I have seen these stickers and they helped me choose a snack			Male

	they influenced me						
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers		ban antibiotics and hormone supplements in livestock raised for meat	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	No	I have not seen these stickers	more salad option. I like that they have a meal with Weight Watcher points listed. They should do this on more items.	I worked in a school cafeteria and the food that was free from the Government was usually cheese and hamburg. Change this to healthier options.	Female
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	More options at the campus center with less grease.	Revise the food pyramid.	Male
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	No	I have not seen these stickers		Encourage food producers to put less sugar and salt in processed foods!	Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	No	I have not seen these stickers	Nothing, everything sold here is healthy. Do not open a McDonalds in campus	Healthy food should be cheaper and more accessible. At this point is more	Female

						convenient to buy what's unhealthy.	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	No	I have seen these stickers and they helped me choose a snack	The green stickers aren't that useful. In some machines they only indicate gum. A small label would be better. Also, nutrition labels on the prepared food in the campus center would be lovely.	Calorie listings on menus would inform the public about what they are eating. I think many people would be surprised by how unhealthy some foods are in restaurants.	Female
No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	No	I have not seen these stickers	More healthy options in the Campus Center.	Feed children healthier food in school cafeterias and have health classes very early with information on healthy foods and the effects of obesity, etc.	Female
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers		Make fresh, LOCAL produce (fruits and veggies) available	Female

						<p>everywhere, in every, city, town, village in the country, at reasonable prices. Encourage more small farms everywhere, so they can be profitable .</p> <p>Meat, fish, and poultry should be free of all additives, especially growth hormones and antibiotics, which should be banned.</p> <p>Unrefined grains should be sold cheaply in all supermarkets, not just in health foods stores.</p> <p>And do not forget the nuts either,</p>	
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						<p>especially in the shell (walnuts, almonds, etc.)</p> <p>Reduce all salt and sugar by half in all processed foods.</p> <p>Only the federal Government can accomplish this, through food and agricultural policy. We are desperate for greater regulation of our food and water. Speaking of water, why shouldn't it be free of discarded drugs? All unused drugs should be collected and disposed of properly by the local or state Governments.</p>	
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						Every day, young people are dying from improperly disposed of prescription medications and other stuff in our drinking water. The federal Government must see to it that our water is safe to drink, and that our food is safe to eat.	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	Yes	I have not seen these stickers			Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	Yes	I have seen these stickers and I ignored them	Provide more nutrition info on the foods on campus.		Male

No, I have not seen these commercials	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	I have never heard of MyPyramid.gov	I have not seen these stickers	Reduce costs of fresh vegetables and fruits in the Campus Center food court.		Male
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	Yes	I have seen these stickers and they helped me choose a snack	At events, provide free fruit, sliced apples etc. I find that Chartwells fruit however is often not ripe. I wasted a peach and felt bad about this, but it was ROCK hard I could have broken a tooth on it so tossed it out. Maybe in the new library cafe they can offer some small fresh fruit cup, yogurt and granola like at Starbucks. perhaps in the vending machines there can be MORE healthy choices? Sometimes there are so few. Not varied enough. It's hard for me: Doritos	I think it's a lifestyle question for people, I am not sure the gov't can do much about it. Regulation or taxation of soft drinks or snack food is not an answer and in my opinion, a tax on the poor. I do like the movement towards of transfat free snacks and food, bans on TFAs. I do like the labeling of organics so some regulation is useful. People overall	Male

					<p>or granola bar. Doritos are SO good. Maybe some more of those "baked" products (Baked Cheetos are delish). They are NOT really a healthy choice though when you think about it. Honestly. How about getting RID of the evil vending machines altogether! ? They promote junk food consumption just by being there. Maybe more light snacks options at the campus center, fresh air-popped popcorn, SmartFood has so much fat! We need a Jamba Juice type place. Fresh smoothies. At the Campus Center they have all these</p>	<p>know what they should or shouldn't eat, awareness is not the issue. It's lifestyle choices, personal tastes. Health-driven snackers are actually already changing the market and demanding more of these items. Is WPI keeping up and providing what students and staff what?</p>	
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					candies now by the registers. This is bad news.		
No, I have not seen these commercials	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	Yes	I have not seen these stickers	better, fresher options at the campus center.		Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers		My impression is that the interior aisles of a typical supermarket contain a lot of lower price food options but many of these contain ingredients such as sodium, high fructose corn syrup, etc. that do not contribute to healthy eating. The vegetables and fruits, however, tend to carry a higher price tag and are	Male

						susceptible to early spoilage at home, which results in a higher effective price. Perhaps the subsidies for the corn growers can be redirected?	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	Yes	I have not seen these stickers			Female
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	No	I have not seen these stickers			Male
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers	Promote drinking juice, water, and seltzer over soda and other highly sugared drinks. People will buy what is appealing and convenient, like pizza. Make healthy foods more appealing and convenient in the food	Tax candy and sugary drinks to raise their cost. Remove agricultural price supports on sugar to reduce production.	Male

					<p>service areas.</p> <p>Much of the display space in the Campus Center food court is devoted to sugary drinks. Reduce it.</p> <p>Lower the price of bottled water and/or make tap water available at all dining areas.</p>		
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers	<p>Promote eating whole grains. Explain the concept that whole grains convert to sugar more slowly, reduce cravings, and maintain a steady blood sugar level over an extended period of time.</p> <p>Have oatmeal available all morning in the cafeteria.</p>	<p>Eliminate corn syrup for starters. Tax junk food like butts and booze. Tag junk food with a specific radiation marker that accumulates in your body. If you have an excessive level, when the time comes, you won't be covered by Medicare/Medicaid</p>	Male

<p>Yes, I have seen these commercials but I ignored them</p>	<p>Yes, I have seen these commercials but I ignored them</p>	<p>I have seen these commercials and I ignored them</p>	<p>I have never heard of MyPyramid.gov</p>	<p>I have not seen these stickers</p>	<p>1. The food service can stop trying to force a politically correct diet down our throats. 2. TRAYS can be returned to the student dining halls. They were removed to make it difficult for students to carry their meals and thus maximize Chartwell profits. It had nothing to do with the propagand a about eating healthy. 3. For goodness sake, do not be dupes and think that it's about health. It's about profits.</p>	<p>Oy, vaysmer e!</p>	<p>Male</p>
<p>No, I have not seen these commercials</p>	<p>No, I have not seen these commercials</p>	<p>I have not seen these commercials</p>	<p>No</p>	<p>I have seen these stickers and I ignored them</p>		<p>Even with current health regulations, the school lunches and breakfasts served at the school I</p>	<p>Male</p>

						<p>teach at consist of high sugar, high fat food. Considering this is a Government funded food source-- and largely free to my students since we are a high need school, that might be a start.</p>	
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	Yes	I have not seen these stickers			Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have not seen these commercials	No	I have not seen these stickers	emails, websites, signs	more commercials, programs at schools, better food that still tastes good in vending machines	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Male

No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers			Male
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	Yes	I have seen these stickers and they helped me choose a snack			Male
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	No	I have not seen these stickers	offer more low-fat low sodium options	start educating children as early as preschool	Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have seen these stickers and they helped me choose a snack			Male
No, I have not seen these commercials	No, I have not seen these commercials	I have seen these commercials and I ignored them	No	I have not seen these stickers	I just go to the campus center, but I think there are quite a few healthy choices there, so I think it does pretty well.	Promote more nutritious choices in schools and less junk food sold there; more disclosure of nutrition information in restaurants; public service announcements about healthy eating	Female
Yes, I have seen these	Yes, I have	I have seen	Yes	I have not seen these	Offer better options at	Figure out how	Female

commercials and they influenced me	seen these commercials but I ignored them	these commercials and I ignored them		stickers	on campus dining facilities.	to make healthy options cheaper.	
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers	stop the Crispy Creme donut offers offer incentives to students, faculty and staff for getting out and walking! promote fruit, instead of cookies - healthier, lighter desserts	replace every fast food "restaurant" chain with a fast food salad bar place? :)	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	No	I have not seen these stickers	Perhaps post a Healthy Eating on Campus Map and a daily email highlighting healthy options for the day.	Help bring down the cost of "healthy eating"	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers	Stay out of it.	Stay out of it and definitely do not use the president's wife.	Female
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	Yes	I have not seen these stickers	Offer healthy eating options and snacks. Chartwells is doing this already with the	Healthy eating habits start at home, but children can learn about	Female

					menu options at the Campus Center. I receive an email every day to advertise eating options there and it is informative.	them in the schools and bring the information home.	
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have not seen these stickers		Play up the deliciousness of good things to eat in ways other than with animated vegetables. Show famous chefs making healthy foods that look good that people can make at home with ingredients that are cheap and easy to get from the store.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have not seen these commercials	No	I have seen these stickers and I ignored them	More convenient, filling, tasty healthy options would be good. I find myself	Benefits for healthy people (health insurance rebates,	Male

					eating quiznos, burgers, or pizza from the campus center every day.	tax breaks, ..) Make healthy, low cost options available so people dont eat at McDonal ds/burger king so often. Limit unhealthy food at schools. no unhealthy food at school cafeterias should be subsidize d. Tax or otherwise make unhealthy food less desirable .	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials but I ignored them	I have seen these commercials and they have influenced me	No	I have not seen these stickers			Femal e
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored	I have seen these commercials and I ignored	I have never heard of MyPyramid .gov	I have not seen these stickers	The salad bar in the Student Center food court could offer more salad		Femal e

	them	them			<p>items-it's bland looking compared to the fast food areas. Maybe a part of the food court could be a station that offered full meals already made up that was under a certain amount of carbs, sugar, Calorie, fat, etc. Maybe even offered tasty health foods.</p> <p>In New York City fast food companies must list caloric value of each item right up on the sign you order from. I realize how much is really in the food-and order way less. The various food places on campus could do the same.</p>	
No, I have not seen these commercials	No, I have not seen these commerc	I have not seen these commerc	I have never heard of MyPyramid .gov	I have seen these stickers and I ignored them		Male

	ials						
No, I have not seen these commercials	No, I have not seen these commercials	I have not seen these commercials	I have never heard of MyPyramid.gov	I have seen these stickers and I ignored them			Male
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have not seen these commercials	No	I have seen these stickers and I ignored them	Do not have junk food available. Serve healthy meals at the cafeteria.	Oversee the food served at schools.	Female
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have seen these commercials and they influenced me	No	I have not seen these stickers	Free healthy snacks like baby carrots and apple slices. Show films that highlight the dangers of junk food	Ban high fructose corn syrup or place large warning labels on soft drinks like they do on cigarette packages	Male
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	Yes	I have not seen these stickers	I'm at Gateway - It would be nice to have non-brown-bag eating at all.	Get out of cahoots with hyper-caloric, vitamin-low Big Agra production? Not supporting feedlot meat production would be a good start.	Female
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I	I have seen these commercials and they	Yes	I have not seen these stickers	More nutritious snacks in vending machines. More	Focus more on nutritious food, not just snacking.	Female

	ignored them	have influenced me			<p>flavored water than soda. Have egg white sandwiches with plain grilled chicken available. More steamed veggies (w/o butter) A healthy meal of the day (300 Calories for Women; 500 for Men) given at the Campus Center. More creative salad bar - sprouts, carrot/celery sticks, unsalted nuts, no fat cottage cheese, etc. Half sandwiches to promote for afternoon snack as oppose to "junk snacks". 3 oz turkey sandwich on Esekiel bread also can have available at Salad bar - 1/2 sandwich, 1/2 soup.</p>	<p>Afternoon/Evening is when people tend to eat high Calorie foods due to the fact they haven't eaten enough earlier in the day. Encourage people to have more nutritious food with good fat that will last longer and eliminate the high sugar, high fat and Calorie foods. People do not think to have a half sandwich late afternoon, but will won't think twice about a candy bar or a bag of pretzels.</p>	
No, I have not seen these commercials	No, I have not seen	I have seen these	I have never heard of	I have seen these stickers and they	Positive advertisements, fast	Unsure -- it's hard to get	Female

	these commercials	commercials and they have influenced me	MyPyramid.gov	helped me choose a snack	options for healthy food.	children in the habit early since they often have less control over what they eat.	
Yes, I have seen these commercials and they influenced me	Yes, I have seen these commercials and they influenced me	I have seen these commercials and I ignored them	No	I have seen these stickers and they helped me choose a snack			Female
Yes, I have seen these commercials but I ignored them	No, I have not seen these commercials	I have seen these commercials and I ignored them	No	I have seen these stickers and I ignored them	Increase the price of less healthy options.	Place a 25% tax on fast food and other non-nutritious foods. Provide a tax refund for non-overweight folks, reduced health-care premiums for non-overweight folks.	Male
Yes, I have seen these commercials but I ignored them	Yes, I have seen these commercials but I ignored them	I have seen these commercials and I ignored them	I have never heard of MyPyramid.gov	I have not seen these stickers			Female