



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



Click pictures
to zoom



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
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 161 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: 200 11 22 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
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 0 cup 6 0 1 0
Tomato, Red 1 item 22 0 5 1
Totals for this meal: 589 1 0 8 4 4 2

Raw Data Files

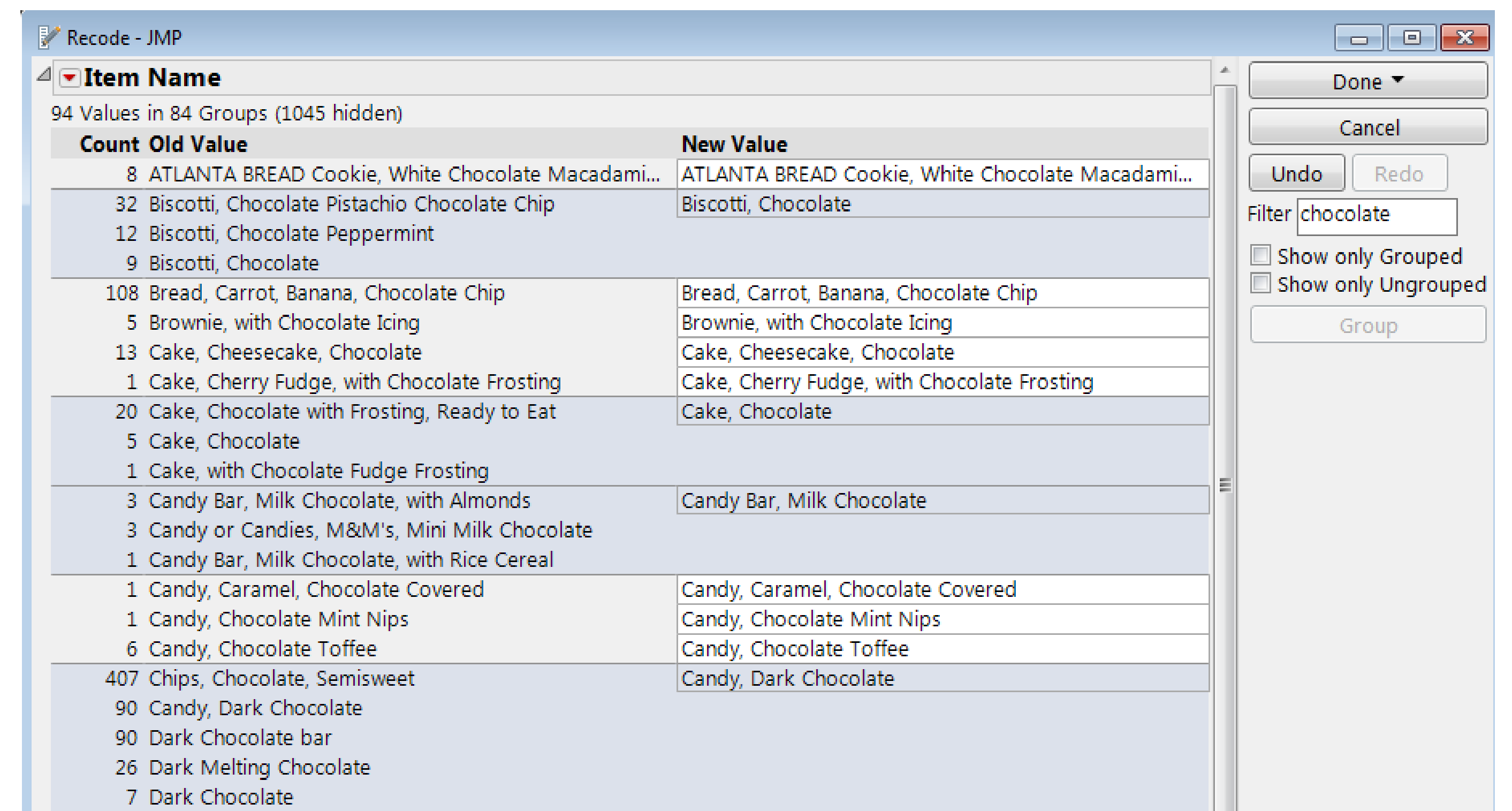
- 49 Excel workbooks of summary data
 - 6 different worksheets (activity, sleep, etc..)
 - Imported an example of each sheet interactively to create a JSL template
 - Constructed an import and concatenation loop using an example from a SESUG paper by Michael Hecht ²
 - Added data and modeling types, column formats and missing value codes via JSL

| | A | B | C | D | E | F | G |
|----|------------|-----------------|-------------------|-------------------|-------|-------------|----------------|
| 4 | Date | Calories Burned | Calories Consumed | Physical Activity | Steps | Time Onbody | Percent Onbody |
| 6 | 12/21/2010 | 2060 | 1483 | 0 05 | 383 | 2 08 | 9% |
| 7 | 12/22/2010 | 2258 | 1958 | 1 31 | 5999 | 20 37 | 89% |
| 8 | 12/23/2010 | 2252 | 2459 | 2 15 | 4895 | 22 22 | 93% |
| 9 | 12/24/2010 | 2225 | 1951 | 1 55 | 2368 | 12 46 | 53% |
| 10 | 12/25/2010 | 2144 | 1881 | 1 17 | 4047 | 12 51 | 54% |
| 11 | 12/26/2010 | 2694 | 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 | 2680 | 1717 | 2 10 | 5175 | 22 04 | 92% |
| 16 | 12/31/2010 | 2630 | 1924 | 1 54 | 8854 | 21 52 | 91% |
| 17 | 01/01/2011 | 2695 | 1836 | 2 44 | 8857 | 22 37 | 94% |
| 18 | 01/02/2011 | 2417 | 3000 | 1 23 | 4016 | 23 08 | 96% |
| 19 | 01/03/2011 | 2348 | 1492 | 1 18 | 6106 | 22 28 | 94% |
| 20 | 01/04/2011 | 2127 | 1574 | 0 58 | 5128 | 20 18 | 85% |
| 21 | 01/05/2011 | 1809 | 1504 | 0 26 | 3488 | 22 43 | 95% |
| 22 | 01/06/2011 | 1934 | 1396 | 0 33 | 3794 | 23 06 | 96% |
| 23 | 01/07/2011 | 2002 | 2063 | 0 44 | 3016 | 22 59 | 96% |
| 24 | 01/08/2011 | 2630 | 1770 | 3 48 | 7842 | 20 30 | 85% |
| 25 | 01/09/2011 | 2360 | 2752 | 1 43 | 6934 | 21 58 | 92% |
| 26 | 01/10/2011 | 2005 | 1512 | 1 00 | 1863 | 23 11 | 97% |
| 27 | 01/11/2011 | 2315 | 1763 | 2 12 | 4178 | 23 10 | 97% |
| 28 | 01/12/2011 | 1917 | 1671 | 0 37 | 2889 | 23 15 | 97% |
| 29 | 01/13/2011 | | | | | | |

| 4 | Date | Calories Burned | Calories Consumed (Filtered) | Calories Consumed | Calories Consumed (Filtered) | Excess Calories (Filtered) | Physical Activity | Steps | Average METs | Sedentary up to 1 MET |
|----|------------|-----------------|------------------------------|-------------------|------------------------------|----------------------------|-------------------|-------|--------------|-----------------------|
| 6 | 12/21/2010 | 2060 | 1483 | 1770 | 1770 | 290 | 0 05 | 383 | 0 05 | 20 12 |
| 7 | 12/22/2010 | 2258 | 1958 | 2380 | 2380 | 272 | 1 31 | 5999 | 1 31 | 20 37 |
| 8 | 12/23/2010 | 2252 | 2459 | 2005 | 2005 | 1512 | 2 15 | 4895 | 1 51 | 21 06 |
| 9 | 12/24/2010 | 2225 | 1951 | 1763 | 1763 | 452 | 1 55 | 2368 | 1 55 | 21 46 |
| 10 | 12/25/2010 | 2144 | 1881 | 1617 | 1617 | 564 | 1 17 | 4047 | 1 17 | 21 53 |
| 11 | 12/26/2010 | 2694 | 2372 | 1544 | 1544 | 1150 | 3 07 | 7504 | 1 38 | 22 44 |
| 12 | 12/27/2010 | 2425 | 2069 | 1581 | 1581 | 888 | 1 38 | 6388 | 1 38 | 23 05 |
| 13 | 12/28/2010 | 2638 | 2660 | 1581 | 1581 | 1079 | 3 17 | 6880 | 1 38 | 23 05 |
| 14 | 12/29/2010 | 2631 | 1362 | 2049 | 2049 | 682 | 3 15 | 5675 | 1 38 | 23 05 |
| 15 | 12/30/2010 | 2680 | 1717 | 1529 | 1529 | 1151 | 2 10 | 5175 | 1 40 | 23 06 |
| 16 | 12/31/2010 | 2630 | 1924 | 1593 | 1593 | 1037 | 1 54 | 8854 | 1 40 | 23 06 |
| 17 | 01/01/2011 | 2695 | 1836 | 1593 | 1593 | 1102 | 2 44 | 8857 | 1 40 | 23 07 |
| 18 | 01/02/2011 | 2417 | 3000 | 1576 | 1576 | 824 | 1 23 | 4016 | 1 40 | 23 07 |
| 19 | 01/03/2011 | 2348 | 1492 | 1593 | 1593 | 755 | 1 18 | 6106 | 1 40 | 23 07 |
| 20 | 01/04/2011 | 2127 | 1574 | 1593 | 1593 | 531 | 0 58 | 5128 | 1 40 | 23 07 |
| 21 | 01/05/2011 | 1809 | 1504 | 1593 | 1593 | 216 | 0 26 | 3488 | 1 40 | 23 07 |
| 22 | 01/06/2011 | 1934 | 1396 | 1593 | 1593 | 341 | 0 33 | 3794 | 1 40 | 23 07 |
| 23 | 01/07/2011 | 2002 | 2063 | 1593 | 1593 | 410 | 0 44 | 3016 | 1 40 | 23 07 |
| 24 | 01/08/2011 | 2630 | 1770 | 1593 | 1593 | 1037 | 3 48 | 7842 | 1 40 | 23 07 |
| 25 | 01/09/2011 | 2360 | 2752 | 1593 | 1593 | 1159 | 1 43 | 6934 | 1 40 | 23 07 |
| 26 | 01/10/2011 | 2005 | 1512 | 1593 | 1593 | 419 | 1 00 | 1863 | 1 40 | 23 07 |
| 27 | 01/11/2011 | 2315 | 1763 | 1593 | 1593 | 720 | 2 12 | 4178 | 1 40 | 23 07 |
| 28 | 01/12/2011 | 1917 | 1671 | 1593 | 1593 | 324 | 0 37 | 2889 | 1 40 | 23 07 |
| 29 | 01/13/2011 | | | 1593 | 1593 | 0 | | | 1 40 | 23 07 |

| 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 | Capuccino | Coffee/Milk | Coffee/Milk | 48 | 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 | Capuccino | Coffee/Milk | 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 | Capuccino | Coffee/Milk | 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 | Lunch | Butternut squash soup | Butternut Squash Soup | Fruit | Fruit | 220 | 2 | 44 | 4 |
| 12/21/2010 | Dinner | Salad, Mixed Baby Greens with Arugula, Butterhead... | 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 | 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 |

- 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



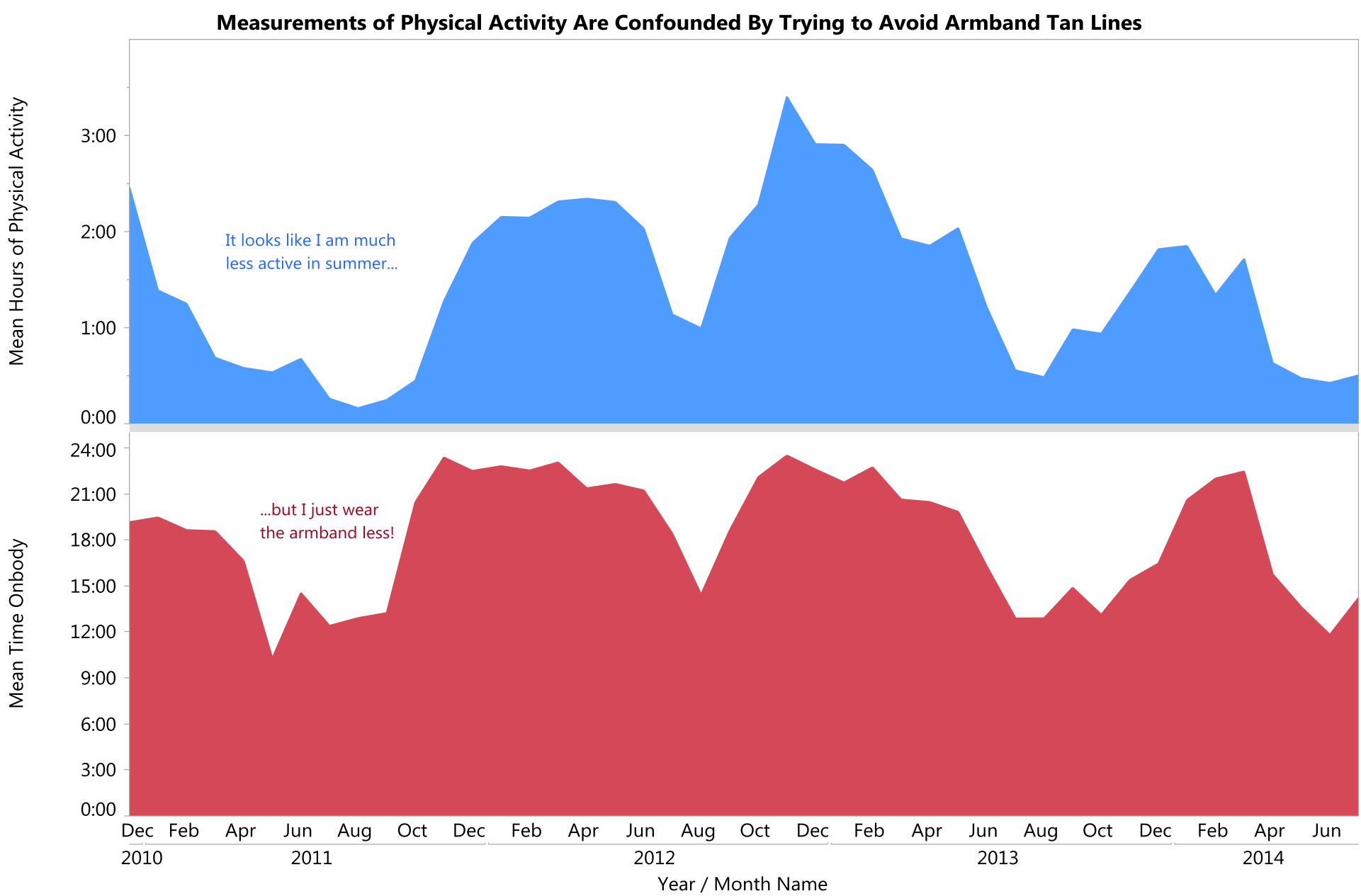
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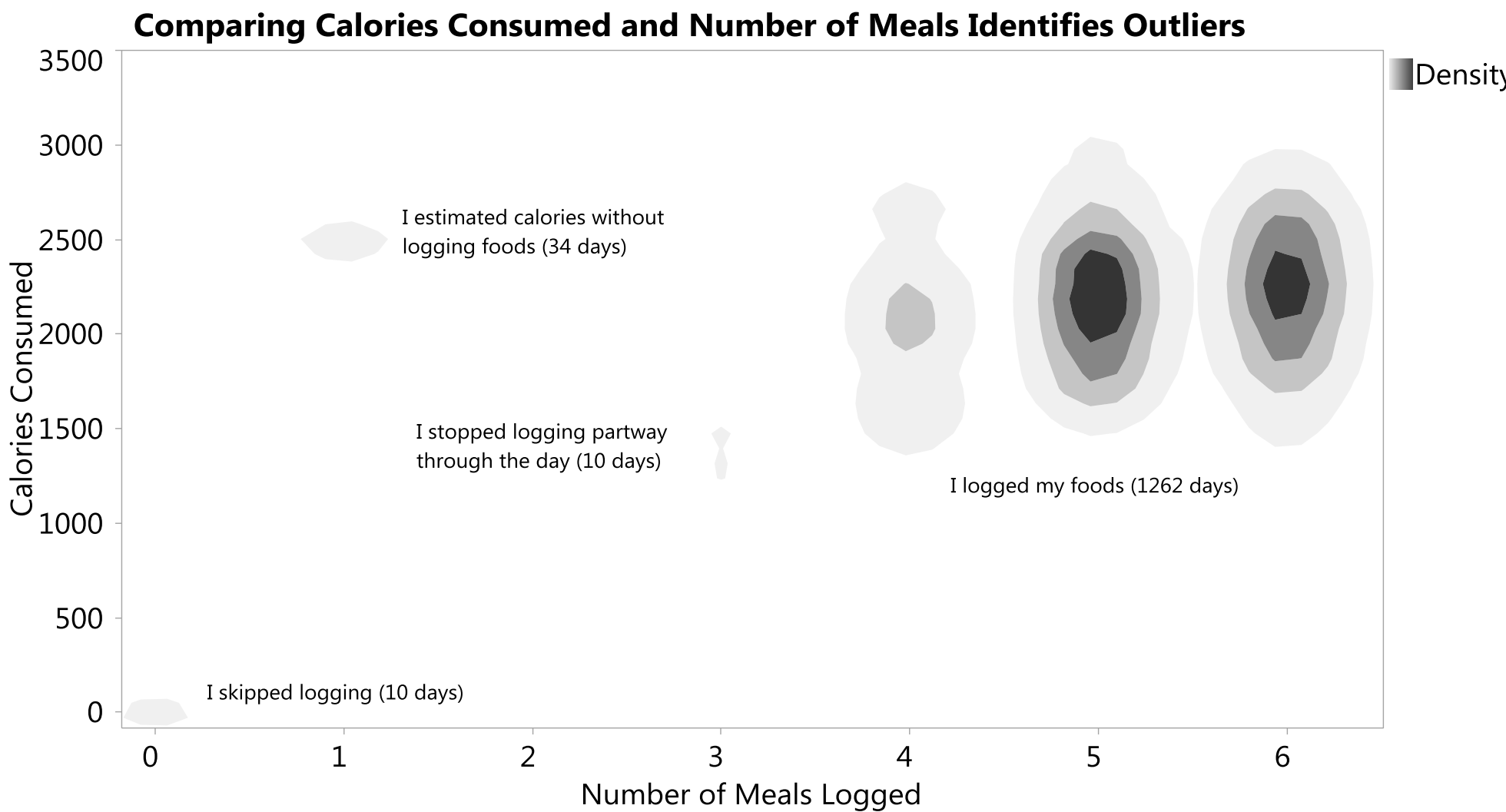
Exploring Activity, Eating, and Sleep Patterns

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

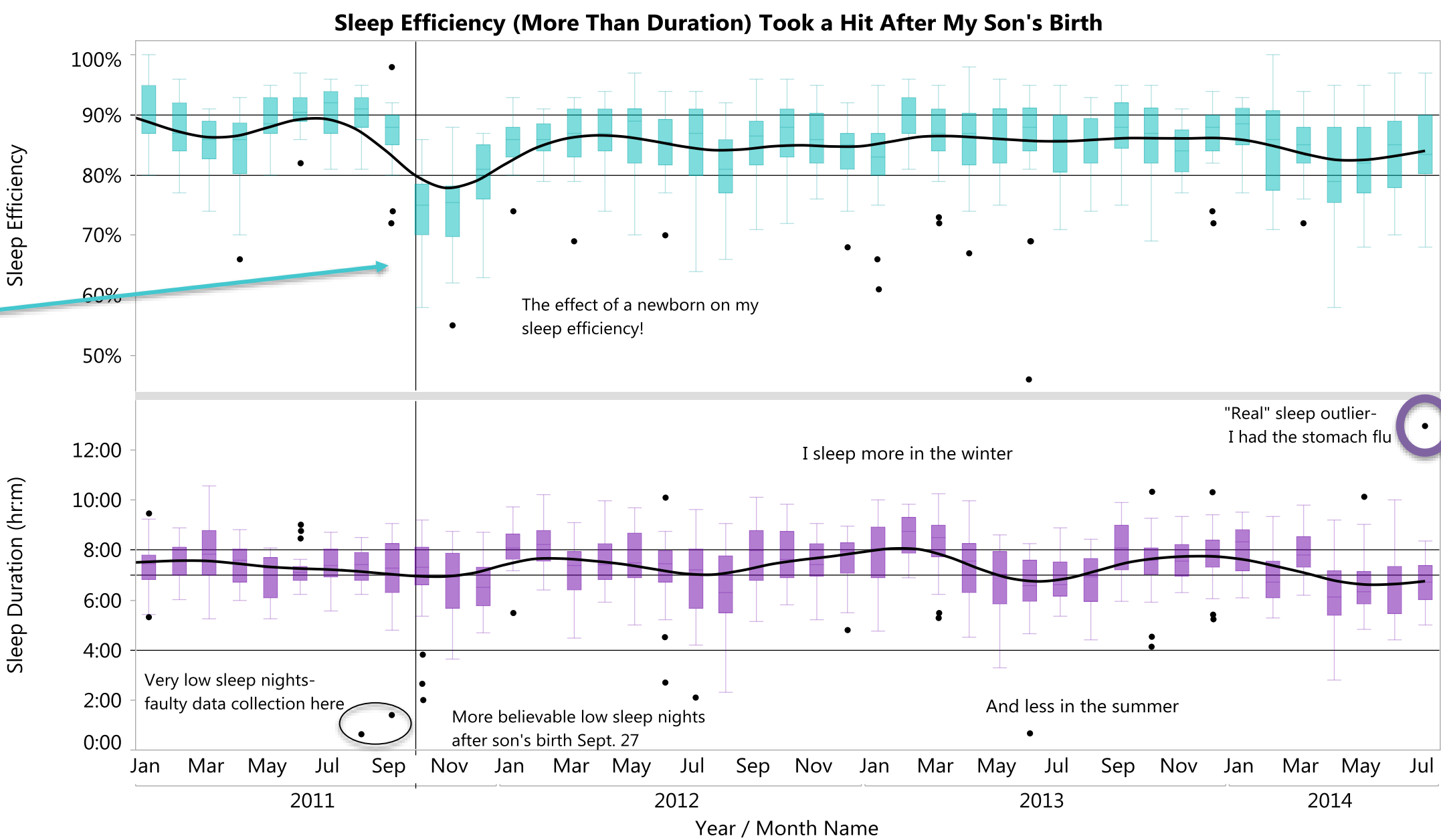
- Is my activity seasonal?



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

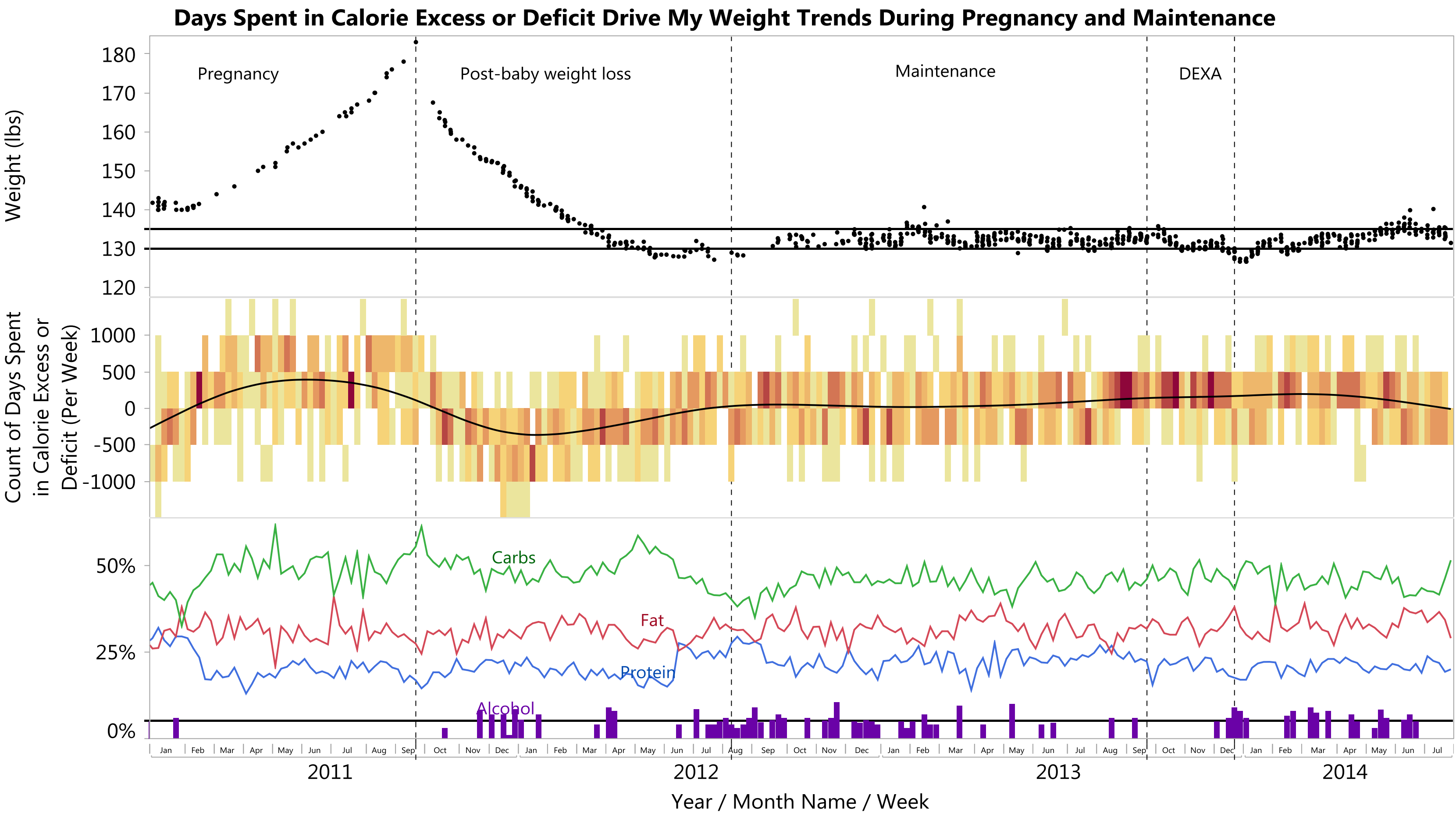


- My sleep patterns showed the impact of
 - my son's birth
 - seasonal fluctuations



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



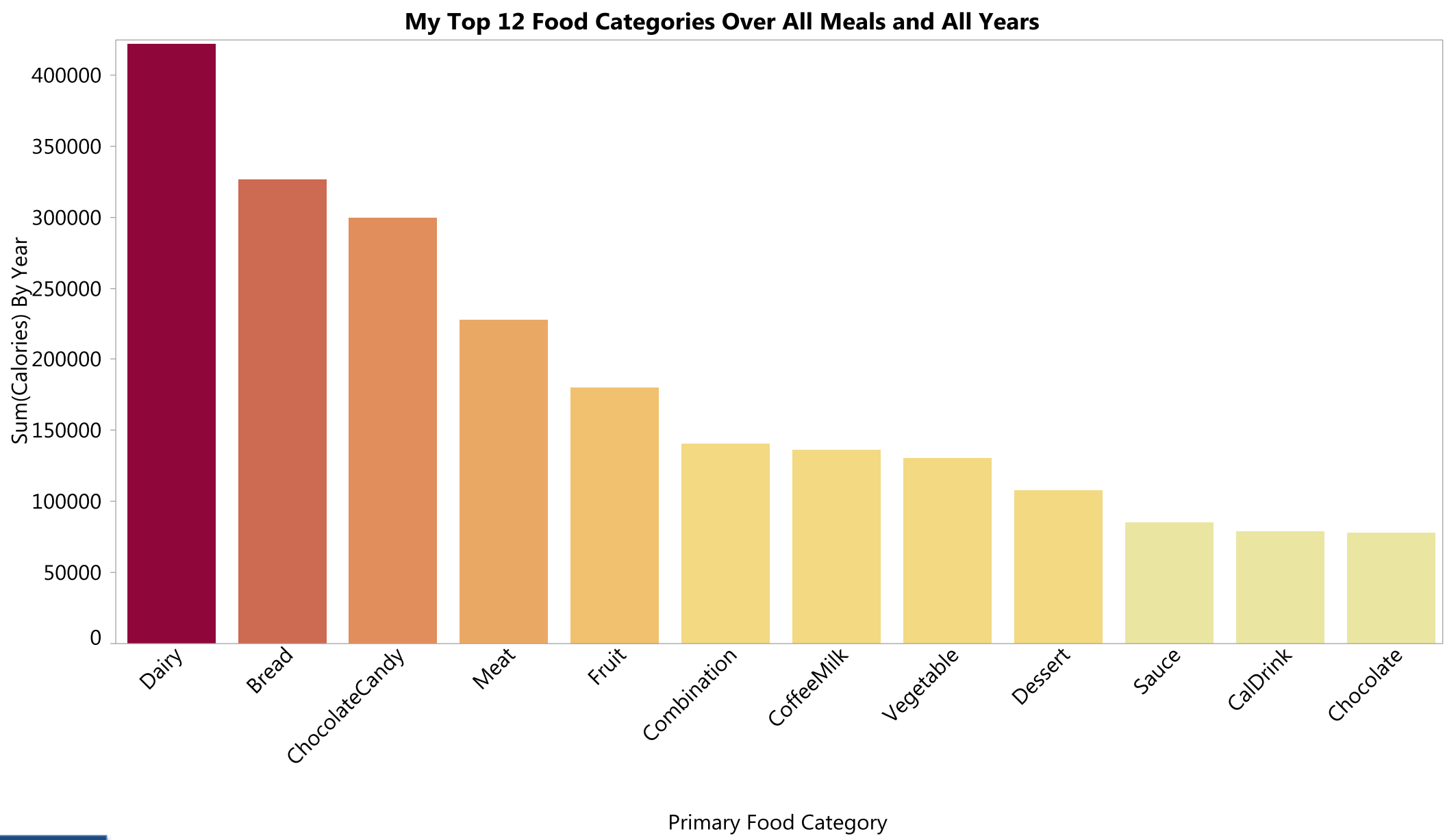
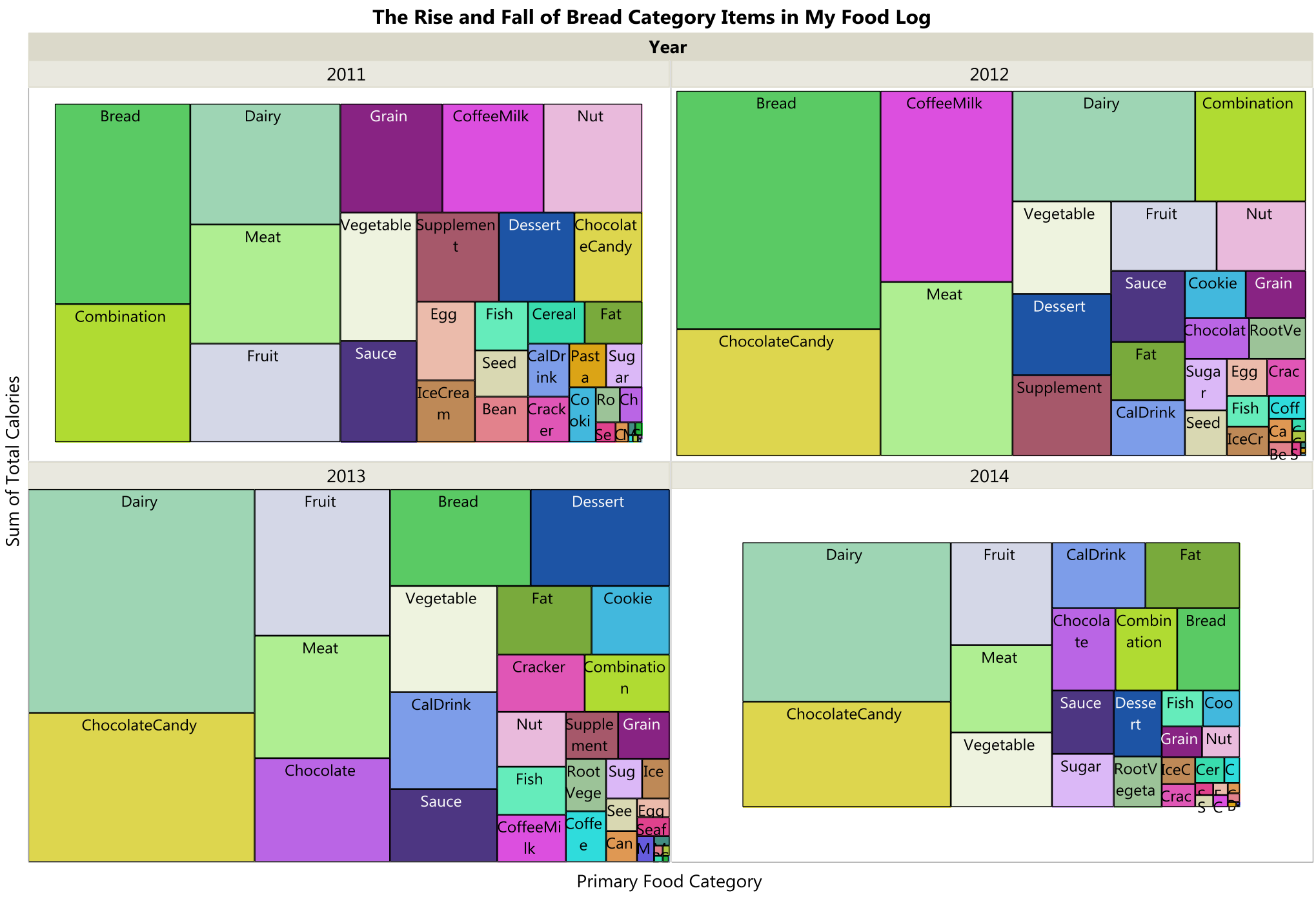
Click any picture
to zoom

Analysis of Personal Diet and Fitness Data With JMP®

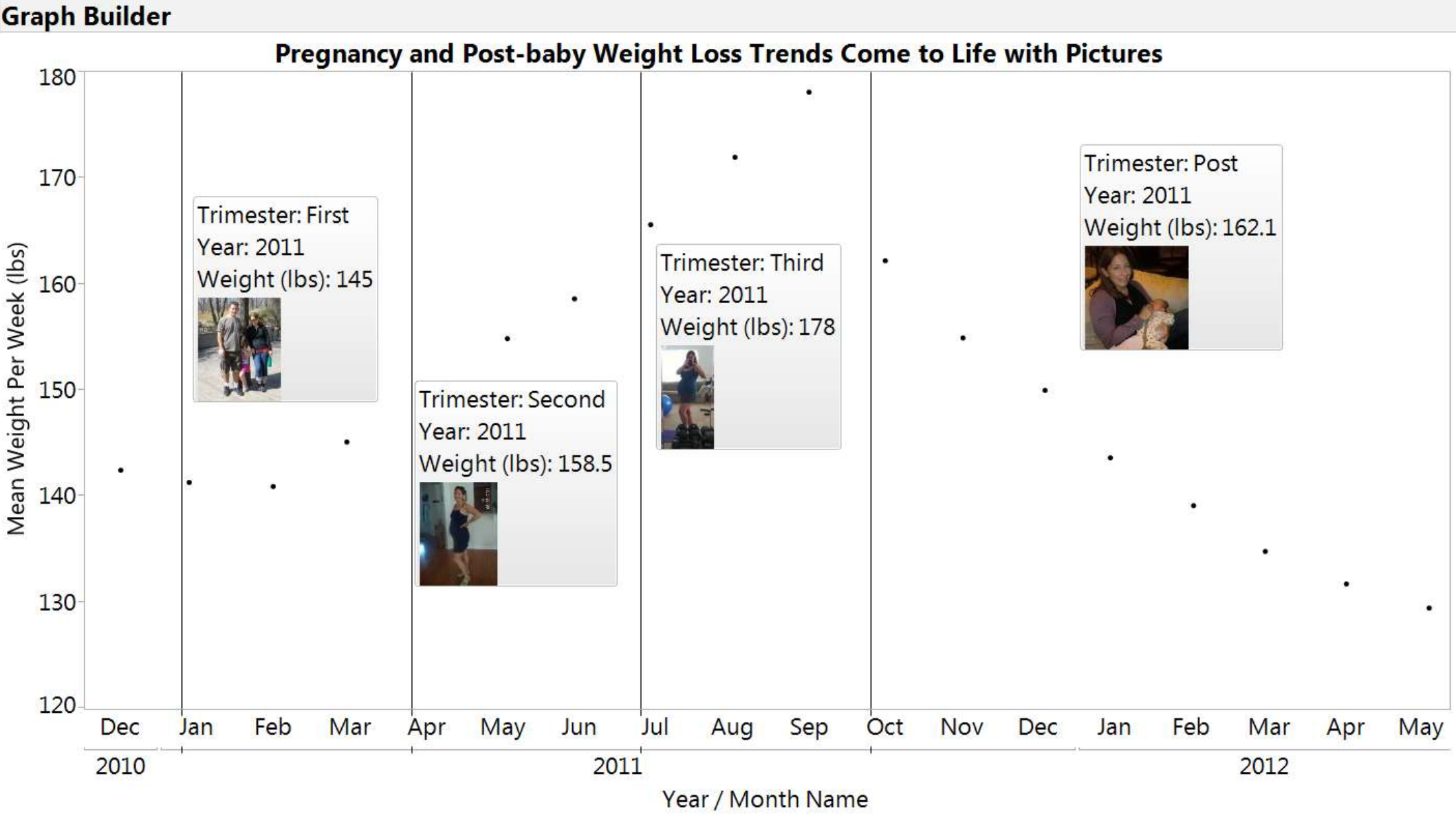
Shannon Conners, PhD
JMP, SAS

Favorite Visualizations

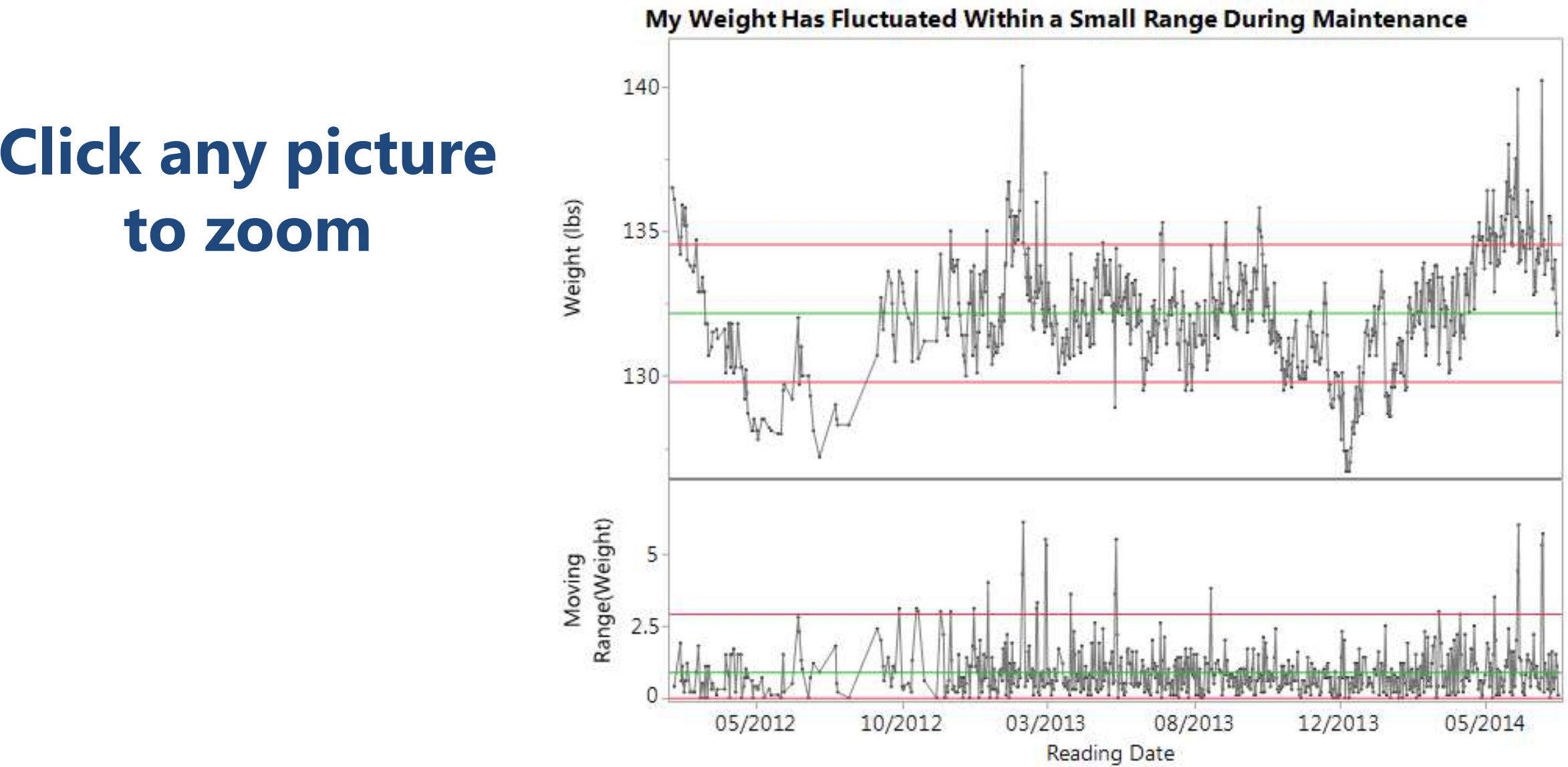
- Food log composition by category
 - Used new Treemap Squarify algorithm in to show which food groups and items contributed the most calories
 - Created bar charts by category calorie contribution
 - Used Local Data Filter to explore meal by year trends



- 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



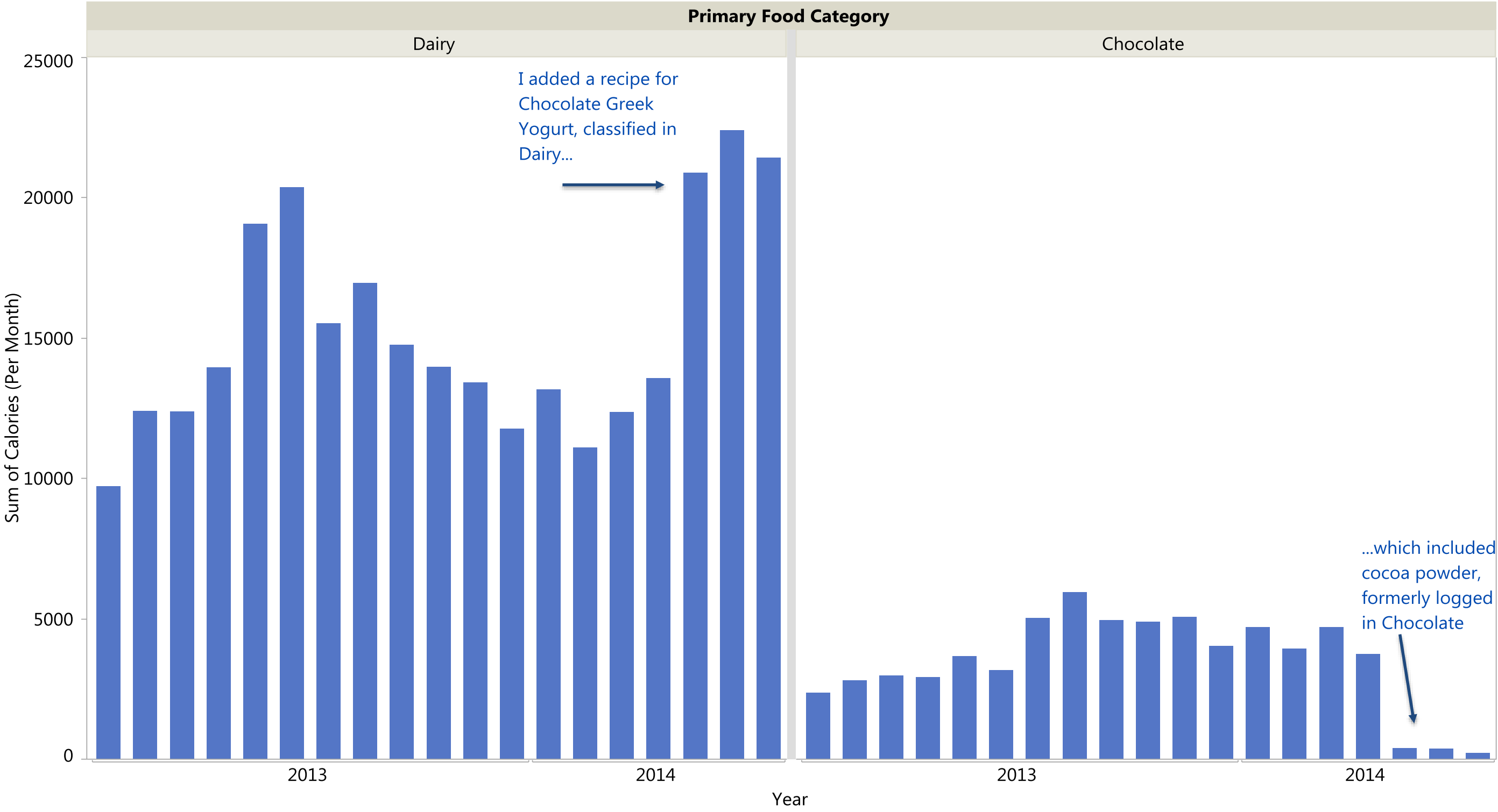
- Maintenance weight control chart
 - Focused on past 2.5 years maintaining weight
 - Calculated range was close to my preferred weight
 - Used Control Chart Builder



Click any picture
to zoom

Observations

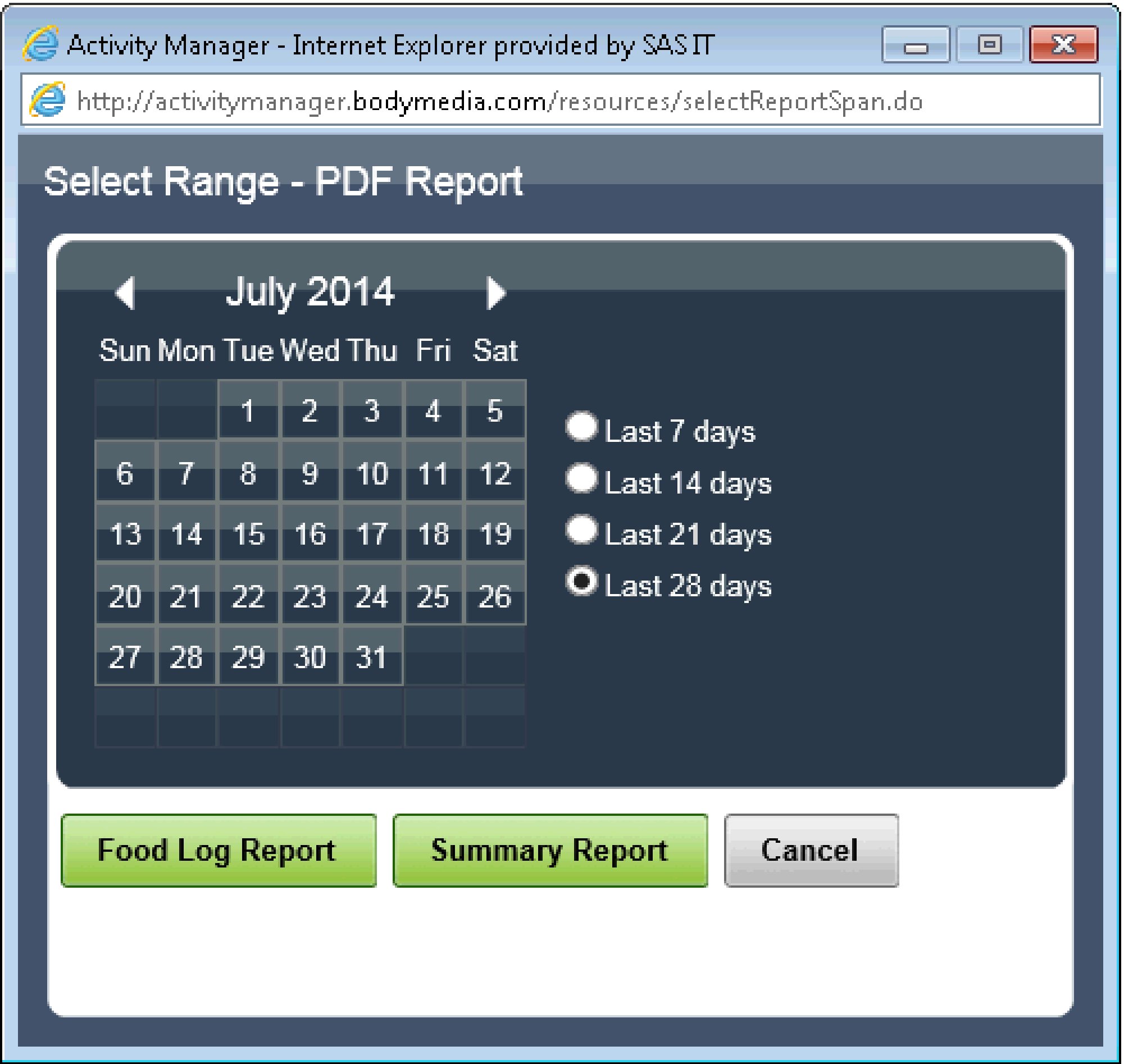
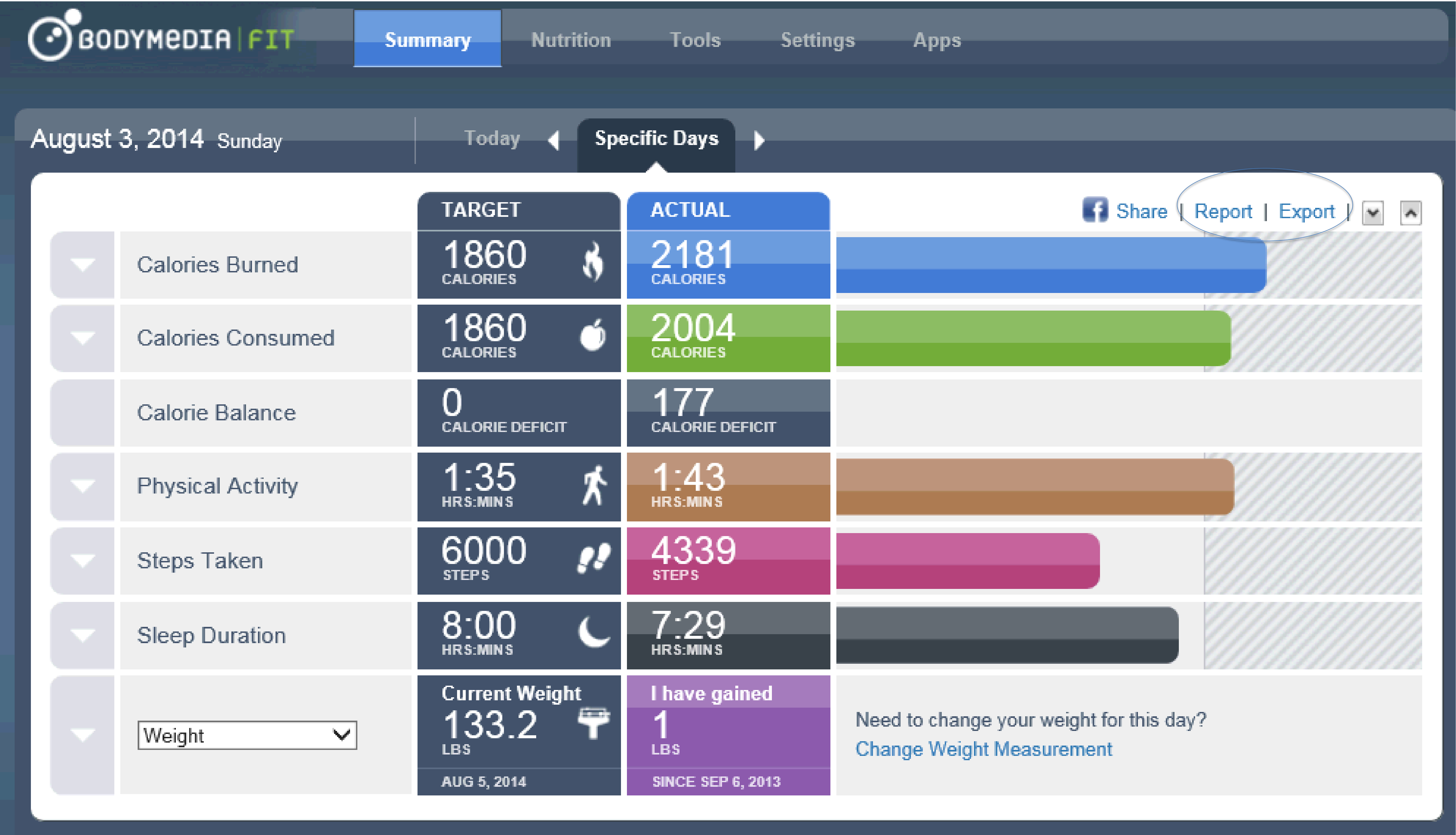
- Even carefully tracked diet and activity data has inaccuracies and gaps that could contribute to incorrect conclusions if you don't see them
- Exploring my personal data helped me discover
 - reporting biases associated with my device usage
 - strategies I am using to summarize and group data (e.g., 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

- www.bodymedia.com
- 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



[Return to poster](#)

| 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% |
| 12/23/2010 | 2252 | 2459 | 2:13 | 4665 | 22:22 | 93% |
| 12/24/2010 | 2225 | 1951 | 1:55 | 2368 | 12:46 | 53% |
| 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% |
| 12/28/2010 | 2638 | 2660 | 3:17 | 6880 | 21:24 | 89% |
| 12/29/2010 | 2631 | 1362 | 3:15 | 5675 | 20:03 | 84% |
| 12/30/2010 | 2580 | 1717 | 2:10 | 5175 | 22:04 | 92% |
| 12/31/2010 | 2630 | 1924 | 1:54 | 8654 | 21:52 | 91% |
| 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 | 1915 | 1:44 | 4934 | 20:29 | 85% |
| Target | 2000 | 2000 | 1:35 | 7000 | | |
| | | | | | | |
| | | | | | | |

| 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 | | | | | 100% |
| | | | | | | |
| | | | | | | |

Summary

Activity

Meals

Sleep

Weight

Personal Information

+

| Date | Calories Burned | Physical Activity | Steps | Average METs | Sedentary (up to 3 METs) | Moderate (3-6 METs) | Vigorous (6 METs +) |
|------------|-----------------|-------------------|--------|--------------|--------------------------|---------------------|---------------------|
| 12/21/2010 | 2060 | 0:05 | 383 | 1.32 | 23:55 | 0:05 | 0:00 |
| 12/22/2010 | 2258 | 1:31 | 5899 | 1.46 | 22:29 | 1:31 | 0:00 |
| 12/23/2010 | 2252 | 2:13 | 4665 | 1.46 | 21:47 | 2:13 | 0:00 |
| 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 |
| | | | | | | | |
| | | | | | | | |

| Date | 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% |
| Target | | 8:00 | |
| | | | |
| | | | |

Summary

Activity

Meals

Sleep

Weight

Personal Information

| 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 |
| | | |
| | | |

Activity

Meals

Sleep

Weight

[Return to poster](#)

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

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 0 Cup 6 0 1 0

Tomato, Red 1 Item 22 0 5 1

Totals for this meal: 589 1 0 8 4 4 2

[Return to poster](#)

| | | | | | | | | | | | |
|------------------------------|-------|--|--|--|--|--|--|--|--|--|--|
| Combined Excel 7-28... | | | | | | | | | | | |
| Source | | | | | | | | | | | |
| cals vs compliance | | | | | | | | | | | |
| Scatterplot Matrix | | | | | | | | | | | |
| Percent Onbody vs Stej | | | | | | | | | | | |
| Multivariate | | | | | | | | | | | |
| Columns (38/0) | | | | | | | | | | | |
| Date | | | | | | | | | | | |
| Calories (5/0) | | | | | | | | | | | |
| Calories Burned | | | | | | | | | | | |
| Calories Burned (filtered) | | | | | | | | | | | |
| Calories Consumed | | | | | | | | | | | |
| Calories Consumed (filtered) | | | | | | | | | | | |
| Excess Calories Eaten | | | | | | | | | | | |
| Activity (6/0) | | | | | | | | | | | |
| Compliance (3/0) | | | | | | | | | | | |
| Sleep (5/0) | | | | | | | | | | | |
| Lying Down * | | | | | | | | | | | |
| Lying Down (filtered) | | | | | | | | | | | |
| Sleep Duration * | | | | | | | | | | | |
| Sleep Efficiency * | | | | | | | | | | | |
| Date of Sleep | | | | | | | | | | | |
| Macros (4/0) | | | | | | | | | | | |
| % from Protein * | | | | | | | | | | | |
| % from Carbs * | | | | | | | | | | | |
| % from Fat * | | | | | | | | | | | |
| % from Alcohol * | | | | | | | | | | | |
| Rows | | | | | | | | | | | |
| All rows | 1,316 | | | | | | | | | | |
| Selected | 0 | | | | | | | | | | |
| Excluded | 19 | | | | | | | | | | |
| Hidden | 19 | | | | | | | | | | |
| Labelled | 0 | | | | | | | | | | |

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| 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 |

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Recode - JMP

Item Name

94 Values in 84 Groups (1045 hidden)

| Count | Old Value | New Value |
|-------|---|---|
| 8 | ATLANTA BREAD Cookie, White Chocolate Macadami... | ATLANTA BREAD Cookie, White Chocolate Macadami... |
| 32 | Biscotti, Chocolate Pistachio Chocolate Chip | Biscotti, Chocolate |
| 12 | Biscotti, Chocolate Peppermint | |
| 9 | Biscotti, Chocolate | |
| 108 | Bread, Carrot, Banana, Chocolate Chip | Bread, Carrot, Banana, Chocolate Chip |
| 5 | Brownie, with Chocolate Icing | Brownie, with Chocolate Icing |
| 13 | Cake, Cheesecake, Chocolate | Cake, Cheesecake, Chocolate |
| 1 | Cake, Cherry Fudge, with Chocolate Frosting | Cake, Cherry Fudge, with Chocolate Frosting |
| 20 | Cake, Chocolate with Frosting, Ready to Eat | Cake, Chocolate |
| 5 | Cake, Chocolate | |
| 1 | Cake, with Chocolate Fudge Frosting | |
| 3 | Candy Bar, Milk Chocolate, with Almonds | Candy Bar, Milk Chocolate |
| 3 | Candy or Candies, M&M's, Mini Milk Chocolate | |
| 1 | Candy Bar, Milk Chocolate, with Rice Cereal | |
| 1 | Candy, Caramel, Chocolate Covered | Candy, Caramel, Chocolate Covered |
| 1 | Candy, Chocolate Mint Nips | Candy, Chocolate Mint Nips |
| 6 | Candy, Chocolate Toffee | Candy, Chocolate Toffee |
| 407 | Chips, Chocolate, Semisweet | Candy, Dark Chocolate |
| 90 | Candy, Dark Chocolate | |
| 90 | Dark Chocolate bar | |
| 26 | Dark Melting Chocolate | |
| 7 | Dark Chocolate | |

Done

Cancel

Undo

Redo

Filter chocolate

☐ Show only Grouped

☐ Show only Ungrouped

Group

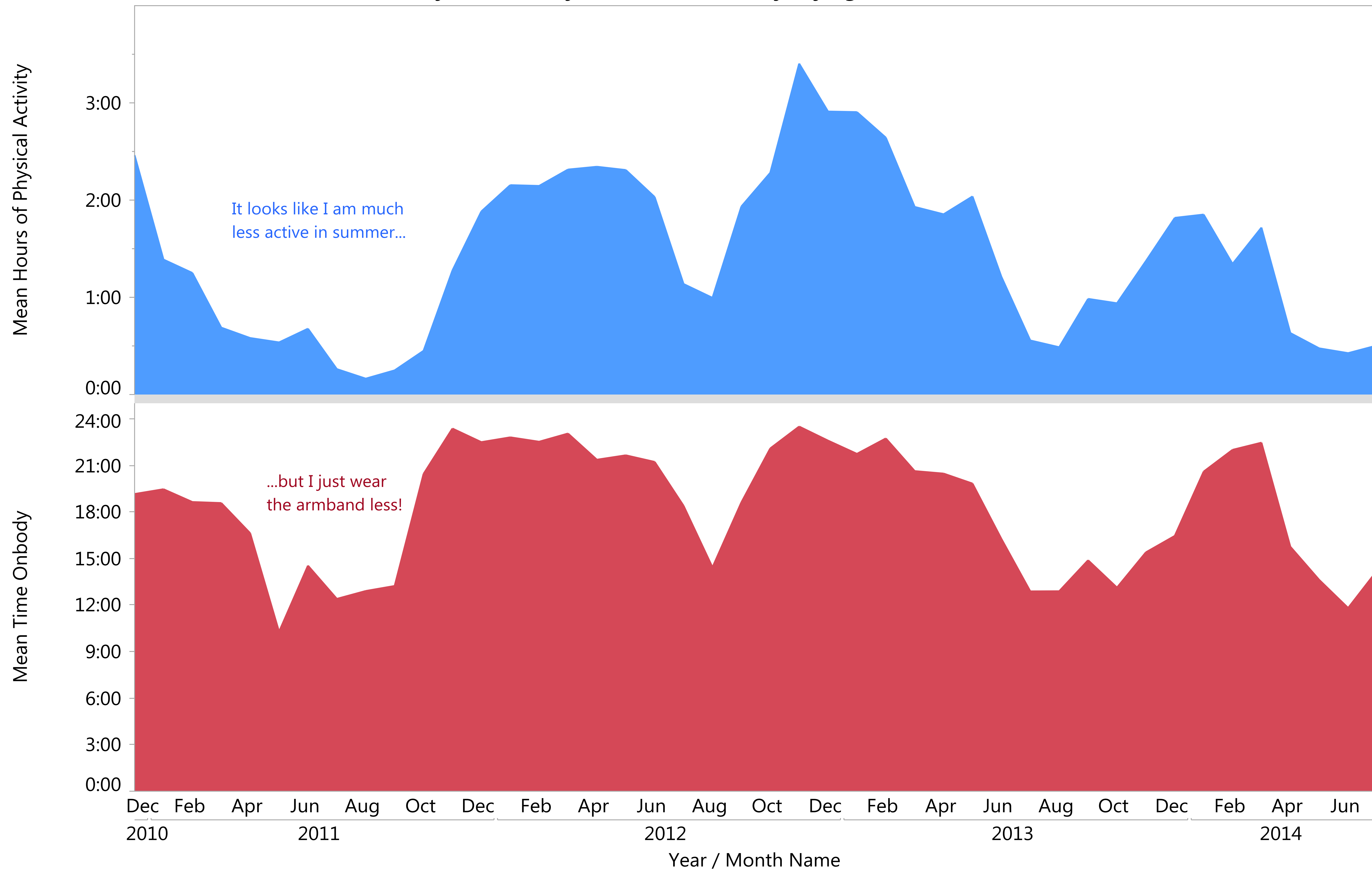
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Comparing Calories Consumed and Number of Meals Identifies Outliers



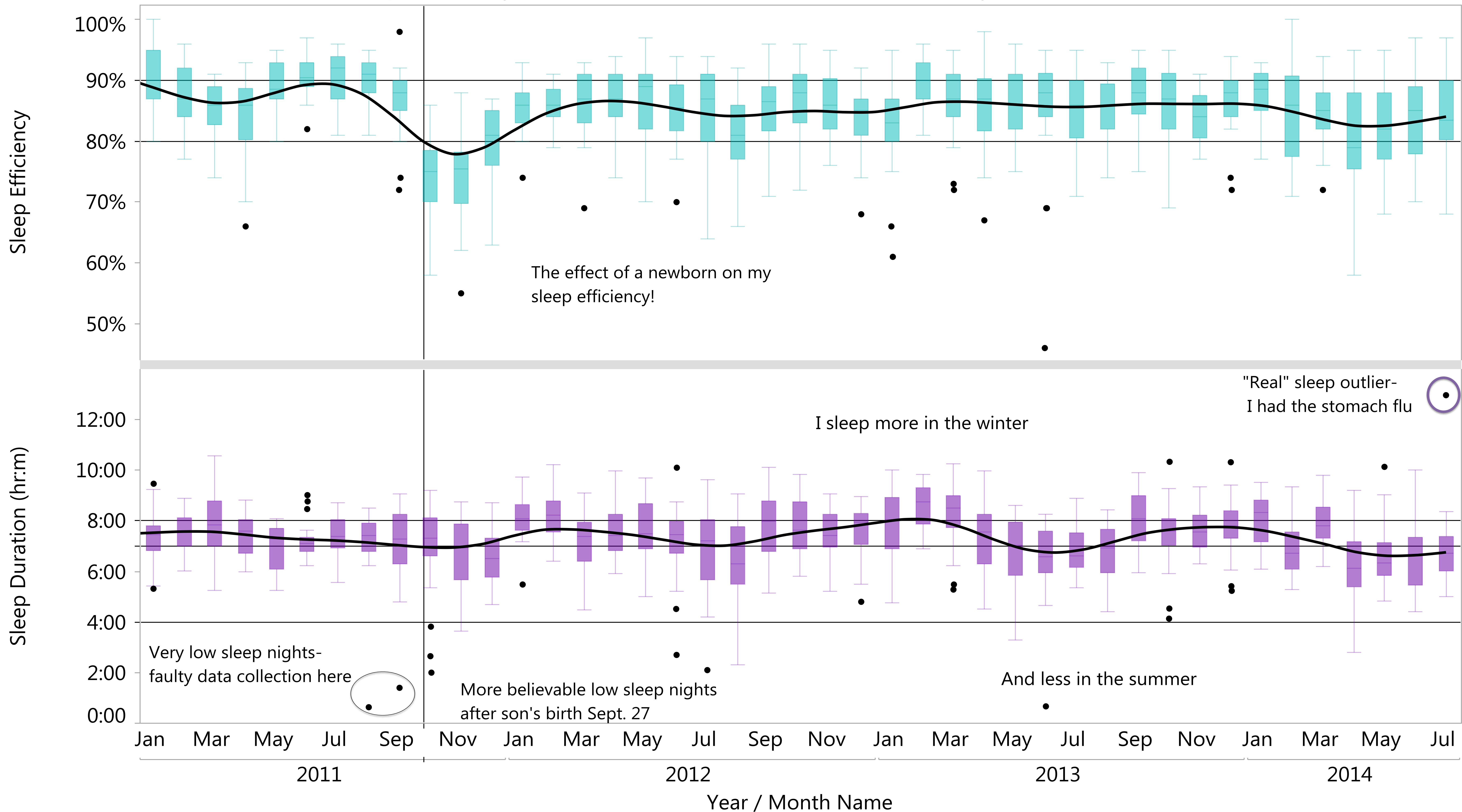
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Measurements of Physical Activity Are Confounded By Trying to Avoid Armband Tan Lines

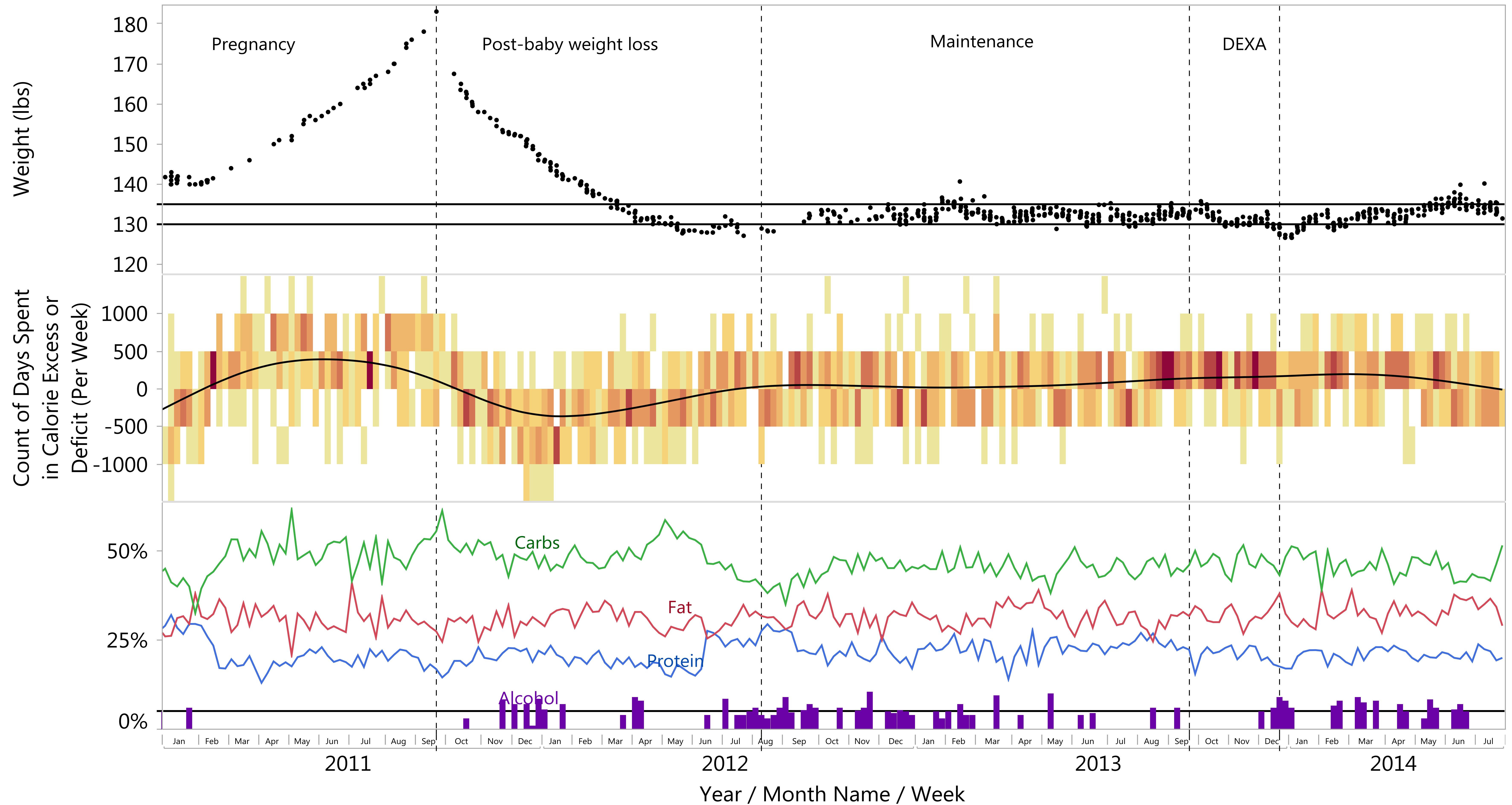


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Sleep Efficiency (More Than Duration) Took a Hit After My Son's Birth



Days Spent in Calorie Excess or Deficit Drive My Weight Trends During Pregnancy and Maintenance



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

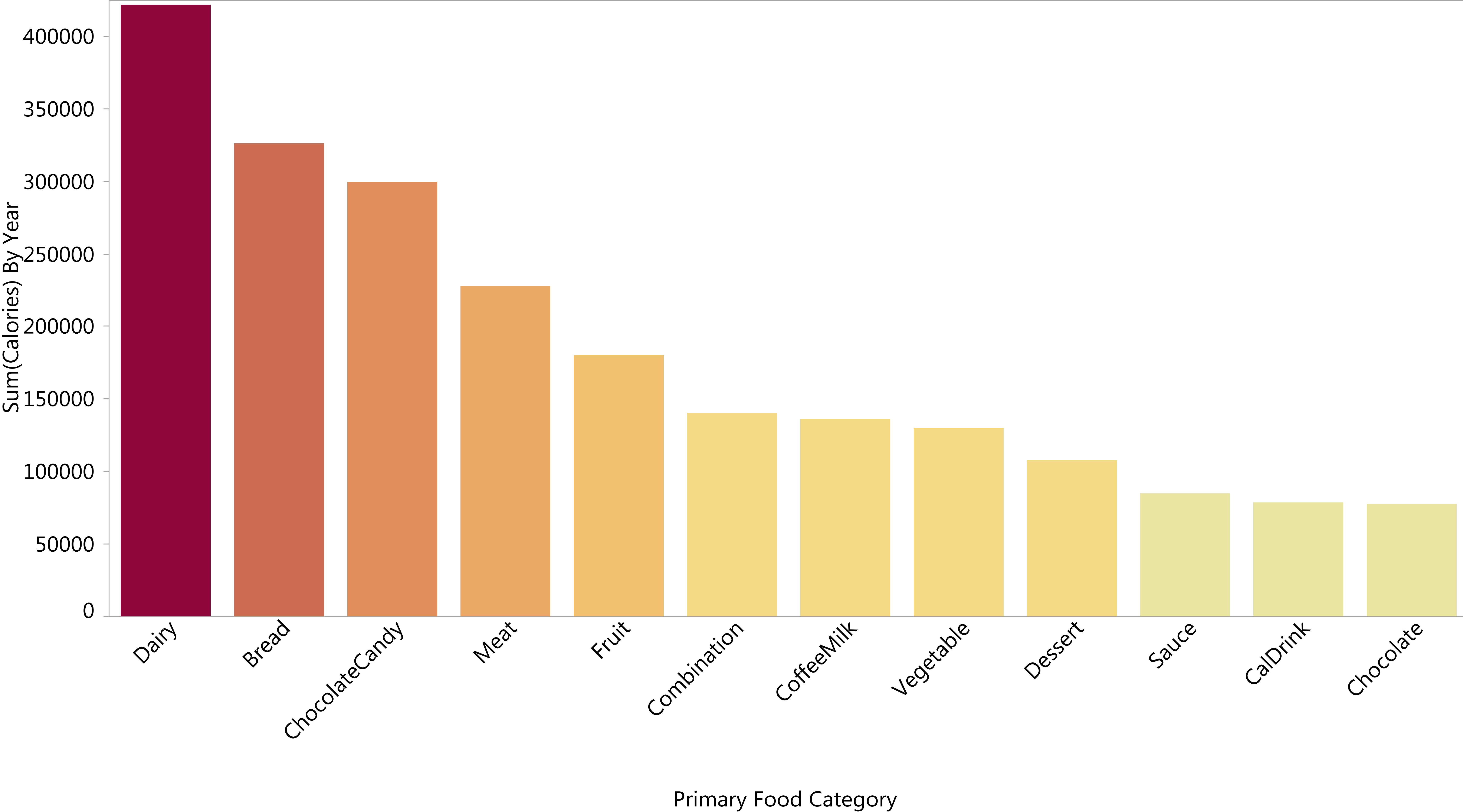


[Combined Treemap with Item Names](#)

[Treemap of Breakfast Items by Year](#)

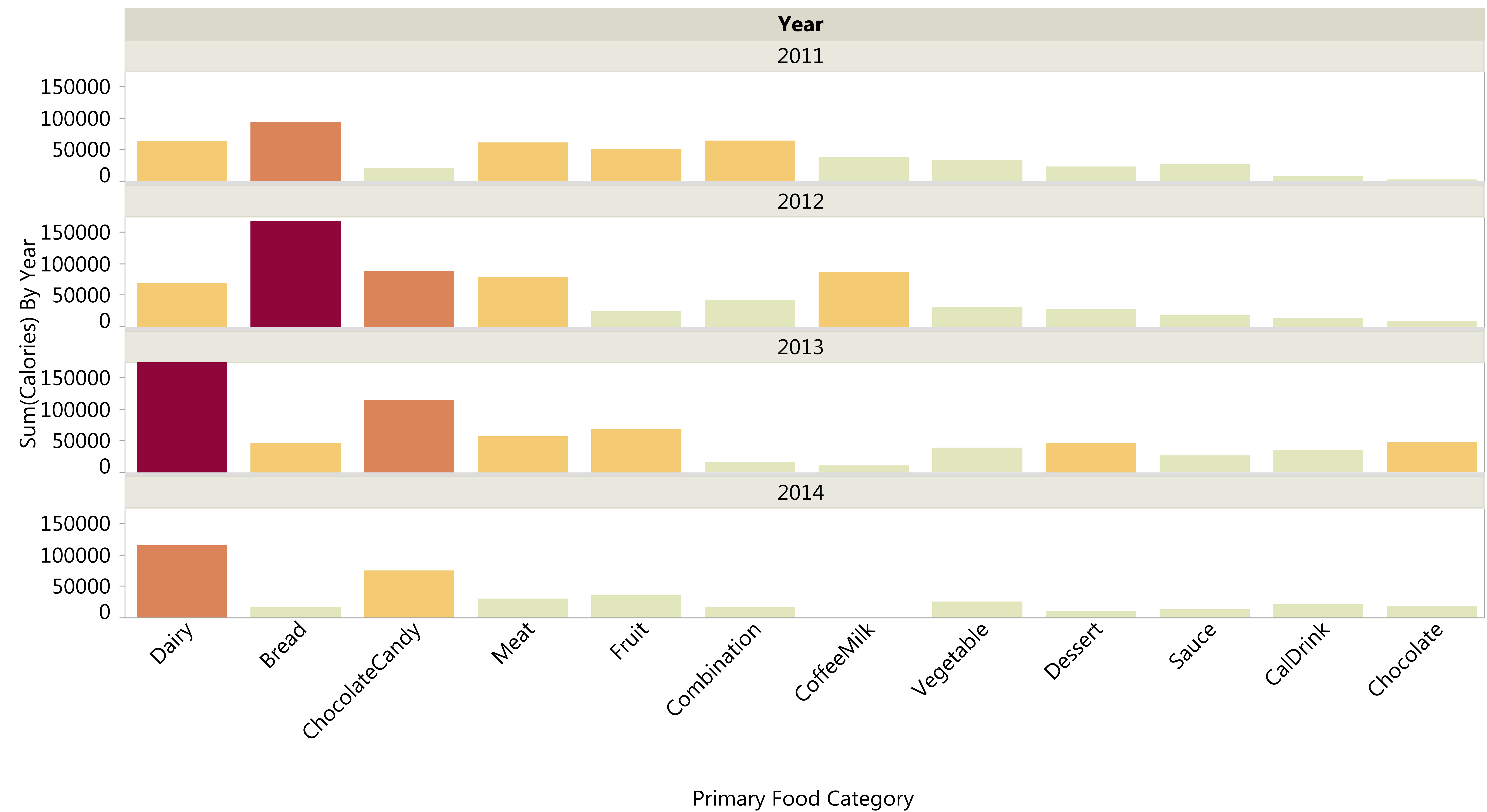
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My Top 12 Food Categories Over All Meals and All Years

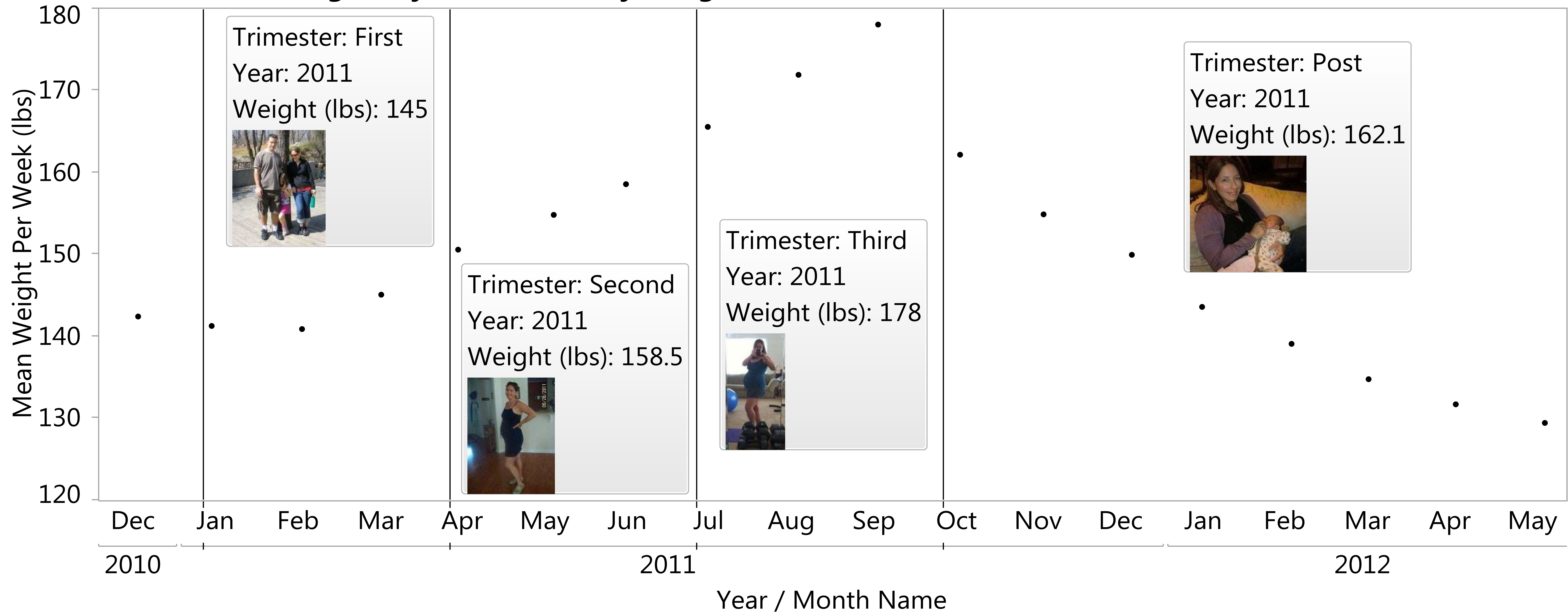


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[Year by Year View](#)



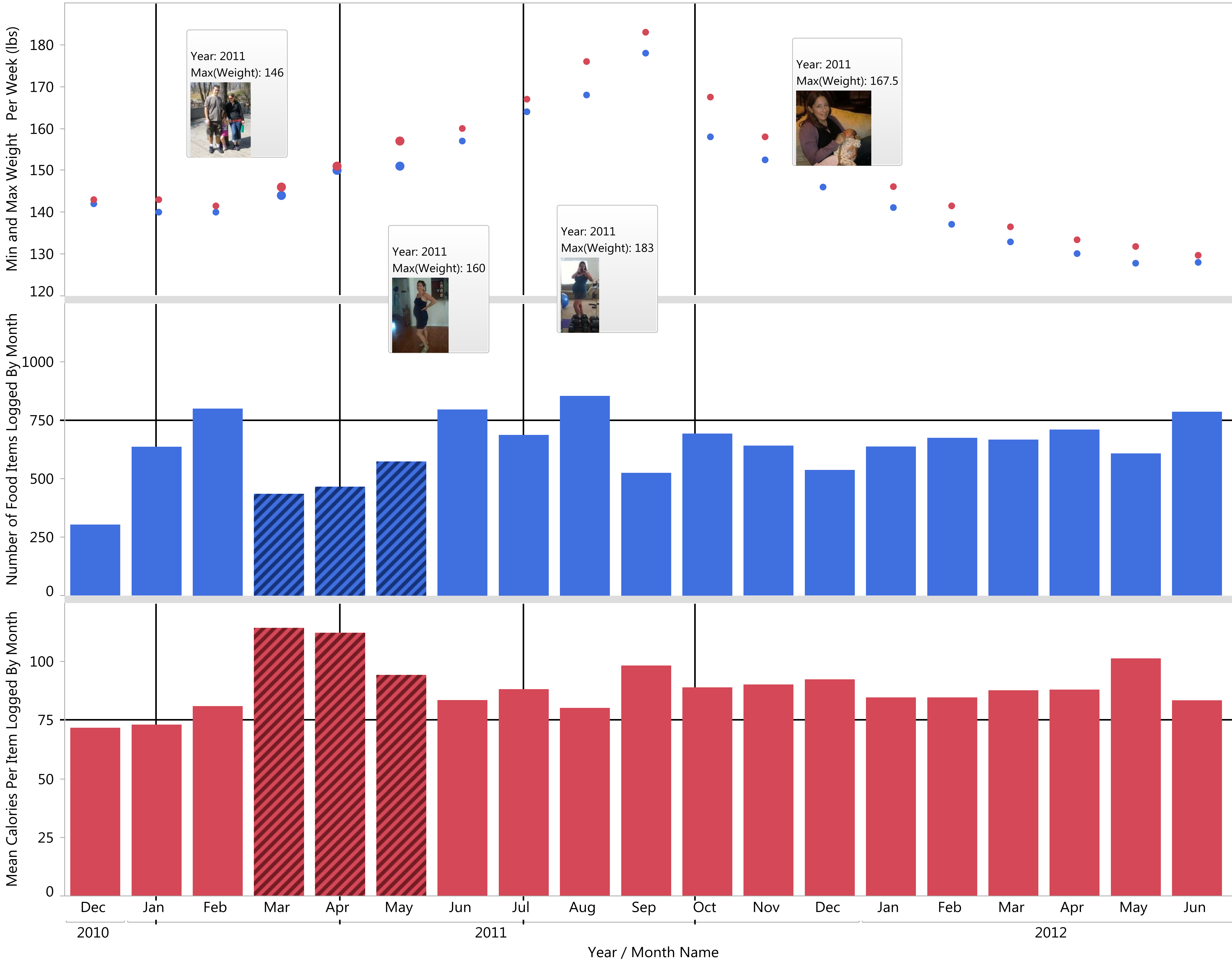
Pregnancy and Post-baby Weight Loss Trends Come to Life with Pictures



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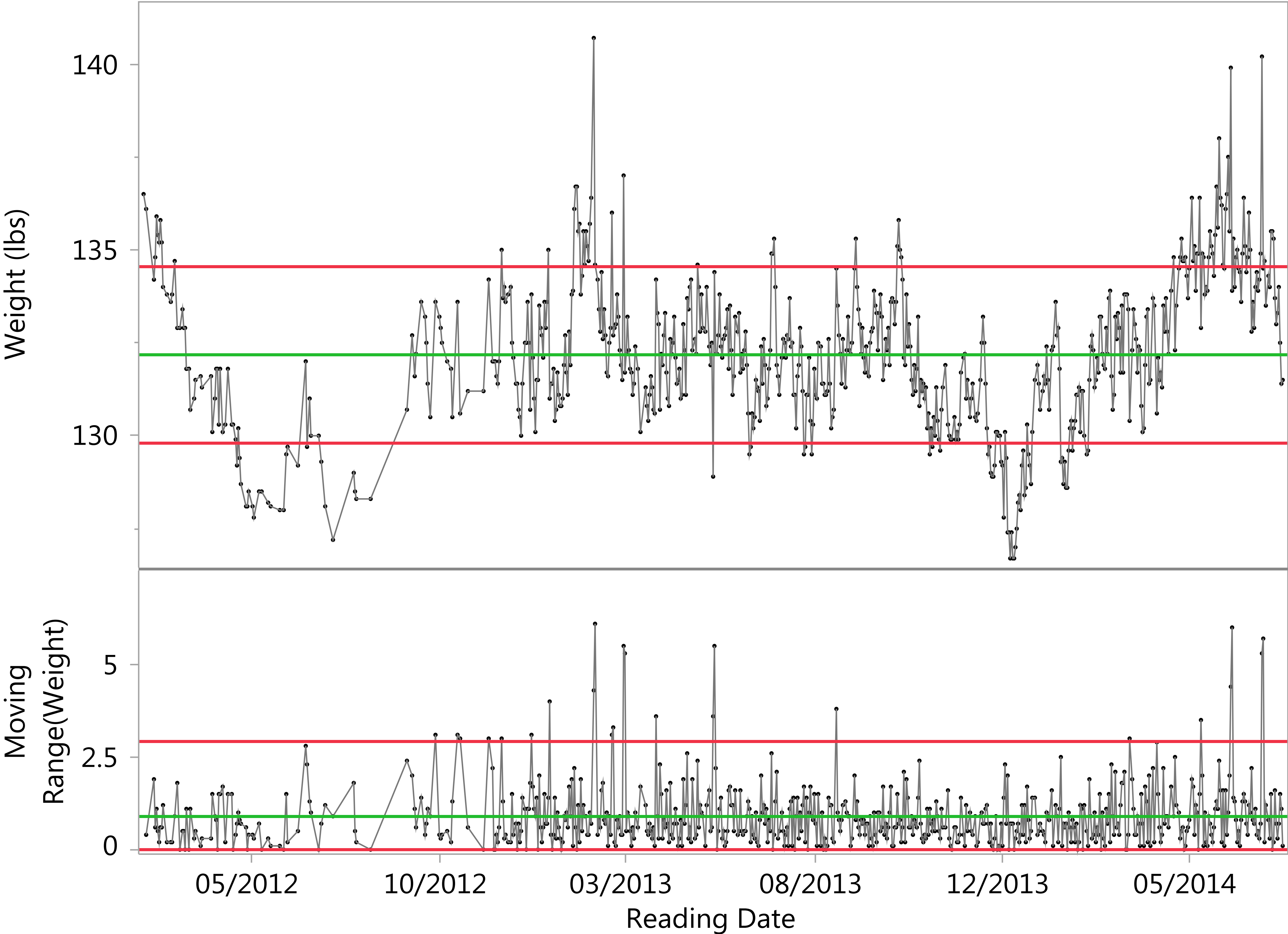
[Food Trends in Early Pregnancy](#)

Decreased Food Diversity and Increased Calories Per Item in Early Pregnancy



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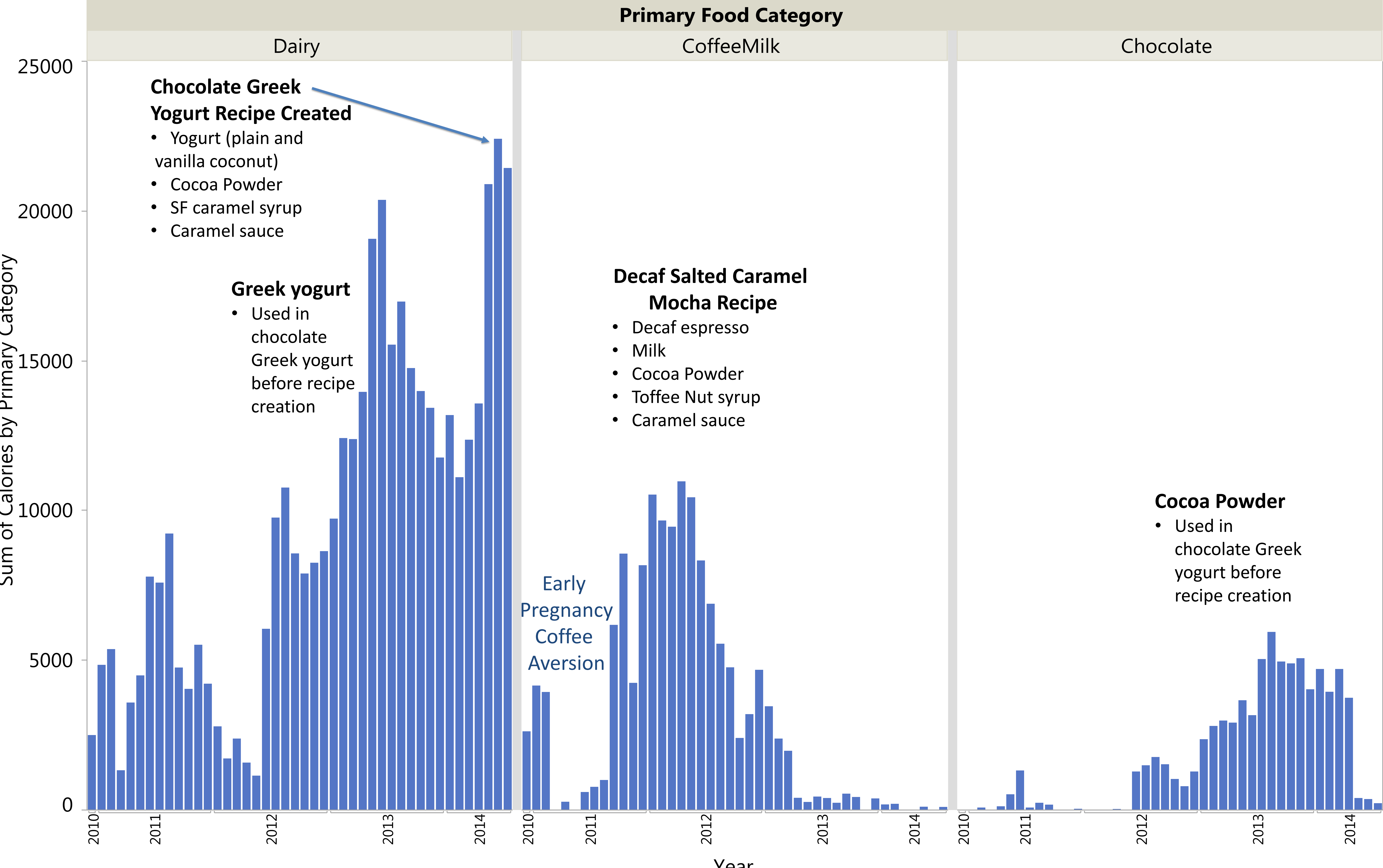
My Weight Has Fluctuated Within a Small Range During Maintenance



| 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 |

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Switching from Mochas to Chocolate Greek Yogurt Influences Category Trends Despite Highly Similar Ingredient Lists



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