

Analysis of Personal Diet and Fitness Data With JMP®

Shannon Conners, PhD JMP, SAS

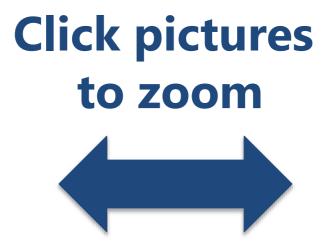
Abstract

Personal activity monitors measure sleep, steps, exercise duration and intensity, and are useful tools for weight loss and maintenance when paired with meal tracking software and a wireless scale. Apps that show daily summaries are common, but exporting summary data sets can allow for deeper exploration of large personal data sets using JMP. I wrote two JSL scripts to combine and parse nearly four years of my monthly food log and activity data sets exported from BodyMedia® software¹. While the exported summary data was not optimal for import with JMP's many point-and-click options, even a novice scripter like me could write the JSL to import and format these data sets for further filtering, analysis and visualization.

Objectives

- Export files from BodyMedia® web interface
- Import activity and food log data into JMP
- Categorize food items
- Explore and visualize data





Raw Data Files

- 49 Excel workbooks of summary data
 - 6 different worksheets (activity, sleep, etc..)
 - Imported an example of each sheet interactively to create a JSL template
 - Constructed an import and concatenation loop using an example from a SESUG paper by Michael Hecht²
 - Added data and modeling types, column formats and missing value codes via JSL

A	A	В	C	0	E	F	G
4							
5	Date	Calories Burned	Calories Consumed	Physical Activity	Steps	Time Onbody	Percent Onbody
б	12/21/2010	2060	1483	0:05	383	2:08	9%
7	12/22/2010	2258	1858	1:31	5899	20:37	86%
8	12/23/2010	2252	2459	2:13	4665	22:22	93%
9	12/24/2010	2225	1951	1:55	2368	12:46	539
0	12/25/2010	2144	1881	1:17	4047	12:51	54%
11	12/26/2010	2564	2372	3:07	7504	22:34	94%
12	12/27/2010	2425	2069	1:38	6388	23:16	97%
13	12/28/2010	2638	2660	3:17	6880	21:24	89%
14	12/29/2010	2631	1362	3:15	5675	20:03	84%
15	12/30/2010	2580	1717	2:10	5175	22:04	92%
16	12/31/2010	2630	1924	1:54	8654	21:52	91%
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19	01/03/2011	2348	1492	1:18	6106	22:28	94%
20	01/04/2011	2127	1574	0:56	5128	20:18	85%
21	01/05/2011	1809	1504	0:26	1488	22:43	95%
12	01/06/2011	1934	1396	0:33	3784	23:06	96%
23	01/07/2011	2002	2063	0:44	3016	22:59	96%
24	01/08/2011	2830	1770	3.48	7842	20:30	85%
25	01/09/2011	2360	2732	1.43	6584	21:58	92%
26	01/10/2011	2005	1512	1:00	1863	23:11	97%
27	01/11/2011	2315	1763	2:12	4176	23:10	97%
28	01/12/2011	1917	1671	0:37	2988	23:15	97%
	S	ummary Activity	Meals Sleep W	eight Personal Info	rmation	(+)	

- 48 food log PDFs saved as text files
 - PDF to Excel conversion was problematic
 - ~30 pages each as PDFs, 24 pages each as text
 - Imported and concatenated via JSL
 - Parsed with JSL regex pattern matching, thanks to coaching from Craige Hales

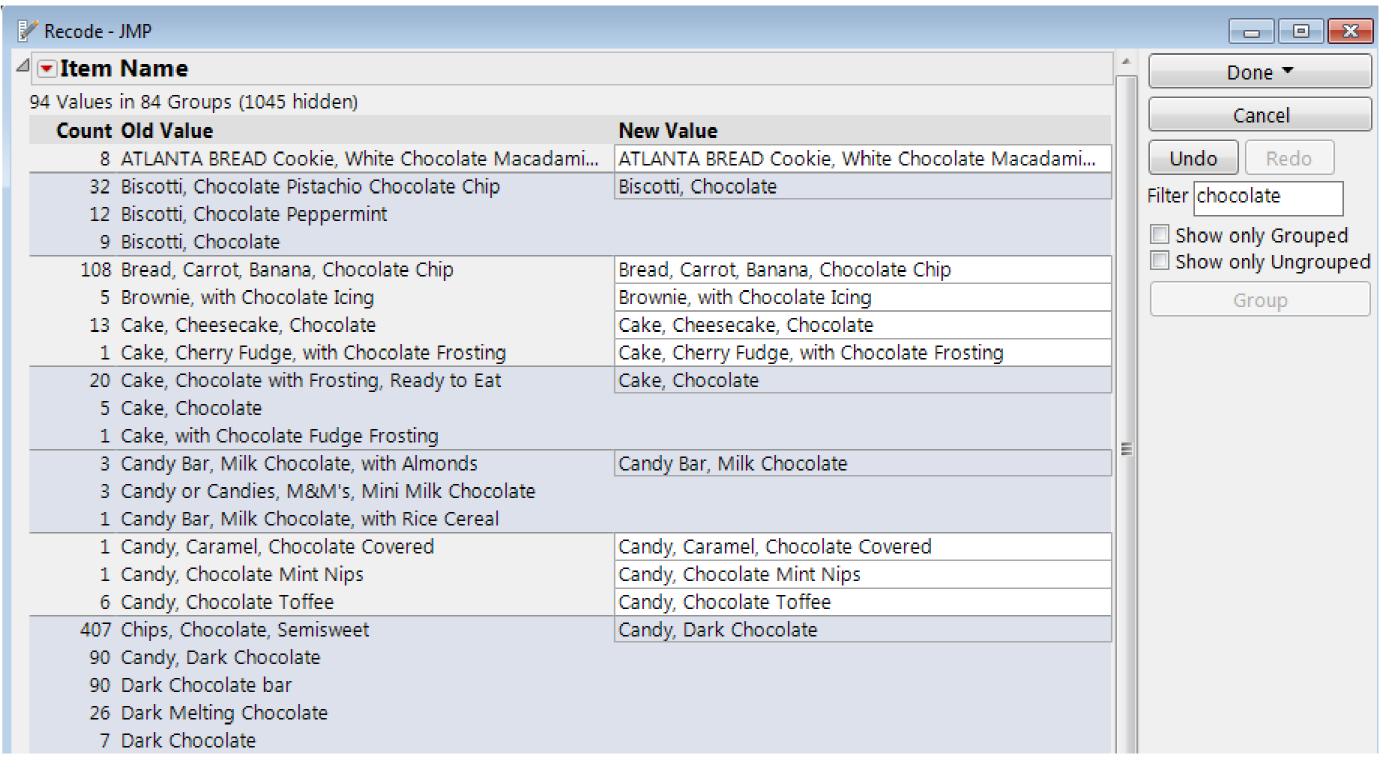
Lifestyle and Calorie Management System Food Log Dec 13, 2010 - Jan 9, 2011 Shannon Conners Page 6 Detailed Food Log - 28 day period (CONT'D) SUN DEC 26, 2010 (CONT'D) SERVING SIZE CALORIES FAT CARB. PROTEIN (IN GRAMS) Breakfast Scrambled eggs with cheese, spinach, peppers 0 Serving 186 10g 3g 22g Capuccino, Small 1 Serving 49 2 5 3 Totals for this meal: 235 1 2 8 2 5 AM Snack EAS Vanilla Protein Powder 1 Serving 120 2 3 23 Blueberries, wild, Frozen 0 Cup 36 0 10 0 Planters Brittle Nut Medley 1 Tbsp 50 3 4 1 STONYFIELD FARM Organic Low Fat Vanilla Yogurt 1 ounce 23 0 4 1 Cranberries, Raw 1 Cup 38 0 10 0 Totals for this meal: 267 5 3 1 2 5 Lunch Progresso Light Beef Pot Roast Soup 2 Serving 160 2 24 14 Mocha 1 Serving 103 1 18 6 Totals for this meal: 263 3 4 2 2 0 PM Snack Planters Brittle Nut Medley 1 Tbsp 50 3 4 1 Supreme Protein Caramel Nut Chocolate bar 1 Bar 200 8 18 15 Totals for this meal: 250 1 1 2 2 1 6 Dinner Salad, Mixed Baby Greens with Arugula, Butterhead, E 3 Cup 22 0 4 2 Mahi Mahi, Dolphinfish or Dorado, Cooked, Dry Heat 4 Ounce 124 1 0 27 Sauce, Tomato, with Mushrooms, Canned 0 Cup 43 0 10 2
Cranberries, Raw 1 Cup 38 0 10 0 Totals for this meal: 267 5 3 1 2 5
Mocha 1 Serving 103 1 18 6 Totals for this meal: 263 3 4 2 2 0
Supreme Protein Caramel Nut Chocolate bar 1 Bar 200 8 18 15
Dinner Salad, Mixed Baby Greens with Arugula, Butterhead, E 3 Cup 22 0 4 2 Mahi Mahi, Dolphinfish or Dorado, Cooked, Dry Heat 4 Ounce 124 1 0 27
Good seasons dressing 1 Tbsp 75 7 2 0 Honeydew Melon 3 Ounce 31 0 8 0 Pasta, Ziti, Enriched, Dry 1 Cup 220 1 44 8
Pepper, Bell or Sweet, Red O Cup 6 0 1 0 Tomato, Red 1 Item 22 0 5 1 Totals for this meal: 589 1 0 8 4 4 2

Data Preparation

- Imported files from 12/21/2010 7/28/2014 date range
 - 1,316 rows of activity summary data
 - 34,432 rows of summarized food log data

Combined Excel 7-28	4	- 19			Calories		Calories						Date	Meal	Item Name	Cleaned Item Name	Primary Food Category	Cleaned Food Category	Calories	Fat	Car	rb Pro	tein
Source -	-			Calories	Burned	Calories	Consumed	Excess Calories	Physical		Average	Sedentary (up	12/21/2010	Breakfast	Honey	Honey	Sugar	Sugar	21	0)	6	(
Scatterplot Matrix	*	10	Date 01/08/2011	Burned 2830	(filtered) 2830	Consumed	(filtered)	Eaten (filtered)	Activity 3:48	Steps 7842	METs 1.06	to 3 METs) 20:12	12/21/2010	Breakfast	Greek yogurt (Fage, plain)	Greek Yogurt, Plain, Nonfat	Dairy	Yogurt	60	0	J	5	
Percent Onbody vs Stel		20	01/09/2011	2360	2360	273	2 2732	372	1:43		1.54	22:17	12/21/2010	Breakfast	Capuccino, Small	Cappuccino	CoffeeMilk	Coffee,Milk	49	2	2	5	
Columns (38/0)		21	01/10/2011	2005	2005	1512	1512	-493	1:00	1863	1.3	22:00	12/21/2010	AM Snack	Ground beef, grass fed	Beef, ground, grass fed	Meat	Beef	162	12	,	0	
Date (a)		22	01/11/2011	2315	2315	1763		-552		4176	1.5	21:48			Capuccino, large, nonfat	Cappuccino	CoffeeMilk	Coffee,Milk	//3	0	,	6	
Calories (5/0): ∠ Calories Burned →		23	01/12/2011	1917	1917	1671		-246		2988	1.24	23/23							45		-	-	
Calories Burned (fitte	-	24	01/13/2011	2131	2131	1546		-585 -497		3571	1.38	22:44			GREEN GIANT Black Beans, Canned	Beans, Black, Canned	Bean	Bean	45	0	1	9	
4 Calories Consumed	-	75	01/14/2011	2080 2735	2080 2735	1583 2649		-497		5386 7009	1.35	23:01	12/21/2010	AM Snack	Onions, Chopped	Onions, Chopped	Vegetable	Vegetable	32	0	j	7	
▲ Calories Consumed (27	01/16/2011	2735	2783	1919	31	-264		4660	1.43		12/21/2010	AM Snack	Pepper, Bell or Sweet, Red	Pepper, Bell or Sweet, Red	Vegetable	Vegetable	23	0)	4	
▲ Excess Calories Eaten Activity (6/0)		28	01/17/2011	2223	2223	1919		-304		1390	1.46	22:17	12/21/2010	AM Snack	Oil, Olive	Oil, Olive	Fat	Fat	30	3	3	0	
Compliance (11/0)		29	01/18/2011	2176	2176	2398	3 2398	222	1:38	2317	1.42	22:22	12/21/2010	Lunch	Capuccino, large, nonfat	Cappuccino	CoffeeMilk	Coffee,Milk	//2	0	,	6	
Sleep (5/0)		30	01/19/2011	2397	2397	1935	1935	-462	1/36	4898	1.57	22:24			-				43			-	
▲ Lying Down ★		31	01/20/2011	2019	2019	2430	2438	419	0:40	5524	1.32	23:20	12/21/2010	Lunch	Shrimp, Steamed	Shrimp, Mixed Species, Cooked	Seafood	Seafood	27	0	j .	0	
Lying Down (Ritered) Sleep Duration *		32	01/21/2011	2062	2062	1979	1979	-63		6599	1.35	23:03	12/21/2010	Lunch	Planters Brittle Nut Medley	Candy, Brittle Nut Medley	Candy	Candy, Nut	50	3	3	4	
Sleep Efficiency *		33	01/22/2011	2608	2608	2169		-439		6851	1.71	21:36	12/21/2010	Lunch	Protein bar, peanut butter crunch	Protein Bar, Peanut Butter Crunch	Supplement	Supplement	190	9	4	13	
Date of Sleep		34	01/23/2011	2330	2330	2528		198		5075	1.53	22:27			**	· ·						44	
Macros (4/0)		35	01/24/2011	2244	2244	1998		-246		7214	1.47	22:29	12/21/2010	Dinner	Butternut squash soup	Buttercup Squash Soup	Fruit	Fruit	220			44	
▲ % from Protein ★		36	01/25/2011	2337	2337	2500		163		317	1.53	22:43	12/21/2010	Dinner	Salad, Mixed Baby Greens with Arugula, Butterh	. Salad, Mixed Baby Greens with Arugula	Vegetable	Vegetable	22	0	j	4	
# % from Carbs # # % from Fat #		38	01/26/2011	2269 1955	2269 1955	1850		-419		5826 1045	1.49	22:21	12/21/2010	Dinner	Pepper, Bell or Sweet, Red	Pepper, Bell or Sweet, Red	Vegetable	Vegetable	26	0	ı	5	
4% from Alcohol ● •		39	01/27/2011	2132	2152	176)		-192 -412	1:07		1.27	22:53	12/21/2010		ATHENOS Feta Cheese, Crumbled	Cheese, Feta	Dairy	Cheese	22	2	,	0	
lows		40	01/29/2011	2326	2326	1476		-850		2763	1.53	21:53			·	•	/		22		-	-	
1316 1006		41	01/30/2011	2345	2345	1650		690		4630	1.54	22:27	12/21/2010	Dinner	Greek yogurt (Fage, plain)	Greek Yogurt, Plain, Nonfat	Dairy	Yogurt	60	0	1	5	
ected (42	01/31/2011	2037	2037	1711		-324	0:42		1.34	23:18	12/21/2010	Dinner	Sugar snap peas	Snap Peas	Vegetable	Vegetable	35	0	J	6	
fuded 15		43	02/01/2011	2160	2169	1806		-361		3750	1.42	22:15	12/21/2010	Dinner	Green Giant antioxidant blend	Vegetables, Snap Peas, Peppers, Broccoli, C	Vegetable	Vegetable	50	3	3	7	
dden 15 ibelied (44	02/02/2011	2237	2237	1585	1585	-652	1:40	7608	1.47	22:20	12/21/2010		Good seasons dressing	Dressing, Balsamic Vinaigrette	Sauce	Dressing	75	7	,	2	

- Standardized food item names and categorized foods
 - Used newly enhanced JMP 12 Recode platform
 - Consolidated similar food item names with new manual grouping feature
 - Used Filter field to view related items from 1,816 row food item table
 - Placed items from cleaned list into food categories
 - Merged grouped item list with food log data set





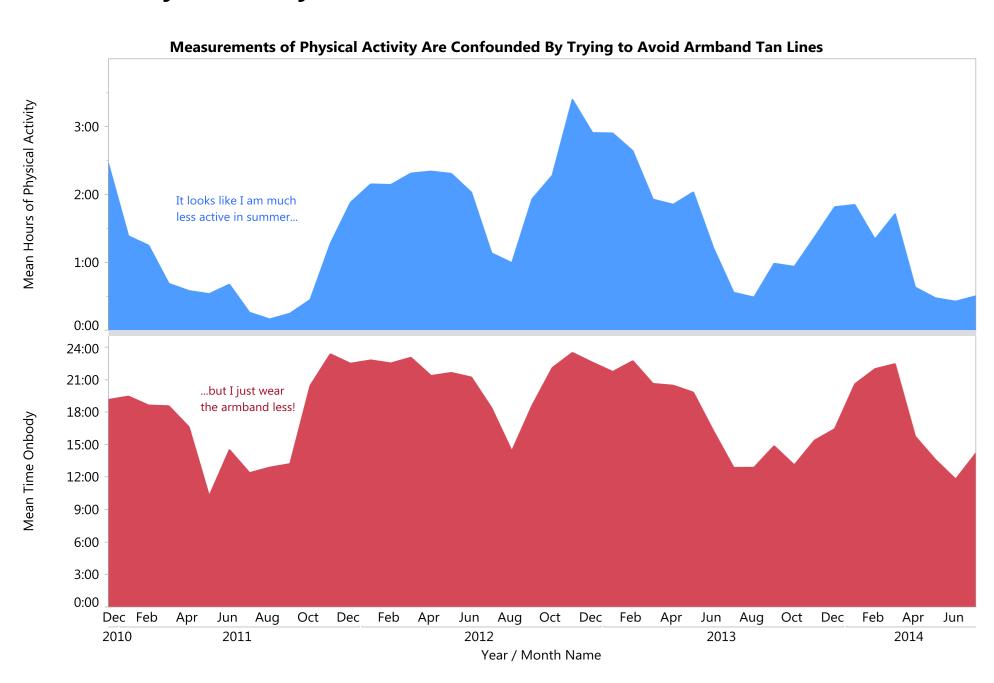
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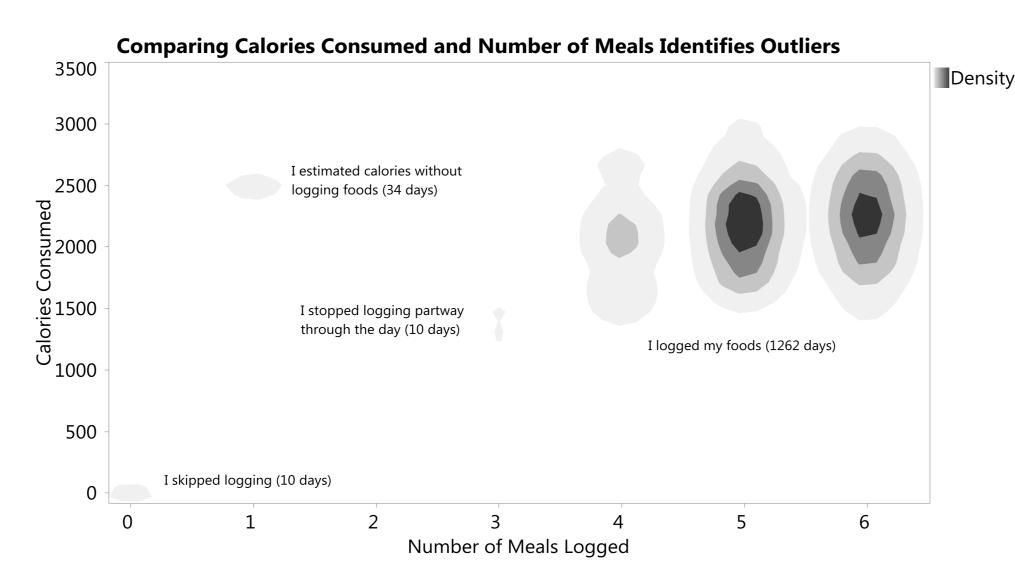
Exploring Activity, Eating, and Sleep Patterns

The quality of self-reported diet and fitness data can be highly variable and vulnerable to non-compliance!

• Is my activity seasonal?



- How complete is my meal logging data?
 - Filtered by number of meals logged and reviewed food log for low calorie days

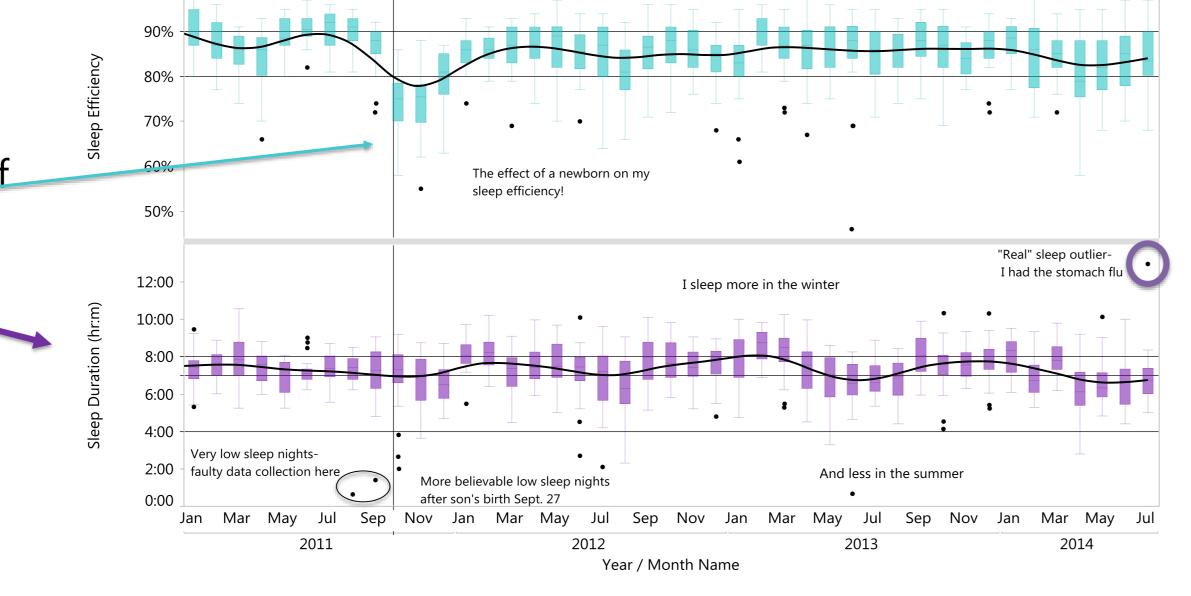


My sleep patterns showed the impact of

Click any picture

to zoom

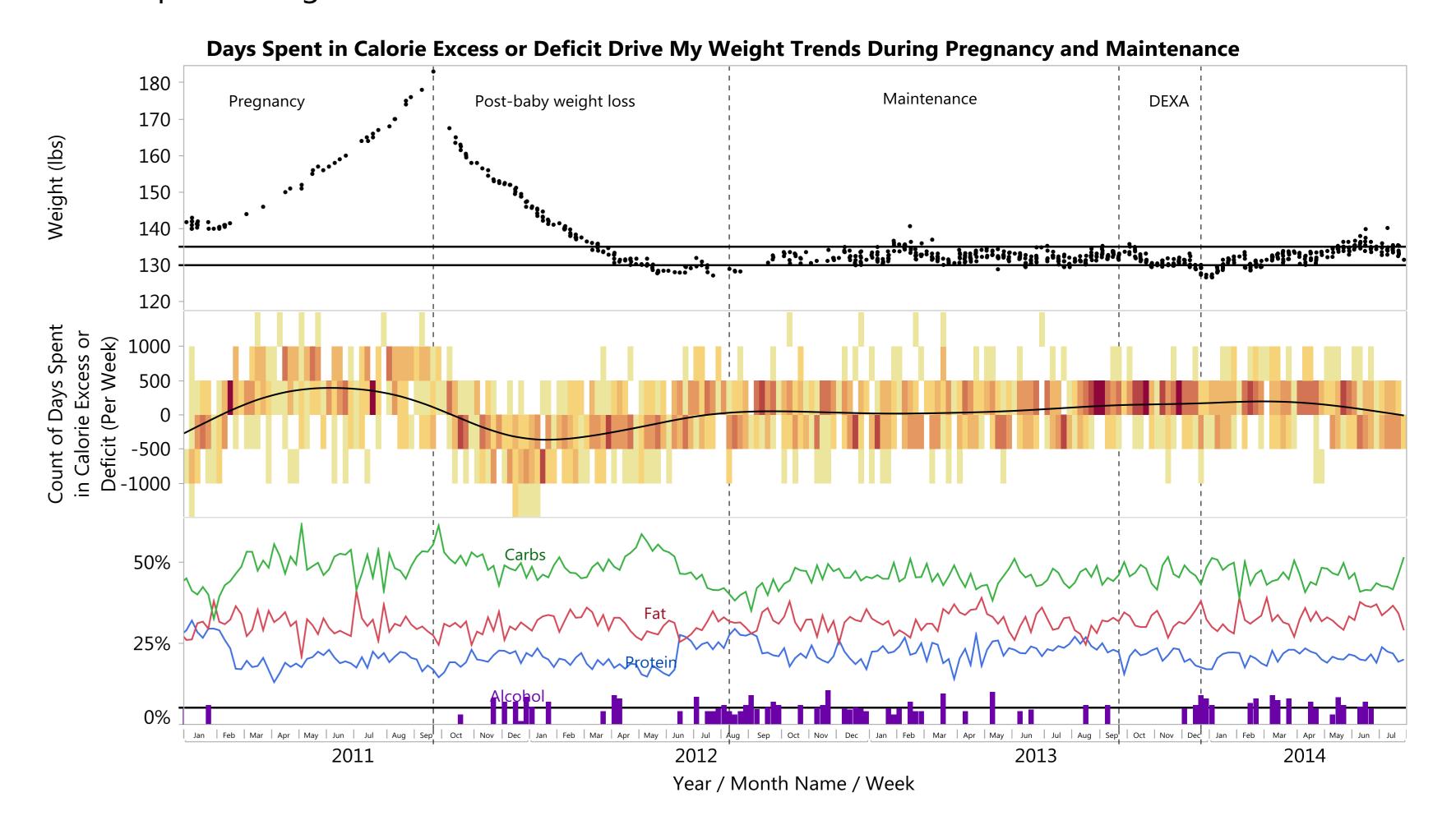
- my son's birth
- seasonal fluctuations



Sleep Efficiency (More Than Duration) Took a Hit After My Son's Birth

Favorite Visualizations

- How did I gain and lose the baby weight...and how have I kept it off?
 - Number of days in deficit or surplus impacts my weight trend
 - Weight changes happen with little macronutrient variation
 - Lowering carbs or eliminating alcohol helps me lose weight
- Used enhancements to JMP 12 axis settings dialog including
 - axis preview
 - categorical tick marks
 - positioning reference lines with crosshairs tool



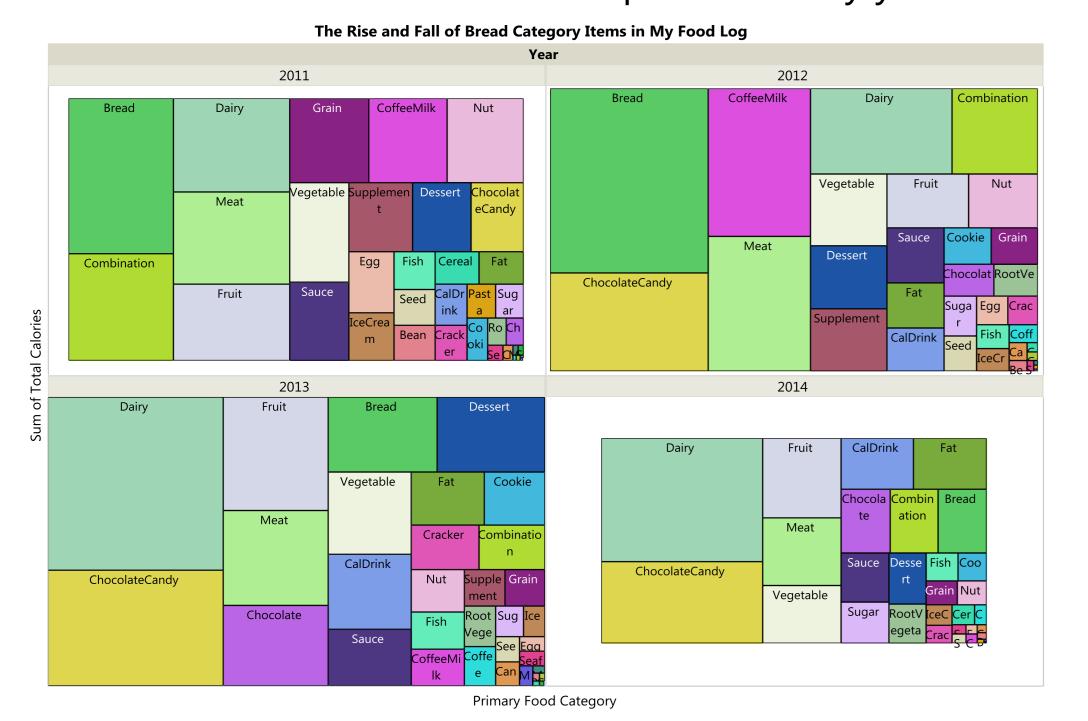


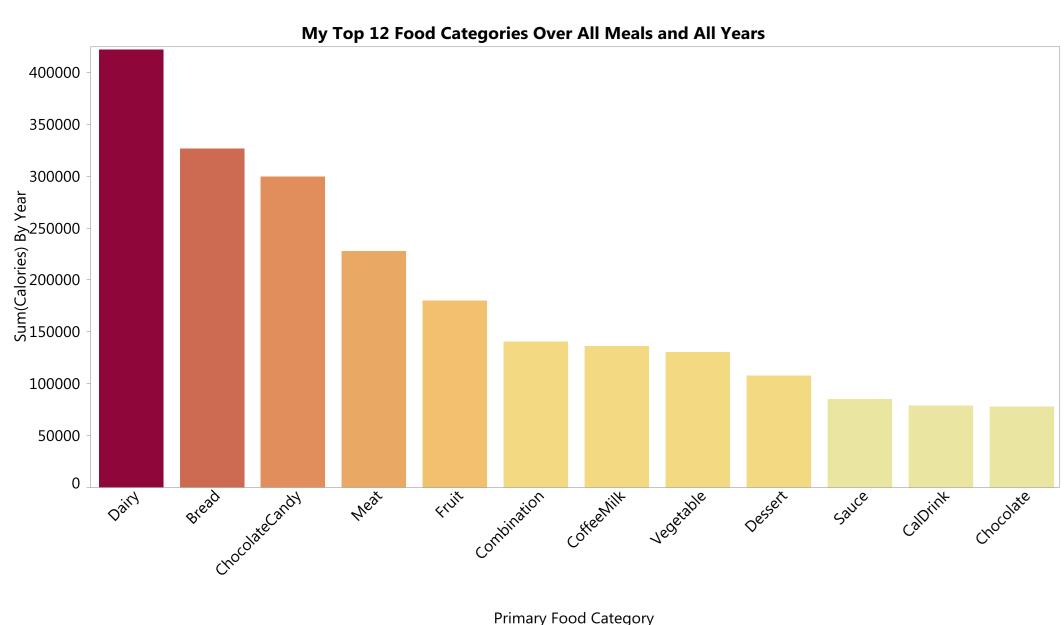
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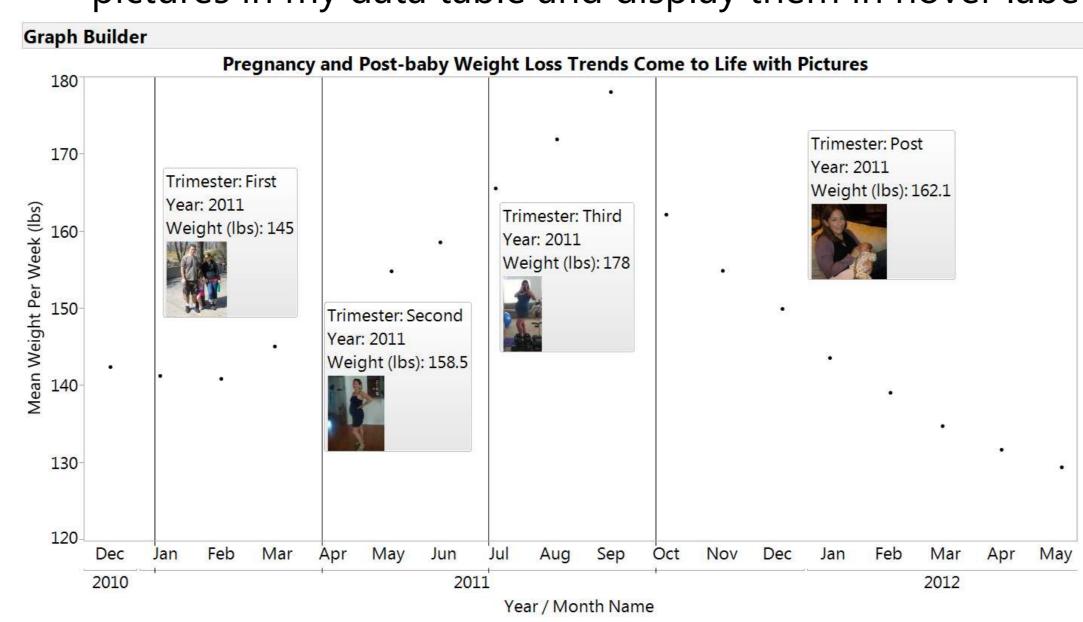
Favorite Visualizations

- Food log composition by category
 - Used new Treemap Squarify algorithm in to show which food groups and items contributed the most calories
 - Created bar charts by category calorie contribution
 - Used Local Data Filter to explore meal by year trends



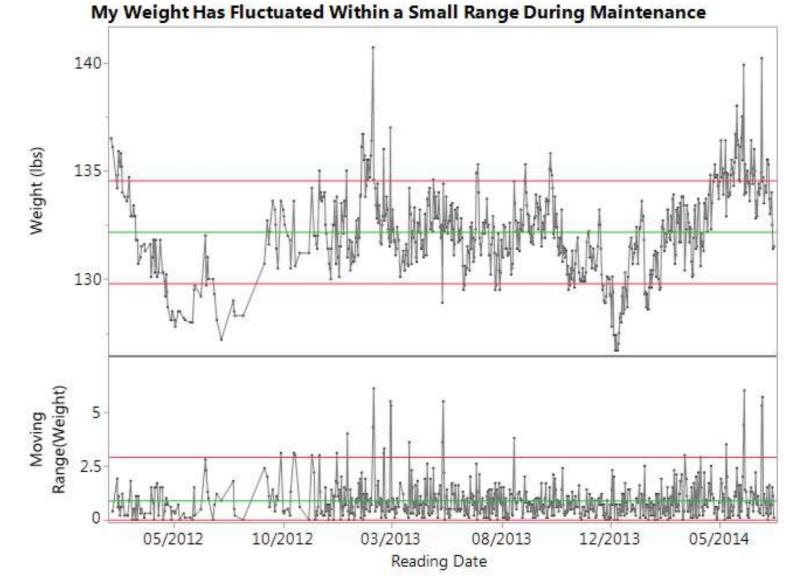


- Weight trends during and after pregnancy
 - Gained ~43 lbs in total, ~25 lbs was baby-related
 - 9 months of "eating for 2" = 6 months weight loss work
 - Used new JMP 12 feature to embed pre- and post-baby pictures in my data table and display them in hover labels



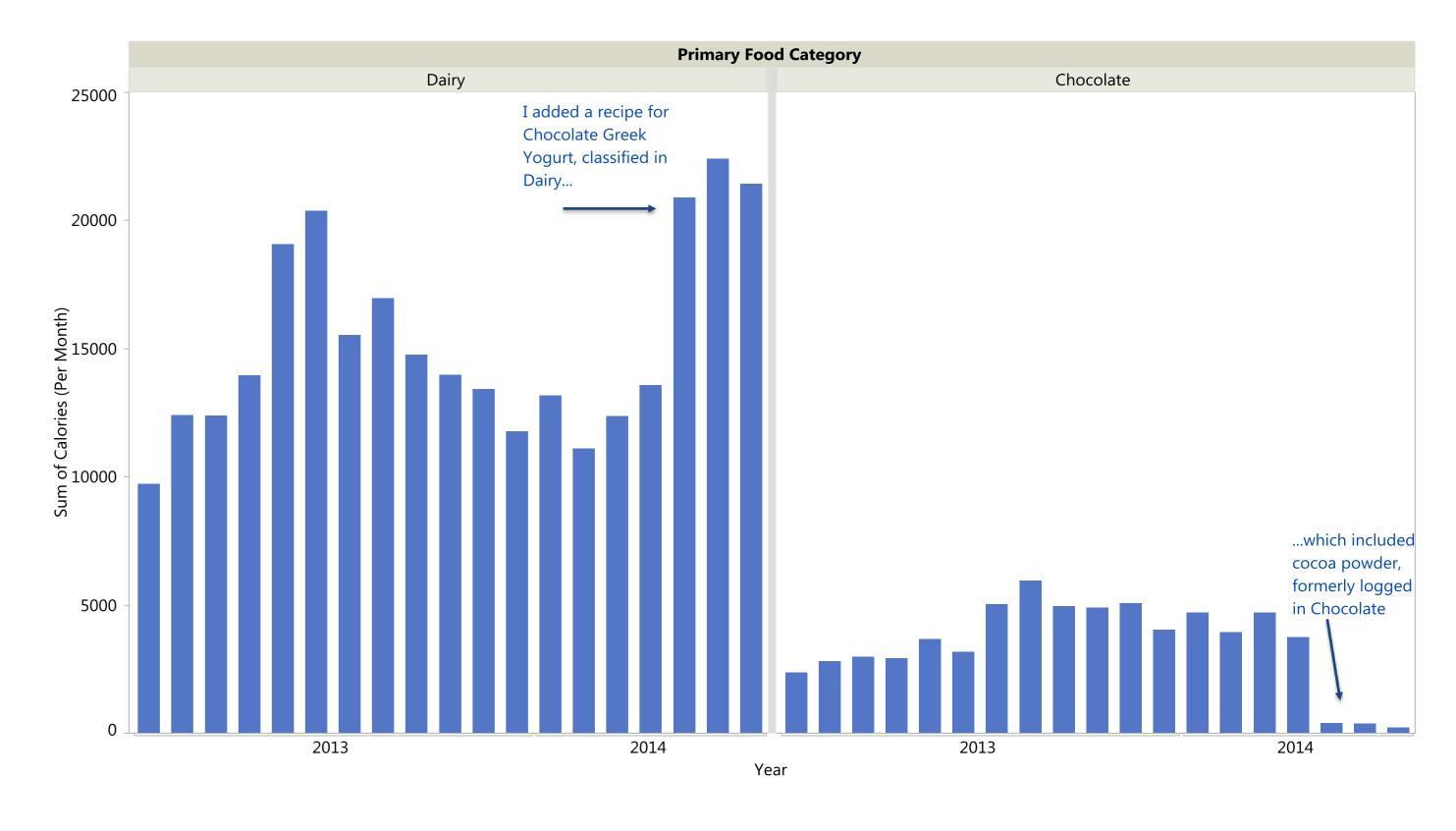
- Maintenance weight control chart
 - Focused on past 2.5 years maintaining weight
 - Calculated range was close to my preferred weight
 - Used Control Chart Builder

Click any picture to zoom (S) 13



Observations

- Even carefully tracked diet and activity data has inaccuracies and gaps that could contribute to incorrect conclusions if you don't see them
- Exploring my personal data helped me discover
 - reporting biases associated with my device usage
 - strategies I am using to summarize and group data (e.g., recipe, food categories) that might obscure the real trends
- Deeper statistical analyses of this data set must focus on subsets of completely tracked days or adjust for variability in reporting compliance to ensure that results are truly meaningful

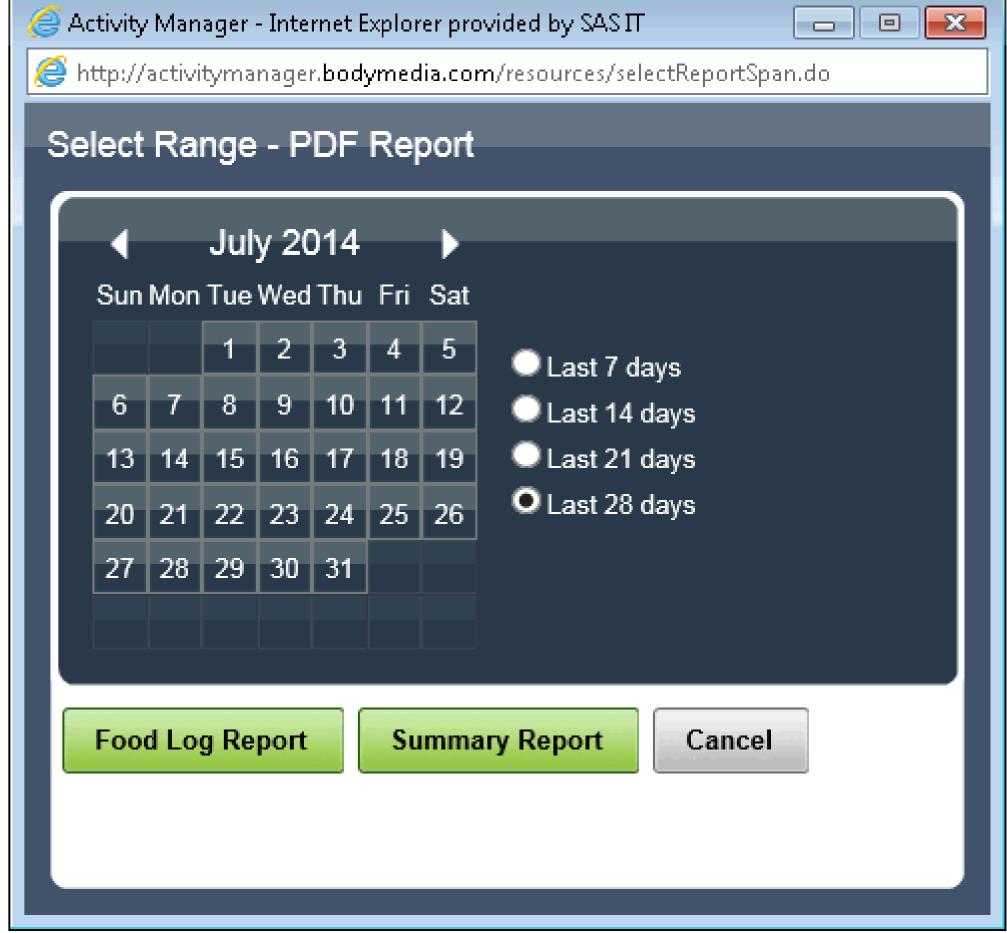


References

- ¹ www.bodymedia.com
- ² Hecht, Michael. "From Raw Data to Beautiful Graph using JSL." Paper, SESUG 2012. http://analytics.ncsu.edu/sesug/2013/JMP-02.pdf

BodyMedia® web interface





Date	Calories Burned	Calories Consumed	Physical Activity	Steps	Time Onbody	Percent Onbody
12/21/2010	2060	1483	0:05	383	2:08	9%
12/22/2010	2258	1858	1:31	5899	20:37	86%
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12/25/2010	2144	1881	1:17	4047	12:51	54%
12/26/2010	2564	2372	3:07	7504	22:34	94%
12/27/2010	2425	2069	1:38	6388	23:16	97%
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01/01/2011	2695	1836	2:44	8857	22:37	94%
01/02/2011	2417	3000	1:23	4016	23:08	96%
01/03/2011	2348	1492	1:18	6106	22:28	94%
01/04/2011	2127	1574	0:56	5128	20:18	85%
01/05/2011	1809	1504	0:26	1488	22:43	95%
01/06/2011	1934	1396	0:33	3784	23:06	96%
01/07/2011	2002	2063	0:44	3016	22:59	96%
01/08/2011	2830	1770	3:48	7842	20:30	85%
01/09/2011	2360	2732	1:43	6584	21:58	92%
01/10/2011	2005	1512	1:00	1863	23:11	97%
01/11/2011	2315	1763	2:12	4176	23:10	97%
01/12/2011	1917	1671	0:37	2988	23:15	97%
Totals	53166	44049	39:46	113486	471:20	
Daily Avg	2312			4934	20:29	85%
Target	2000			7000		
		. .				
()	Summary Activ	rity Meals Sleep	Weight Perso	nal Infor	mation	+)

ال		2.00	J /0
589	99	20:37	86%
466	<u>65</u>	22:22	93%
236	5 8	12:46	53%
404	47	12:51	54%
750]4	22:34	94%
638	38	23:16	97%
688	BO	21:24	89%
567	75	20:03	84%
517	75	22:04	92%
869	54	21:52	91%
889	57	22:37	94%
401	16	23:08	96%
610	06	22:28	94%
513	28	20:18	85%
148	38	22:43	95%
378	B4	23:06	96%
301	16	22:59	96%
78	42	20:30	85%
658	B4	21:58	92%
180	63	23:11	97%
417	76	23:10	97%
298	38	23:15	97%
11348		471:20	
490		20:29	85%
700	00		
al Int	for	mation	(+)
at	%	from Alcohol	Meal Log Compliance
33%		0%	<u> </u>
33%		0%	100%
27%		0%	100%
24%		0%	100%
41%		0%	100%
27%		0%	100%
2007		N0/.	100%

Date	Calories Consumed	% from Protein	% from Carbs	% from Fat	% from Alcohol	Meal Log Compliance
12/21/2010	1483	24%	43%	33%	0%	100%
12/22/2010	1858	23%	45%	33%	0%	100%
12/23/2010	2459	23%	50%	27%	0%	100%
12/24/2010	1951	32%	44%	24%	0%	100%
12/25/2010	1881	21%	38%	41%	0%	100%
12/26/2010	2372	23%	50%	27%	0%	100%
12/27/2010	2069	23%	48%	29%	0%	100%
12/28/2010	2660	24%	51%	25%	0%	100%
12/29/2010	1362	36%	34%	30%	0%	100%
12/30/2010	1717	31%	41%	28%	0%	100%
12/31/2010	1924	28%	37%	30%	5%	100%
01/01/2011	1836	29%	45%	26%	0%	100%
01/02/2011	3000	0%	0%	0%	0%	17%
01/03/2011	1492	36%	38%	25%	0%	100%
01/04/2011	1574	35%	36%	29%	0%	100%
01/05/2011	1504	28%	49%	22%	0%	83%
01/06/2011	1396	38%	36%	25%	0%	100%
01/07/2011	2063	27%	42%	31%	0%	100%
01/08/2011	1770	28%	46%	25%	0%	100%
01/09/2011	2732	17%	49%	33%	0%	100%
01/10/2011	1512	29%	48%	23%	0%	100%
01/11/2011	1763	31%	38%	31%	0%	100%
01/12/2011	1671	29%	38%	33%	0%	100%
Daily Avg	1915	27%	44%	29%	0%	96%
Target	2000	21 70	77,0	2070	3,0	100%
← →	Summary Activity	Meals Slee	p Weight	Personal Info	rmation \oplus)

Date	Calories Burned	Physical Activity	Steps	Average METs	Sedentary (up to 3 METs)	Moderate (3-6 METs)	Vigorous (6 METs +)
12/21/2010	2060		383	1.32	23:55	1	1 T
12/22/2010	2258		5899	1.46	22:29		0:00
12/23/2010	2252		4665		21:47		
12/24/2010	2225	1:55	2368	1.44	22:05	1:51	0:04
12/25/2010	2144	1:17	4047	1.39	22:43	1:11	0:06
12/26/2010	2564	3:07	7504	1.66	20:53	3:00	0:07
12/27/2010	2425	1:38	6388	1.56	22:22	1:38	0:00
12/28/2010	2638	3:17	6880	1.69	20:43	3:08	0:09
12/29/2010	2631	3:15	5675	1.69	20:45	3:11	0:04
12/30/2010	2580	2:10	5175	1.66	21:50	2:09	0:01
12/31/2010	2630	1:54	8654	1.70	22:06	1:43	0:11
01/01/2011	2695	2:44	8857	1.75	21:16	2:39	0:05
01/02/2011	2417	1:23	4016	1.56	22:37	1:23	0:00
01/03/2011	2348	1:18	6106	1.52	22:42	0:56	0:22
01/04/2011	2127	0:56	5128	1.37	23:04	0:55	0:01
01/05/2011	1809	0:26	1488	1.17	23:34	0:26	0:00
01/06/2011	1934	0:33	3784	1.26	23:27	0:29	0:04
01/07/2011	2002	0:44	3016	1.31	23:16	0:44	0:00
01/08/2011	2830	3:48	7842	1.86	20:12	3:43	0:05
01/09/2011	2360	1:43	6584	1.54	22:17	1:33	0:10
01/10/2011	2005	1:00	1863	1.30	23:00	1:00	0:00
01/11/2011	2315	2:12	4176	1.50	21:48	2:09	0:03
01/12/2011	1917	0:37	2988	1.24	23:23	0:37	0:00
Totals	53166	39:46	113486		512:14	38:14	1:32
Daily Avg	2312	1:44	4934	1.50	22:16	1:40	0:04
Target	2000	1:35	7000			1:30	0:05
()	Summary Acti	vity Meals Sleep	We	ight Persona	l Information (+)		: 4

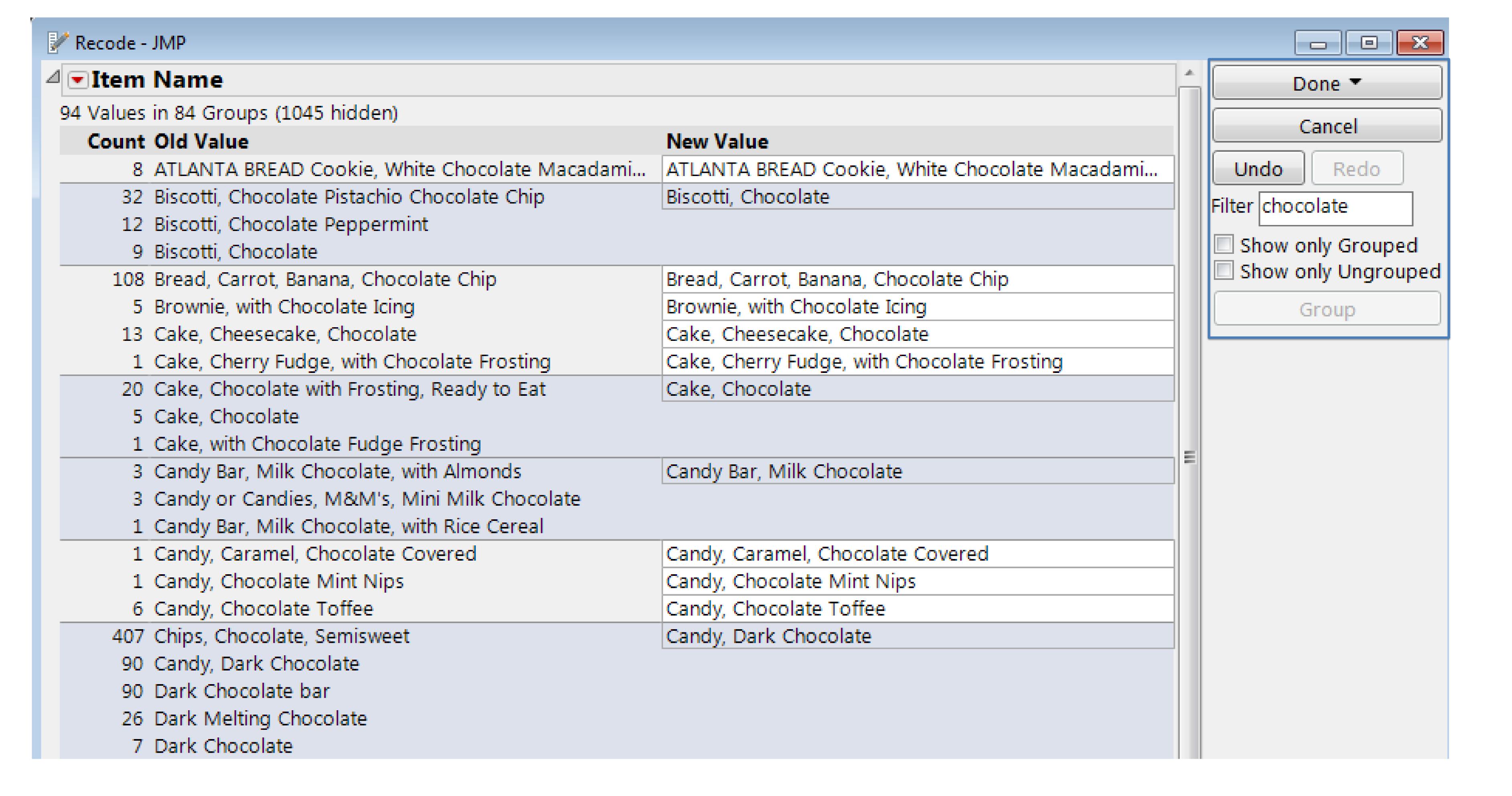
	Lying Down	Sleep Duration	Sleep Efficiency	
12/20/2010 - 12/21/2010 -	0:00	0:00	0%	
12/21/2010 - 12/22/2010	7:39	7:15	95%	
12/22/2010 - 12/23/2010	8:26	7:56	94%	
12/23/2010 - 12/24/2010	8:00	7:10	90%	
12/24/2010 - 12/25/2010	6:49	5:25	79%	
12/25/2010 - 12/26/2010	9:33	8:56	94%	
12/26/2010 - 12/27/2010	7:38	6:59	91%	
12/27/2010 - 12/28/2010	10:33	9:29	90%	
12/28/2010 - 12/29/2010	8:20	7:25	89%	
12/29/2010 - 12/30/2010	8:15	7:32	91%	
12/30/2010 - 12/31/2010	7:45	6:45	87%	
12/31/2010 - 01/01/2011	7:54	6:50	86%	
01/01/2011 - 01/02/2011	7:51	7:42	98%	
01/02/2011 - 01/03/2011	8:28	6:48	80%	
01/03/2011 - 01/04/2011	8:50	7:48	88%	
01/04/2011 - 01/05/2011	10:18	8:59	87%	
01/05/2011 - 01/06/2011	9:58	8:30	85%	
01/06/2011 - 01/07/2011	10:14	9:15	90%	
01/07/2011 - 01/08/2011	9:12	8:09	89%	
01/08/2011 - 01/09/2011	7:52	7:22	94%	
01/09/2011 - 01/10/2011	9:05	7:21	81%	
01/10/2011 - 01/11/2011	8:59	7:49	87%	
01/11/2011 - 01/12/2011	8:53	8:31	96%	
Daily Avg	8:39	7:43	89%	
Farget		8:00		

Date	Reading	BMI
12/21/2010	143.00	24.55
12/22/2010	142.00	24.37
12/27/2010	143.00	24.55
12/31/2010	142.00	24.37
01/01/2011	141.80	24.34
01/02/2011	142.00	24.37
01/04/2011	143.00	24.55
01/05/2011	142.00	24.37
01/06/2011	141.00	24.20
01/07/2011	140.00	24.03
01/08/2011	140.00	24.03
01/09/2011	141.00	24.20
01/10/2011	142.00	24.37
01/11/2011	141.50	24.29
ritor Nation	ola Slaa	n Mainka
ity Mea	als Slee	p Weight

```
Lifestyle and Calorie Management System
Food Log
Dec 13, 2010 - Jan 9, 2011
Shannon Conners Page 6
Detailed Food Log - 28 day period (CONT'D)
sun dec 26, 2010 (cont'd) serving size calories
FAT CARB. PROTEIN
(IN GRAMS)
Breakfast Scrambled eggs with cheese, spinach, peppers O Serving 186 10g 3g 22g
Capuccino, Small 1 Serving 49 2 5 3
Totals for this meal: 235 1 2 8 2 5
AM Snack EAS Vanilla Protein Powder 1 Serving 120 2 3 23
Blueberries, Wild, Frozen O Cup 36 O 10 O
Planters Brittle Nut Medley 1 Tbsp 50 3 4 1
STONYFIELD FARM Organic Low Fat Vanilla Yoqurt 1 Ounce 23 0 4 1
Cranberries, Raw 1 Cup 38 0 10 0
Totals for this meal: 267 5 3 1 2 5
Lunch Progresso Light Beef Pot Roast Soup 2 Serving 160 2 24 14
Mocha 1 Sērving 103 1 18 6
Totals for this meal: 263 3 4 2 2 0
PM Snack Planters Brittle Nut Medley 1 Tbsp 50 3 4 1
Supreme Protein Caramel Nut Chocolate bar 1 Bar 200 8 18 15
Totals for this meal: 250 1 1 2 2 1 6
Dinner Salad, Mixed Baby Greens with Arugula, Butterhead, E... 3 Cup 22 0 4 2
Mahi Mahi, Dolphinfish or Dorado, Cooked, Dry Heat 4 Ounce 124 1 0 27
Sauce, Tomato, with Mushrooms, Canned O Cup 43 O 10 2
Tomato, Cherry, Fresh 15 Item 46 1 10 2
Good seasons dressing 1 Tbsp 75 7 2 0
Honeydew Melon 3 Ounce 31 0 8 0
Pasta, Ziti, Enriched, Dry 1 Cup 220 1 44 8
Pepper, Bell or Sweet, Red O Cup 6 0 1 0
Tomato, Red 1 Item 22 0 5 1
Totals for this meal: 589 1 0 8 4 4 2
```

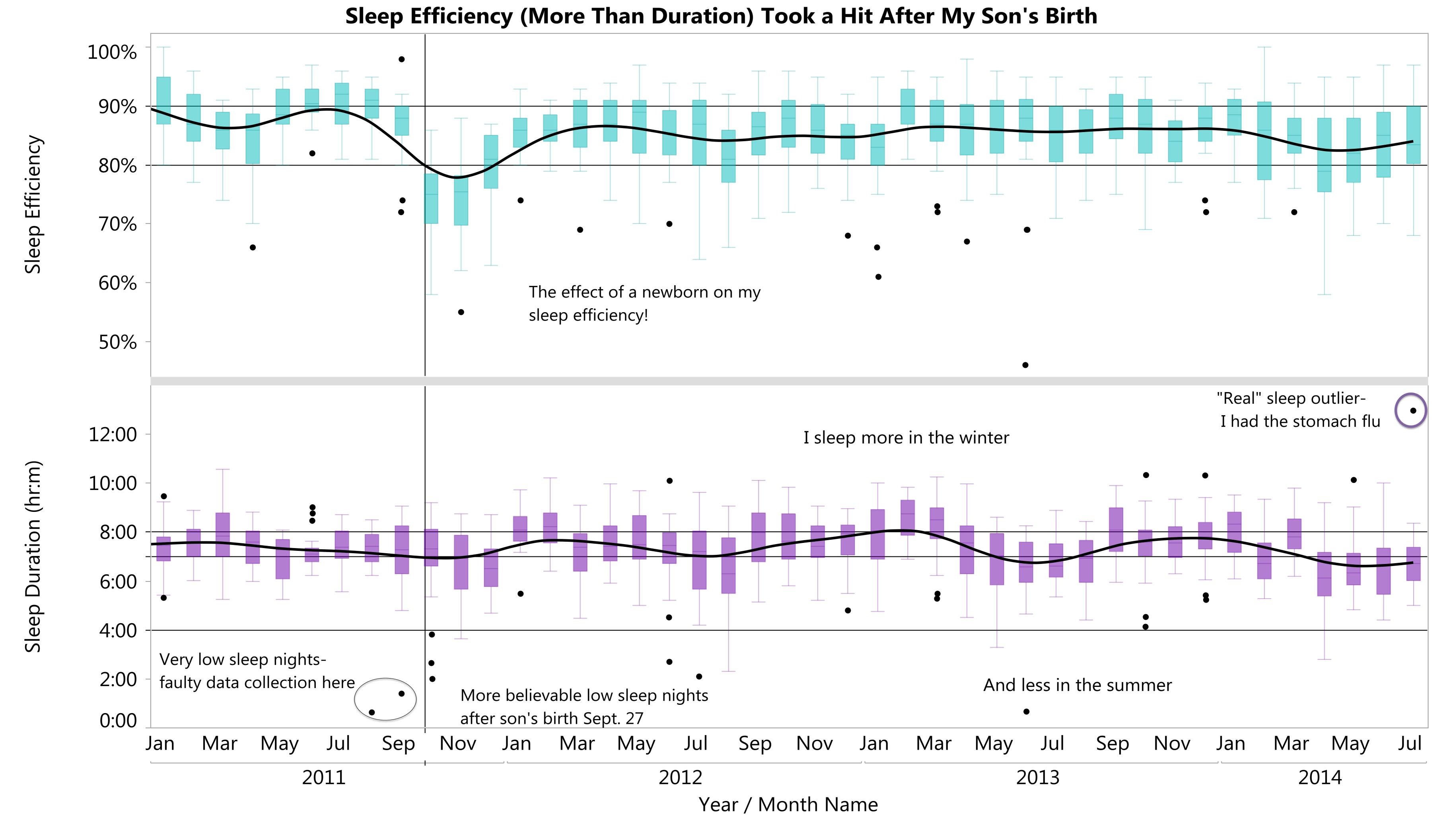
Combined Excel 7-28 ▷	\mathbb{I}^{4}	•			Calories		Calories					
▼ Source				Calories	Burned	Calories	Consumed	Excess Calories	Physical		Average	Sedentary (up
cals vs compliance	 		Date	Burned	(filtered)	Consumed	(filtered)	Eaten (filtered)		Steps	METs	to 3 METs)
■ Scatterplot Matrix	.	19	01/08/2011	2830	2830	1770	1770	-1060	3:48	7842	1.86	20:12
■ Percent Onbody vs Step ■ No. 11: 11: 11: 11: 11: 11: 11: 11: 11: 11		20	01/09/2011	2360	2360	2732	2732	372	1:43	6584	1.54	22:17
✓ Multivariate ✓ Columns (38/0)	•	21	01/10/2011	2005	2005	1512	1512	-493	1:00	1863	1.3	23:00
Date	•	22	01/11/2011	2315	2315	1763	1763	-552	2:12	4176	1.5	21:48
△ Calories (5/0)	•	23	01/12/2011	1917	1917	1671	1671	-246	0:37	2988	1.24	23:23
∠a Calories Burned √∞	•	24	01/13/2011	2131	2131	1546	1546	-585	1:16	3571	1.38	22:44
∠a Calories Burned (filte)	•	25	01/14/2011	2080	2080	1583	1583	-497	0:59	5386	1.35	23:01
	•	26	01/15/2011	2735	2735	2649	2649	-86	2:36	7009	1.79	21:24
	•	27	01/16/2011	2183	2183	1919	1919	-264	1:24	4660	1.43	22:36
▲ Excess Calories Eaten Activity (6/0)	•	28	01/17/2011	2223	2223	1919	1919	-304	1:43	1390	1.46	22:17
Compliance (3/0)		29	01/18/2011	2176	2176	2398	2398	222	1:38	2317	1.42	22:22
⊿ Sleep (5/0)	•	30	01/19/2011	2397	2397	1935	1935	-462	1:36	4898	1.57	22:24
▲ Lying Down **	•	31	01/20/2011	2019	2019	2438	2438	419	0:40	5524	1.32	23:20
▲ Lying Down (filtered)	•	32	01/21/2011	2062	2062	1979	1979	-83	0:57	6599	1.35	23:03
✓ Sleep Duration ★	•	33	01/22/2011	2608	2608	2169	2169	-439	2:24	6851	1.71	21:36
✓ Sleep Efficiency * ✓ Columbia	•	34	01/23/2011	2330	2330	2528	2528	198	1:33	5075	1.53	22:27
Macros (4/0) ■ Macros (4/0)	•	35	01/24/2011	2244	2244	1998	1998	-246	1:31	7214	1.47	22:29
⊿ % from Protein *	•	36	01/25/2011	2337	2337	2500	2500	163	1:17	317	1.53	22:43
⊿ % from Carbs *	•	37	01/26/2011	2269	2269	1850	1850	-419	1:39	5826	1.49	22:21
✓ % from Fat ★	•	38	01/27/2011	1955	1955	1763	1763	-192	0:34	1045	1.27	23:26
	•	39	01/28/2011	2152	2152	1740	1740	-412	1:07	3821	1.39	22:53
Rows	•	40	01/29/2011	2326	2326	1476	1476	-850	2:07	2763	1.53	21:53
All rows 1,316	•	41	01/30/2011	2345	2345	1655	1655	-690	1:33	4630	1.54	22:27
Selected 0		42	01/31/2011	2037	2037	1713	1713	-324	0:42	566	1.34	23:18
Excluded 19	•	43	02/01/2011	2169	2169	1808	1808	-361	1:45	3750	1.42	22:15
Hidden 19	•	44	02/02/2011	2237	2237	1585	1585	-652	1:40	7888	1.47	22:20
Labelled 0			1									

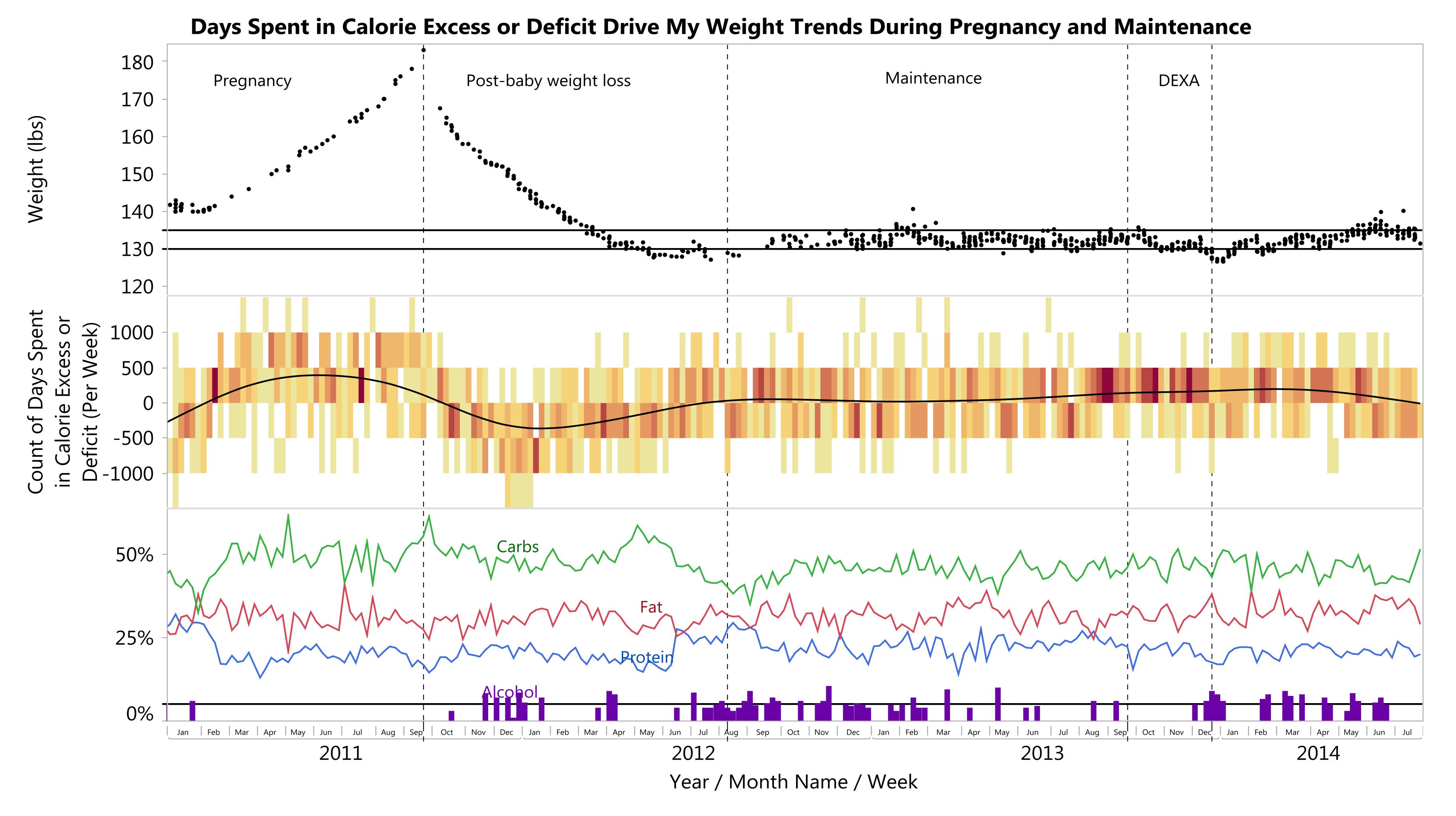
Date	Meal	Item Name	Cleaned Item Name	Primary Food Category	Cleaned Food Category	Calories	Fat	Carb	Protein
12/21/2010	Breakfast	Honey	Honey	Sugar	Sugar	21	0	6	0
12/21/2010	Breakfast	Greek yogurt (Fage, plain)	Greek Yogurt, Plain, Nonfat	Dairy	Yogurt	60	0	5	1
12/21/2010	Breakfast	Capuccino, Small	Cappuccino	CoffeeMilk	Coffee,Milk	49	2	5	3
12/21/2010	AM Snack	Ground beef, grass fed	Beef, ground, grass fed	Meat	Beef	162	12	0	1
12/21/2010	AM Snack	Capuccino, large, nonfat	Cappuccino	CoffeeMilk	Coffee,Milk	43	0	6	4
12/21/2010	AM Snack	GREEN GIANT Black Beans, Canned	Beans, Black, Canned	Bean	Bean	45	0	9	3
12/21/2010	AM Snack	Onions, Chopped	Onions, Chopped	Vegetable	Vegetable	32	0	7	1
12/21/2010	AM Snack	Pepper, Bell or Sweet, Red	Pepper, Bell or Sweet, Red	Vegetable	Vegetable	23	0	4	1
12/21/2010	AM Snack	Oil, Olive	Oil, Olive	Fat	Fat	30	3	0	0
12/21/2010	Lunch	Capuccino, large, nonfat	Cappuccino	CoffeeMilk	Coffee,Milk	43	0	6	4
12/21/2010	Lunch	Shrimp, Steamed	Shrimp, Mixed Species, Cooked	Seafood	Seafood	27	0	0	5
12/21/2010	Lunch	Planters Brittle Nut Medley	Candy, Brittle Nut Medley	Candy	Candy, Nut	50	3	4	1
12/21/2010	Lunch	Protein bar, peanut butter crunch	Protein Bar, Peanut Butter Crunch	Supplement	Supplement	190	9	13	1
12/21/2010	Dinner	Butternut squash soup	Buttercup Squash Soup	Fruit	Fruit	220	2	44	4
12/21/2010	Dinner	Salad, Mixed Baby Greens with Arugula, Butterh	Salad, Mixed Baby Greens with Arugula	Vegetable	Vegetable	22	0	4	2
12/21/2010	Dinner	Pepper, Bell or Sweet, Red	Pepper, Bell or Sweet, Red	Vegetable	Vegetable	26	0	5	1
12/21/2010	Dinner	ATHENOS Feta Cheese, Crumbled	Cheese, Feta	Dairy	Cheese	22	2	0	2
12/21/2010	Dinner	Greek yogurt (Fage, plain)	Greek Yogurt, Plain, Nonfat	Dairy	Yogurt	60	0	5	1
12/21/2010	Dinner	Sugar snap peas	Snap Peas	Vegetable	Vegetable	35	0	6	2
12/21/2010	Dinner	Green Giant antioxidant blend	Vegetables, Snap Peas, Peppers, Broccoli, C	Vegetable	Vegetable	50	3	7	1
12/21/2010	Dinner	Good seasons dressing	Dressing, Balsamic Vinaigrette	Sauce	Dressing	75	7	2	0





Measurements of Physical Activity Are Confounded By Trying to Avoid Armband Tan Lines 3:00 2:00 It looks like I am much less active in summer... 1:00 0:00 24:00 21:00 ...but I just wear the armband less! 18:00 Mean Time Onbody 15:00 12:00 9:00 6:00 3:00 0:00 Dec Feb Jun Aug Oct Dec Feb Apr Jun Aug Oct Dec Feb Apr Jun Jun Aug Oct Dec Feb Apr 2010 2011 2012 2013 2014 Year / Month Name





The Rise and Fall of Bread Category Items in My Food Log



Combined Treemap with Item Names

Treemap of Breakfast

Items by Year

Primary Food Category

Most Commonly Logged Foods from 2011-2014 Include Habitual Breakfast Items and Chocolate Candy Greek Yogurt, Plain, Nonfat Candy, M&M Pean Candy, Dark C Buttercup Sq Squash, Spag Blueberri Pizza, Cheese Chili, White Mocha, Salted Caramel hocolate uash Soup hetti, Cooked, Chicken ut Chocolate Squash, Buttern Peach Summer Lt Squa Sand Burr Pan Rat San Chi Straw Water Pine Cher CoffeeMilk wich, Combination Che Sou Squ Ban Squash, Butte Appl Blu Me Ra Yo Cr rnut, Baked Chips, Semisweet C Candy, M&M Moch Mo Mo Cappuccino, Yogurt, Chocolat Cheese, Chedda Milk, Reduced hocolate Plain Chocola Decaffeinated -Capp Ca M **ChocolateCandy** Dairy e Coconut with Fat 2% Caramel Sauce Wine, Chardonnay Cocoa Powder, Unsw Peanuts, Ho Almon Snap Peas Greek Yol Greek Yog Cheese, Bl ell or Swe ney Roasted eetened Candy, Choc Candy Bar, Candy, gurt, Toa urt, Fruit Si et, Red olate Peanut Dark Chocol Chocola Carrot Tomat Seawee Vegeta sted Coc Chees Milk, S Greek PB2 Pe Reanu Bar, Fr Cream, Half and onut Va e, Moz CalDrink **Butter Cups** te with Chocolate ate Raw anut B **t Butt** uit an Vegetable Mu As Half Milk, Chee Ch Can Cand Cand Can Cheese, Chees Wine, Wine Win Wi Nuts, P Peca Alm Nut Truffle, Capp dy B Salad, Parmesa e, Goat Rieslin <u>F</u> istachi ns ond sw uccino n, Grate Chees e, Colb ese, Gr Brussel Be Pi V - FFF Omega-3 Fish Oil Oats, Qui Rice, Chick' Bar, F Cookie, Cook Coo /, Org Cas Softgel Capsule ck, Dry Brown Muffin, Chocolate Chi Chicken, Breast, Meat Scone, Maple Oat Nut Chocol lie, B kie, Chicken, D ark Meat Cheesecak Chees Cake, Chee Po Ri ate Cookie p Cherry Grain _ Only, Roasted Only, Roas e, Plain ecake, Choco seca Popcorn, Kettle ted Cake, Cupc Cak Fr Cracker, Tort Cra Fries, S Potato, Egg, Raw Egg Dessert Fr **RootVeget** Bread, Cal Bread, Browni Biscot Bread Bana Brea Cracker Egg Faa Pita |na Br |d, Ita rrot, Ban | Pump | ablet Cracker, Pork, Meat Beef, Sir Turkey, Meatb Cupc Only, Roas IoiMeathreast, | alls Frosting, colate Ch otein Powder, Sushi, T Flou Tun Ice Cr Ice C parable Meat O Roll Bag Bre Cor Muf Sco Vanilla Choc Scon una Sushi, S IceCrea Dressing, Sauce, Caramel Sau Beef, Beef, Beef, Beef, Ban Bre Rol Wa Bre Mu Beef, grou Balsamic Rib Ey Scone, P Scone, Brea Supplement picy Tu Tun C Turk Sau Ha Ba Vinaigrett Suga Seed, Flax Se Bean Protein Gum Prot Honey Bacon Pork, Ham, Pork, Beef Bee TIT B tter Chip SCC Bar, Car my ein Sugar Cured, Sp Bison Su M Seeds, Pu a Protein Pr Pro Pr

Return to poster

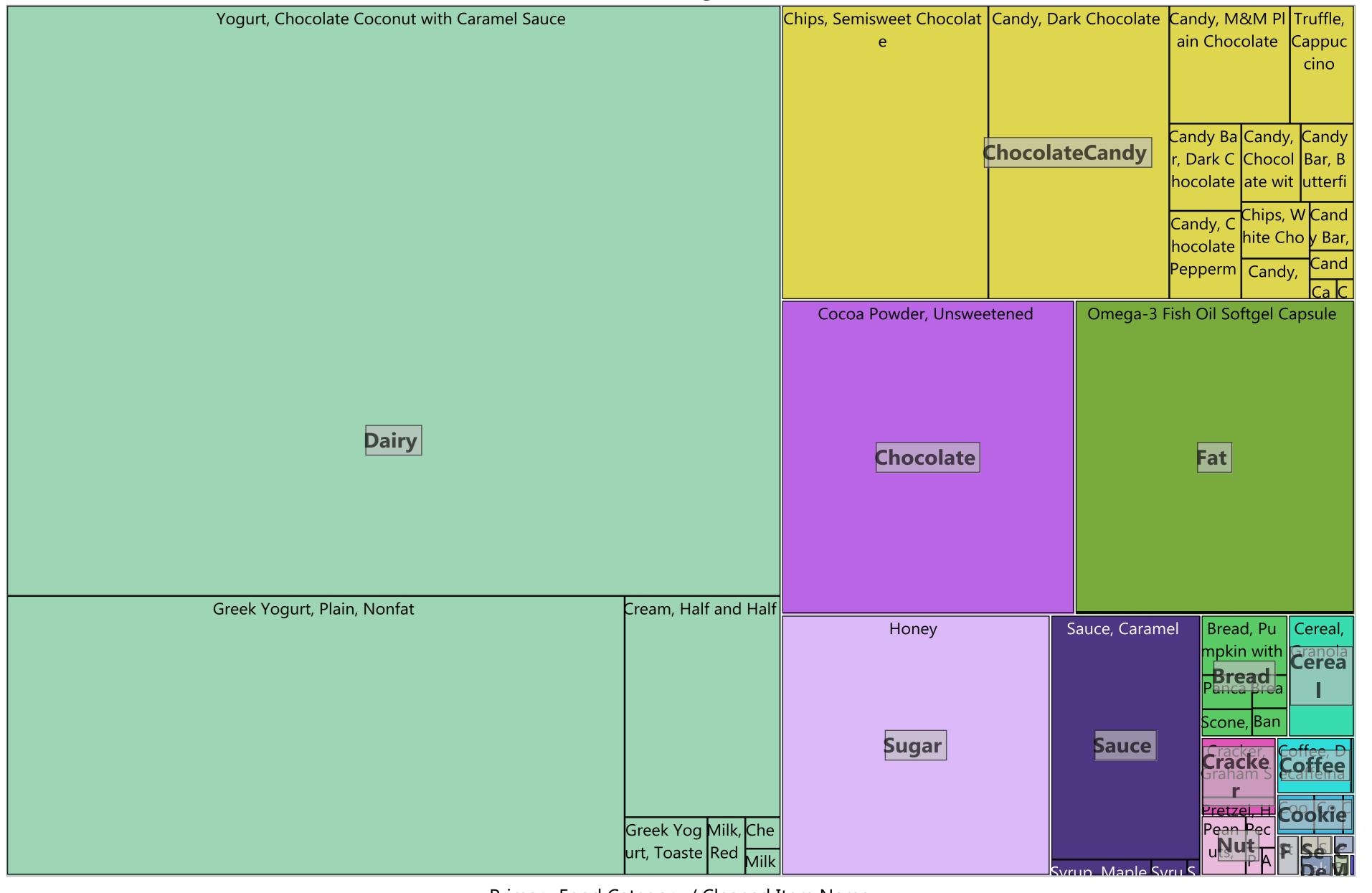
Treemap of Breakfast

Items by Year

Primary Food Category / Cleaned Item Name

Scones and Salted Caramel Mocha: Breakfast Items of Choice in 2011 Scone, Maple Oat Nut Bread, Carrot Bagel, Asiago Par Mocha, Salted Caramel Oats, Quick, Dry Cappuccino Farro mesan Cappuccino, Banana Bread Bagel, Cinna Scone, Pum Oats, Steel Decaffeinate Grain CoffeeMilk mon Raisin | pkin (home Cut, Dry made) Mocha, Deca Bread Mul Scone, Fr Croissan Bread, C Rice, B Oats Cappuc Moc ti-grain uited Oat t, Butter arrot, Ba Bread, Bagel, Pancak Scone, Blueberries Blueberries Seed, Flax Nuts, Pista Almonds Pumpk Multi- e, Plai Choco Wild, Froz Bread, Whi in with of Total Calorie Seed Pecans Cherries Prunes, D Peach Melon , Sweet rie**Fruit** Cherries Banan Pump Tropi , Dried a kin, C cal M Cereal, Cracki Cereal, Juice, Orange Glucose Sausag Bacon, Pork, Juice (tele, Chick Pan Fried Greek Yogurt, Plain, Nonf Greek Yogurt, Fruit Single Milk, Skim Yogurt, CalDrink ce, R en, BreaMeat ow Fat, Raspber Organic Pizza, Cheese Salsa, Bla Ve Spi Syrup, Syru Greek Yog Cheese, C Cer Ce Ce Combinat Vegetable Egg, Raw urt, Vanilla heddar Dairy Chocolate Milk, Lo Chees Cotta Egg Sugar, Brown Eggs, Sc ramble Milk, Reduced Fat 2% Candy w Fat, 1 e, Col ge C Supplement

It's a Clear Case of Addiction...Greek Yogurt Dominates 2014 Breakfasts



Primary Food Category / Cleaned Item Name

Eggs, Sc

Protein Bar, C Proteir

Primary Food Category / Cleaned Item Name

Where(Year = 2011 and Meal = Breakfast)

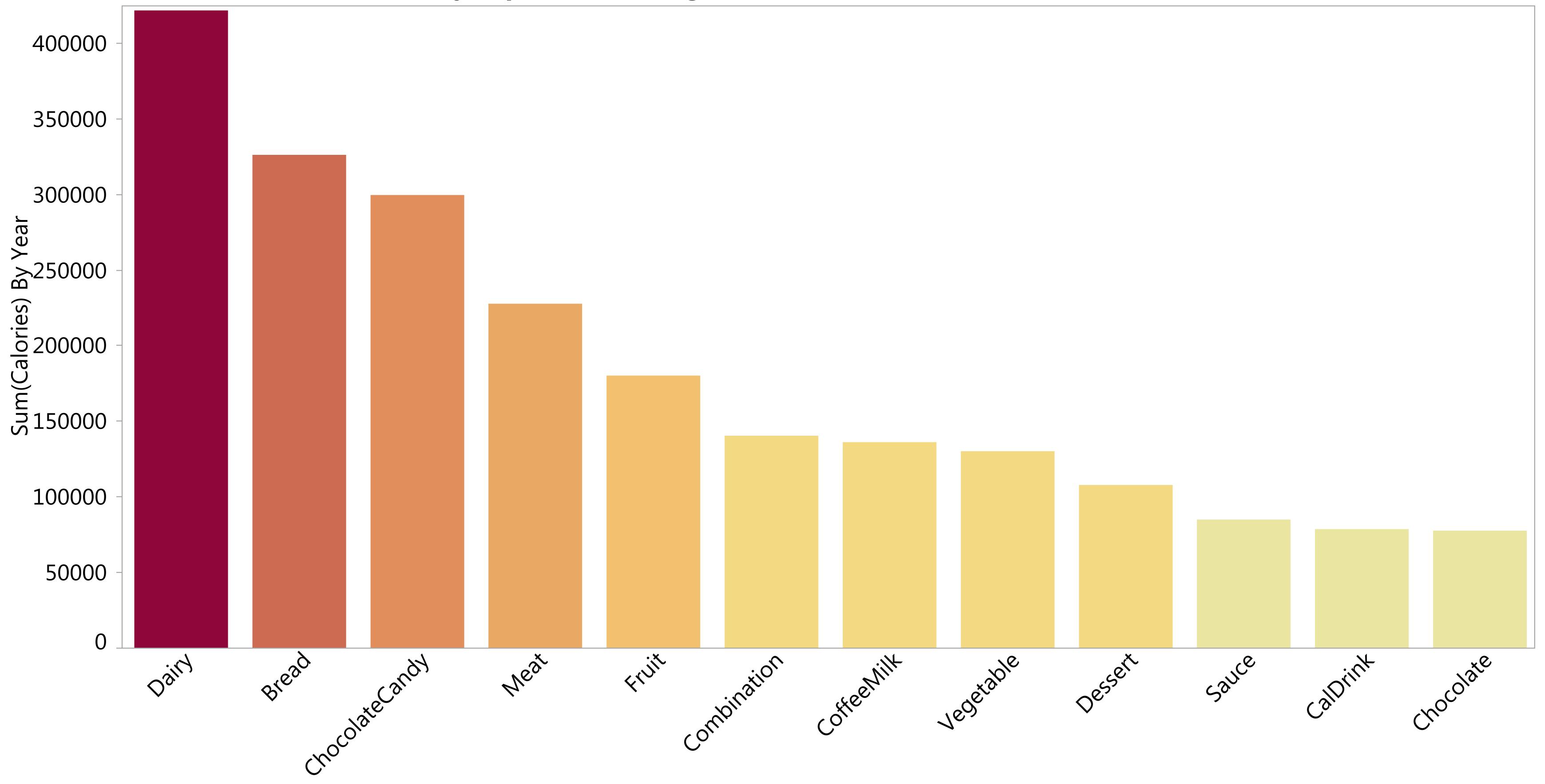
Where(Year = 2014 and Meal = Breakfast)

HSugar Cake, Cinna Fr Beans

Dessert

Ban L Coo Di

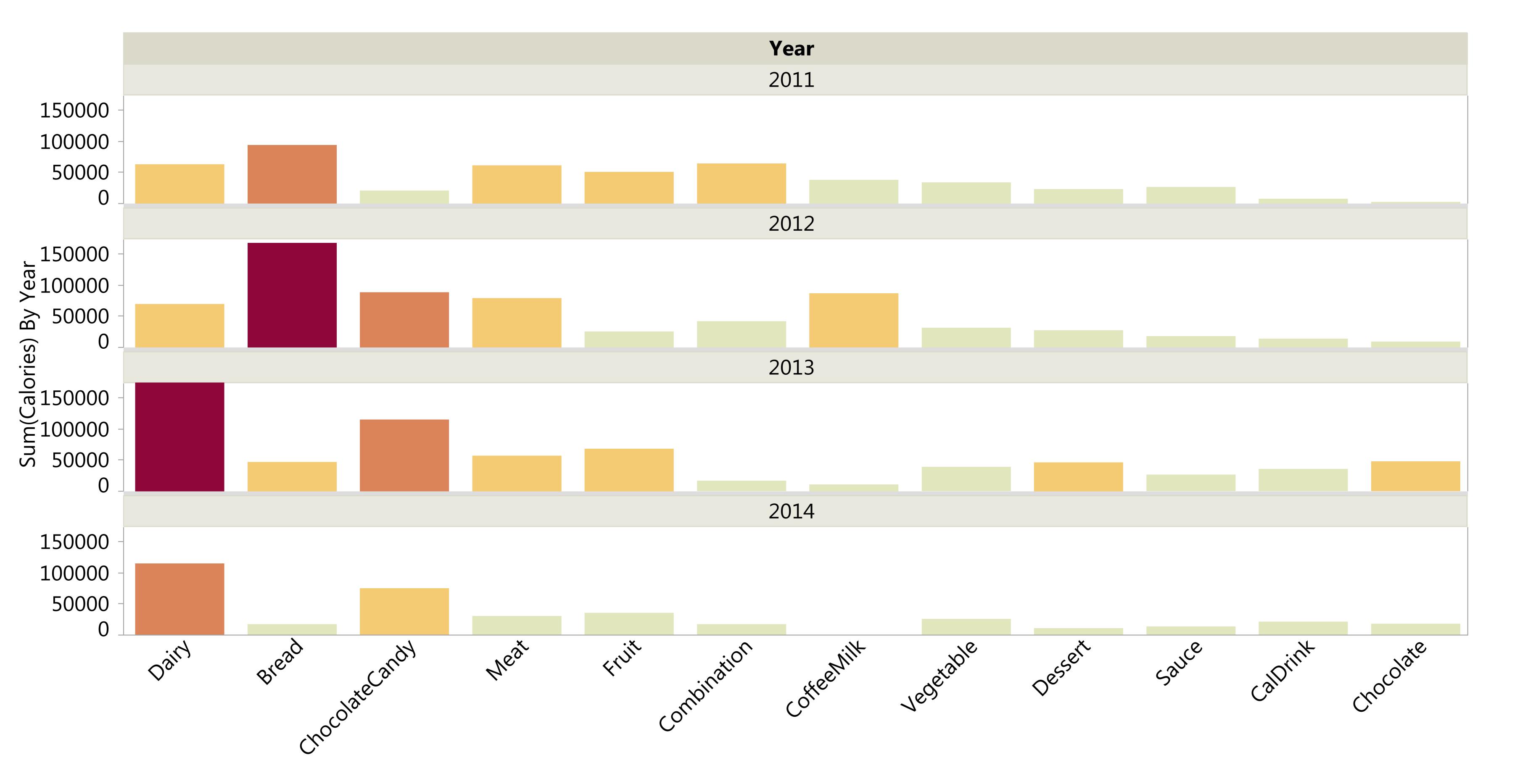
My Top 12 Food Categories Over All Meals and All Years



Primary Food Category

Return to poster

Year by Year View



Primary Food Category

Pregnancy and Post-baby Weight Loss Trends Come to Life with Pictures 180 Trimester: First Trimester: Post Year: 2011 (lbs) Meek (lbs) 160 Year: 2011 Weight (lbs): 145 Weight (lbs): 162.1 Weight Per 140 Trimester: Third

Jul

Jun

2011

Trimester: Second

Weight (lbs): 158.5

Year: 2011

May

Sean 130

120

Dec

2010

Jan

Feb

Mar

Apr

Year: 2011

Aug

Weight (lbs): 178

Year / Month Name

Sep

Feb

Mar

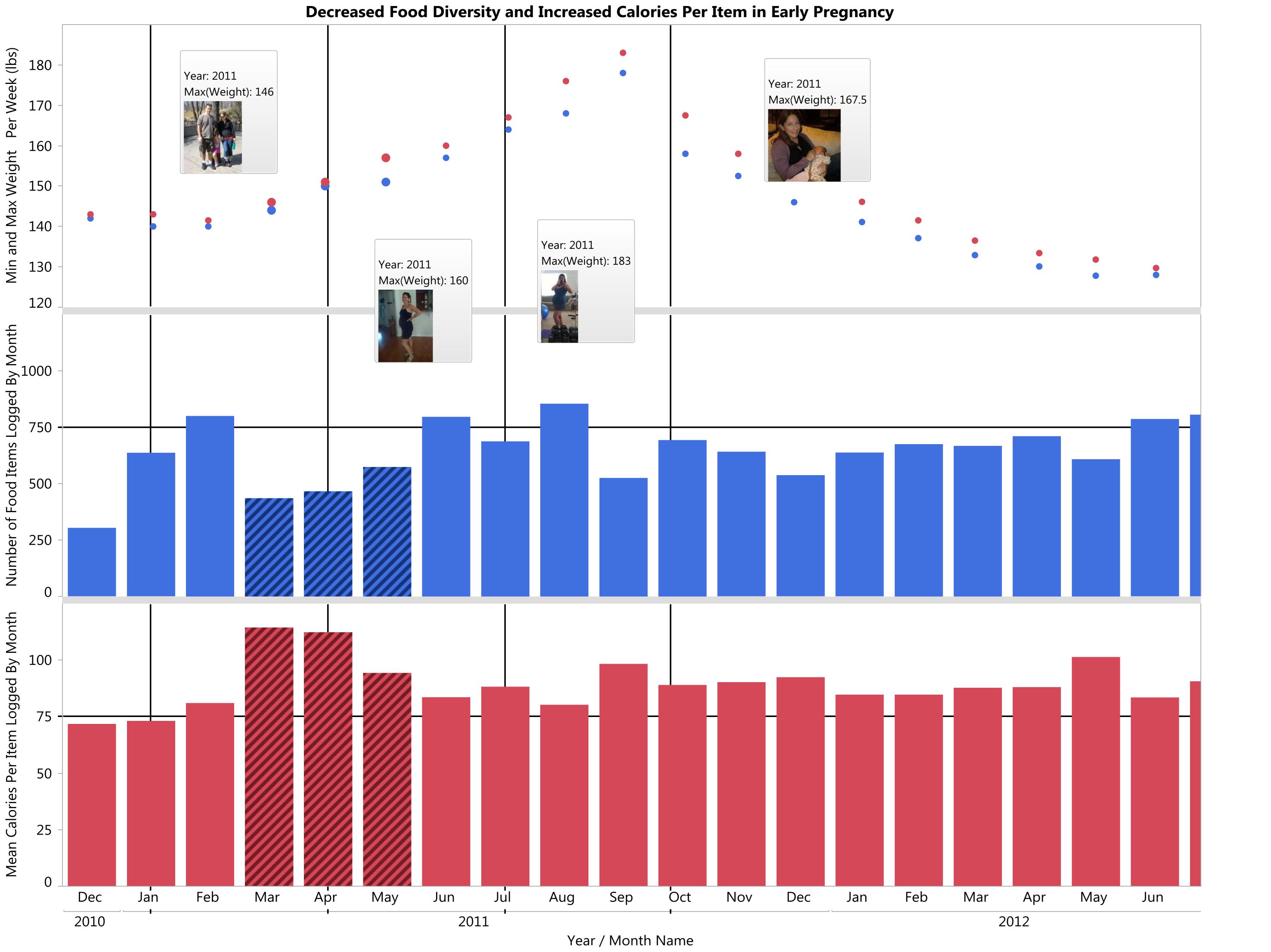
2012

Dec

Jan

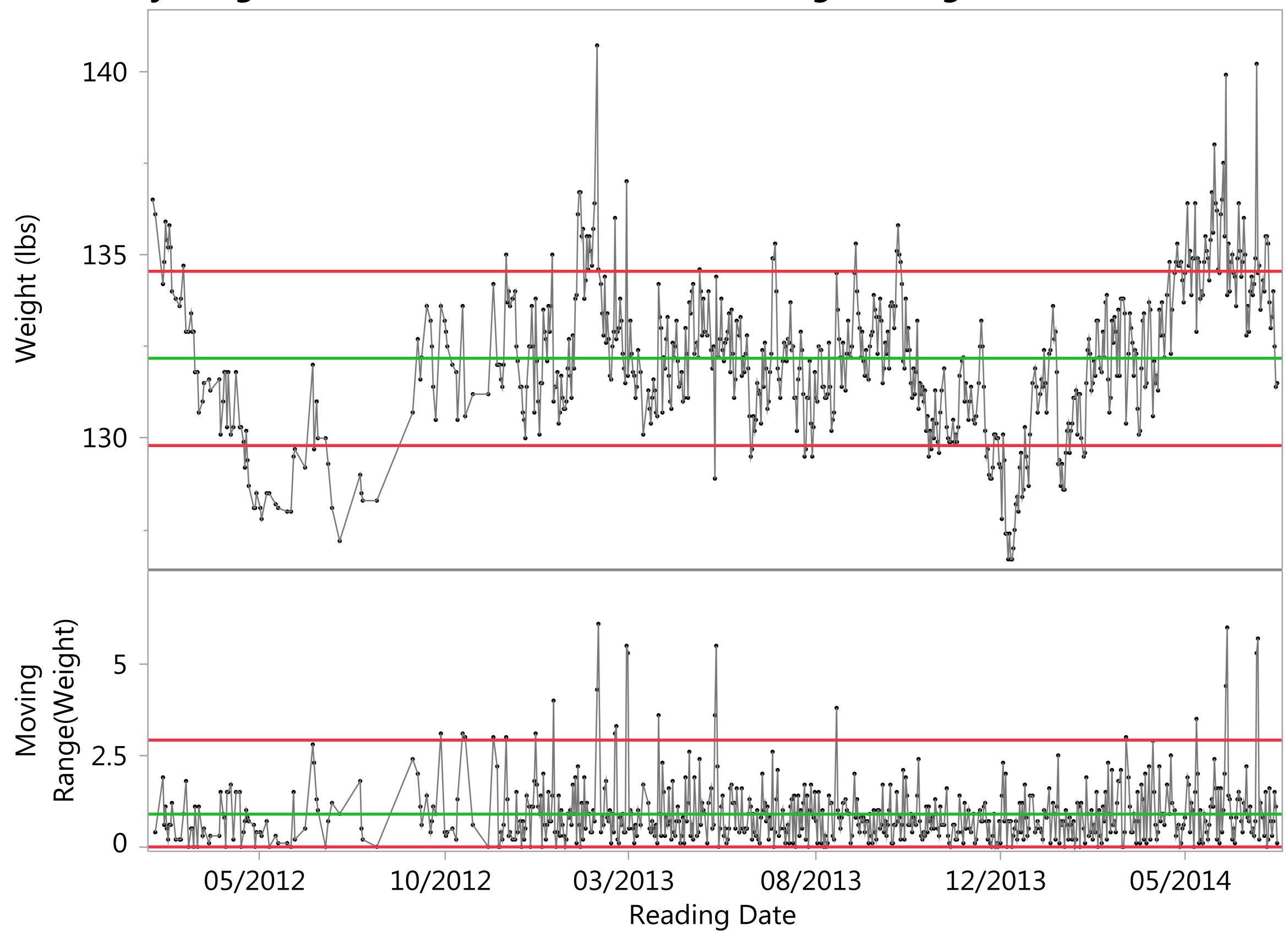
Nov

Oct

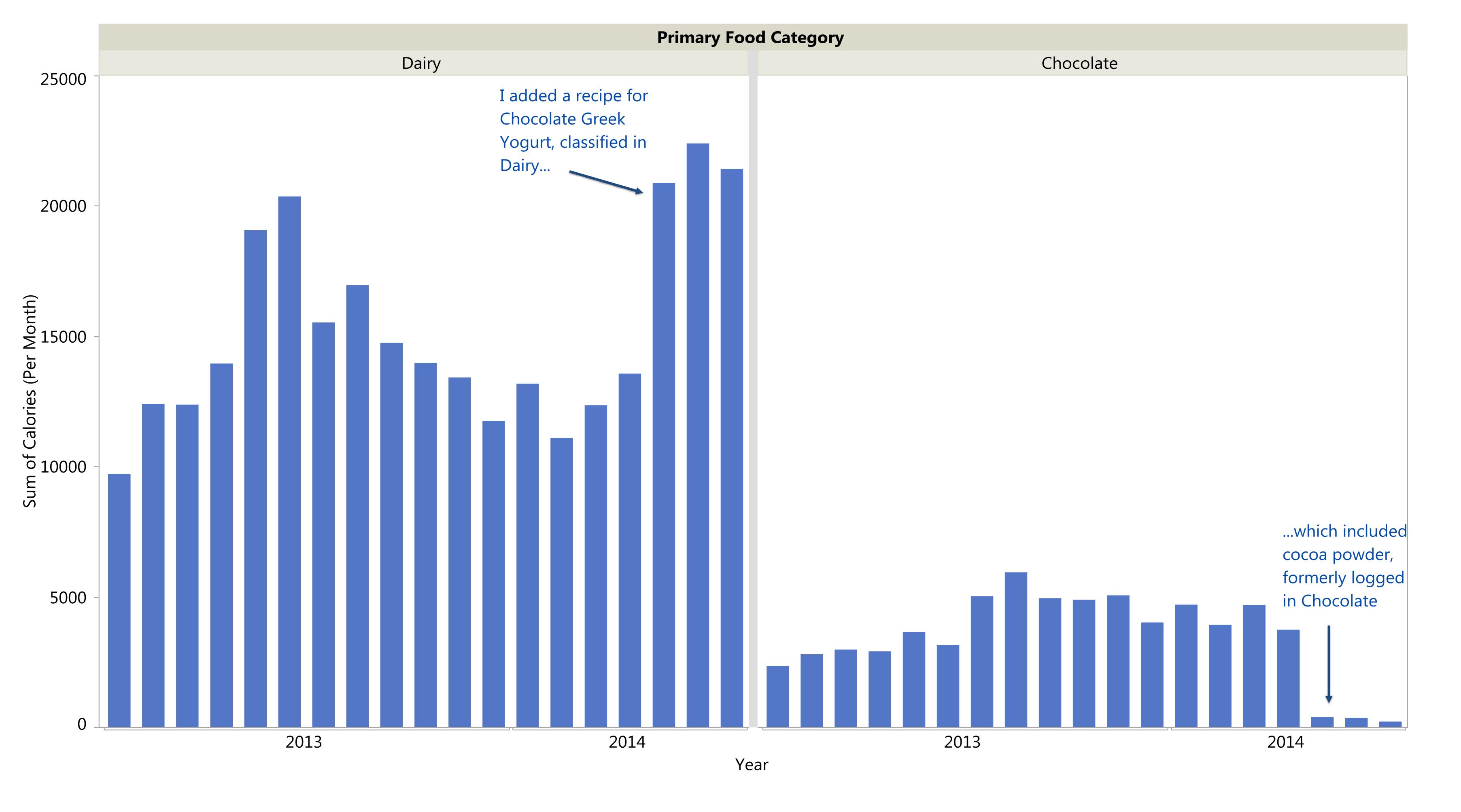


Return to poster

My Weight Has Fluctuated Within a Small Range During Maintenance



Weight Read	Weight Reading Limit Summaries											
Points												
plotted	LCL	Avg	UCL	Limits Sigma	Sample Size							
Individual	129.8	132.2	134.6	Moving Range	1							
Moving Range	0	0.893	2.917	Moving Range	1							



Switching from Mochas to Chocolate Greek Yogurt Influences Category Trends Despite Highly Similar Ingredient Lists **Primary Food Category** Dairy CoffeeMilk Chocolate 25000 **Chocolate Greek Yogurt Recipe Created** Yogurt (plain and vanilla coconut) Cocoa Powder SF caramel syrup 20000 Caramel sauce **Decaf Salted Caramel Greek yogurt Mocha Recipe** Used in Decaf espresso chocolate Milk Greek yogurt Cocoa Powder before recipe Toffee Nut syrup creation Caramel sauce Cocoa Powder Used in chocolate Greek yogurt before Early recipe creation Pregnancy Coffee 5000 Aversion 2011 2014 2011

Voar