

## Course Project: Nutrition Claims and Digestive Health

### Part 1—Analyzing a Popular Nutrition Claim

In Module 2, you learned how to evaluate popular claims and determine their credibility. In this part of the project, you will put your own example of a claim made about the digestive system to the test.

#### Instructions:

1. Select an article or news story that makes a claim about the digestive system.
2. Evaluate the claim by filling out the following chart.

<p><b>Paste the link to your article here:</b></p> <p><a href="https://www.health.harvard.edu/blog/how-much-protein-do-you-need-every-day-201506188096">https://www.health.harvard.edu/blog/how-much-protein-do-you-need-every-day-201506188096</a></p>	
<p><b>Describe the claim made in the article you've chosen.</b></p>	<p>The article begins by stating a generally known fact that “protein is essential to good health” as it helps our body maintain and replenish its structure. I think the author also assumes we generally tend to think, “More of a good thing must be better.” At the end of that same introductory paragraph, the author claims “the rest of us” (non-athletes) may be taking in too much protein.</p>
<p><b>Current: How long ago was the article published/ updated? What does this date tell you about the article's credibility?</b></p>	<p>The publication date under the article's title states, “January 19, 2022.” (However, something peculiar about this online article is that many of the shown posted comments at the end of the article indicate they are from 2015.) At the end, the article states it was adapted from a blog post. Perhaps the seven-year-old comments are from the original posting. Either way, I don't consider this to be a very old publication.</p>

<p><b>Relevant:</b> Explain how the article relates to the digestive system.</p>	<p>The author(s) offers guidelines and methods for determining the amount of protein one should consume. The article presents two main positions on the consumption of protein: shooting for a specific daily <b>amount</b> of protein in one's diet, and/or consuming healthier <b>sources</b> of protein that are simultaneously rich in nutrients. The author(s) does not seem to take sides on which approach is better. Instead, they state in a few places that the research is still unclear or unsettled. The article seems to simply present an unresolved debate or argument.</p>
<p><b>Accurate:</b> Are there references included? If so, do they appear credible? Why or why not?</p>	<p>There are no obvious references included with this article. However, there are links to the publishing staff and a "Full Bio." Additionally, there are two disclaimers at the end advising the reader of the article's currency and a warning not to substitute its content for professional medical advice. With an authorship that includes the name "Harvard," the article would seem very credible at the outset. Nevertheless, it is also "adapted from a Harvard Health Blog post by Daniel Pendick," which sounds like it could also be simply a compilation of opinions and questions posted on an internet blog. How accurate is that? And would that sort of thing get published with the name, Harvard?</p>
<p><b>Authority:</b> Identify what gives the author(s) the authority to make the claim.</p>	<p>I think the article's authority comes from its name, the name's reputation, and all things associated with Harvard Medical School. A reader could easily assume the article is authoritative because it also sounds like more than one author was at work here. "It's the work of the entire Harvard Health Publishing Staff!" (Whatever that is.) I tried following the links to the staff and their bios, but was frequently blocked by pop-ups soliciting my information before granting me access. I found it annoying, and I didn't pursue it.</p>

<p><b>Purpose: Why do you think the article was published? Are there any obvious conflicts of interest?</b></p>	<p>Examine the advertising, packaging and labeling of processed foods, and you can see the strong emphasis on getting your protein. I think the author(s) of this article wanted to acknowledge this phenomenon by posing the question, “Are we consumed with consuming <i>too much</i> protein?” Coming from a collegiate source like Harvard, I don’t see and cannot think of a conflict of interest that stands out by addressing this topic. What kinds of foods does Harvard manufacture and/or sell in through its bookstore?</p>
<p><b>Do you think the claim is credible? Explain using the concepts and terminology you learned in the first two modules of this course.</b></p>	<p>I <i>do</i> think the claim is credible. I believe it is important to question the amount of protein our contemporary food environment tells us we should consume. I’m concerned for people obsessed with “getting enough protein” while neglecting their fiber intake. We are surrounded by calorically dense, processed foods that are cheap, readily available and addictive. Additionally, we live with comforts and conveniences that require very little combustion of all that energy we consume, and our bodies end up storing it. We exercise the parasympathetic branch of our autonomic nervous system on a daily, meal by meal basis. Our parasympathetic nervous system is seldom called upon. I’m not saying we don’t experience stress. It’s just that the stress is not as physical as it could or perhaps should be. In our culture, we seldom encounter the bear. We seldom have to work in the cold and find shelter and warmth for the night. Winter never completely comes to our bodies. Additionally, the cephalic phase of our digestive process is constantly stimulated by a bombardment of hyperpalatable foods. How can we say, “No,” when we are naturally calorie-seekers. It’s as if the food culture has hijacked our senses.</p>

## Part 2A—Tracking Nutrient Consumption

In this part of the project, you will keep a food diary for three days in order to better understand your own digestive health. Follow the instructions below about what to track. Note that it is not necessary to track on three consecutive days.

### Instructions:

1. Use the “Food” column in the chart on the next page to track your food intake for three days. Here’s some helpful guidelines:
  - a. Be sure to include everything you eat and drink—don’t forget **beverages, condiments, snacks**, etc.
  - b. If you eat an item with multiple ingredients, it is easiest to list each individually. So for instance, if you eat a turkey sandwich for lunch, you may want to track *wheat bread*, *turkey*, *tomato*, and *mayonnaise* on separate lines.
  - c. You will not be graded on how healthy you eat. Recording your intake faithfully is in your best interest, as it will allow you to draw the most accurate conclusions for your health.
2. Record the fiber content of each food in the “Fiber” column. Two items have been added to the first column as an example. If there is no nutrition label on your item (e.g. fresh produce), use the “Search FoodData Central” feature of the [USDA's FoodData Central](#) or the nutrition tracking app of your choice to find out how much fiber is in it. Be sure to calculate the correct serving size: for example, if you ate half a banana, only record half the fiber. You may find it easiest to do this as you go.
3. At the end of each day, add up the grams of fiber you recorded in that day’s column and enter the total into the bottom cell of that column.

	DAY 1		DAY 2		DAY3	
Meal	Food Mon., June 13, '22	Fiber (g)	Food Tues., Jun 14, '22	Fiber (g)	Food Wed., Jun. 15, '22	Fiber (g)
Breakfast	¼ c. steel-cut oats 6 oz. carrots whole apple ¼ cup raisins & chopped dates ground ginger “ cinnamon “ chili powder “ nutmeg “ cloves “ allspice “ cardamom	4.0 4.8 4.3 1.5 0 1.2 0.5 0.25 0.2 0.1 0.2	¼ c. steel-cut oats 6 oz. carrots whole apple ¼ cup raisins & chopped dates ground ginger “ cinnamon “ chili powder “ nutmeg “ cloves “ allspice “ cardamom	4.0 4.8 4.3 1.5 0 1.2 0.5 0.25 0.2 0.1 0.2	1.5 c. brown rice (cooked) 2 med. bananas chopped dates Cocoa powder Decaf coffee 1 tbsp. date syrup 1 tsp. vanilla Cinnamon ½ c. soy beverage ¼ c. oat creamer	5.25 6.0 2.0 2.0 0 2.0 0 0.5 0 0
Lunch	1 c. brown rice (cooked) 1.5 c. chili: black beans corn bell pepper tomato sauce onion & garlic applesauce ¼ c. Beyond Meat® crumbles 1/8 c. TVP	3.5 7.5 1.5 1.5 0 1.0 1.0 0 2.0	1 c. brown rice (cooked) 1.5 c. chili: black beans corn bell pepper tomato sauce onion & garlic applesauce ¼ c. Beyond Meat® crumbles 1/8 c. TVP	3.5 7.5 1.5 1.5 0 1.0 1.0 0 2.0	1 c. canned corn (no salt) 1.5 c chili: black beans corn bell pepper tomato sauce onion & garlic applesauce ¼ c. Beyond Meat® crumbles	4.0 7.5 1.5 1.5 0 1.0 1.0 0
Dinner	2.1 oz. Koyo® Asian Vegetable Ramen 12 oz. frozen peas & carrots ground ginger curry powder dulce flakes Chinese five spice garlic ½ onion 4 oz. mushrooms ½ c Deliciou® plant- based chicken 1 tb. pickled ginger 1 tsp. chili sauce sweet soy sauce	1.0 12.0 0.2 0.2 2.0 0.2 0.1 1.0 1.0 0 3.0 0 0 0	2.1 oz. Koyo® Asian Vegetable Ramen 12 oz. frozen peas & carrots ground ginger curry powder dulce flakes Chinese five spice garlic ½ onion 4 oz. mushrooms ½ c Deliciou® plant- based chicken 1 tb. pickled ginger 1 tsp. chili sauce sweet soy sauce	1.0 12.0 0.2 0.2 2.0 0.2 0.1 1.0 1.0 0 3.0 0 0 0	2.5 c. brown rice (cooked) ½ bell pepper Dulce flakes Ginger (minced) Garlic (minced) Chili sauce Sweet soy sauce ½ c. pineapple Loma Linda® TUNO Thai Sweet Chili Green onions	8.75 2.0 2.0 0.3 0.3 0 0 1.2 3.0 1
Snacks	½ serving Taza dark chocolate Herb tea Diet Mtn. Dew	3.0 0 0	Med. banana 6 pcs. blk. licorice 5 oz. PopCorners Herb tea	3.0 0 2.0 0	Nectarine Apple Banana 5 pcs. blk. Licorice Diet Mtn. Dew	2.0 4.3 3.0 0 0
	Total Fiber (g): <b>58.75</b>		Total Fiber (g): <b>60.75</b>		Total Fiber (g): <b>62.10</b>	

## Part 2B—Analyzing Your Food Intake

### Instructions:

Using the food diary you created in Part 2A, answer the following questions about your fiber intake and digestive health.

1. First focus on your daily dietary fiber intake. Experts say that women should consume about 25 grams of fiber per day, and men should consume about 38 grams of fiber per day.\* Based on this estimate, did you meet your recommended amount? If so, what dietary choices contributed to your success? If not, how might you change your eating habits to include more fiber?

According to this three-day food diary, I exceeded the recommended daily amount of fiber for men. This is due to three things.

First, my meals were comprised of plant-based foods only, and dietary fiber is found only in plants.

Secondly, several of the foods in my meals were in a whole and/or minimally processed form, meaning little or nothing “good” was stripped away, and little or nothing “bad” was added.

Lastly, my portion sizes were large.

2. Select one food from your food diary that may adversely affect the digestive system. Why do you think so? Explain the mechanism that would cause digestive distress.

For most of my life, I was a “heavy consumer” of carbonated beverages. Heavy because of the amounts I drank, and heavy because I was overweight and obese.

I learned to drink soda from my family, particularly my mother who was (and still is) a Pepsi-holic. At every meal, every snack, every road trip, every destination, at every host's home (even if they were not a consumer of sodas), she had to have her Pepsi by her side. Her consumption also contributed to a lifetime of health issues including obesity, ulcers, and diabetes.

My soda consumption ended about five or six years ago when I changed my diet and curtailed (and eventually stopped) patronizing convenience stores and fast-food establishments on a daily basis to and from work.

However, during Teacher Appreciation Week, I was given a diet beverage as a gift, and since it had been a while since I'd had one, I tried it. It was cold, wet, fruity, very sweet and only ten calories. Since that event, I have indulged myself in having one of these Diet Mountain Dews a few times each week, particularly after work. “I've earned this,” is what I've told myself at the end of those work days.

However, after reading articles and listening to nutrition experts talk about a healthy and effective gut, I'm a little concerned. Do the artificial sweeteners (chemically engineered and synthetic manufactured, like pesticides) in this diet beverage kill off friendly bacteria in my stomach and upset the chemistry in my small intestine, particularly in my duodenum? And if they do, how would I know?

I think one of the first signs has been some irregularity. Prior to the recent diet sodas, my bowel movements (BMs) were daily and like clockwork – usually once every morning and sometimes again in the late afternoon. Since consuming Diet Mountain Dews, I've noticed that my body skips a BM for a day or even two.

I also wonder if the additional citric, malic, and phosphoric acids create an acidic overload that is too much for both my stomach and my pancreas to counter. I haven't felt any nausea or heartburn.

Finally, I wonder if the artificial sweeteners disrupt the breakdown of food in my stomach and impair the absorption of nutrients by the villi in my small intestine. I have noticed some low-energy days lately. I've chalked that up an increased workload as the end of the school year approaches, but it could be that the diet soda has disrupted my body's ability to absorb all the “good stuff” from the mostly good foods I give it.

3. Select one food from your food diary that may positively affect the digestive system. Why do you think so? Explain the mechanism that would cause digestive benefits.

I am a regular and frequent consumer of brown rice. When I don't eat it by itself (with a little soy sauce), I combine it with fruit, chili, soup, stew, or stir fry for just about any meal or snack of the day.

Brown rice is high in fiber, primarily insoluble fiber. Its insoluble fiber contributes to my body's peristaltic health – throughout my stomach and intestines – by passing food more quickly through my digestive tract and building bulk in my stool.

Being a volume eater (also a *concern* of mine), my consumption of brown rice contributes to more than my regularity. Its bulk (fiber and water content) also fills me up and makes me feel satiated for a long time without indigestion and without consuming an excess of calories.

\*This is an average only and may not be right for everyone. Many factors can contribute to digestive and overall health. Consult your physician before making any dietary changes.

*To submit this assignment, please refer to the instructions in the course.*

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## Graded Discussion: Tracking (My) Carb Consumption

Dave Wegener

June 30, 2022

Most recent meal: Rice Bowl & Licorice @ 7PM  
 Predicted amount of carbohydrates in meal: 125 grams (approx. calories = 500/4 cal. per carb gram)

**ACTUAL** carbohydrate content (according to nutritional labels and CalorieKing.com) = **183 grams**

<b>Rice Bowl</b>	<b>148 g</b>
2 c. brown rice	<u>90 g</u>
½ red bell pepper, finely chopped	5 g
½ c. pineapple, finely chopped	<u>20 g</u>
1 tbsp. sweet soy sauce	<u>16 g</u>
1 tbsp. sweet chili sauce	<u>10 g</u>
0.5 oz. pickled ginger, finely chopped	3 g
2 stalks green onion/scallions	2 g
1 clove minced garlic	1 g
1 tbsp. minced ginger	1 g
Lg. pinch of dulse flakes	< 1 g
<b>Licorice</b>	<b>35 g</b>
5 pcs. Wiley Wallaby black licorice	

The brown rice contained the most carbohydrates, which did not surprise me, because of its starchiness. What did surprise me was how few carbohydrates were in half of the large bell pepper.

Monosaccharides	Disaccharides	Polysaccharides
pineapple	sweet soy sauce sweet chili sauce pickled ginger black licorice	brown rice red bell pepper green onion/scallions ginger garlic dulse flakes

**Reflection**

Given that most of what I consumed in this meal was the brown rice, which as an insoluble fiber will help move digestion along, I think I took in a satisfactory variety of carbohydrates.

My concern is the disaccharides, particularly the processed items manufactured with refined sugar. However, my hope is that the monosaccharides and polysaccharides will "crowd out" or counter any potential ill effects. (They just add so much flavor and taste so good!)

## Course Project: Evaluating Carbohydrate Claims

### Part A—Ketogenic Diets and Weight Loss

If you've explored nutrition trends or weight-loss options in the past ten years, you've likely come across many claims that "cutting carbs" can increase health and help you lose weight. When you do not eat enough carbohydrates to sustain body functions, your body will switch to burning fat for energy in a process called *ketosis*. (You'll learn more about how that works in Module 4.) This is the idea behind diets such as the ketogenic diet, which require you to severely limit your carb intake and "force" the body to burn fat.

Ketogenic (very-low-carbohydrate) diets have been scientifically proven to reduce the risk of seizures in patients with epilepsy, but their use as weight loss tools is more controversial. In this part of the course project, you will use the CRAAP test to investigate the credibility of ketogenic diets for weight loss.

#### Instructions:

3. Select an article or news story about ketogenic diets for weight loss.
4. Evaluate the claim by filling out the following chart.

<b>Paste the link to your article here:</b> <a href="https://www.nytimes.com/2019/08/20/well/eat/the-keto-diet-is-popular-but-is-it-good-for-you.html">https://www.nytimes.com/2019/08/20/well/eat/the-keto-diet-is-popular-but-is-it-good-for-you.html</a>	
<b>Describe the claim made in the article you've chosen.</b>	The article acknowledges the popularity of ketogenic diets while expressing caution about possible long-term effects.
<b><i>Current</i>: How long ago was the article published/updated? What does this date tell you about the article's credibility?</b>	The article was published (and updated) in August of 2019. This was just three years ago, so I think it's relatively current and still credible.
<b><i>Relevant</i>: Explain how the article relates to ketogenic diets.</b>	With an audience the size of the <i>New York Times</i> , surely this article piqued many readers' attention who (in favor of it or not) are following or who have tried following a ketogenic diet.
<b><i>Accurate</i>: Are there references included? If so,</b>	The author interviews and quotes several professionals (and their credentials), but the article

<b>do they appear credible? Why or why not?</b>	does not include or cite any particular references of information.
<b>Authority: Identify what gives the author(s) the authority to make the claim.</b>	The author is a NYT staff reporter “covering health, science, nutrition” and is the author of some health-related books.
<b>Purpose: Why do you think the article was published? Are there any obvious conflicts of interest?</b>	What name is associated most with best-seller lists? I don’t think the NYT would publish an article that would harm the sales of books, especially when so many of those best-selling books promote ketogenic lifestyles. It’s much safer to publish an article that asks questions rather than takes a side or position.
<b>Do you think the claim is credible? Explain using the concepts and terminology you learned in the first 3 modules of this course.</b>	<p>I don’t think the author is making a particular claim. Instead, I think he’s simply recognizing a cultural phenomenon or fad, and he is presenting different sides or concerns regarding the matter. If anything, he’s claiming, “Be cautious!”</p> <p>I agree. Both are true. The body’s primary source of energy is glucose in the form of carbohydrates. And, when the body has depleted its stores of glucose and glycogen, it has the ability to extract or manufacture glucose from stored fats and amino acids – ketosis.</p> <p>However, intentionally “starving” or depriving the body of its preferred fuel and giving it excessive amounts of fat and protein instead, does not sound like a good idea, particularly for long term health. Even in the short term, despite our bodies’ amazing resiliency, it sounds like one could be injuring or shocking their system and causing irreparable harm.</p> <p>I particularly like the quote from Dr. Heymsfield used for the article’s closing paragraph. I think that’s the bottom line. Whatever you do for your overall health, has to not only be healthy, but sustainable.</p>

## Part B—Analyzing the Effects of “Cutting Carbs”

### Instructions:

You now know how the Krebs cycle works and how the body extracts energy from the nutrients you consume. Because the body produces most of its energy from carbohydrates, following a diet that severely limits carb intake can upset this process and require the breakdown of more fats and proteins. However, as you saw in Part A of this project, ketogenic diets may have health benefits. Using what you learned about carbohydrates throughout this course, answer the following questions.

1. Ketogenic diets limit the amount of carbohydrates you consume. Based on what you’ve learned in this course, how might a diet like this theoretically affect blood glucose levels?

By limiting the consumption of carbohydrates – refined or unrefined – I think one runs the risk of hypoglycemia.

Whether it is for treating a serious, chronic illness, such as epilepsy, or it’s for a cosmetic goal of losing a few pounds, it is always risky to deprive your body of needed glucose.

2. Your friend has just started a ketogenic diet and eats mostly fats. You eat a fairly normal diet that consists of about 50% carbohydrates. Using your knowledge of the Krebs cycle, explain the difference between how you and your friend are producing energy. (Hint: Be sure to mention ketone bodies.)

Due to my friend’s reduced intake of carbohydrates, which can easily be broken down, stored and/or used as glucose, their body has to make do with what it has to metabolize energy. No carbs means no glucose, which means no pyruvic acids, which means no lactic acids, which means no oxaloacetate, which means their Krebs Cycle for extracting energy must resort to converting acetyl-CoA into ketone bodies for energy.

My body doesn’t have to resort to this means. By supplying plenty of carbohydrates (glucose), the usual components of the Krebs Cycle are in place and ready to perform their “default” orchestrated duty of making energy (ATP).

3. You are scrolling through your newsfeed and see that your aunt has posted about ketogenic diets. She has shared that she wants to lose 15 pounds and has decided to try a ketogenic diet. She added that she “knows” it will help her because her daughter, who is an epileptic, was put on a ketogenic diet by her doctor—so it must be medically approved. What would you say to your aunt?

First, I don't think I'd say anything to my aunt by responding to a social media post with another social media post. If I said anything to her, it would be more personalized (and hopefully invited, solicited or wanted).

If my aunt wanted to know my thoughts on her decision, I would encourage her to first consult with her own doctor, so that he/she can keep an eye on my aunt's blood glucose level. Also, if she had other conditions to consider, such as diabetes or cholesterol levels, I would urge working with her doctor all the more.

If she asked me why my concern, I would share with her what I knew about the possible effects of depriving her body of its preferred source of fuel, and that there may be a healthier, safer, more sustainable (and delicious) way for her to reach her goal.

*To submit this assignment, please refer to the instructions in the course.*

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## Course Project: Diet and Lifestyle Changes for Atherosclerosis

### Part One—Tracking Fat Consumption

In this module, you discovered why some fats are healthier than others. This has to do with their structure and the way it interacts with your body. In this part of the course project, you will keep a food diary for one day and track your consumption of each type of fat to help you better conceptualize what fats your diet currently contains.

There are four types of fat on most nutrition labels: saturated, monounsaturated, polyunsaturated, and trans fats. Trans fats are a type of unsaturated fat that has become saturated, usually through artificial processes, and is the worst type of saturated fat in terms of increasing the amount of LDLs in your bloodstream. This partially hydrogenated oil is created in order to allow foods to have a longer shelf life, and is often found in foods like baked goods, snacks like potato or corn chips, deep-fried food, refrigerated dough, creamer, and margarine.<sup>1</sup> You will track your consumption of all four types to better understand what is in the food you're eating—and why some foods may be healthier or unhealthier than you expect.

**Instructions:**

- Use the “Food” column in the chart on the next page to track your food intake for one day. Here’s some helpful guidelines:
  - Be sure to include everything you eat and drink—don’t forget beverages, condiments, snacks, etc.
  - If you eat an item with multiple ingredients, it is easiest to list each individually. So for instance, if you eat a turkey sandwich for lunch, you may want to track *wheat bread*, *turkey*, *tomato*, and *mayonnaise* on separate lines.
  - You will not be graded on how healthy you eat. Recording your intake faithfully is in your best interest, as it will allow you to draw the most accurate conclusions for your health.
- Decode your diet’s fat content. Nutrition labels on foods do not have to disclose trans fat content if it is less than 0.5 per serving. In order to get an accurate measurement of the fat content of your food, use the “Search” tool in [USDA’s FoodData Central](#) for exact numbers. Record the fat content of each food to the nearest tenth in the columns below labeled with each type of fat. Two items have been added to the first column as an example.
 

Note: Be sure to also calculate the correct serving size: for example, if you ate half a banana, only record half the fat content.
- At the end of the day, add up the grams of fat you recorded in each column and enter the totals in the “Total Fat” row.
- Once you have recorded and totaled all your food, answer the question below the table.

Dave Wegener (August 3, 2022)

Meal	Food	Saturated Fat (g)	Mono-unsaturated Fat (g)	Poly-unsaturated Fat (g)	Trans Fat (g)
<b>Breakfast</b>	1 sm. banana	0.1	<0.1	<0.1	0
	½ c. blueberries	<0.1	<0.1	0.1	0
	½ c. strawberries	<0.1	<0.1	0.2	0
	1 c. brown rice	0.4	0.6	0.6	0
	½ c. hemp milk	<0.1	0.5	3.5	0
	2 tsp. date syrup	<0.1	<0.1	<0.1	0
	1 tsp. cinnamon	<0.1	<0.1	<0.1	0
	1 tsp. vanilla	<0.1	<0.1	<0.1	0
		<b>&lt;1.1</b>	<b>&lt;1.7</b>	<b>&lt;4.8</b>	
<b>Lunch</b>	Homemade chili w/ brown rice:				
	½ c. black beans	0.1	<0.1	0.2	0
	¼ c. corn	<0.1	0.1	0.2	0
	½ c. tomato sauce	0	0	0	0
	¾ c. brown rice	0.3	0.2	0.2	0
¼ c. fresh cilantro, chopped	<0.1	<0.1	<0.1	0	

	¼ c. TVP	0	0	0	0
	½ c. onion, chopped	0	0	0	0
	½ c. bell pepper, chopped	<0.1	<0.1	0.1	0
	Garlic	0	0	0	0
	Mustard powder	0	0	0	0
	BBQ sauce	0	0	0	0
	Molasses	0	0	0	0
	Date syrup	0	0	0	0
	Bourbon	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	0
		<b>&lt;0.7</b>	<b>&lt;0.6</b>	<b>&lt;0.8</b>	
<b>Dinner</b>	Yonanas:				
	3 bananas, frozen	0.3	<0.1	<0.1	0
	12 strawberries, frozen	<0.1	<0.1	0.6	0
	2 tbsp. chocolate syrup	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	0
		<b>&lt;0.4</b>	<b>&lt;0.2</b>	<b>&lt;0.7</b>	
<b>Snacks</b>	3 ¾ c. Cosmos (salted caramel)	10.5	0	0	0
	3 chocolate chip cookies	2.2	3.5	0.7	0
	5 serv. Popcorners (sea salt)	0	12.5	0	0
	16 oz. Newman’s Own pineapple salsa	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	0
		<b>12.7</b>	<b>16.0</b>	<b>0.7</b>	
<b>Total Fat (g):</b>		<b>&lt;14.9</b>	<b>&lt;18.5</b>	<b>&lt;7.0</b>	<b>0</b>
Dave Wegener, Wed., Aug. 3 2022		<b>(Sat)</b>	<b>(Mono)</b>	<b>(Poly)</b>	<b>(Trans)</b>

Sources: nutrition labels (when available), [USDA's FoodData Central](https://www.nal.usda.gov/fdrc/), and [calorieking.com](http://calorieking.com)

**Trans fats are particularly deleterious to your health because they increase LDLs and decrease HDLs in your blood. Using the concepts in the course, describe in your own words why these conditions are harmful.**

When making healthy food choices, it is frequently a matter of comparisons, not absolutes. There is a hierarchy to the foods we eat, and the degree of “heathy-ness” is not always clear. The question, “Which food is the healthiest?” should often more aptly be rephrased, “Which food is the least harmful?”

This is particularly relevant to dietary fats. Both the quantity and quality of fats we consume affect our health. The least harmful fats are mono-unsaturated and poly-unsaturated fats – or more simply put, fats that remain a liquid at room temperature. Saturated and trans fats are the more harmful, and in contrast, they solidify at room temperature, like bacon grease does. Just seeing what these fats look like and knowing their physical properties *outside* of the body, imagine the effort required of our blood stream and liver to transport, manipulate and process fat molecules that are more free-flowing and fluid, versus those that are more viscous and solidified.

By consuming harmful trans and saturated fats, we increase the risk of overloading our bodies with fat molecules that our liver cannot process efficiently enough and our vessels cannot transport quickly enough to reduce the buildup of LDLs (to prevent atherosclerosis) and increase the amount of HDLs in our blood. (The inverse is also true: less consumption of these “bad” fats can lower the LDLs and raise the HDLs.)

Taking things a step further with the hierarchy of foods, if I knew I already had atherosclerosis

<sup>1</sup>“Trans Fat: Double Trouble for Your Heart.” *Mayo Clinic*, Mayo Foundation for Medical Education and Research, 1 Mar. 2017, [www.mayoclinic.org/diseases-conditions/high-blood-cholesterol/in-depth/trans-fat/art-20046114?pg=1](http://www.mayoclinic.org/diseases-conditions/high-blood-cholesterol/in-depth/trans-fat/art-20046114?pg=1)



## Part Two—Anti-Atherosclerosis Action Plan

As you have learned throughout this course, atherosclerosis is a serious condition that affects many people. It can lead to deadly conditions such as heart disease, heart attack, or stroke. Luckily, because it takes time for atherosclerosis to develop, there are things you can do to help prevent, delay, or even reverse its onset.\*

In this part of the course project, you will create an action plan based on the strategies you learned in this course that is applicable to your own life. First, review the content in Modules 3 and 4 about effective diet and lifestyle changes. (The “Safeguarding Your Arteries” Tool in Module 4 might be a good place to begin.) Next, think about your current habits. Given the ideal behaviors for atherosclerosis management, what changes could you make to reduce your risk of atherosclerosis?

Select five specific changes that you can make and write them in the table below. You may choose to use the information you collected in Part I to inform your selections. Then, explain the science behind why each one may have an impact on your trajectory toward (or management of existing) atherosclerosis.

Tip: Make each action step as specific and personal as possible. Don’t just repeat the strategy—tell us *how* you will incorporate it into your routine. Here are a few examples:

- **BAD EXAMPLE:** I will exercise more.
- **GOOD EXAMPLE:** I will do 20 jumping jacks before breakfast every morning.
- **BAD EXAMPLE:** I will eat a low-fat diet.
- **GOOD EXAMPLE:** I will reduce my consumption of pizza from 1 pie/week to 1 pie/month.

*\*Note: Talk to your doctor about the best way to manage your health. Treatment of atherosclerosis may require additional medical intervention.*

## Part Two—Anti-Atherosclerosis Action Plan (continued)

Dave Wegener (August 4, 2022)

Action Step	Rationale
1) I will follow a whole-food plant-based diet and lifestyle by cooking for myself (and for my family as needed/permitted).	According to the nutrition information (and the science), the energy density of these food will reduce my daily caloric intake while simultaneously maximizing my intake of micronutrients. The fats I consume from plants will predominantly be mono-unsaturated and poly-unsaturated.
2) I will eliminate added oils and fats from my cooking by removing them from my kitchen.	A diet of less than 20% fat can help minimize further damage to my blood vessels caused by LDLs (and, perhaps, give them a chance to reverse or heal damage already done as per Dr. Dean Ornish).
3) I will alter my snacking to incorporate more whole, minimally-processed, plant-based foods in order to crowd out the processed, fatty junk foods.	This will help maximize the effectiveness of my plant-based meals (rather than counter or undo them) by removing the primary source of saturated fats in my diet.
4) Along with the regular-to-semi-regular consumption of greens (for folate), I will take (at least every other day) a B12 vitamin and tablespoon of flax meal (for Omega 3).	These actions can help keep my homocysteine levels in check (under 15 micromoles per liter), as excess homocysteine (an amino acid left from the breakdown of proteins) can endanger the condition of my blood vessels' lining, the endothelium.
5) In addition to my daily walks, I will do 30 push-ups before I go.	Any additional exercise can help my body metabolize fat molecules. In my adipose tissues are stores of energy that can be converted into usable fatty acids (fuel) for muscles, while also reducing the size of those adipose (fatty) tissues. Another possible side benefit of additional exercise: increased HDL levels.

*To submit this assignment, please refer to the instructions in the course.*

## Course Project: Calories and Your Diet

### Part One—Finding Your Caloric Balance

The first two modules of this course focus on the importance of energy expenditure and the various methods available to measure it. In this part of the project, you will keep a food diary for three days to better understand your own caloric balance. While counting calories is not necessary to do every day of your life, this activity is meant to help you understand how much energy is going into your body versus how much you need—and those numbers may be a lot different than you expect. Follow the instructions below about what to track. Note that it is not necessary to track on three consecutive days.

#### Instructions:

1. Use the Food column in the chart on the next page to track your food intake for three days. Here are some helpful guidelines:
  - a. Be sure to include everything you eat and drink—don't forget beverages, condiments, snacks, etc.
  - b. If you eat an item with multiple ingredients, it is best to list each individually. For instance, if you eat a turkey sandwich for lunch, you may want to track *wheat bread*, *turkey*, *tomato*, and *mayonnaise* on separate lines.
  - c. You will not be graded on how healthfully you eat. Recording your intake faithfully is in your best interest, as it will allow you to draw the most accurate conclusions for your health.
2. Record the calorie content of each food in the Calories column. Two items have been added to the first column as an example. If there is no nutrition label on your item (e.g. fresh produce), use a search engine or the nutrition tracking app of your choice to find out how many calories are in it. Be sure to calculate the correct serving size: for example, if you eat half a banana, only record half the calories. You may find it easiest to do this as you go.
3. At the end of the day, add up the total calories you recorded in each column and enter the totals in the Total Calories Consumed row.

4. Estimate how many calories you burned on each of these three days. Start by using an online calorie calculator to find your basal metabolic rate (BMR). Then add your calories burned during deliberate exercise to estimate your total energy expenditure for each day. Record your expenditures in the Total Calories Burned row.

## BMR Calculator

The *Basal Metabolic Rate (BMR) Calculator* estimates your basal metabolic rate—the amount of energy expended while at rest in a neutrally temperate environment, and in a post-absorptive state (meaning that the digestive system is inactive, which requires about 12 hours of fasting).

US Units
Metric Units
Other Units

Age  ages 15 - 80

Gender  male  female

Height  feet  inches

Weight  pounds

[+ Settings](#)

Calculate
Clear

**Result**

**BMR = 1,908** Calories/day

Daily calorie needs based on activity level

Activity Level	Calorie
Sedentary: little or no exercise	2,290
Exercise 1-3 times/week	2,624
Exercise 4-5 times/week	2,795
Daily exercise or intense exercise 3-4 times/week	2,958
Intense exercise 6-7 times/week	3,291
Very intense exercise daily, or physical job	3,625

**Exercise:** 15-30 minutes of elevated heart rate activity.  
**Intense exercise:** 45-120 minutes of elevated heart rate activity.  
**Very intense exercise:** 2+ hours of elevated heart rate activity.

5. Once you have recorded and totaled all your food, answer the questions below the table.

Dave Wegener	DAY 1 Tues. 30 AUG 2022		DAY 2 Wed. 31 AUG 2022		DAY 3 Thurs. 1 SEPT 2022	
Meal	Food	Cal.	Food	Cal.	Food	Cal.
Breakfast (between 6 – 8 AM)	1 apple 5 oz. carrots ¼ c. steel-cut oats 1 tbsp. ginger, minced 1 tsp. cinnamon ¼ tsp. chili powder ¼ c. raisins ¼ dates, chopped ½ c. soy milk 1 c. water	100 60 150 35 0 0 120 130 70 0	1 tsp. Chinese 5 spice 1 tsp. curry powder 1 tbsp. ginger, minced 1 tbsp. garlic, minced 1 tbsp. chili sauce 1 tbsp. soy sauce ½ c. Delicou “chicken” 1 bag Miracle Noodle™ 4 oz. mushrooms ½ onion chopped 11 oz. bag of stir fry vegetables, chopped 8 oz. Brussels sprouts, chopped ½ c. water ¼ c. pickled ginger, chopped 3 oz. sweet soy/stir-fry sauce	0 0 35 15 0 10 130 5 25 35 50 40 0 0 200	1 tsp. Chinese 5 spice 1 tsp. curry powder 1 tbsp. ginger, minced 1 tbsp. garlic, minced 1 tbsp. chili sauce 1 tbsp. soy sauce ½ c. Delicou “chicken” 1 bag Miracle Noodle™ 4 oz. mushrooms ½ onion chopped 11 oz. bag of stir fry vegetables, chopped 8 oz. Brussels sprouts, chopped ½ c. water ¼ c. pickled ginger, chopped 3 oz. sweet soy/stir-fry sauce	0 0 35 15 0 10 130 5 25 35 50 40 0 0 200
Lunch (between 12 – 3 PM)	1 tsp. Chinese 5 spice 1 tsp. curry powder 1 tbsp. ginger, minced 1 tbsp. garlic, minced 1 tbsp. chili sauce 1 tbsp. soy sauce ½ c. Delicou “chicken” 4 oz. mushrooms ½ onion chopped 11 oz. bag of stir fry vegetables, chopped 8 oz. Brussels sprouts, chopped ½ c. water 2 c. brown rice, cooked ¼ c. pickled ginger, chopped 3 oz. sweet soy/stir-fry sauce	0 0 35 15 0 10 130 25 35 50 40 0 430 0 200	1 c. squash ½ c. baked beans, rinsed ½ c. black beans 1 c. corn ½ c. salsa 1 c. enchilada sauce 1 tbsp. garlic ¼ - ½ pkg. Rollin Greens™ PLANT-BASED ME'EAT	45 120 110 120 30 80 15 200	1 tsp. Chinese 5 spice 1 tsp. curry powder 1 tbsp. ginger, minced 1 tbsp. garlic, minced 1 tbsp. chili sauce 1 tbsp. soy sauce ½ c. Delicou “chicken” 4 oz. mushrooms ½ onion chopped 11 oz. bag of stir fry vegetables, chopped 8 oz. Brussels sprouts, chopped ½ c. water 2 c. brown rice, cooked ¼ c. pickled ginger, chopped 3 oz. sweet soy/stir-fry sauce	0 0 35 15 0 10 130 25 35 50 40 0 430 0 200
Dinner	(none)		(none)		(none)	
Snacks	7 oz. Cheetos 12 oz. Diet Mtn. Dew	1133 <u>10</u> 1143	3 bananas, diced 3 tbsp. chocolate syrup	270 <u>135</u> 405	4 oz. PopCorners, sea salt 6 oz. Diet Mtn. Dew	480 <u>10</u> 590
	Total Calories Consumed:	<b>2678</b>	Total Calories Consumed:	<b>1670</b>	Total Calories Consumed:	<b>2105</b>
	Total Calories Burned:	<b>2000</b>	Total Calories Burned:	<b>2000</b>	Total Calories Burned:	<b>2200</b>

Note: Tracking your weight over time is another way to measure your caloric balance. If you regular consume more calories than you are expend, your body weight will increase; if you are expending more calories than you are consuming, you can expect your body weight to decrease. While your weight will naturally vary throughout the day, long-term tracking can help you to monitor and adjust your caloric intake.

**Questions:**

<p><b>Examine your total calories consumed and expended. Did you end up with a deficit of calories or a surplus?</b></p>	<p>Surplus. Deficit. Break even. The three days I tracked were two big, long meeting days and one self-directed day to get my room ready for the start of a new school year. Each day I did some light weight-lifting and resistance exercise, but did my usual walking only on Day 3.</p>
<p><b>Were you surprised by the total calories you consumed/expended? What did you expect?</b></p>	<p>Honestly, I was not surprised by my total calories for each day, but I was unpleasantly reminded of how calorically dense some sauces and processed snack foods can be. I expected my total calories to be around 2,000 (or less) for each day, as I skipped dinners due to eating late (and snacking) each day.</p>
<p><b>Based on the calories you consumed, describe two changes that you could make to stay better in balance. You may choose to talk about changes in the consumed or burned categories.</b></p>	<p>First change I could make (to the habits recorded here), is to dial back the amount of processed snacks I eat (or reward myself with), or reach for minimally processed/whole food snacks such as fruits instead.          Second change I could make is to implement or increase my exercise each day. I usually walk for at least 30 minutes (sometimes two hours) every day. However, during these busier days, that self-care time often gets sacrificed.</p>

## Part Two—Debunking Diet Supplements

Biological theories of eating inform many of the popular weight loss trends today. But as you learned in this module, the science behind them can be problematic. In particular, there is a thriving market of weight loss supplements and drugs that hinge on various components of the body being valid regulators of body weight. Entrepreneurs often claim to have invented some magic pill for weight loss, but when you dig into the science, it doesn't add up. In this part of the course project, you will select a weight loss supplement or drug that hinges on a biological theory of eating and explain why we should be skeptical.

First, identify the weight loss supplement or drug that you will be evaluating. Then, answer the following questions:

<p><b>Name the drug and explain what effect it claims to have.</b></p>	<p style="text-align: center;"><b>Hydroxycut</b>  <a href="https://www.hydroxycut.com/">https://www.hydroxycut.com/</a></p>
<p><b>Based on your knowledge of biological theories, is there anything about how this drug is supposed to work that makes you suspicious? Explain.</b></p>	<p>After reading the product descriptions at Amazon.com, at the Hydroxycut website, and in the drop-down answer to “How does Hydroxycut work” in the website’s FAQs, what stands out to me is not so much the drug or supplement itself, but the “3-step system” that is prescribed with it.</p> <p>The Hydroxycut plan (system) includes taking the drug twice a day (for \$20 - \$40 per bottle for a 36-day supply of capsules) <i>along with</i> following a daily caloric intake of 1,500 – 2,000 calories <i>and</i> daily exercise.</p> <p>Even without this supplement, closely following a daily regimen of caloric intake and expenditure described above would cause adults, particularly obese adults, to lose weight. If the Hydroxycut “key ingredient” (a stimulant called “Svetol®” in the cited studies and “C. canephora robusta” in the ads) has any added effect, it might just be that its caffeine, a stimulant, making the user feel a little more energized (less lethargic) about doing their daily exercise.</p> <p>In Hydroxycut’s claim in its label, ad, and cited studies states that participants lost an average of nearly eleven (11) pounds in sixty (60) days – five pounds more than those in a placebo group. I know from experience that even greater weight loss is possible in sixty days <i>without</i> biological interference from a drug or supplement.</p>
<p><b>What organization backs this drug? Where does it advertise?</b></p>	<p>Hydroxycut is owned by Iovate Health Sciences, Inc. which is based in Canada and markets worldwide. Personally, I have never taken notice of the drug until now, so I am not familiar with its ads and where they typically appear. However, I did find and view a couple of its TV commercials online. The commercials made me laugh with their lightning-fast graphics, quick editing, and bikini-clad/attractive spokespersons touting their devotion and gratitude to Hydroxycut. The ads show the following stores as sources for the drug: GNC, Walgreens, CVS, 7-Eleven, RITE AID and Walmart.</p>

**Can you identify any credible science used in its claim? If so, in what way has the claim been exaggerated?**

One of the two studies linked in the Hydroxycut claim, does mention in its discussion (pgs. 3-4), the effects of the supplement as a possible “fat burner” that prevents the accumulation of consumed fatty foods by stimulating their use in glycogenesis *instead* of storage in adipose tissue.

Here are links to the studies:

<https://www.hydroxycut.com/wp-content/uploads/Dellalibera2006.pdf>

<https://www.hydroxycut.com/wp-content/uploads/final-abstract-summary-green-coffee-study-2.pdf>

However, neither of the two studies appear credible. The authors are few or buried (and so are the dates). There is no indication of peer review to authenticate or verify the claims. The authors’ credentials are also obscure or missing. While one of the studies appears more scholarly, the other reads like a simpler sales pitch.

I think Hydroxycut is simply encapsulated caffeine that helps people in two ways that are not in the claims:

- 1) It makes people *feel* like their losing weight because of the motivation that comes with investment in “a new thing.”
- 2) It gives people an added buzz to get off their ass and move (to burn a few hundred of those already limited calories).



## Part Three—Improving Long-Term Health Outcomes

As you have learned throughout this course, controlling your caloric intake can be a challenge. There are several environmental factors that impact how much food you eat, and they are not always easy to control. According to Professor Levitsky, the most important step you can take is to limit portion size; that is really at the heart of long-term health. You will now have an opportunity to think through some ways you might be successful at implementing and maintaining smaller portion sizes, in addition to some other strategies that can help you to manage the other environmental factors.

In this part of the course project, you will create an action plan that is applicable to your own life based on the strategies you learned in this course. First, review the content in Module 6 about effective diet and lifestyle changes. (The Controlling Food Intake and Body Weight Tool in Module 6 might be a good place to begin.) Next, think about your current habits. Given the constraints of body weight management, what changes could you make to take better control of your long-term health?

First, consider how you typically select portion size. Is it a mental decision based on what “looks like” enough? Do you use some sort of measurement system (1 scoop, half a dinner plate, exactly 1 cup) to guide you? Does someone else determine portion size for you? (Perhaps you have a family member who serves you, or perhaps you buy premade meals.) Begin by brainstorming two ways that you could reduce your portion sizes *in your own life*. Then, come up with one additional strategy for each of the other environmental factors. When you have thought of all five strategies, briefly explain the science behind why each strategy would be effective at helping you to control your body weight.

Tip: Make each action step as specific and personal as possible. Don’t just repeat the strategy—tell us *how* you will incorporate it into your routine. Here are a few examples:

- Bad Example: I will eat smaller portions.
- Good Example: I will eat my cereal out of a smaller bowl in the morning.
  
- Bad Example: I will add more variety to my diet.
- Good Example: The next time I make soup, I will include 3 new types of vegetables.

Action Steps	Rationales
<p><b>Reducing Portion Size</b>            1. Since it's usually just my wife and me around our house, and since I usually cook for myself at work, <b>I will dedicate a particular (smaller) bowl and plate for serving and eating my meals.</b></p>	<p>The science here is very simple. If I put less food in front of me (on my plate), the less I will consume. The less energy (calories) I consume, the less I will have to expend (burn) in order to lose weight or maintain a healthy weight – calories in, calories out.</p> <p>Even as a volume eater and a member of the “clean plate club,” which I am, a large portion of food on a smaller dish will contain fewer calories than a large portion on a larger dish.</p>
<p><b>Reducing Portion Size</b>            2. I like to batch cook, both at home and at work. The problem at work is that I tend to eat the whole batch instead of dividing it up. So, <b>I will use storage containers to divide up my batch cooking at work for meals that are ready to serve.</b></p>	<p>(By the way, I think our American culture has grown accustomed to ever increasingly large portions of food. Some of us can remember when today's small soft drink was yesteryear's large. Next time you're in an antique shop, compare the size of dinner plates from a century ago to the size of dinner plates today. A dinner plate from back then is the size of a saucer today.)</p>
<p><b>Eating a Variety of Foods</b>            3. <b>I will increase the variety of my food intake with composited meals that include a significant amount of more calorically dilute foods.</b> For example, instead of just spaghetti and meatballs, I will include in the mix a significant amount of vegetables (broccoli, bell pepper, onion, kale, squash).</p>	<p>When trying to lose or maintain weight, science shows that consuming foods of a lower energy density, such as minimally processed plants (particularly vegetables, fruits, legumes and whole grains) can create satiety without overloading the body with excess calories. As Dr. Dean Ornish says, “Eat more and weigh less.”</p> <p>Also, by eating my meals as a mixture or composite, like a chili, stew, soup or casserole, I am unlikely to consume excess calories by eating just the more energy-dense and calorically concentrated ingredients.</p>
<p><b>Resisting Social Temptation</b>            4. <b>When I attend social events or food centers, I will eat a generous, healthier meal in advance (or bring it with me).</b></p>	<p>Studies and observations show that we tend to behave like those around us. If I don't want to cave to the pressures and temptations of the environment, whether a party or a convenience store, it helps to be proactive by “frontloading” my stomach with healthier foods before attending places and gatherings that promote eating.</p>
<p><b>Challenging Food Priming</b>            5. <b>I will remove television ads and junk (highly processed and refined) foods from my home and office, and I will replace them with healthier options.</b></p>	<p><i>“If it's in your house, it's in your mouth.”</i>  <i>“If it's in your office, it's in your orifice.”</i>  <i>“If it's in your space, it's in your face.”</i> - Chef AJ (and others)</p> <p>I think the science is clear that we are naturally calorie seekers. When there's opportunity to load up on fuel, we're inclined to seize it while it lasts. I know I do this every time I browse the refrigerator.</p> <p>If we want to gain control over the amount and concentration of calories (energy) we take in, we must change our environments in whatever ways we can, starting with our own living spaces.</p> <p>I am fortunate to live in a household without television. Ads (and suggestions of foods) still appear, of course, in the things we watch</p>

	<p>on the player and computer, but we're not as bombarded as other households. When I see commercial television at others' homes, I am amazed (and insulted) by the barrage of ads that treat viewers like idiots. When my wife and I dated, her parents impressed me with their ritual of always muting the commercials when watching TV.</p>
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*To submit this assignment, please refer to the instructions in the course.*

## Course Project: Strategies for Building a New Routine

### Part One—Analyzing Your Dieting Habits

As you made your way through the first module in this course, you likely found some familiarity in the way that Professor Levitsky was talking about dieting. Despite being common practices, diets are rarely successful in the long term—but that doesn't mean that the reasons why you decided to diet in the first place go away.

In this part of the course project, you will analyze your own dieting habits in order to identify which traps you are falling into and how you may be able to adjust your practices for a greater chance at successfully meeting your goals. Choose a time when you followed a diet for weight loss. If you never have, talk to a family member or close friend that has. Then answer the following questions.

<p><b>What were your motivations for choosing to diet?</b></p> <p><b>What was your goal?</b></p>	<p>I had two main reasons for each diet I chose to follow. I think those initial reasons were motivated by either wishful thinking or just plain fear – wishing to look better for a special event, or fear of an impending inspection, exam, or a malady that might follow.</p> <p>Regardless of the reason, my goal was always to gain control of my expanding waistline and lose (at least some of) the weight I'd steadily gained since high school.</p>
<p><b>Describe the diet you chose to follow.</b></p> <p><b>What were the rules/constraints?</b></p>	<p>In the Air Force (1983-87) I was relatively physically fit during the first year of my enlistment. I was well within my range of the military's weight requirements, but I pushed its upper limits during the other three years. Living in Germany for two of those years didn't help matters, and I was on weight management probation prior to my discharge. After getting out, my weight grew to exceed my Air Force limit, but without fear of reprimand. Four years later, for my wedding in (August 1991), I wanted to lose my post-service weight gain of about 30 pounds.</p> <p>One of my then roommates swore by SlimFast products, so with nearly a year before the big day, I decided to give it a try. I bought the products, the pre-</p>

	<p>mixed drinks (“shakes”) and the powders that let me mix them myself, and I gave it a go.</p> <p>The SlimFast plan required me to replace two of my daily meals with a SlimFast drink, have a “sensible meal” and a “healthy snack” between the meal and SlimFast beverages.</p>
<p><b>Did you successfully meet your goal while following the diet?</b></p> <p><b>Why do you think it was or was not successful?</b></p> <p><b>Explain using what you learned in this module about the challenges of dieting.</b></p>	<p>During our engagement, I lost 5-10 pounds at the most. I did not faithfully follow the SlimFast diet plan during those ten months. The weight loss was something, but not the 30 pounds I envisioned would be so easy to lose in nearly a year’s time. On my wedding day, I was indeed more comfortable in my trousers, but my waist size was still about the same.</p> <p>Trying to follow the SlimFast diet while preparing for a major event like a wedding was nearly impossible. The opportunities and the triggers to sample and graze others’ foods at pre-wedding events were very strong. There were so many social events – large and small – that had food of all kinds, and the pressure to eat was always on. Plus, at the time, I was still living with four bachelor roommates who seized every occasion they could to go out and “do things” with me (and with food) before I left them for married life. I remember making justified compromises from time to time, like adding SlimFast powder to a milkshake from at a burger joint, or sprinkling some on my pizza and calling it “good enough.” Definite no-nos.</p>
<p><b>What environmental factors (i.e. eating out with friends and family) affected your ability to “diet”?</b></p>	<p>Even though I may have expressed or declared my intention of dieting or losing weight to friends, roommates, family and future in-laws, it was nevertheless extremely difficult to turn down the aromas, the presentation, the offers and urgings to eat. With my parents it was usually eating out at restaurants and shaming me, when I declined to eat. With my future in-laws it was fear of risking insult or embarrassment, if I declined their homemade meals and desserts. With my room friends and roommates, it was fear of being a kill-joy, a wet blanket or a drag to decline going out with them.</p>
<p><b>What would you do differently if you choose to diet again?</b></p> <p><b>Explain using what you learned in this module.</b></p>	<p>If I dieted again, and had to face the same environmental and social pressures, I’d plan ahead by loading up with my healthier meals in advance of events or going out, so I would be less inclined to graze. I’d also make it much clearer to others that I’m doing what I’m doing as a matter of life or death – doctor’s orders – something that would help make them respect what I’m doing and not try to persuade or shame me into making compromises, but help and support me instead. Most importantly, I would avoid venturing out of my more diet-friendly home space.</p>
<p><b>What advice would you give to a friend that shared an intention to start a diet?</b></p>	<p>I would advise a friend (who <i>wanted</i> my advice) to not just diet, but make some real and permanent lifestyle changes that are sustainable. Choose a diet that embraces the right kinds of foods that are always available, a diet for the long haul, not just a fad diet that’s only available from select vendors or specialty stores. You should not feel deprived or starved. It <i>is</i> possible to eat as much food (or more) in order to weigh less. It just needs to be the right <i>kind</i> of food.</p>

## Part Two—Reframing Exercise

Part of maintaining the long-term health of your body is understanding why healthy behaviors are healthy. One of the biggest misconceptions in weight loss is that exercise will make you lose weight. In the video “Is More Exercise the Solution?”, Professor Levitsky shared what can be a startling fact—exercise, though it has myriad benefits, is not a direct determinant of body weight. Exercise is, however, one of the most important behaviors for maintaining health. It is therefore essential to have a good understanding of both why exercise is really important and how to do it most effectively.

In this part of the course project, you will examine the role of exercise in your life and how you might make adjustments to your current habits to better align with best practices for long-term health. In doing so, you will mentally reframe exercise from a tool for weight loss to a means for improving your lifestyle.

Answer the following questions:

<p><b>Using the concepts you learned in this course, describe in your own words three scientifically supported benefits of exercise.</b></p>	<p>According to Dr. Levitsky, exercise helps the nervous system (particularly the brain) rid and replace important neurotransmitters, much like the effects generated by anti-depressant medications or electronic implants that stimulate the same action. That being the case, exercise can raise a person’s self-esteem or outlook on life, instead of being stuck in self-loathing or self-pity. Movement improves mood. Additionally, while exercise itself is not effective for weight loss, it does improve a person’s physical fitness regardless of their size or weight, and that decreases their chance of dying of cardiovascular and/or metabolic disease.</p>
<p><b>Do you already exercise regularly?</b></p> <p><b>If so, describe what motivates you to keep going.</b></p> <p><b>If not, describe what psychological factors make remaining motivated difficult.</b></p>	<p>I usually exercise regularly. I usually walk at least 30 minutes a day (sometimes for 3 hours at a time). In the mornings, I often do pushups and repetitions with 15-pound dumb-bells in each hand (while my porridge cooks). On errands with the car, I’m the guy who parks farthest from the entrance just to walk. I avoid escalators and elevators and take the stairs.</p> <p>My exercise is motivated by not wanting to miss out on opportunities to move. So much of my environment tries to save me time and effort, when it’s time and effort that are necessary to stay fit. What gets in the way, particularly these last two years, are changes in routine. For example, before COVID (and when we isolated at the start), I had time carved out each day for a morning jog or long walk (and sometimes both). But as my job made more demands that I be available to students via remote/online instruction and all the “conveniences” that came with a virtual classroom, I became tied to my desk computer or in state of continuously being “at work” more than I’d ever been before. (And it hasn’t slowed down much.) When I prioritize and set aside the time to go for a walk, it helps to have destination or an activity for the walk, otherwise it’s easy to put</p>

	<p>it off. Destinations include things like a friend or neighbor’s house, the bank, the post office, or the grocery store. Activities include picking up litter or collecting aluminum cans with one of those nifty grabbing tools and a bag or bucket. On a fruitful can-collecting walk, I will turn around when my bucket is half full of smashed cans, and walk back on the other side of the road.</p>
<p><b>Think about the science of what happens in your body during the different stages of exercise.</b></p> <p><b>What surprised you?</b></p> <p><b>Explain how your conception of the way your body fuels and functions changed.</b></p>	<p>A couple of things surprised me in Dr. Levitsky’s lectures. First, I did not know that the body compensates for the increase in metabolism during exercise by dialing it way back after exercise. However, speaking from experience, I can relate to how this is true. When one of my early “diets” consisted of running two miles every other evening while consuming a high-fat/low-carb (Atkins/Sugar-Busters) diet, my weight did not change whatsoever. In fact, I <i>gained</i> weight!</p> <p>Secondly, I was not aware of the body’s expenditure of energy in just the first 90 seconds of exercise. I learned only recently (in the last five years) that the body’s preferred source of fuel is glucose from carbohydrates (and its glycogen stores), but I was not aware of the “hitting the wall” phenomenon. This is consistent with the saying, “You can’t exercise away a bad diet, but you <i>can</i> supercharge a good one.”</p>
<p><b>Given your current exercise habits and new knowledge of how exercise works, what will you do differently in regards to exercise moving forward to increase your health?</b></p> <p><b>Address the following three categories in your answer:</b></p> <ol style="list-style-type: none"> <li><b>Dietary (How might you change your eating habits?)</b></li> <li><b>Psychological (How will you stay motivated?)</b></li> <li><b>Physical (When and in what ways will you exercise?)</b></li> </ol>	<p>I will make daily appointments for myself to stop what I’m doing, hang up my “be back in 30-60 minutes sign” and head out for a walk, like I did pre-pandemic.</p> <p>I am already very pleased with the dietary changes I’ve made since March 2016. I attribute the majority of my weight-loss/health-gain success to the dietary and lifestyle changes I made since then. Nothing before has worked like them, and that motivates me to stay with it, as it has also been highly sustainable, economical, planet-friendly, satiating, and delicious.</p> <p>I think by carving out and reclaiming my exercise time again (by not making myself available to email, grading, planning, etc.), it will pull me out of the funk of feeling bound and tied to my work and motivate me to continue to exercise (and work on the remaining 40–50 pounds I’d like to lose). Walking with someone could also help, especially if they enjoy the same activities and destinations.</p> <p>My primary exercise will consist of walking at least 30 minutes a day, probably more. On the weekends, I could incorporate a jog/run like I did pre-pandemic. (Some new running shoes would help my motivation there.) And I will still do my push-ups and dumbbell reps each workday morning, increasing their number as I build strength. Surprisingly, they don’t take much time, and I always feel the better for having done them.</p>

## Part Three—Becoming a Vigilant Consumer

In our modern world, advertisements are everywhere. You see them on television, or on the Internet, or as you walk down the aisle in the grocery store. They are impossible to get away from. And yet, how many of them can you really trust? When it comes to products that claim to give you energy, it pays to be especially vigilant. If you look at the label of any energy drink, you will see that the active ingredient is actually caffeine. As you touched on in an earlier discussion in this course, caffeine will stimulate your central nervous system and provide the feeling of being energized—but it does not create energy. It does, however, work to create the illusion that the protein or carb boost that the label advertises is an effective way to raise energy levels.

The truth is, most people do not need to take supplements, for exercise or otherwise. Advertisers spend millions of dollars each year to convince consumers that they have nutritional deficiencies. In order to avoid falling for these tricks, it is important to be able to discern what motivates your own behavior when it comes to shopping for “health” products.

Visualize your weekly grocery list. Choose a “healthy” item that you consume regularly: you may select a food specifically manufactured as part of the diet industry (e.g. a protein bar or vitamin supplement) or simply an item that you continue to buy to combat a perceived deficiency of some nutrient (e.g. carrots). When you have an item in mind, answer the following questions.

<p><b>Think back to the first time you bought this item.</b></p> <p><b>What made you choose it?</b></p>	<p>About three years ago, I began purchasing <b>dulce flakes</b> (dried, flaked seaweed) in response to my doctor’s recommendation that I raise my bloodwork’s iodine level, but now I eat it because of its great seafood flavor in my chowders and Asian dishes.</p> <p>About six years ago, when we stopped eating animal products, my wife and I began using <b>nutritional yeast</b> (“nooch”) for the umami, smooth, buttery, cheesy flavor it adds to just about anything. As a side benefit, it’s also a source of B vitamins, but so are some of the plant-based beverages we drink. Plus, we take a very small (quartered tablet of) B12 supplement a few times each week.</p> <p>Prior to “nooch” and seaweed appearing on our grocery lists, I remember loading up on mark-down deals for the leanest, “healthiest” <b>poultry, seafood, beef and pork</b> (in that order of preference). Favorites were white meat, shell fish, salmon, tenderloin, and sausages of all kinds (respectively). We thought they were good sources of protein, and despite having failed at low-carb diets, I was still lingering in a sort of post-Atkins/keto/Sugar-Busters/paleo mindset that kept an eye out for bargains in those departments. Our freezers were always full.</p>
<p><b>Analyze the message that advertisements for that item convey.</b></p>	<p>If they exist, I’ve never seen or heard advertisements for seaweed or “nooch” – only jokes.</p> <p>As for meat, I recall ads encouraging the consumption of beef (“It’s what’s for dinner.”), pork (“The other white meat.”), chicken breast</p>

**A good place to start is by looking at the packaging; TV or print ads may also be relevant.**

**What do the advertisements want you to believe about that product?**


**Based on the information in the nutrition label, can you find any obvious holes in the advertisements' claim?**

**(For instance, if you've purchased a protein bar, is it actually high in protein? Are there other active ingredients?)**

(which was always the more expensive part of the bird at KFC), and fish (always recommended for omega 3s and iodine). Of course, the meat companies want to create and maintain consumers of their products, so they try to persuade us with ads that make them an alluring, sentimental and normalized focal point of every meal along with claiming to be *the* preferred or essential sources of macro- and micro-nutrients.

Many times, while cooking and sitting at the dining room table, I've read the labels for nutritional yeast and looked up information on the manufacturers, like Bragg® and Bob's Red Mill®. The more recent Bragg labels are simpler and less cluttered than they were five years ago when they were crammed with all sorts of rambling bits of information about the company, its founders and their ideologies. Bragg's current label boldly states that "nooch" is a "good source of protein." Inversely, Bob's label brags (no pun intended) that "nooch" is a "good source of B vitamins." I don't doubt the brands' nutritional labels, as they are very similar, and I've never encountered warnings to think otherwise.

Nutrition Facts	
About 9 servings per container	
<b>Serving size</b>	1/4 cup (15g)
Amount per serving	
<b>Calories</b>	<b>60</b>
% Daily Value*	
<b>Total Fat</b> 0.5g	1%
Saturated Fat 0g	0%
Trans Fat 0g	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 25mg	1%
<b>Total Carbohydrate</b> 5g	2%
Dietary Fiber 3g	11%
Total Sugars 0g	
Includes 0g Added Sugars	0%
<b>Protein</b> 8g	
Vitamin D 0mcg	0%
Calcium 6mg	0%
Iron 1mg	6%
Potassium 264mg	6%
Thiamin 11.8mg	980%
Riboflavin 9.7mg	750%
Niacin 46mg	290%
Vitamin B <sub>6</sub> 5.9mg	350%
Folate 1828mcg DFE (1076mcg folic acid)	460%
Vitamin B <sub>12</sub> 17.6mcg	730%
*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	
INGREDIENTS: Inactive Nutritional Yeast (Dried Yeast, Niacin (Vitamin B3), Pyridoxine Hydrochloride (Vitamin B6), Riboflavin (Vitamin B2), Thiamin Hydrochloride (Vitamin B1), Folic Acid, Vitamin B12).	



Nutrition facts		*4.5oz bottle
<b>Serving Size</b>		
2 tbsp		
<b>Servings per Container*</b>		
12		
<b>Per Serving</b>		<b>DV%</b>
Total Fat	0g	0%
Sodium	20mg	1%
Total Carbohydrate	3g	1%
Dietary Fiber	2g	7%
Protein	5g	11%
Iron	1mg	6%
Potassium	214mg	4%
Thiamin (B1)	6.2mg	520%
Riboflavin (B2)	6.3mg	480%
Niacin (B3)	35mg	220%
Vitamin B6	7.2mg	420%
Folate (B9)	353mcg DFE	90%
Vitamin B12	15mcg	630%



	<p>Regarding the exclusivity of meats as a source of protein, I think the meat manufacturers depend on the uninformed consumer. I am not the only person who thought this way: “Marinated, seasoned and cooked meat smells, looks, and tastes great, and since it’s the protein in our meals, and we all need protein, more must be better!” The average consumer doesn’t know (or doesn’t care to know) why their body needs protein, what it’s for, how much is needed, how much is too much, or that most naturally grown foods (i.e. plants) already contain most of, if not all, the protein one needs, particularly when two or more incomplete protein sources are combined, such as rice and beans, to make a complete protein.</p>
<p><b>Did this messaging play a role in your decision to purchase it?</b></p> <p><b>If so, explain how it aligned with your health goals.</b></p>	<p>As I stated previously, the seaweed and “nooch” were recommended to me by health professionals – doctors and nutritionists – as supplemental sources of iodine and B vitamins (respectively) when I stopped consuming animal products. The particular brands (or the brands’ labels) did not persuade me to buy them. Usually, these products were difficult to find in stores, and if a store <i>did</i> carry them, there was only one brand to choose from. Meats were once my high-fat, low-carb (and low fiber) source of protein, so that my body would burn up its fat stores by going into and maintaining a state of ketosis due to a sustained absence of carbohydrates and stored glucose (glycogen).</p>
<p><b>Should you continue to purchase this product in the future?</b></p> <p><b>Explain why or why not using concepts from this course.</b></p>	<p>I will continue to use the dulce flakes (half a teaspoon with each Asian dish I make) and the nutritional yeast (about a tablespoon with every bowl of soup, chili, chowder or popcorn). In fact, after revisiting the nutrition label for this assignment, I think there’s probably no need to buy or consume the B12 supplements I have. Since I no longer eat the flesh and secretions of sea critters, fowl or beasts, I need alternative or supplemental sources of iodine and B vitamins to maintain my body’s thyroid, brain and nervous system health, and to provide an assortment of amino acids (building blocks) for making complete proteins.</p>
<p><b>What advice would you give to a friend who is looking for a new health product to try?</b></p> <p><b>What kinds of red flags should your friend look for?</b></p>	<p>Assuming my friend asked for and wants my advice, I would advise them to first investigate. Don’t respond to a claim with their wallet, time, and health before doing some “digging.” Find out the what the science and professionals (who don’t work for the product’s company) have to say about the alleged health product. What it is it good for? Why is it necessary? Who says so? How do they know? Beware of any manufactured food that claims to have the corner on being the best source of any single nutrient – micro or macro. When a person eats a variety of minimally processed foods, they give their body an already useful assortment and balanced symphony of nutrients.</p>

*To submit this assignment, please refer to the instructions in the course.*

This is a graded discussion: 10 points possible

due Oct 25 at 8:59pm

## Will Calcium Aid Weight Loss?


### Instructions:

In 2003, authors Michael Zemel and Bill Gottlieb published the book *The Calcium Key: The Revolutionary Diet Discovery That Will Help You Lose Weight Faster*. In it, they describe a claim that became popular in the early 2000s that calcium improves metabolism and increases your body's ability to burn fat. But is it true?

In this discussion, you will investigate this claim and who may have a stake in it. Include the following in your response:

1. Find an article that links calcium to weight loss. Using the tools and strategies you learned in Module 2, evaluate the article. Be sure to also share a link to the article you found.
2. The Academy of Nutrition and Dietetics (formerly the ADA, or American Dietetic Association) is one organization that has published claims about calcium aiding in weight loss. Use a search engine to find which companies sponsor the Academy. Do you see any potential conflicts of interest? Explain who may benefit from the general public believing that they should increase their intake of calcium.

### To participate in this discussion:

Click **Reply** to post a comment or reply to another comment. Before posting, please review [eCornell's policy regarding plagiarism](#). 

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Zemel, Michael B., and Bill Gottlieb. *The Calcium Key: the Revolutionary Diet Discovery That Will Help You Lose Weight Faster*. John Wiley & Sons, 2004.

## PART I

**Calcium And Fat Loss!** by Dr. Mauro Di Pasquale (September 2007)

<https://www.bodybuilding.com/fun/md76.htm>

Published in 2007, this article is 15 years old (but still on the Internet).

The article doesn't really follow a scholarly format. It seems to cut to the chase – some good news about calcium and fat loss – as it was written and published primarily for interested body builders and athletes. In the article, the author refers to sources and studies for their information and assertions.

Because the article is featured where it is and has just one author, its accuracy is questionable, as it seems all too easy for the author to simply cherry-pick the juiciest, most appealing information from their sources.

The article does not state the author's academic credentials, but if you click on Dr. Pasquale's name at the end of the article, you will be taken to a webpage bio (longer than his Calcium And Fat Loss! article) that speaks volumes about his career as a physician (bariatric and sports medicine), assistant professor, athlete, medical director, editor, author, and developer of nutritional supplements (available from <https://metabolicdiet.com/>).

This simplified article is clearly a promotional piece for the bodybuilding website and the author, both of whom sell dietary supplements.

## PART II

The American Dietetic Association (ADA) sponsors and potential conflicts of interest...

Scanning the list of ADA sponsors, I do not know what each corporation/company specializes in, but three stand out to me immediately:

- Egg Nutrition Center
- Eggland's Best
- Meat & Livestock Australia

Companies like these who stand to profit from the sale of products perceived as higher in calcium, would (to no surprise) be interested in promoting themselves by lending their support to an organization like the ADA, who is perceived as promoting the health of the public.

While mammalian meat products, such as beef and pork, are lower in calcium, eggs and other meats, particularly seafoods and fowl, are significantly higher in calcium content. However, all of these calcium sources also come with (excess?) protein, cholesterol, saturated fat, and who knows what toxins, antibiotics, and chemicals.

<https://www.eatrightpro.org/about-us/advertising-and-sponsorship/meet-our-sponsors>

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## Course Project: Develop Your Healthy Lifestyle

### Part One—Your Lifestyle vs. Cancer

Cancer can seem unavoidable, but we luckily know that certain behaviors and health choices are correlated with a higher risk of cancer. In this part of the course project, you will create an action plan based on the strategies you learned in this module to minimize cancer risk that is applicable to your own life. First, review the content in module 2 about effective diet and lifestyle changes. (The “Nutrition & Cancer Risk” Tool might be a good place to begin.) Next, think about your current lifestyle and habits. Given the ideal behaviors for minimizing cancer risk, what changes could you make to the way you live now?

Potential changes fall into three broad categories: lifestyle changes, eating habits, the way you prepare your food. Select five specific changes that you can make and write them in the “Anti-Cancer” section of the table on page 4 of this document. (You will fill out the other sections in later parts of this project.) Then, explain the science behind why each one may have an impact on your risk for cancer.

### Part Two—Osteoporosis Prevention

As you learned in this module, bone health is best addressed early in life by getting adequate calcium and exercise as a child. However, that doesn’t mean that adults cannot still manage their bone health with the proper diet. Doing so can be essential to avoiding serious injuries associated with brittle bones as you age.

In this part of the course project, you will identify five foods that are high in calcium that can be incorporated regularly into your balanced diet. Use a search engine or nutrition app of your choice to check the calcium content of different foods, then write your selections in the “Anti-Osteoporosis” section of the table on page 4 of this document. Be sure to pick foods that you like! The idea is to identify ways to adjust your diet that you can maintain in the long term. Once you’ve made your selections, explain the science behind why consuming calcium improves bone health.

### Part Three—Reducing Hypertension

Hypertension is more than just stress—it is a combination of factors from your diet and lifestyle that can lead to a variety of health concerns. Unfortunately, it is the type of condition that can creep up slowly and quickly get out of hand, especially if you are a Type A personality. That is why it is important to be able to identify areas of your life that may put you at risk for hypertension and understand how to make adjustments to maintain your health.

Review the five things that reduce hypertension that you learned in this module. Then fill out the “Anti-Hypertension” section of the table on page 4 to identify changes you can make to keep your blood pressure out of a dangerous range.

## Action Plan Table

Tip: Make each action step as specific and personal as possible. Don't just repeat the strategy—tell us *how* you will incorporate it into your routine. Here are a few examples:

- Bad Example: I will exercise more.
- Good Example: I will do 20 jumping jacks before breakfast every morning.
  
- Bad Example: I will eat more fruit.
- Good Example: I will replace my morning doughnut with a citrus fruit 4x per week.

	Action Step	Rationale <i>Science says this change will make an impact by...</i>
Anti-Cancer	<p><b>#1 Lifestyle change</b>            I will seize opportunities to exercise in both large and small ways.</p> <ul style="list-style-type: none"> <li>• walk for 30+ minutes at the end of each work day (to collect aluminum and pick up litter)</li> <li>• 30+ push-ups when retrieving documents from the printer (in the carpeted room)</li> <li>• 10+ minutes of dumbbell exercises while waiting for my porridge to cook or cool</li> <li>• park far from store entrances to walk more</li> <li>• take the stairs whenever possible</li> </ul>	<p>Statistically, not only do active people have lower risks of cancer, but with exercise cancer patients enhance and improve the results of their therapy and rehabilitation.</p>
	<p><b>#2 Lifestyle change</b>            If and when I consume alcoholic beverages, it will be only rarely and occasionally – at holidays and celebrations.</p>	<p>By keeping my consumption of alcohol to a minimum (no more than two ounces per day), I keep my calorie consumption low.            When I do have a drink, I might choose red wine for its alleged ability to mimic the positive effects of calorie restriction.</p>
	<p><b>#3 Eating habits</b>            I will maximize my consumption of vegetables and fruits by following a plant-based diet (that includes tubers, legumes and grains).</p>	<p>By consuming produce, I give my body nutrients and phytonutrients (vitamins and minerals) it needs to maintain a functioning immune system.            Plants also contain no animal protein, and few of them contain saturated fat, both of which are substances that generate the production of bile and a more carcinogenic – “cancer-friendly” – condition in the body.</p>
	<p><b>#4 Eating habits</b>            I will minimize my caloric intake by primarily eating minimally processed foods.</p>	<p>By consuming minimally processed foods, I reduce my overall caloric intake by eating foods that are both more calorie-dilute <i>and</i> that contain more fiber and water (bulk) to fill me up without an excess of calories (fuel).            This <i>lack</i> of fuel helps impede cancer cells’ accelerated growth and spread.</p>
	<p><b>#5 Food preparation</b>            I will store my uncooked whole grains in refrigerators or freezers.</p>	<p>By consuming grains that have not been stored unsealed and/or at room temperature (for long), I minimize the risk of consuming carcinogenic aflatoxin.</p>

<b>Anti- Osteoporosis</b>	<p><b>Sources of calcium</b>                  My <b>minimally processed plant sources</b> of calcium include (but are not limited to):</p> <ol style="list-style-type: none"> <li>1. Cruciferous vegetables (esp. broccoli, Brussels sprouts and cabbage)</li> <li>2. Dark green leafy vegetables</li> <li>3. Beans</li> <li>4. Oats</li> <li>5. Sweet potatoes and yams</li> <li>6. Fortified plant-based beverages</li> <li>7. Tofu</li> </ol> <p>Exercise and activity active help <i>retain</i> bone calcium.</p>	<p>Along with aiding blood clotting and regulating the contraction of muscles (including heart rhythms), calcium is the primary mineral – building block – needed for the growth, development and maintenance of teeth and bones.</p> <p>Ironically, despite our bones and teeth being storehouses of calcium, they also give up their calcium stores in the form of calcium bicarbonate to balance pH levels in the body and neutralize acidity in the blood caused by excessive consumption of amino acids – proteins. In other words, the more protein one consumes, the more calcium their body must give up, and the more vulnerable they become to porous, brittle, weakened bones (osteoporosis).</p> <p>The key is to consume adequate protein (<i>less</i> than labels and ads often promote) that does not undo bone health.</p>
<b>Anti- Hypertension</b>	<p><b>#1 Relaxation strategy</b>                  At 3:00 pm each work day I will step away from my classroom, office and/or meetings to take a 30-minute walk somewhere - anywhere.</p>	<p>Exercise raises blood pressure initially, but after moving for an extended period of time – walking, stair-climbing, jogging, lifting weights – blood pressure decreases to a level below what it was before the exercise. Additionally, exercise has a psychological/emotional effect. It can change my thinking, my motivation, my desire to make healthy choices because I feel better about my body having given it a workout.</p>
<p><b>#2 Stress management strategy</b>                  I will set aside time each week to sketch, write letters, and/or play, practice and learn my instruments – guitar, bass guitar and ukulele.</p>	<p>Fixation, anxiety, and worry create stress on my mind and on my body. I can feel my body tense up during stressful times. That’s when it’s easy to tell myself I should stay on-task until the job’s done, so I can relax later. However, it’s during those stressful times when the most important thing I should choose to do seems like the last. Take a break. Do something meaningful (for others or for myself). Take the focus off me and my problems. Let go. Play for a while. Recharge and come back to those nagging tasks relaxed, refreshed, and grounded. Doing these things will keep my blood pressure down.</p>	
<p><b>#3 Lifestyle change</b>                  I will continue to lose and maintain a healthier weight with the plant-based lifestyle I’ve chosen.</p>	<p>Of course, the science, history and common sense (and those free blood pressure machines at stores) remind me that keeping my weight down lets my body and its parts perform better. My heart and blood vessels can do their job better when I’m lighter, thinner and there’s less of me (engorged adipose cells and tissue) to feed and maintain.</p>	
<p><b>#4 Dietary change</b>                  I will choose to eat minimally processed vegetables and fruits over more processed and/or refined versions as often as possible.</p>	<p>The fiber and water in produce (eaten as grown) help create bulk that fills my stomach, creating greater satiety without an unnatural and unnecessary concentration of calories. This, in turn, helps lower overall consumption of energy (calories), which leads to weight loss and/or maintenance of a healthy weight.</p>	

## Part Four—Living a Nutritious Life

Everyone seems to have a different opinion on what really constitutes a healthy diet and lifestyle. Through these courses, you have hopefully learned to differentiate the fact from the fiction and make scientifically-supported choices about your own health.

From his own experience as a scientist and nutritionist, Professor Levitsky leaves you with three simple guidelines to follow: eat a variety of foods, exercise, and eat the smallest portions possible. These rules may not offer the miracles claimed by some diets or supplements, but they will give you the best foundation possible to maximize your health.

In this last part of the course project, you will share what you learned about nutrition with a friend or family member. Throughout these courses, Professor Levitsky has offered a variety of scientific evidence in support of his three claims. To prepare for your conversation, in the table below describe in your own words how you would convince someone that each rule is important. Explaining something to someone else can be easier said than done, so preparation is key to conveying accurate information. Use information from any of the six courses to support your responses and make sure to be thorough.

<p><b>Eat a variety of foods</b></p>	<p>Expose your body to a symphony of foods.          Give your body all the useful “stuff” it needs to fuel, repair and maintain itself. Eating a variety of foods every day will minimize any nutrient deficiencies, <i>and</i> it can eliminate the need to measure or calculate what you eat.          That’s because your body knows what it needs to keep and what it should eliminate.          All you have to do is give it an assortment of “good stuff” to choose from.</p>
<p><b>Exercise</b></p>	<p>Use it or lose it.          Seize every opportunity to move your body.          If you want to reduce your risk for disease and preserve your health, you must move whenever you have opportunity to do so.          Moving not only lets you burn calories (fuel/energy), it preserves and builds your muscle tissue <i>and</i> your bone tissue.          Energy-saving conveniences may sound appealing, but they can rob you of life-preserving activity.</p>
<p><b>Eat the smallest portions possible</b></p>	<p>Use what you eat. Don’t become a storehouse of unused energy.          There are two ways to consume the right amount of energy your body needs:              1) Reduce or limit your portion sizes              2) Eat foods that are calorically dilute (i.e. minimally processed)          Limiting your energy intake in either or both ways, can create the fuel shortage your body needs to finally burn its energy stores and return to (or maintain) a healthy weight.</p>



Next, go out and find someone who is interested in having a 30-minute conversation with you about nutrition. Using the information you curated above, tell your partner about Professor Levitsky’s rules and why science supports them. When you have finished the conversation, answer the following questions:

<p><b>Was your partner receptive to your explanations?</b></p> <p><b>If so, what do you think it was about what you said that helped your partner believe you?</b></p> <p><b>If not, what would you do or say differently in the future?</b></p>	<p>My conversation partner was Mr. Nicholas Mailhot (age 29), a math teacher and colleague where I work at Black Hills High School.</p> <p>Nick was receptive to a conversation on the topic of nutrition and healthy living. He was watching a ball game while on a lunch break at his classroom desk after grading papers on a rainy Saturday morning. I did my best to announce myself without startling him and told him what I’d been working on with eCornell. His curiosity was piqued, and he was glad to be of assistance.</p> <p>(Also, he may have witnessed my physical transformation since 2016.)</p>
<p><b>Describe your partner’s nutrition background.</b></p> <p><b>Is this a person who is actively involved in science, or someone who gets most of their information through popular culture?</b></p> <p><b>How do you think your partner’s background played a role in how you were received?</b></p>	<p>In high school and college, Nick said he was deeply involved in sports and athletics. However, in the years since, he has become increasingly aware of his diminished activity and eating habits and their effects on his health.</p> <p>Nick said he tries to find and follow the science of nutrition and health advice where he can. He regards the popular advice as too complicated and confusing, and feels that the basics of “calories in/calories out” still rings true.</p> <p>Because Nick is a young adult, still fresh out of college (in my mind), and just starting to settle in to life with a family, he was receptive to hearing what one of his older, more-seasoned (and weirder) colleagues offered to share on a relaxed, quiet Saturday afternoon at our deserted place of work.</p>
<p><b>What was the biggest surprise to your partner?</b></p>	<p>The rule that surprised Nick the most was eating a variety of foods. He was impressed with the concept of foods acting in symphony and making sure he gave his own body enough variety to let it pick and choose what it needs.</p>
<p><b>Did your partner ask you any questions that you did not know the answer to?</b></p> <p><b>Knowing what you know now about evaluating studies, where would you go to find the answers?</b></p>	<p>Nick asked me two questions.</p> <p>His first question had to do with eating a variety of foods. He wondered if his body at times has “cravings” for nutrients it’s not getting when he neglects to give it what it needs. To that, I agreed, stating that our illnesses can be symptoms of poor nutrition, and perhaps, we often get caught up in treating the symptoms instead of addressing the cause – poor food choices.</p> <p>Secondly, Nick asked what epiphanic event made me aware of the connection between diet and health. I gave him the short story of what I learned in 2016, and how it set me on a path of wanting to know more and share “the good news” with others who want to learn.</p> <p>Now more than ever, I’m critical and skeptical of “studies” people dish at me. The CRAAP test is useful, and the “P” is usually the first thing I look at. Thank you.</p>

*To submit this assignment, please refer to the instructions in the course.*