Diet and Sleep

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## Background

This study seeks to assess the bi-directional association between the quality of one’s sleep and different components of one’s diet.

## Data

Data from CM and DQ were combined for the purpose of this study. Two sets of data were collected, one for each direction of the analysis. In order to establish a temporal order, the event associated with the outcome variable was ensured to have occurred after the event associated with the predictor variable – for example, to assess the influence a subject’s diet may have had on their sleep, the investigators recorded what they ate before they went to sleep.

For the purpose of this analysis, both datasets will be subsetted to just records that indicate the “Aligned” condition.

## Variables

In investigating the influence that one’s diet may have on their sleep, we are interested in the following predictors: energy, food weight (no beverages), energy density, protein, fat, carbohydrate, plant protein, animal protein, fiber, calcium, magnesium, sodium, zinc, vitamin B6, vitamin B12, saturated fat, unsaturated fat, vitamin D, fruits, vegetables, fruits and vegetables, eggs, nuts, dairy, and added sugar. We are interested in the following outcome variables that measure sleep: sleep efficiency, total sleep time, wake after sleep onset, and sleep fragmentation index.

In investigating the influence that one’s sleep may have on their diet, we are interested in the following predictors: sleep efficiency, total sleep time, wake after sleep onset, and sleep fragmentation index. The following variables will serve as predictors: energy, food weight (no beverages), energy density, protein, fat, carbohydrate, plant protein, animal protein, fiber, calcium, magnesium, sodium, saturated fat, unsaturated fat,fruits, vegetables, fruits and vegetables, eggs, dairy, and added sugar.

In both analysis directions, we will also assess the significance of age, sex, and BMI as covariates. Sex is analyzed as a categorical covariate, while age and BMI are analyzed as continuous covariates.

## Methodology

We will construct linear mixed effect models to conduct a preliminary assessment of the relationships between all variables of interest. First, we will regress the outcome variable of interest on one predictor and the three covariates, adding a random intercept for subject ID. We will then evaluate the significance of the coefficients associated with each of the three covariates. If the coefficient is determined to not be significant (i.e., p > 0.05), it will be removed from the model. The truncated model will then be run again and its result saved.

## Results

### Diet and Sleep

The following table presents the results of regressing sleep outcome variables on diet predictors:

Model 1: se vs. en  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 7.843e+01 2.719e+00 3.341e+01 28.841 < 2e-16 \*\*\*  
 age 3.370e-01 9.061e-02 3.016e+01 3.720 0.000815 \*\*\*  
 en 5.664e-04 4.342e-04 2.037e+02 1.304 0.193585   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 2: tst vs. en  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 4.005e+02 1.334e+01 1.118e+02 30.013 <2e-16 \*\*\*  
 en 1.049e-02 5.663e-03 1.652e+02 1.852 0.0658 .   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 3: waso vs. en  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 5.758e+01 8.013e+00 3.561e+01 7.186 2e-08 \*\*\*  
 age -8.243e-01 2.670e-01 3.220e+01 -3.087 0.00414 \*\*   
 en 1.611e-04 1.278e-03 2.047e+02 0.126 0.89980   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 4: sfi vs. en  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.866e+01 1.847e+00 1.051e+02 10.104 <2e-16 \*\*\*  
 en -5.003e-04 6.597e-04 2.145e+02 -0.758 0.449   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 5: se vs. food\_wt\_f  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 7.841e+01 2.677e+00 3.222e+01 29.288 < 2e-16 \*\*\*  
 age 3.359e-01 8.979e-02 2.997e+01 3.741 0.000775 \*\*\*  
 food\_wt\_f 1.022e-03 6.952e-04 1.729e+02 1.470 0.143466   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 6: tst vs. food\_wt\_f  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 4.125e+02 1.265e+01 8.597e+01 32.597 <2e-16 \*\*\*  
 food\_wt\_f 8.165e-03 9.014e-03 1.327e+02 0.906 0.367   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 7: waso vs. food\_wt\_f  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 59.726216 7.931198 34.634071 7.531 8.55e-09 \*\*\*  
 age -0.806003 0.266085 32.263715 -3.029 0.0048 \*\*   
 food\_wt\_f -0.001952 0.002046 177.314852 -0.954 0.3414   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 8: sfi vs. food\_wt\_f  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 19.160553 1.794770 91.812636 10.676 <2e-16 \*\*\*  
 food\_wt\_f -0.001286 0.001085 215.168080 -1.185 0.237   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 9: se vs. ed  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.30719 3.05324 44.33803 25.975 < 2e-16 \*\*\*  
 age 0.34487 0.09372 30.76478 3.680 0.000889 \*\*\*  
 ed 0.04082 0.72413 214.25972 0.056 0.955097   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 10: tst vs. ed  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 406.827 18.166 161.070 22.395 <2e-16 \*\*\*  
 ed 8.885 9.701 202.704 0.916 0.361   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 11: waso vs. ed  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 51.3111 8.7450 46.7471 5.867 4.34e-07 \*\*\*  
 age -0.7969 0.2673 32.2535 -2.981 0.00542 \*\*   
 ed 3.3597 2.1088 213.7224 1.593 0.11260   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 12: sfi vs. ed  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 16.7208 2.2531 156.3049 7.421 6.98e-12 \*\*\*  
 ed 0.5234 1.0787 210.0401 0.485 0.628   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 13: se vs. prot  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 7.915e+01 2.737e+00 3.182e+01 28.922 < 2e-16 \*\*\*  
 age 3.427e-01 9.282e-02 3.034e+01 3.692 0.000874 \*\*\*  
 prot 3.045e-03 6.854e-03 2.088e+02 0.444 0.657323   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 14: tst vs. prot  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 409.83195 10.82427 92.22877 37.862 <2e-16 \*\*\*  
 prot 0.12960 0.09017 179.02550 1.437 0.152   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 15: waso vs. prot  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 57.240329 7.854565 33.767010 7.288 2.02e-08 \*\*\*  
 age -0.826886 0.266250 32.168027 -3.106 0.00395 \*\*   
 prot 0.007785 0.020057 207.493392 0.388 0.69832   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 16: sfi vs. prot  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.963903 1.591993 71.972082 11.284 <2e-16 \*\*\*  
 prot -0.003519 0.010330 213.324184 -0.341 0.734   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 17: se vs. fat  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 7.867e+01 2.703e+00 3.258e+01 29.105 < 2e-16 \*\*\*  
 age 3.408e-01 9.102e-02 3.018e+01 3.745 0.000761 \*\*\*  
 fat 9.976e-03 8.519e-03 2.145e+02 1.171 0.242870   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 18: tst vs. fat  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 399.0921 11.2342 112.3483 35.525 <2e-16 \*\*\*  
 fat 0.2807 0.1128 198.0261 2.488 0.0137 \*   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 19: waso vs. fat  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 56.18318 7.97637 34.21799 7.044 3.8e-08 \*\*\*  
 age -0.83074 0.26866 31.74811 -3.092 0.00412 \*\*   
 fat 0.02321 0.02500 214.62087 0.928 0.35423   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 20: sfi vs. fat  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.800549 1.630150 79.054960 10.920 <2e-16 \*\*\*  
 fat -0.002081 0.012707 208.388943 -0.164 0.87   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 21: se vs. cho  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 7.885e+01 2.732e+00 3.221e+01 28.866 < 2e-16 \*\*\*  
 age 3.364e-01 9.218e-02 3.037e+01 3.649 0.000979 \*\*\*  
 cho 3.308e-03 3.992e-03 1.917e+02 0.829 0.408306   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 22: tst vs. cho  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 404.21989 13.49364 95.92362 29.956 <2e-16 \*\*\*  
 cho 0.07727 0.05107 139.92393 1.513 0.133   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 23: waso vs. cho  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 58.53457 7.94350 34.56787 7.369 1.39e-08 \*\*\*  
 age -0.81198 0.26797 32.59757 -3.030 0.00476 \*\*   
 cho -0.00418 0.01170 192.01800 -0.357 0.72133   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 24: sfi vs. cho  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 19.933996 1.883660 104.755131 10.583 <2e-16 \*\*\*  
 cho -0.009948 0.006085 215.999783 -1.635 0.104   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 25: se vs. prot\_plant  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.33111 2.72192 31.23184 29.145 < 2e-16 \*\*\*  
 age 0.34495 0.09347 30.95293 3.690 0.000858 \*\*\*  
 prot\_plant 0.02664 0.14643 214.64337 0.182 0.855810   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 26: tst vs. prot\_plant  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 419.863 7.507 43.639 55.933 <2e-16 \*\*\*  
 prot\_plant 1.416 1.982 211.482 0.715 0.476   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 27: waso vs. prot\_plant  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 57.0201 7.6497 32.0719 7.454 1.73e-08 \*\*\*  
 age -0.8160 0.2626 31.7712 -3.107 0.00396 \*\*   
 prot\_plant 0.3919 0.4286 214.9873 0.914 0.36153   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 28: sfi vs. prot\_plant  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.6176 1.3052 37.9255 13.498 4.64e-16 \*\*\*  
 prot\_plant 0.0071 0.2163 205.2177 0.033 0.974   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 29: se vs. prot\_ani  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.10155 2.67664 30.65939 29.553 < 2e-16 \*\*\*  
 age 0.33777 0.09222 30.77783 3.663 0.000931 \*\*\*  
 prot\_ani 0.07726 0.07492 207.03428 1.031 0.303646   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 30: tst vs. prot\_ani  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 412.8371 9.0096 66.5883 45.822 <2e-16 \*\*\*  
 prot\_ani 1.5138 0.9857 177.8140 1.536 0.126   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 31: waso vs. prot\_ani  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 56.9568 7.6993 32.2239 7.398 1.96e-08 \*\*\*  
 age -0.8429 0.2653 32.3559 -3.177 0.00326 \*\*   
 prot\_ani 0.2389 0.2192 205.7972 1.090 0.27704   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 32: sfi vs. prot\_ani  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.46132 1.43509 52.03467 12.167 <2e-16 \*\*\*  
 prot\_ani 0.02735 0.11334 213.95895 0.241 0.81   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
 Model 33: se vs. fiber  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 78.89328 2.71814 31.97578 29.025 < 2e-16 \*\*\*  
 age 0.34156 0.09175 30.05142 3.723 0.000812 \*\*\*  
 fiber 0.02807 0.03335 202.87246 0.842 0.400962   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 34: tst vs. fiber  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 416.6607 11.2861 88.8448 36.918 <2e-16 \*\*\*  
 fiber 0.2692 0.4403 170.4089 0.612 0.542   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 35: waso vs. fiber  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 58.47697 7.89627 34.23041 7.406 1.32e-08 \*\*\*  
 age -0.81853 0.26643 32.16807 -3.072 0.0043 \*\*   
 fiber -0.03534 0.09777 202.59274 -0.361 0.7181   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 36: sfi vs. fiber  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 18.91679 1.62581 75.91500 11.635 <2e-16 \*\*\*  
 fiber -0.06251 0.05051 214.64491 -1.238 0.217   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 37: se vs. ca  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 7.874e+01 2.672e+00 3.158e+01 29.464 < 2e-16 \*\*\*  
 age 3.380e-01 9.085e-02 3.033e+01 3.720 0.000809 \*\*\*  
 ca 8.754e-04 6.748e-04 2.062e+02 1.297 0.195933   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 38: tst vs. ca  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 4.064e+02 1.056e+01 8.707e+01 38.48 <2e-16 \*\*\*  
 ca 1.662e-02 8.837e-03 1.710e+02 1.88 0.0618 .   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 39: waso vs. ca  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 5.826e+01 7.834e+00 3.353e+01 7.437 1.37e-08 \*\*\*  
 age -8.181e-01 2.663e-01 3.221e+01 -3.072 0.0043 \*\*   
 ca -5.568e-04 1.984e-03 2.064e+02 -0.281 0.7793   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 40: sfi vs. ca  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 18.289469 1.579837 70.722458 11.58 <2e-16 \*\*\*  
 ca -0.000695 0.001022 213.707254 -0.68 0.497   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 41: se vs. mg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 7.892e+01 2.744e+00 3.259e+01 28.759 < 2e-16 \*\*\*  
 age 3.429e-01 9.231e-02 3.040e+01 3.715 0.000818 \*\*\*  
 mg 1.570e-03 2.098e-03 1.939e+02 0.748 0.455177   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 42: tst vs. mg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 415.08629 11.21118 82.53394 37.02 <2e-16 \*\*\*  
 mg 0.02163 0.02738 152.22850 0.79 0.431   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 43: waso vs. mg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 58.773021 7.923384 34.456727 7.418 1.23e-08 \*\*\*  
 age -0.819107 0.266355 32.124136 -3.075 0.00427 \*\*   
 mg -0.003065 0.006140 192.622818 -0.499 0.61825   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 44: sfi vs. mg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 18.480093 1.633023 75.562612 11.316 <2e-16 \*\*\*  
 mg -0.002592 0.003213 215.890103 -0.807 0.421   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 45: se vs. na  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 7.827e+01 2.656e+00 3.212e+01 29.467 < 2e-16 \*\*\*  
 age 3.358e-01 8.886e-02 2.961e+01 3.778 0.00071 \*\*\*  
 na 3.710e-04 2.252e-04 1.812e+02 1.647 0.10125   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 46: tst vs. na  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 4.039e+02 1.266e+01 9.575e+01 31.901 <2e-16 \*\*\*  
 na 4.947e-03 2.930e-03 1.460e+02 1.688 0.0935 .   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 47: waso vs. na  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 5.972e+01 7.922e+00 3.486e+01 7.539 8e-09 \*\*\*  
 age -8.079e-01 2.652e-01 3.222e+01 -3.046 0.0046 \*\*   
 na -6.170e-04 6.643e-04 1.864e+02 -0.929 0.3542   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 48: sfi vs. na  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.840e+01 1.794e+00 9.359e+01 10.26 <2e-16 \*\*\*  
 na -2.102e-04 3.502e-04 2.160e+02 -0.60 0.549   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 49: se vs. zn  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.64862 2.78474 32.86748 28.602 < 2e-16 \*\*\*  
 age 0.34412 0.09394 30.56855 3.663 0.000936 \*\*\*  
 zn -0.02143 0.04920 214.03720 -0.436 0.663633   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 50: tst vs. zn  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 412.0455 10.2477 100.8808 40.208 <2e-16 \*\*\*  
 zn 0.8703 0.6659 212.9435 1.307 0.193   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 51: waso vs. zn  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 56.4446 7.9167 34.5674 7.130 2.79e-08 \*\*\*  
 age -0.8198 0.2667 32.0452 -3.074 0.00429 \*\*   
 zn 0.1147 0.1442 214.6136 0.796 0.42705   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 52: sfi vs. zn  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 16.94187 1.51223 63.55378 11.203 <2e-16 \*\*\*  
 zn 0.05912 0.07244 203.97764 0.816 0.415   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 53: se vs. vit\_b6  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 78.78969 2.71861 32.20668 28.982 < 2e-16 \*\*\*  
 age 0.34376 0.09248 30.93780 3.717 0.000798 \*\*\*  
 vit\_b6 0.27109 0.21656 213.43973 1.252 0.212018   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 54: tst vs. vit\_b6  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 418.574 9.459 74.697 44.253 <2e-16 \*\*\*  
 vit\_b6 1.591 2.908 196.372 0.547 0.585   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 55: waso vs. vit\_b6  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 58.7901 7.8539 33.3647 7.486 1.23e-08 \*\*\*  
 age -0.8211 0.2670 32.0248 -3.075 0.00429 \*\*   
 vit\_b6 -0.4241 0.6360 212.8366 -0.667 0.50554   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 56: sfi vs. vit\_b6  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 18.0094 1.4547 55.3401 12.381 <2e-16 \*\*\*  
 vit\_b6 -0.1670 0.3247 210.4461 -0.514 0.608   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 57: se vs. vit\_b12  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 78.94215 2.74902 32.47694 28.716 < 2e-16 \*\*\*  
 age 0.35004 0.09359 31.23027 3.740 0.000742 \*\*\*  
 vit\_b12 0.05795 0.06551 214.63737 0.885 0.377386   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 58: tst vs. vit\_b12  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 418.6010 8.0899 54.8899 51.744 <2e-16 \*\*\*  
 vit\_b12 0.7213 0.8852 210.5101 0.815 0.416   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 59: waso vs. vit\_b12  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 58.04114 7.84198 33.66792 7.401 1.48e-08 \*\*\*  
 age -0.82453 0.26679 32.32270 -3.091 0.00409 \*\*   
 vit\_b12 -0.02487 0.19243 214.94373 -0.129 0.89727   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 60: sfi vs. vit\_b12  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 12.3161 8.7593 26.9630 1.406 0.171  
 bmi 0.2206 0.3534 27.0689 0.624 0.538  
 vit\_b12 -0.1405 0.1529 168.8736 -0.919 0.359  
   
   
 Model 61: se vs. sfa  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.16229 2.71916 31.38748 29.113 < 2e-16 \*\*\*  
 age 0.34285 0.09248 30.00519 3.707 0.000847 \*\*\*  
 sfa 0.01057 0.02292 213.01518 0.461 0.645080   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 62: tst vs. sfa  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 401.3029 10.1591 108.0355 39.502 <2e-16 \*\*\*  
 sfa 0.8086 0.3072 213.6591 2.632 0.0091 \*\*   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 63: waso vs. sfa  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 56.43651 7.90881 33.25460 7.136 3.41e-08 \*\*\*  
 age -0.83267 0.26894 31.78818 -3.096 0.00407 \*\*   
 sfa 0.06620 0.06709 213.30190 0.987 0.32484   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 64: sfi vs. sfa  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.58827 1.52539 65.62674 11.530 <2e-16 \*\*\*  
 sfa 0.00160 0.03365 202.22520 0.048 0.962   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 65: se vs. ufa  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 78.47330 2.69488 32.86654 29.119 < 2e-16 \*\*\*  
 age 0.34063 0.09078 30.53372 3.752 0.000736 \*\*\*  
 ufa 0.02094 0.01381 213.48977 1.517 0.130779   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 66: tst vs. ufa  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 403.0031 11.0456 105.1594 36.485 <2e-16 \*\*\*  
 ufa 0.3918 0.1834 194.1692 2.136 0.0339 \*   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 67: waso vs. ufa  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 56.42026 7.95514 34.20665 7.092 3.3e-08 \*\*\*  
 age -0.82826 0.26803 31.80804 -3.090 0.00414 \*\*   
 ufa 0.03271 0.04062 213.67668 0.805 0.42158   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 68: sfi vs. ufa  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.959345 1.609316 75.899786 11.160 <2e-16 \*\*\*  
 ufa -0.006742 0.020711 209.736789 -0.326 0.745   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 69: se vs. vit\_d  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.13055 2.72483 31.56121 29.041 < 2e-16 \*\*\*  
 age 0.34659 0.09340 31.03452 3.711 0.000809 \*\*\*  
 vit\_d 0.03969 0.05465 209.53542 0.726 0.468486   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 70: tst vs. vit\_d  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 422.53307 7.78112 49.44799 54.302 <2e-16 \*\*\*  
 vit\_d -0.06098 0.75020 215.83863 -0.081 0.935   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 71: waso vs. vit\_d  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 57.56854 7.74994 32.71230 7.428 1.64e-08 \*\*\*  
 age -0.81990 0.26556 32.13731 -3.087 0.00414 \*\*   
 vit\_d 0.04332 0.16067 210.87071 0.270 0.78769   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 72: sfi vs. vit\_d  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.81034 1.31595 39.38996 13.534 <2e-16 \*\*\*  
 vit\_d -0.03629 0.07983 198.73644 -0.455 0.65   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 73: se vs. fruit  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.3893 2.7048 30.4862 29.351 < 2e-16 \*\*\*  
 age 0.3496 0.0943 31.8411 3.708 0.000794 \*\*\*  
 fruit -0.1188 0.2946 214.9402 -0.403 0.687158   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 74: tst vs. fruit  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 419.708 8.244 53.723 50.908 <2e-16 \*\*\*  
 fruit 2.059 3.914 198.967 0.526 0.599   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 75: waso vs. fruit  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 57.8467 7.6900 31.5435 7.522 1.59e-08 \*\*\*  
 age -0.8274 0.2683 33.0144 -3.084 0.00411 \*\*   
 fruit 0.1224 0.8635 214.5889 0.142 0.88744   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 76: sfi vs. fruit  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.8413 1.3603 44.1054 13.116 <2e-16 \*\*\*  
 fruit -0.1733 0.4356 209.5748 -0.398 0.691   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 77: se vs. veg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 78.61620 2.61680 30.89421 30.043 < 2e-16 \*\*\*  
 age 0.34450 0.08923 29.99557 3.861 0.000559 \*\*\*  
 veg 0.44126 0.24209 203.09195 1.823 0.069813 .   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 78: tst vs. veg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 423.5120 8.9420 59.9516 47.362 <2e-16 \*\*\*  
 veg -0.7295 3.2504 181.0397 -0.224 0.823   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 79: waso vs. veg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 59.5408 7.6852 32.9886 7.747 6.35e-09 \*\*\*  
 age -0.8223 0.2621 32.0384 -3.138 0.00364 \*\*   
 veg -0.9615 0.7118 203.7962 -1.351 0.17824   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 80: sfi vs. veg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 18.7252 1.3864 49.3740 13.506 <2e-16 \*\*\*  
 veg -0.6282 0.3675 214.2110 -1.709 0.0889 .   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 81: se vs. f\_v  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.08088 2.67556 30.69804 29.557 < 2e-16 \*\*\*  
 age 0.33714 0.09214 30.73893 3.659 0.000941 \*\*\*  
 f\_v 0.17322 0.17126 208.02576 1.011 0.312957   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 82: tst vs. f\_v  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 421.1741 9.6000 69.1828 43.872 <2e-16 \*\*\*  
 f\_v 0.3521 2.2740 180.7344 0.155 0.877   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 83: waso vs. f\_v  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 58.6194 7.7319 32.3968 7.581 1.14e-08 \*\*\*  
 age -0.8039 0.2663 32.4426 -3.019 0.00491 \*\*   
 f\_v -0.4310 0.5017 207.2019 -0.859 0.39126   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 84: sfi vs. f\_v  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 18.7216 1.4522 56.4840 12.89 <2e-16 \*\*\*  
 f\_v -0.3682 0.2575 213.8923 -1.43 0.154   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 85: se vs. egg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.48546 2.68967 30.52662 29.552 < 2e-16 \*\*\*  
 age 0.33511 0.09364 31.75448 3.579 0.00113 \*\*   
 egg 0.27207 0.35415 214.82256 0.768 0.44319   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 86: tst vs. egg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 423.142 7.448 40.171 56.812 <2e-16 \*\*\*  
 egg -1.482 4.746 207.679 -0.312 0.755   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 87: waso vs. egg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 57.9608 7.6927 31.7487 7.535 1.47e-08 \*\*\*  
 age -0.8330 0.2680 33.0785 -3.108 0.00385 \*\*   
 egg 0.3128 1.0394 214.9897 0.301 0.76377   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 88: sfi vs. egg  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.3979 1.2980 36.8097 13.403 9.85e-16 \*\*\*  
 egg 0.3764 0.5209 207.0719 0.723 0.471   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 89: se vs. nuts  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.45342 2.72212 31.19530 29.188 < 2e-16 \*\*\*  
 age 0.34342 0.09356 31.04248 3.671 0.000903 \*\*\*  
 nuts -0.04145 0.19980 214.07212 -0.207 0.835864   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 90: tst vs. nuts  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 420.350 7.142 36.722 58.856 <2e-16 \*\*\*  
 nuts 2.253 2.670 198.447 0.844 0.4   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 91: waso vs. nuts  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 57.2554 7.7310 32.4014 7.406 1.85e-08 \*\*\*  
 age -0.8120 0.2657 32.2432 -3.056 0.00448 \*\*   
 nuts 0.3699 0.5845 213.0656 0.633 0.52754   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 92: sfi vs. nuts  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.57382 1.27887 35.16753 13.742 1.05e-15 \*\*\*  
 nuts 0.06644 0.29784 209.87899 0.223 0.824   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 93: se vs. dairy  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.38343 2.72759 31.08000 29.10 < 2e-16 \*\*\*  
 age 0.34454 0.09362 30.82041 3.68 0.000887 \*\*\*  
 dairy 0.00244 0.24232 201.09828 0.01 0.991977   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 94: tst vs. dairy  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 413.984 8.352 53.573 49.567 <2e-16 \*\*\*  
 dairy 5.243 3.164 165.720 1.657 0.0994 .   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 95: waso vs. dairy  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 57.9866 7.7628 32.3727 7.470 1.56e-08 \*\*\*  
 age -0.8213 0.2664 32.1026 -3.083 0.00419 \*\*   
 dairy -0.1032 0.7078 197.7913 -0.146 0.88426   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 96: sfi vs. dairy  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 11.8914 8.6533 26.8595 1.374 0.181  
 bmi 0.2389 0.3507 27.4705 0.681 0.502  
 dairy -0.4511 0.4981 162.6808 -0.906 0.366  
   
   
 Model 97: se vs. added\_sugar  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 79.28209 2.69481 30.48828 29.420 < 2e-16 \*\*\*  
 age 0.33736 0.09356 31.33205 3.606 0.00107 \*\*   
 added\_sugar 0.03678 0.05404 196.33863 0.681 0.49689   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 98: tst vs. added\_sugar  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 407.9344 8.4426 56.3180 48.319 <2e-16 \*\*\*  
 added\_sugar 1.7064 0.6814 141.0827 2.504 0.0134 \*   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 99: waso vs. added\_sugar  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 57.1209 7.5544 31.6009 7.561 1.41e-08 \*\*\*  
 age -0.8707 0.2624 32.5258 -3.318 0.00224 \*\*   
 added\_sugar 0.2502 0.1568 191.2829 1.596 0.11216   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 100: sfi vs. added\_sugar  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 17.19318 1.43113 50.50713 12.014 <2e-16 \*\*\*  
 added\_sugar 0.05225 0.08238 215.96468 0.634 0.527   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### Sleep and Diet

The following table presents the results of regressing diet outcome variables on sleep predictors:

Model 1: en vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 835.73 934.75 199.90 0.894 0.372  
 se 13.77 10.44 199.97 1.320 0.188  
   
   
 Model 2: food\_wt\_f vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 533.370 576.436 198.802 0.925 0.356  
 se 7.386 6.419 196.913 1.151 0.251  
   
   
 Model 3: ed vs. se  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 2.046405 0.603373 197.139803 3.392 0.00084 \*\*\*  
 se -0.003562 0.006745 198.185615 -0.528 0.59800   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 4: prot vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 41.1426 60.4524 198.8625 0.681 0.497  
 sex2 -17.0032 18.8151 31.3318 -0.904 0.373  
 se 0.6403 0.6788 198.9692 0.943 0.347  
   
   
 Model 5: fat vs. se  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -9.5772 46.9139 193.6543 -0.204 0.8385   
 se 1.0185 0.5248 194.9867 1.941 0.0537 .  
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 6: cho vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 145.4127 99.8518 199.0458 1.456 0.147  
 se 0.9855 1.1122 197.3803 0.886 0.377

Model 7: prot\_plant vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 1.143e+00 2.660e+00 1.977e+02 0.430 0.668  
 se 5.507e-03 2.974e-02 1.986e+02 0.185 0.853  
   
   
 Model 8: prot\_ani vs. se  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -3.55184 6.14512 114.04453 -0.578 0.5644   
 age 0.32241 0.14120 29.96493 2.283 0.0297 \*  
 sex2 -5.59518 2.41472 29.50941 -2.317 0.0276 \*  
 se 0.01772 0.05961 197.67674 0.297 0.7666   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 9: fiber vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 14.83545 11.98099 199.83542 1.238 0.217  
 se 0.06644 0.13361 199.08546 0.497 0.620  
   
   
 Model 10: ca vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 187.970 604.815 199.360 0.311 0.756  
 se 8.572 6.756 199.849 1.269 0.206  
   
   
 Model 11: mg vs. se  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 315.4571 190.0610 198.9012 1.660 0.0985 .  
 se 0.1555 2.1166 197.1353 0.073 0.9415   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 12: na vs. se  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -56.02 1770.67 199.99 -0.032 0.9748   
 se 41.55 19.76 199.62 2.103 0.0367 \*  
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 13: sfa vs. se  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -11.4911 17.2142 175.8896 -0.668 0.5053   
 se 0.4165 0.1928 177.3839 2.160 0.0321 \*  
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 14: ufa vs. se  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 0.1049 28.5772 196.7602 0.004 0.9971   
 se 0.5401 0.3195 197.8283 1.690 0.0926 .  
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 15: fruit vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 8.837e-01 1.377e+00 1.976e+02 0.642 0.522  
 se 3.891e-03 1.539e-02 1.986e+02 0.253 0.801  
   
   
 Model 16: veg vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 1.650e+00 1.674e+00 1.991e+02 0.986 0.325  
 se 1.113e-03 1.870e-02 1.997e+02 0.060 0.953  
   
   
 Model 17: f\_v vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 2.822e+00 2.344e+00 1.998e+02 1.204 0.230  
 se 1.725e-03 2.617e-02 2.000e+02 0.066 0.947  
   
   
 Model 18: egg vs. se  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) -0.93213 1.13472 197.27116 -0.821 0.412  
 se 0.01782 0.01269 198.26349 1.405 0.162  
   
   
 Model 19: dairy vs. se  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -3.39265 1.50982 91.63810 -2.247 0.02704 \*   
 bmi 0.06675 0.02060 26.43052 3.240 0.00322 \*\*  
 se 0.03458 0.01706 107.89598 2.027 0.04510 \*   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 20: added\_sugar vs. se  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -5.78549 10.72240 110.76573 -0.540 0.591   
 bmi 0.68036 0.26198 27.05763 2.597 0.015 \*  
 se -0.02774 0.10261 162.24230 -0.270 0.787   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 21: en vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1259.616 335.010 199.045 3.760 0.000223 \*\*\*  
 tst 1.891 0.746 191.935 2.534 0.012067 \*   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 22: food\_wt\_f vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 897.7137 210.0541 197.7949 4.274 2.99e-05 \*\*\*  
 tst 0.6901 0.4575 185.7541 1.509 0.133   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 23: ed vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.622e+00 2.189e-01 1.990e+02 7.411 3.51e-12 \*\*\*  
 tst 2.545e-04 4.920e-04 1.953e+02 0.517 0.606   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 24: prot vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 50.56379 21.61945 196.96220 2.339 0.0203 \*  
 sex2 -20.22029 18.35991 31.76010 -1.101 0.2790   
 tst 0.11357 0.04866 189.90589 2.334 0.0206 \*  
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 25: fat vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 28.97270 16.76266 198.30065 1.728 0.08547 .   
 tst 0.12282 0.03801 198.48122 3.231 0.00144 \*\*  
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 26: cho vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 192.58659 36.36904 198.04018 5.295 3.14e-07 \*\*\*  
 tst 0.09550 0.07942 186.32260 1.202 0.231   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 27: prot\_plant vs. tst  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 3.015e-01 9.591e-01 1.990e+02 0.314 0.754  
 tst 3.143e-03 2.159e-03 1.962e+02 1.456 0.147  
   
   
 Model 28: prot\_ani vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -5.227535 4.001734 41.386689 -1.306 0.1987   
 age 0.318832 0.137710 29.783292 2.315 0.0277 \*  
 sex2 -5.872987 2.370434 30.024832 -2.478 0.0191 \*  
 tst 0.008036 0.004257 188.599018 1.888 0.0606 .  
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 29: fiber vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.809e+01 4.352e+00 1.987e+02 4.157 4.79e-05 \*\*\*  
 tst 6.257e-03 9.596e-03 1.889e+02 0.652 0.515   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 30: ca vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 674.6554 219.0926 199.0947 3.079 0.00237 \*\*  
 tst 0.6504 0.4897 193.4219 1.328 0.18570   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 31: mg vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 252.2053 69.1135 198.1300 3.649 0.000336 \*\*\*  
 tst 0.1822 0.1510 186.8456 1.207 0.229075   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 32: na vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 2209.413 640.980 198.825 3.447 0.000692 \*\*\*  
 tst 3.371 1.416 189.562 2.380 0.018287 \*   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 33: sfa vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 8.97143 6.27396 194.03152 1.430 0.15434   
 tst 0.03912 0.01438 199.49559 2.721 0.00709 \*\*  
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 34: ufa vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 16.99844 10.17685 198.81925 1.67 0.0964 .   
 tst 0.07349 0.02297 196.91607 3.20 0.0016 \*\*  
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 35: fruit vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 9.925e-01 4.989e-01 1.989e+02 1.990 0.048 \*  
 tst 5.602e-04 1.123e-03 1.958e+02 0.499 0.618   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 36: veg vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.148e+00 6.046e-01 1.991e+02 1.899 0.0591 .  
 tst 1.420e-03 1.355e-03 1.944e+02 1.048 0.2958   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 37: f\_v vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 2.230e+00 8.474e-01 1.991e+02 2.631 0.00917 \*\*  
 tst 1.762e-03 1.891e-03 1.927e+02 0.932 0.35259   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 38: egg vs. tst  
 Estimate Std. Error df t value Pr(>|t|)  
 (Intercept) 6.549e-01 4.135e-01 1.990e+02 1.584 0.115  
 tst -5.044e-06 9.307e-04 1.960e+02 -0.005 0.996  
   
   
 Model 39: dairy vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -1.137151 0.676984 50.631135 -1.680 0.09917 .   
 bmi 0.073348 0.021192 26.375300 3.461 0.00185 \*\*  
 tst 0.001607 0.001080 156.071333 1.488 0.13881   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 40: added\_sugar vs. tst  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -7.908e+00 6.872e+00 3.348e+01 -1.151 0.2580   
 bmi 6.736e-01 2.601e-01 2.656e+01 2.589 0.0154 \*  
 tst -4.721e-04 5.918e-03 1.549e+02 -0.080 0.9365   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 41: en vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 2.059e+03 1.648e+02 9.262e+01 12.493 <2e-16 \*\*\*  
 waso 6.278e-03 3.333e+00 1.952e+02 0.002 0.998   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 42: food\_wt\_f vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1171.4421 109.4606 79.4352 10.702 <2e-16 \*\*\*  
 waso 0.5211 2.0316 189.4754 0.256 0.798   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 43: ed vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.764e+00 1.004e-01 1.028e+02 17.57 <2e-16 \*\*\*  
 waso -9.956e-04 2.164e-03 1.991e+02 -0.46 0.646   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 44: prot vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 91.2938 11.0715 83.8335 8.246 1.98e-12 \*\*\*  
 sex2 -14.3651 19.1637 31.3192 -0.750 0.459   
 waso 0.1803 0.2148 195.7285 0.839 0.402   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 45: fat vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 83.39938 7.76128 107.25634 10.746 <2e-16 \*\*\*  
 waso -0.07016 0.17055 199.82853 -0.411 0.681   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 46: cho vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 234.56724 18.68647 81.43880 12.55 <2e-16 \*\*\*  
 waso -0.04581 0.35220 190.42141 -0.13 0.897   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 47: prot\_plant vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.539e+00 4.407e-01 1.062e+02 3.492 0.000699 \*\*\*  
 waso 2.705e-03 9.536e-03 1.993e+02 0.284 0.776938   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 48: prot\_ani vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -3.23747 3.84689 33.68943 -0.842 0.4060   
 age 0.34202 0.14078 30.37614 2.430 0.0212 \*  
 sex2 -5.73347 2.41177 30.10483 -2.377 0.0240 \*  
 waso 0.02108 0.01881 194.23075 1.121 0.2637   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 49: fiber vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 21.70143 2.15519 89.01249 10.069 2.3e-16 \*\*\*  
 waso -0.02769 0.04237 193.41155 -0.654 0.514   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 50: ca vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 910.415 104.608 97.155 8.703 8.33e-14 \*\*\*  
 waso 1.138 2.162 196.766 0.526 0.599   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 51: mg vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 321.2085 35.4591 83.2692 9.059 4.86e-14 \*\*\*  
 waso 0.2324 0.6694 190.8164 0.347 0.729   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 52: na vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 3709.171 321.185 88.511 11.548 <2e-16 \*\*\*  
 waso -2.119 6.331 193.474 -0.335 0.738   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 53: sfa vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 27.37465 2.73120 113.41119 10.023 <2e-16 \*\*\*  
 waso -0.05308 0.06367 197.08624 -0.834 0.406   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 54: ufa vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 48.5369 4.7899 104.6979 10.133 <2e-16 \*\*\*  
 waso -0.0121 0.1032 199.1693 -0.117 0.907   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 55: fruit vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.152e+00 2.295e-01 1.037e+02 5.020 2.15e-06 \*\*\*  
 waso 2.233e-03 4.933e-03 1.990e+02 0.453 0.651   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 56: veg vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.887524 0.282636 101.045744 6.678 1.33e-09 \*\*\*  
 waso -0.003995 0.005971 198.129754 -0.669 0.504   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 57: f\_v vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 3.021776 0.404312 96.341163 7.474 3.57e-11 \*\*\*  
 waso -0.001346 0.008343 196.633714 -0.161 0.872   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 58: egg vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 0.78306 0.18982 103.26763 4.125 7.51e-05 \*\*\*  
 waso -0.00376 0.00408 199.02104 -0.922 0.358   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 59: dairy vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -0.378794 0.572542 29.414135 -0.662 0.513   
 bmi 0.074404 0.021592 25.314012 3.446 0.002 \*\*  
 waso -0.002710 0.004528 123.355425 -0.599 0.551   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 60: added\_sugar vs. waso  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -8.361563 6.563784 28.399978 -1.274 0.2130   
 bmi 0.675556 0.259986 26.707114 2.598 0.0151 \*  
 waso 0.005896 0.026336 161.771489 0.224 0.8231   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 61: en vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 2086.798 164.922 93.408 12.653 <2e-16 \*\*\*  
 sfi -1.567 6.615 195.521 -0.237 0.813   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 62: food\_wt\_f vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1163.976 109.436 80.153 10.636 <2e-16 \*\*\*  
 sfi 1.461 4.033 189.869 0.362 0.718   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 63: ed vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.766546 0.100522 103.646500 17.574 <2e-16 \*\*\*  
 sfi -0.002094 0.004293 199.262419 -0.488 0.626   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 64: prot vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 99.14729 11.12473 86.57109 8.912 7.05e-14 \*\*\*  
 sex2 -14.95572 19.09246 31.52988 -0.783 0.439   
 sfi -0.08441 0.42754 195.94379 -0.197 0.844   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 65: fat vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 83.0746 7.7738 108.0976 10.686 <2e-16 \*\*\*  
 sfi -0.1204 0.3384 199.8845 -0.356 0.722   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 66: cho vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 238.0729 18.7117 81.8229 12.723 <2e-16 \*\*\*  
 sfi -0.2915 0.6987 190.6640 -0.417 0.677   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 67: prot\_plant vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.470e+00 4.409e-01 1.075e+02 3.334 0.00117 \*\*  
 sfi 9.293e-03 1.891e-02 1.995e+02 0.491 0.62370   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 68: prot\_ani vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -2.26237 3.79403 31.35571 -0.596 0.5553   
 age 0.32654 0.14102 29.93043 2.316 0.0276 \*  
 sex2 -5.56494 2.42521 30.08738 -2.295 0.0289 \*  
 sfi 0.00931 0.03728 195.31613 0.250 0.8031   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 69: fiber vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 21.01888 2.15980 89.37062 9.732 1.1e-15 \*\*\*  
 sfi -0.01593 0.08417 193.64393 -0.189 0.85   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 70: ca vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1003.906 104.148 99.202 9.639 6.58e-16 \*\*\*  
 sfi -3.078 4.290 197.351 -0.717 0.474   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 71: mg vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 349.298 35.413 83.689 9.864 1.13e-15 \*\*\*  
 sfi -1.144 1.327 191.122 -0.862 0.39   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 72: na vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 3801.729 321.539 88.723 11.824 <2e-16 \*\*\*  
 sfi -9.498 12.548 193.628 -0.757 0.45   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 73: sfa vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 27.11189 2.74039 114.47994 9.893 <2e-16 \*\*\*  
 sfi -0.09002 0.12634 196.87041 -0.713 0.477   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 74: ufa vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 48.158164 4.796174 105.466531 10.041 <2e-16 \*\*\*  
 sfi -0.002352 0.204859 199.293779 -0.011 0.991   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 75: fruit vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 1.111e+00 2.295e-01 1.049e+02 4.844 4.42e-06 \*\*\*  
 sfi 6.747e-03 9.781e-03 1.992e+02 0.690 0.491   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 76: veg vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 2.04787 0.28165 101.78695 7.271 7.53e-11 \*\*\*  
 sfi -0.01706 0.01180 198.33801 -1.446 0.15   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 77: f\_v vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 3.148762 0.404113 97.267640 7.792 7.31e-12 \*\*\*  
 sfi -0.009913 0.016545 196.915465 -0.599 0.55   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 78: egg vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) 0.818612 0.189393 105.177921 4.322 3.52e-05 \*\*\*  
 sfi -0.009472 0.008085 199.268328 -1.171 0.243   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Model 79: dairy vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -0.471920 0.554520 25.944570 -0.851 0.40253   
 bmi 0.075927 0.021789 24.516488 3.485 0.00187 \*\*  
 sfi -0.002141 0.009013 122.989210 -0.238 0.81260   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
   
   
 Model 80: added\_sugar vs. sfi  
 Estimate Std. Error df t value Pr(>|t|)   
 (Intercept) -7.83993 6.50849 27.25368 -1.205 0.2387   
 bmi 0.67591 0.26055 26.62263 2.594 0.0152 \*  
 sfi -0.01932 0.05224 161.61238 -0.370 0.7119   
 ---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## GitHub Repository

All code for this report can be found in [this Github repository](https://github.com/waveley/diet_sleep).