3 day Dietary Analysis Pre-Competition and Day of Competition William Grace King's College

Introduction:

The goal of this 3 day dietary analysis was to assess macronutrient intake in comparison to dietary recommendations put as well as a food group analysis in comparison to My Plate. Before discussing the following 3 day analysis, it is important to note the physical characteristics of the person (myself) being analyzed. I am 205 lbs (93 kg), 74 in (188 cm) tall, with about 14% body fat (measured on an InBody machine). My daily physical activity puts me in between the "heavy exercise" and "athlete" categories. I used a Total Daily Energy Expenditure (TDEE) calculator to estimate that I require around 3,618 kcal per day. From the TDEE number, I used the MyPlate website to look at the recommended food group distributions for my kcal consumption. I also used an AMDR calculator to find my macronutrient distribution ranges.

Methods:

I first started by using the MyFitnessPal software to record my intake for two days before a wrestling competition and then again on the day of competition. MyFitnessPal provides macronutrient data as well as tracking my sodium and sugar intake. MyFitnessPal also allows you to include exercise and water intake. The software asks for your height and weight and based off the measurements, they estimate your daily calorie need. When you add exercise, it increases the "required calories" for the day. Because MyFitnessPal does not include exercise in the initial kcal measurement, the application told me I need 3,314 kcal per day. The reason I chose to center my dietary analysis around a wrestling competition is because I wanted to see if I was consuming adequate nutrients for performance.

Once the foods were logged, I calculated my AMDRs to find the ranges as follows: 294-425 grams of carbohydrates, 58-102 grams of fats, and 131-228 grams of protein.³ As a high intensity athlete (wrestling) it would be more beneficial to consume in the higher range of carbohydrates and proteins while consuming somewhat less fats. The carbohydrates are what my body will use for fuel during practices and competition and the protein will be used to rebuild and repair the damage done in said practices and competitions.

Using the MyPlate website I was able to find my food group distribution. The distribution is as follows: 2.5 cups of fruit, 4 cups of vegetables, 10 oz whole grains, 7 oz of protein food, and 3 cups of dairy per day. Keep in mind this is a plan for 3200 calories per day, and due to energy expenditure during exercise I may personally require greater than 3200 calories per day.

Results:

Below is what was recorded in the food diary and reported by MyFitnessPal in order from Thursday 1/18 to Saturday 1/20

Breakfast	Calories kcal	Carbs g	Fat g	Protein g	Sodium mg	Sugar g
VT Maple Syrup - Syrup, 4 tbsp	200	53	0	0	7	53
Roasted potato, 1 large	279	63	0	7	492	4
Butter, 1.5 pat (1 inch sq, 1/2 inch high)	54	0	6	0	1	0
Simply.Balanced Grape Jelly - Grape Jelly, 1 tbsp	40	10	0	0	10	10
Broccoli, 1 cup, chopped or diced	30	6	0	2	29	1
Homemade Pancakes - Pancakes, 3 pancake	474	65	18	14	1,512	11
Generic - Rotisserie Chicken - Wing, 174 g	240	0	14	30	540	0
Add Food Quick Tools	1,317	197	38	53	2,591	79

Lunch

Add Food | Quick Tools

Dinner

Canada Dry - Soda, 24 ozs	280	72	0	0	100	70
Moes - Tortilla Chips - Side, 0.75 Order	270	33	14	3	135	0
Moes - Homewrecker, 1 Chicken Burrito	1,037	110	36	77	2,001	8
Add Food Quick Tools	1,587	215	50	80	2,236	78

Snacks

Gatoraid thirst quench powder - Gatoraid powder, 1 Packet	130	34	0	0	230	32
Add Food Quick Tools	130	34	0	0	230	32

lotais	3,034
Your Daily Goal	4,141
Remaining	1,107

Calories kcal	Carbs g	Fat g	Protein g	Sodium mg	Sugar g
1,107	72	50	74	-2,757	-34
4,141	518	138	207	2,300	155
3,034	446	88	133	5,057	189

1/19

/19						
Breakfast	Calories kcal	Carbs g	Fat g	Protein g	Sodium mg	Sugar g
Large Eggs - Large Fried Eggs, 2 large egg	184	1	14	13	188	1
Bread Smith Whole Grain Bread - Whole Grain Bread, 2 slice	220	40	0	10	400	0
Add Food Quick Tools	404	41	14	23	588	1
Lunch						
Jasmin White Rice - White Rice, 1.33 cup	241	52	1	5	0	0
Cooked - Chicken Breast, 150 gram	248	0	5	47	111	0
Broccoli, steamed, 1 cup	27	6	0	2	32	1
Teriyaki - Teriyaki Sauce, 0.25 tablespoon	6	2	0	0	43	2
Cookie - Oatmeal Raisin, 1 cookie	100	16	4	1	0	9
Add Food Quick Tools	622	76	10	55	186	12
Dinner						
Pasta - Cooked Pasta, 2 cup cooked	380	38	10	9	3	2
Full Red - Red Pasta Sauce, 0.5 cup cooked	40	12	0	1	50	4
Cooked - Chicken Breast, 150 gram	248	0	5	47	111	0
Gatoraid - Gatoraid, 0.67 bottle	53	14	0	0	0	0
Olive Oil, 0.25 tbsp	30	0	3	0	0	0
Italian Seasoning, 1 tbsp	15	3	0	1	2	0
General Mills - Coco Puffs, 1 cup	140	31	2	2	130	12

Snacks

Lucky charms - Lucky Charms, 27 gr

Milk - Vitamin D, 2 cups

Add Food | Quick Tools

Welch's - Fruit Snacks, 1 pouch	70	17	0	1	10	10
Gatoraid thirst quench powder - Gatoraid powder, 1 Packet	130	34	0	0	230	32
Moes - Tortilla Chips - Side, 1.25 Order	450	55	24	5	225	0
Add Food Quick Tools	650	106	24	6	465	42

1,316

	Calories kcal	Carbs g	Fat g	Protein g	Sodium mg	Sugar g
Remaining	562	78	33	16	355	28
Your Daily Goal	3,554	445	118	178	2,300	133
Totals	2,992	367	85	162	1,945	105

Breakfast	Calories kcal	Carbs g	Fat g	Protein g	Sodium mg	Sugar g
Smucker's - Uncrustable, 1 ea	210	28	9	6	240	9
Fruit - Banna, 1 Banna (118g)	105	27	0	1	1	14
Green grapes, 0.75 cup	46	12	0	0	1	11
Large Eggs - Large Fried Eggs, 2 large egg	184	1	14	13	188	1
Bread Smith Whole Grain Bread - Whole Grain Bread, 2 slice		40	0	10	400	0
Add Food Quick Tools	765	108	23	30	830	35
Lunch						
wawa - pork roll bagel, 1 each	680	59	35	31	1,550	7
Redbull - Redbull, 8 ounce	110	28	0	1	100	27
Redbull - Sugar Free, 8 fl Oz	10	2	0	0	105	0
Rice krispies treats mini squares - Crispy marshmallow squares, 1 bar	45	8	1	0	50	4
Gatoraid - Gatoraid, 2 bottle	160	42	0	0	0	0
Add Food Quick Tools	1,005	139	36	32	1,805	38
Dinner						
Home - Chicken Parm, 2 chicken breast	940	24	20	130	1,780	17
Sweet sour - Sweet Sour Sauce, 1.5 tablespoon	45	11	0	0	0	0
fusia - Crab Rangoon, 8 pieces	440	46	22	10	860	6
Add Food Quick Tools	1,425	81	42	140	2,640	23
Snacks						
Miller - High Life, 24 fl oz	282	68	0	0	20	0
Truly - Hard Seltzer, 12 fl. oz.	100	2	0	0	30	1
Add Food Quick Tools	382	70	0	0	50	1
Totals	3,577	398	101	202	5,325	97
Your Daily Goal	3,953	495	131	198	2,300	148
Remaining	376	97	30	-4	-3,025	51
	Calories kcal	Carbs g	Fat g	Protein g	Sodium mg	Sugar g

On 1/18 I woke up and did 30 minutes of yoga, so I combined my breakfast and lunch for the day. I had a 1.5 hour wrestling practice between lunch and dinner. I consumed a total of 3,034 kcal, went over my AMDR for carbohydrates, stayed within AMDR for fats, and met my protein recommendation, however it was on the lower end. I did not consume any fruit or dairy products. The "homewrecker burrito" was a MyFitnessPal calculation that seems to have over estimated the amount of sodium in one (very large) burrito. The burrito also contained about 1 cup of roasted peppers and onions and about .5 cups of lettuce, leaving me at a total of 2.25 cups of vegetables in the day (2 cups of leafy greens count as 1 cup per MyPlate standards).⁴ I would not consider any of the grains I ate on 1/18 to be "whole grain" so I will be using starches and refined grains when comparing this value to the MyPlate value. 10 oz equals about 280 grams, therefore I consumed around 270 grams of starches/refined carbohydrates in the day, almost meeting the MyPlate recommendations. 7 oz equals about 196 grams, and I consumed about 100 grams of protein from chicken with the remaining 33 coming from plant-based sources. MyPlate does not specify that all 196 of the grams have to be protein, they only state "protein foods" which often also have fats attached to the proteins. Because of this, I would say I met the MyPlate recommendations for "protein foods" on 1/18.

On 1/19 I did not have a morning workout and was able to eat three meals and even some snacks. I participated in a 50 minute wrestling practice between lunch and dinner. I consumed 2,992 kcal on Friday, meeting all three of my AMDRs. On this day I again did not consume any fruits (fruit snacks do not count) but I did have two cups of dairy, falling 1 cup short of MyPlate recommendations. On this particular day, I did consume true "whole grains" but most of my carbohydrate intake still came from starches or refined grains. I ate about 250 grams of carbohydrates coming from a combination of whole grains, refined grains, and starches which falls just short of meeting MyPlate recommendations. I again ate 1 cup of vegetables, missing MyPlate recommendations by 1.5 cups. I consumed 107 grams of protein from non-dairy animal products, and adding the grams of fat eaten with those products brings it to about 131 grams, just shy of the recommended 196.

1/20 was a competition day so it was very irregular. The day started at 5 am where I logged half my breakfast, the second half of breakfast was logged after a 30-minute wrestling warm up. The lunch "food" was consumed between warming up and in-between the three matches I wrestled. All dinner food and snacks were eaten and logged after the tournament had ended. I had three matches that I counted as one 4 minute, and two 10 minute bouts of wrestling. On competition days, I do not tent to have an appetite but I know I need to keep my body fueled so I do have to force some food down. Overall, I consumed 3,577 kcal thought the day. On 1/20 I went over my AMDR for carbohydrates which is to be expected on a day where I need consistent long term energy. I met my AMDR for protein and fats but was on the lower end for protein, which is again expected on a day that is focused on performance. The day of the tournament was the only day where I consumed fruit, eating about 1.5 cups (bananas are difficult to estimate) which was still short of the recommended number. I did not consume any vegetables or dairy on this day. I consumed both whole and refined grains as well as alcohol. By definition, I engaged in binge drinking on the night of the 20th, however this is common for young adults my age on a weekend night. Excluding alcohol, I consumed 137 grams of carbohydrates coming from whole

and refined grains, including the breading on the chicken parm and the pastry on the crab rangoons. I ate 184 grams of protein from animal sources and 6 grams from the peanut butter, totaling at 190 grams in comparison to the 196 grams recommended by MyPlate.

Discussion:

This analysis made me reflect upon my nutrition at a critical point in my athletic career. Whenever I am completing a TDEE calculation, I am always shocked to see that I "require" over 3,000 kcal per day, before exercising. At my height and weight my AMDRs are also very high, but had a surprising range between the highest and lowest "acceptable" numbers. I was able to stay withing the ranges, however I feel as an athlete I should have consumed more carbohydrates and protein throughout my days. While my macronutrient intake is adequate, the quality is not all there. My protein quality is high, but I am consuming mostly refined grains for my carbohydrates and have an abundance of saturated fats in my diet. While I knew my vegetable intake was not pristine, I did not realize I fell that far behind on my plate recommendations. My fruit intake was below subpar and is something I need to work on in the future. I would not say I need to supplement anything, I just need to replace low quality carbohydrates and fats with higher quality food items.

As a wrestler, we have an intense 1.5-2 hour practice 4 days a week with 1 day of the week being competition days. This does not include the weightlifting, running, and yoga we do in the morning or after practice. Not meeting my resting energy expenditure is already not good for bodily functioning, but increasing energy expenditure with exercise gives me an even larger number of kcal I need to consume. I believe my best course of action is to eat breakfast earlier in the day so I can consume a full lunch before practicing, but with enough time for the food to digest and not upset my stomach during exercise. This will allow me to consume most of my kcals during the day instead of having a large dinner (or two) to make up the lack in kcals.

Overall I would give myself a 4/10 on quality and quantity. I know this may sound harsh, but if I don't admit something is wrong then I cannot begin to fix it. I stay within AMDRs so it is not a 1, but I fell short of almost all MyPlate recommendations.

- 1. *TDEE calculator*. TDEE Calculator: Learn Your Total Daily Energy Expenditure. (n.d.). https://tdeecalculator.net/
- 2. MyFitnessPal. (n.d.). https://www.myfitnesspal.com/food/diary
- 3. *AMDR Calculator*. Calculator Academy. (2023, July 25). https://calculator.academy/amdr-calculator/
- 4. *Your Myplate Plan 3200 calories, ages 14*+ *years*. MyPlate. (n.d.-b). https://www.myplate.gov/myplate-plan/results/3200-calories-ages-14-plus