

Self-Regulation Project: Portion Control

Makes a Healthy Diet

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Abstract

This research was conducted to see if I could change my unhealthy eating habits by controlling my food portion intake. I used the health belief model to initiate and maintain the action of change. The model tries to predict health behavior in terms of certain belief patterns. This includes perceiving susceptibility, severity, benefits, and barriers. All of these were the steps that accounted for my behavior to act. The later addition to the model includes cues to action and self-efficacy that helped me maintain my portion control. On July 4th, 2016 I ate without regulating my portions and used that amount of 2116.5 kcal as my maximum point to compare with the other days of regulated eating. Everyday I recorded my food and calorie intake while portion controlling. I used the website Calorie King to determine the amount of calories I needed to maintain my weight and the amount of calories I had eaten daily. My goal was to not exceed my recommended calories of 1600 kcal a day to maintain my weight. As a result, my calorie intake was regulated throughout the 3 weeks. It did not exceed 1600 kcal and it decreased by an average of 1200 kcal as compared to the day it was not regulated. Now that I was conscientious of maintaining a healthy portion-controlled diet, the model, along with these methods, proved to be effective in changing my behavior.

Portion Control Makes a Healthy Diet

Many people believe that being careful of what we eat defines a healthy diet. Being on a strict diet and not eating what we really want to eat is stressful, so it could be physically and psychologically unhealthy. People could eat their most desirable foods and be on their healthy diet with just controlling their food portions. Every food intake needs to be regulated. People can eat some of the healthiest food, but eating too much has negative consequences. Before realizing that this was the case, I was forced by my parents as a child to eat large portions and eat everything off my plate in order to be tall and strong. This turned into an unhealthy habit, but I chose the health belief model in hopes of helping me change.

This health model was initially developed by social psychologist Godfrey Hochbaum in 1958 and Irwin M. Rosenstock in 1960 “to explain the failure of people to participate in programs to prevent or detect disease” (Rosenstock, Stetcher, Becker, 1994, p. 5). However, it was influenced by theories of Kurt Lewin (Jones, 2004). I went through the model’s belief patterns of perceiving susceptibility, severity, benefits, barriers, cues to action, and self-efficacy to try to initiate and maintain the act of portion control for a healthier diet.

Perceived susceptibility. This was my opinion of my chances of getting a condition because of my habit. I believed that since I am an Asian American woman, my body mass index cutoff is the lowest of all ethnicities. This means that there are increased health risks if I pass the low cutoff. Asians are more likely to develop type II diabetes than the rest of the population. This may be because Asians are more likely to have more abdominal fat. Studies show that abdominal fat could affect our hormones and organs. This makes me more susceptible to diseases. Asians are also more likely to develop diabetes because of rice in their diet, which

contains a high amount of sugar and calories. My diet consists of loads of rice so there is a high chance that if I continue eating an obscene amount, then I will be diagnosed with diabetes 2.

Perceived Severity. This is how I perceived the seriousness of a condition and its consequences. If I were to continue my diet without portion control, then I would accumulate visceral fat. If more fat were stored in my abdomen, then I could be in serious danger if my organs and hormones are not functioning well. I could develop type 2 diabetes, heart disease, breast cancer, or Alzheimer's disease. I don't want to be bed-ridden and have to spend my life in a hospital. I do not want my life be cut short, so I need to act soon if I want to live.

Perceived Benefits. This is my belief in the efficacy of the advised action to reduce the risk or seriousness of impact. If I started controlling my food portions, I would physically and psychologically feel much better. With regulated portions, I wouldn't have a restricted bloated feeling or go into a food coma after I eat. I'd feel more active and energized. Controlling my food portions would help me save money because my leftovers could be eaten later. In the end, I would psychologically feel better if I did not stuff myself. After eating a large and unhealthy meal, I usually regret and blame myself for being so idiotic for putting a strain on my body. I understand that changing this bad habit will make me healthier and gain a more satisfying body.

Perceived Barriers. These are the barriers hindering me from changing my health behavior. One is that rice is base of my diet because it is cheap and easy to cook. I do not have the money to buy expensive alternatives. It would be inconvenient to take more time and effort to cook other things when I am already so busy. Another barrier is that leftovers are never as good as when it is fresh, so of course I would be tempted to eat everything when it is fresh. This would be psychologically frustrating if I do not eat what I want. Since leftovers would not taste

as good as when it is fresh, I might not want it anymore after a while or it might rot, therefore I would have to waste my money and throw it away. Either way, this change would be upsetting.

Cues to Action. These are the strategies that activated my “readiness” to engage in this change. One cue was to look at my body and realize that if I eat a balanced diet, I would look and feel better. When I look at my large portioned meals, I should remind myself that I shouldn’t need to eat everything off my plate; I could just take it to-go. To make sure that I know this, I should prepare my meals or snacks as if it is already packed and ready to be taken home. When I go out to eat, I could already grab a to-go box to remind myself that I could just pack it. I could also eat in container to encourage myself to eat the exact amount of food. These could be efficient triggers for maintaining my portions.

Self-Efficacy. This is the confidence in my ability to take or maintain the action. I was constantly reminding myself that I could do this. I told myself that I could start reducing my portions, step by step. I do not have to significantly reduce portions all at once, but gradually. I would motivate myself to be more observant of nutrition facts. Before I eat, I would be able to look at how much I am supposed to eat in one serving. I have to power to control my eating behaviors. When I follow through, I will feel much healthier than I’ve ever felt.

Methods

To start the experiment, I used Calorie King. This is a website for counting calories, determining BMIs, and recommending calorie intake to either lose, maintain, or gain weight. My goal was to regulate my portions so it would not exceed 1600 kcals a day because if I did, I would be gaining weight from my diet instead of maintaining or losing. The food that I ate was recorded every day in a list on excel. I then used Calorie King to see how many daily calories I had. I inputted my meals and snacks into the calorie counter and it would give me a list of options to choose from. It has a wide selection of brands or restaurants and it allowed me to enter the amount of the food I've eaten so it can precisely calculate the total. I added up the calories of all the food items in my food log to get my total daily calorie intake. In addition, to see if I was maintaining my recommended weight, I weighed myself every week.

Results

In the span of 3 weeks from July 4th, 2016 to July 24th, 2016, my daily food and calorie intake was recorded. Pages 8-9 show my daily food and calorie intake log for all 3 weeks. Everyday, the food I ate that day was recorded in this excel sheet. Afterwards, Calorie King calculated the calories and the total calories were marked in red for the 3 weeks on pages 8-9. The overall results are shown on page 9. The x-axis on the graph is counted for the days of the study and the y-axis show the amount of calories. On day 1, 2116.5 kcal was the maximum point in comparison with the following days, up until 21 days.

Discussion

There was a dramatic change from the maximum point of 2116.5 kcal as shown on the graph above compared to the days after. The other days fall between 500 and 1500 kcal, which falls below 1600 kcal, the maximum cutoff to maintain my weight. I was consistent with regulating my portions throughout the 3 weeks and it proved to change my unhealthy eating behavior. My regulated portions decreased my calorie intake by an average of 1200 kcal. By using the health belief model, I predicted this strong behavioral change and these results are consistent with other studies of this model.

Limitations. Although this study proved to be an effective method for me, there are a few measurement and time limitations that I have encountered. Reducing these limitation could provide more reliable results. This study was measured by the website, Calorie King. The data for this source is generalized. Even though Calorie King is very specific, it sometimes did not depict the exact calorie for certain specific restaurants or brands. Another measurement limitation was that I did not have measurement tools everywhere I went. Some of the amount of food I ate, were based on estimations. Next, there was time limitation that restricted the study to record up to only 3 weeks. In the span of 3 weeks, I measured my daily calorie intake, however, because of the time purposes, my maximum calorie intake day was taken on a holiday. This may skew the results because the type of food or amount of food I ate was not representative of what I would usually eat on a normal basis without portion control.

Conclusions and Future Study

In order to determine if I was able to change my unhealthy habit of excessively eating, a study was conducted where I used the health belief model to initiate and maintain my portion control. I recorded my food and calorie intake for 3 weeks. I followed the belief patterns of

perceived susceptibility, severity, benefits, barriers, cues to action, and self-efficacy which made me realize that I had to start limiting my portions if I wanted to live a healthy life. For 3 weeks, my calorie intake was reduced and my weight was maintained. Being conscientious the amount I ate showed that I was able to stop excessively eating with controlling my calorie intake.

In order to see if regulating calorie intake can help control food portions, there are some ways to make sure the data is more accurate. It is possible to just download the Calorie King application to make the search for total calories easier. In future studies, it is recommended to record a few days without regulating the portions first and then compare the average of those days to the average of the days with regulated portions. This will show a more accurate representation of change between the days. All these will help better show that the health belief model and these methods controls food intake.

Week 1

	Food	Amount	Energy (kcal)			Food	Amount	Energy (kcal)
7/4/16	BBQ Ribs	2 ribs	299.5		7/8/16	Chobani Yogurt	1	120
	Caesar Salad	2 oz	66			California Roll	2	129
	Potato Salad	1 ounce	41			Gyoza	3	171
	Hot Dog	1	315			Salmon Pizza Roll	2	150
	Hamburger with lettuce, tomato, and cheese	1	250			Spicy Salmon Roll	2	165
	Sour Cream and Onion Lays Chips	1 oz	160			Guacamole	1 ounce	45
	Watermelon	1 slice	86			Tortilla Chips	7	105
	Pineapple Sausage	1	170			Total		885
	Tonkatsu Ramen	1	600					
	California Roll	2 pieces	129		7/9/16	Caesar Salad From Costco	1/2 of portion	334.5
	Total		2116.5			Croissant	1	339
7/5/16	Granola Bar	1	170			Ovenroasted Turkey	4 slices	60
	Ravioli (Lean Cuisine Cheese Ravioli)	1	230			Single Kraft Cheese	1	70
	Smokehouse Blue Diamonds Almonds	1	170			Guacamole	1 ounce	45
	Bak Choy	2 ounces	5			Tortilla Chips	8	120
	Rice	1/3 cup	67			Rice	1/3 cup	67
	Pineapple Sausage	1/2 of one	85			Pineapple Sausage	1/2 of one	85
	Total		727			Green Beans	1 cup	31
						Total		1151.5
7/6/16	Chobani Yogurt (Peach)	1	120		7/10/16	Nutella	1 teaspoon	34
	Indian Food Plate	1/2 of lunch plate	215			Bread	1 slice	69
	Bak Choy	2 ounces	5			Banana	1/2 of one	53
	Pineapple Sausage	1/2 of one	85			Ham	4 pieces	136
	Rice	1/3 cup	67			Cheese	1 slice	70
	Total		492			Croissant	1	339
7/7/16	Ritz	5	80			Green Beans	5 pieces	8.5
	Babybel Cheese	1	70			Chicken breast tenders	3	100
	Santa Fe Rice	1	290			Soy Milk	1 cup	90
	Bak Choy	2 ounces	5			Rice	1/3 cup	67
	Rice	1/3 cup	67			Egg	1	70
	Pineapple Sausage	1/2 of one	85			Total		1036.5
	Total		597					

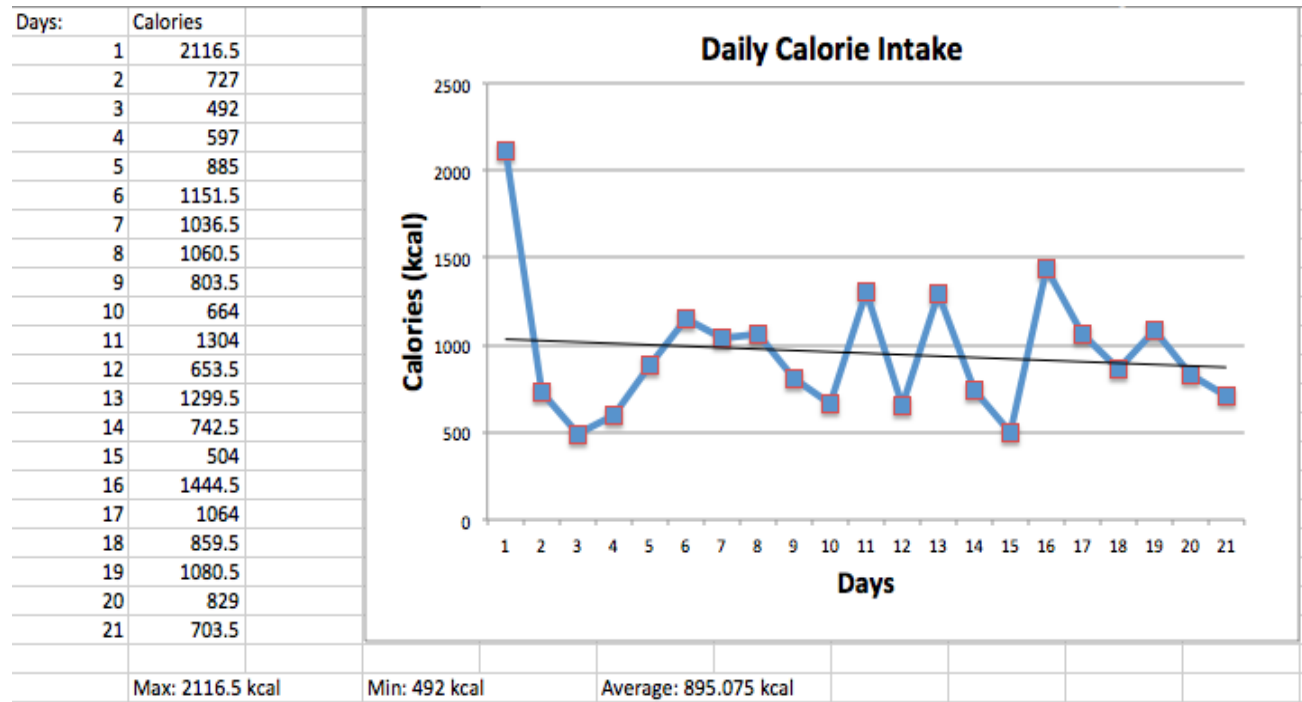
Week 2

	Food	Amount	Energy (kcal)			Food	Amount	Energy (kcal)
7/18/16	Chobani Yogurt	1	120		7/22/16	Granola Bar	1	170
	Lemon Pepper Fish	3 oz	90			Rice	1/3 cup	67
	Green Beans	10	17			Spinach	12	28
	Rice	1/3 cup	67			Pork	4 oz	136
	Grilled Wild Albacore	2 oz	70			Mangos	1 cup	99
	Seasame Kelp Noodle	2 oz	30			RubiconDeli (Rich Boy)	1/2 of one	538
	Israeli Couscous, Broccolini, Mushroom	2 oz	110			Smokehouse Blue Diamonds Almonds	1/4 of bag	42.5
	Total		504			Total		1080.5
7/19/16	Wheat Bread	2 slices	138		7/23/16	Honey bunches of oats	3/4 cup	120
	Banana	1	106			Milk	1 cup	122
	Peanut Butter	1 tablespoon	94			Ovenroasted Turkey	4 slices	60
	Granola Bar	1	170			Single Kraft Cheese	1	70
	Tillamook Cheese	3/4 oz	82.5			Spinach	12	38
	Tonkatsu Ramen	1	600			Raison Cinnamon bagel	1/2 of one	121.5
	Edamame	Cup	254			Poke bowl	1/2 of one	250
	Total		1444.5			Protein bar	1/4 of one	47.5
						Total		829
7/20/16	Granola Bar	1	170		7/24/16	Chobani Yogurt	1	120
	Marinara Meatball Stromboli	1/2 of one	300			Raison Cinnamon Bagel	1/2 of one	121.5
	Strawberries	5	11			Protein Bar	1/4 of one	47.5
	Edamame	1 cup	254			Mangos	1/2 cup	49.5
	Coffee	1 cup	1			Chicken breast tenders	3	100
	Rice	1/3 cup	67			Spinach	12	28
	Spinach	12	28			Rice	1/3 cup	67
	Salmon	4 oz	233			Granola Bar	1	170
	Total		1064			Total		703.5
7/21/16	Chobani Yogurt	1	120					
	Butternut Squash Ravioli	1	270					
	Mangos	1 cup	99					
	Smokehouse Blue Diamonds Almonds	1/4 of bag	42.5					
	Spinach	12	28					
	Rice	1/3 cup	67					
	Salmon	4 oz	233					
	Total		859.5					

Week 3

	Food	Amount	Energy (kcal)			Food	Amount	Energy (kcal)
7/18/16	Chobani Yogurt	1	120		7/22/16	Granola Bar	1	170
	Lemon Pepper Fish	3 oz	90			Rice	1/3 cup	67
	Green Beans	10	17			Spinach	12	28
	Rice	1/3 cup	67			Pork	4 oz	136
	Grilled Wild Albacore	2 oz	70			Mangos	1 cup	99
	Seasame Kelp Noodle	2 oz	30			RubiconDeli (Rich Boy)	1/2 of one	538
	Israeli Couscous, Broccolini, Mushroom	2 oz	110			Smokehouse Blue Diamonds Almonds	1/4 of bag	42.5
	Total		504			Total		1080.5
7/19/16	Wheat Bread	2 slices	138		7/23/16	Honey bunches of oats	3/4 cup	120
	Banana	1	106			Milk	1 cup	122
	Peanut Butter	1 tablespoon	94			Ovenroasted Turkey	4 slices	60
	Granola Bar	1	170			Single Kraft Cheese	1	70
	Tillamook Cheese	3/4 oz	82.5			Spinach	12	38
	Tonkatsu Ramen	1	600			Raison Cinnamon bagel	1/2 of one	121.5
	Edamame	Cup	254			Poke bowl	1/2 of one	250
	Total		1444.5			Protein bar	1/4 of one	47.5
						Total		829
7/20/16	Granola Bar	1	170		7/24/16	Chobani Yogurt	1	120
	Marinara Meatball Stromboli	1/2 of one	300			Raison Cinnamon Bagel	1/2 of one	121.5
	Strawberries	5	11			Protein Bar	1/4 of one	47.5
	Edamame	1 cup	254			Mangos	1/2 cup	49.5
	Coffee	1 cup	1			Chicken breast tenders	3	100
	Rice	1/3 cup	67			Spinach	12	28
	Spinach	12	28			Rice	1/3 cup	67
	Salmon	4 oz	233			Granola Bar	1	170
	Total		1064			Total		703.5
7/21/16	Chobani Yogurt	1	120					
	Butternut Squash Ravioli	1	270					
	Mangos	1 cup	99					
	Smokehouse Blue Diamonds Almonds	1/4 of bag	42.5					
	Spinach	12	28					
	Rice	1/3 cup	67					
	Salmon	4 oz	233					
	Total		859.5					

Overall Results:



References

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