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)   7.778e+01  3.127e+00 2.699e+01  24.875  < 2e-16 ***
## age           3.346e-01  1.019e-01 2.221e+01   3.283  0.00337 **
## en            9.396e-04  5.530e-04 1.943e+02   1.699  0.09089 .
## ---
## 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)   4.049e+02  1.595e+01 1.133e+02  25.393   <2e-16 ***
## en            8.864e-03  7.061e-03 1.459e+02   1.255    0.211
## ---
## 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)    5.761e+01  8.210e+00  3.959e+01   7.017 1.88e-08 ***
## age           -8.216e-01  2.638e-01  3.176e+01  -3.114  0.00389 **
## en            -5.052e-05  1.606e-03  1.864e+02  -0.031  0.97493
## ---
## 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)    1.982e+01  2.148e+00  1.320e+02   9.226 5.97e-16 ***
## en            -1.089e-03  8.381e-04  1.975e+02  -1.299    0.195
## ---
## 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)   7.818e+01  3.080e+00 2.550e+01  25.385  < 2e-16 ***
## age           3.352e-01  1.018e-01 2.231e+01   3.291  0.00329 **
## food_wt_f     1.284e-03  8.417e-04 1.746e+02   1.526  0.12883
## ---
## 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)   4.216e+02  1.418e+01 8.466e+01  29.726   <2e-16 ***
## food_wt_f     1.449e-03  1.050e-02 1.142e+02   0.138     0.89
## ---
## 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)    61.416735   8.080055  36.563518   7.601 4.91e-09 ***
## age            -0.807433   0.264826  31.670512  -3.049  0.00461 **
## food_wt_f      -0.003595   0.002406 164.262271  -1.495  0.13696
## ---
## 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)    20.310177   1.990015 108.851814   10.21   <2e-16 ***
## food_wt_f      -0.002307   0.001289 198.717927   -1.79    0.075 .
## ---
## 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)    79.0233     3.4329  32.5677  23.019  < 2e-16 ***
## age             0.3433     0.1061  22.5576   3.234  0.00373 **
## ed              0.2640     0.7961 197.7921   0.332  0.74055
## ---
## 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)     405.29      19.00 138.60  21.335   <2e-16 ***
## ed               10.52      10.39 173.35   1.012    0.313
## ---
## 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)    49.8110     8.8970  47.4215   5.599 1.06e-06 ***
## age            -0.7925     0.2673  31.6596  -2.965  0.00572 **
## ed              3.9871     2.2963 196.2153   1.736  0.08407 .
## ---
## 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)    16.0641     2.4256 155.5603   6.623 5.43e-10 ***
## ed              0.8651     1.1902 193.9987   0.727    0.468
## ---
## 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)   7.861e+01  3.105e+00 2.512e+01  25.316  < 2e-16 ***
## age           3.380e-01  1.034e-01 2.229e+01   3.268  0.00348 **
## prot          1.090e-02  9.676e-03 1.939e+02   1.127  0.26127
## ---
## 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)   407.0538    13.2037 101.5105  30.829   <2e-16 ***
## prot            0.1732     0.1231 148.5694   1.407    0.162
## ---
## 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)    56.22149    7.98031  36.49936   7.045 2.66e-08 ***
## age            -0.82550    0.26317  31.76340  -3.137  0.00367 **
## prot            0.01480    0.02791 184.49558   0.530  0.59663
## ---
## 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)    19.00630    1.86936 100.75936  10.167   <2e-16 ***
## prot           -0.01544    0.01464 197.74836  -1.054    0.293
## ---
## 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)    78.40476    3.10100  25.38787  25.284  < 2e-16 ***
## age             0.33894    0.10332  22.43836   3.281  0.00335 **
## fat             0.01447    0.01043 197.66796   1.387  0.16700
## ---
## 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)   403.2663    12.9511 114.9518  31.138   <2e-16 ***
## fat             0.2412     0.1362 172.1464   1.771   0.0784 .
## ---
## 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)    55.12574    8.04934  36.25783   6.848 5.01e-08 ***
## age            -0.82562    0.26563  31.36744  -3.108  0.00398 **
```

```
## fat             0.02996    0.03039 196.58836   0.986  0.32551
## ---
## 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)    17.852757   1.821559  99.021341   9.801 2.97e-16 ***
## fat            -0.003484   0.015660 192.024017  -0.222    0.824
## ---
## 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)   7.877e+01  3.116e+00 2.491e+01  25.277  < 2e-16 ***
## age           3.339e-01  1.038e-01 2.204e+01   3.218  0.00396 **
## cho           4.207e-03  4.678e-03 1.927e+02   0.899  0.36965
## ---
## 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)   408.59805   15.03360 101.16314  27.179   <2e-16 ***
## cho             0.06337    0.05886 138.34962   1.077    0.283
## ---
## 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)    59.219100   8.039452  36.756839   7.366 9.65e-09 ***
## age            -0.807243   0.265062  31.870078  -3.045  0.00463 **
## cho            -0.009101   0.013471 183.887736  -0.676  0.50017
## ---
## 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)    21.329844   2.061210 121.051723  10.348   <2e-16 ***
## cho            -0.016217   0.006992 198.212916  -2.319   0.0214 *
## ---
## 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)    79.2768     3.0848  23.2017  25.699  < 2e-16 ***
## age             0.3439     0.1058  22.8607   3.250  0.00355 **
## prot_plant      0.1130     0.1720 191.8689   0.657  0.51206
## ---
## 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)    420.049      7.396  43.442  56.795   <2e-16 ***
## prot_plant       2.041      2.307 192.587   0.885    0.377
## ---
## 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)    55.8842     7.5293  32.1206   7.422 1.87e-08 ***
## age            -0.8047     0.2578  31.5257  -3.121  0.00384 **
## prot_plant      0.6942     0.5024 197.8817   1.382  0.16857
## ---
## 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)    17.7432     1.3491  39.3651  13.152 5.47e-16 ***
## prot_plant     -0.1086     0.2554 186.9258  -0.425    0.671
## ---
## 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)    79.11199    3.06657  23.16536  25.798  < 2e-16 ***
## age             0.33916    0.10478  22.50977   3.237  0.00371 **
## prot_ani        0.08005    0.08628 197.10650   0.928  0.35465
## ---
## 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)   419.3179     9.3826  67.9206  44.691   <2e-16 ***
## prot_ani        0.6606     1.1143 157.9105   0.593    0.554
## ---
## 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)    56.2885     7.6933  32.9918   7.317 2.13e-08 ***
## age            -0.8268     0.2621  31.8391  -3.154   0.0035 **
## prot_ani        0.2231     0.2490 189.0042   0.896   0.3713
## ---
## 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)    17.46060    1.50119  56.44088  11.631   <2e-16 ***
## prot_ani        0.01702    0.13017 196.15066   0.131    0.896
## ---
## 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)    78.86595    3.08609  24.34760  25.555  < 2e-16 ***
## age             0.33924    0.10356  22.15363   3.276  0.00343 **
## fiber           0.03562    0.03856 196.36112   0.924  0.35671
## ---
## 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)   421.0525    12.0950  90.9341  34.812   <2e-16 ***
## fiber           0.1119     0.4967 151.5100   0.225    0.822
## ---
## 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)    58.47931    7.92629  35.49086   7.378 1.15e-08 ***
## age            -0.81989    0.26392  31.79086  -3.107  0.00397 **
## fiber          -0.04972    0.11146 188.66119  -0.446  0.65604
## ---
## 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)    19.63545    1.73988  86.81999  11.286   <2e-16 ***
## fiber          -0.10091    0.05777 196.26085  -1.747   0.0823 .
## ---
## 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)   7.878e+01  2.982e+00 2.281e+01  26.413  < 2e-16 ***
## age           3.313e-01  1.015e-01 2.181e+01   3.265  0.00357 **
## ca            1.096e-03  7.858e-04 1.937e+02   1.395  0.16450
## ---
## 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)   4.048e+02  1.131e+01 8.649e+01  35.781   <2e-16 ***
## ca            1.924e-02  9.906e-03 1.434e+02   1.943    0.054 .
```

```
## ---
## 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)    5.812e+01  7.775e+00  3.358e+01   7.476 1.22e-08 ***
## age           -8.149e-01  2.636e-01  3.190e+01  -3.091  0.00412 **
## ca            -8.454e-04  2.276e-03  1.862e+02  -0.372  0.71068
## ---
## 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)    1.833e+01  1.703e+00  8.136e+01  10.763   <2e-16 ***
## ca            -7.998e-04  1.191e-03  1.977e+02  -0.672    0.503
## ---
## 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)   7.823e+01  3.096e+00 2.550e+01  25.266   <2e-16 ***
## age           3.376e-01  1.027e-01 2.248e+01   3.286   0.0033 **
## mg            4.344e-03  2.850e-03 1.769e+02   1.524   0.1293
## ---
## 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)   411.22501   13.11207  81.27073  31.362   <2e-16 ***
## mg              0.03703    0.03517 113.79095   1.053    0.295
## ---
## 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)    58.505990   8.032953  36.531583   7.283 1.28e-08 ***
## age            -0.819974   0.263944  31.720395  -3.107  0.00397 **
## mg             -0.003211   0.008170 163.949586  -0.393  0.69480
## ---
## 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)    19.977700   1.894718  99.713987  10.544   <2e-16 ***
## mg             -0.007428   0.004362 198.623736  -1.703   0.0902 .
## ---
## 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)   7.824e+01  3.040e+00 2.460e+01  25.735  < 2e-16 ***
## age           3.376e-01  1.006e-01 2.151e+01   3.357  0.00291 **
## na            3.777e-04  2.518e-04 1.822e+02   1.500  0.13533
## ---
## 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)   4.111e+02  1.355e+01 9.208e+01  30.350   <2e-16 ***
## na            3.250e-03  3.171e-03 1.269e+02   1.025    0.307
## ---
## 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)    6.038e+01  8.010e+00  3.674e+01   7.538 5.75e-09 ***
## age           -8.161e-01  2.627e-01  3.183e+01  -3.107  0.00396 **
## na            -8.093e-04  7.239e-04  1.729e+02  -1.118  0.26517
## ---
## 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)    1.889e+01  1.918e+00  1.041e+02   9.851   <2e-16 ***
## na            -3.571e-04  3.856e-04  1.989e+02  -0.926    0.356
## ---
## 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)    79.77175    3.16361  25.34869  25.215  < 2e-16 ***
## age             0.34094    0.10577  22.59435   3.223  0.00382 **
## zn             -0.01943    0.06608 192.71958  -0.294  0.76905
## ---
## 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)   413.5199    12.1464 120.7560  34.045   <2e-16 ***
## zn              0.8437     0.8845 192.1861   0.954    0.341
## ---
## 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)    55.7423     7.9880  36.7773   6.978 3.13e-08 ***
## age            -0.8190     0.2641  31.8095  -3.101  0.00402 **
## zn              0.1447     0.1932 197.8688   0.749  0.45473
## ---
## 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)    16.58092    1.71672  86.06494   9.659 2.23e-15 ***
## zn              0.08441    0.09797 187.17062   0.862     0.39
## ---
## 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)    78.8025     3.1023  24.2172  25.402  < 2e-16 ***
## age             0.3443     0.1052  22.8414   3.273  0.00336 **
## vit_b6          0.2849     0.2333 196.5840   1.221  0.22356
## ---
## 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)   423.6769     9.6000  76.0106  44.133   <2e-16 ***
## vit_b6         -0.1365     3.0984 182.3398  -0.044    0.965
## ---
## 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)    59.0594     7.8729  33.9484   7.502 1.06e-08 ***
## age            -0.8288     0.2655  31.5861  -3.121  0.00383 **
## vit_b6         -0.5904     0.6810 197.5254  -0.867  0.38701
## ---
## 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)    18.1022     1.5028  58.1713  12.046   <2e-16 ***
## vit_b6         -0.2370     0.3492 191.2500  -0.679    0.498
## ---
## 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)    79.14296    3.10897  23.74474  25.456  < 2e-16 ***
## age             0.34567    0.10605  22.93279   3.260  0.00346 **
## vit_b12         0.05270    0.07079 193.89471   0.744  0.45753
```

```
## ---
## 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)   421.3947     8.0304  54.0360  52.475   <2e-16 ***
## vit_b12         0.3841     0.9429 187.2311   0.407    0.684
## ---
## 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)    57.86995    7.77729  33.29664   7.441 1.42e-08 ***
## age            -0.82598    0.26436  31.91411  -3.124  0.00378 **
## vit_b12        -0.04787    0.20719 197.99860  -0.231  0.81753
## ---
## 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)    17.42066    1.38458  44.02610  12.582 3.53e-16 ***
## vit_b12         0.02813    0.10534 188.71958   0.267     0.79
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Model 61: se vs. sfa
##                Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)    79.19393    3.10070  24.19422  25.541  < 2e-16 ***
## age             0.33971    0.10455  22.26673   3.249  0.00364 **
## sfa             0.01495    0.02919 190.26613   0.512  0.60906
## ---
## 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)   405.9001    11.9767 125.9921  33.891   <2e-16 ***
## sfa             0.6691     0.3911 194.9015   1.711   0.0887 .
## ---
## 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)    56.01104    7.91774  34.91042   7.074 3.11e-08 ***
## age            -0.82749    0.26505  31.49459  -3.122  0.00383 **
## sfa             0.06364    0.08552 196.94904   0.744  0.45767
## ---
## 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)    17.31803    1.70385  85.55740  10.164 2.24e-16 ***
## sfa             0.00944    0.04323 185.15801   0.218    0.827
## ---
## 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)    78.2019     3.0914  25.1945  25.297   <2e-16 ***
## age             0.3397     0.1034  22.6226   3.285   0.0033 **
## ufa             0.0279     0.0161 197.9268   1.732   0.0848 .
## ---
## 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)   406.4557    12.1827 104.4885  33.363   <2e-16 ***
## ufa             0.3404     0.2103 167.5221   1.619    0.107
## ---
## 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)    55.19145    8.00505  35.65407   6.895 4.75e-08 ***
## age            -0.82360    0.26549  31.40059  -3.102  0.00404 **
## ufa             0.04777    0.04699 195.53428   1.017  0.31058
## ---
## 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)    18.13177    1.75103  89.63892  10.355   <2e-16 ***
## ufa            -0.01148    0.02428 192.98427  -0.473    0.637
## ---
## 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)    79.34470    3.07885  23.16360  25.771  < 2e-16 ***
## age             0.34293    0.10561  22.81960   3.247  0.00358 **
## vit_d           0.02816    0.05634 185.27803   0.500  0.61782
## ---
## 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)   424.5560     7.5912  48.5835  55.928   <2e-16 ***
## vit_d          -0.2281     0.7687 198.5623  -0.297    0.767
## ---
## 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)    57.11833    7.66618  32.42800   7.451 1.63e-08 ***
## age            -0.81842    0.26256  31.81283  -3.117  0.00386 **
## vit_d           0.05647    0.16602 194.93293   0.340  0.73410
## ---
## 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)    17.64326    1.34673  40.15688  13.101 4.38e-16 ***
## vit_d          -0.01560    0.08324 182.37827  -0.187    0.852
## ---
## 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)    79.55194    3.05017  22.15896  26.081  < 2e-16 ***
## age             0.34316    0.10598  22.92199   3.238  0.00364 **
## fruit          -0.05822    0.33674 196.01334  -0.173  0.86293
## ---
## 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)    419.693      8.131  52.482  51.616   <2e-16 ***
## fruit            3.179      4.403 177.358   0.722    0.471
## ---
## 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)    57.49024    7.60674  31.10007   7.558 1.58e-08 ***
## age            -0.82488    0.26519  32.42705  -3.111  0.00388 **
## fruit           0.08896    0.98161 197.55323   0.091  0.92788
## ---
## 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)    18.3108     1.4008  45.5893  13.071   <2e-16 ***
## fruit          -0.6388     0.4981 191.5294  -1.282    0.201
## ---
```

```
## 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)    78.6639     3.0053  22.8608  26.175  < 2e-16 ***
## age             0.3445     0.1024  22.0222   3.365  0.00279 **
## veg             0.4506     0.2596 195.9828   1.735  0.08425 .
## ---
## 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)    427.475      8.885  58.539  48.111   <2e-16 ***
## veg             -2.312      3.372 153.297  -0.686    0.494
## ---
## 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)    59.7563     7.6605  33.3419   7.801 5.09e-09 ***
## age            -0.8312     0.2601  31.9661  -3.195  0.00314 **
## veg            -1.1260     0.7500 187.1562  -1.501  0.13498
## ---
## 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)    18.8079     1.4287  51.1156   13.16   <2e-16 ***
## veg            -0.7159     0.3912 196.5671   -1.83   0.0688 .
## ---
## 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)    79.0476     3.0645  22.9692  25.795   <2e-16 ***
## age             0.3354     0.1050  22.5736   3.194   0.0041 **
## f_v             0.2244     0.1926 197.3791   1.165   0.2454
## ---
## 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)   424.0441     9.7607  69.1047  43.444   <2e-16 ***
## f_v            -0.2321     2.4899 154.4518  -0.093    0.926
## ---
## 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)    58.8142     7.6959  32.6801   7.642 9.06e-09 ***
## age            -0.8073     0.2633  32.0079  -3.066  0.00438 **
## f_v            -0.5860     0.5565 189.6291  -1.053  0.29368
## ---
## 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)    19.3205     1.5093  60.4095  12.801   <2e-16 ***
## f_v            -0.6042     0.2875 196.1087  -2.101   0.0369 *
## ---
## 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)    79.6065     3.0408  22.3412  26.180  < 2e-16 ***
## age             0.3320     0.1056  23.1233   3.143  0.00453 **
## egg             0.3064     0.3722 195.3777   0.823  0.41132
## ---
## 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)    424.721      7.171  37.977  59.225   <2e-16 ***
## egg             -2.151      4.897 179.408  -0.439    0.661
## ---
## 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)    57.5851     7.5884  31.0471   7.589 1.47e-08 ***
## age            -0.8327     0.2645  32.4379  -3.148  0.00352 **
## egg             0.3619     1.0872 197.7226   0.333  0.73961
## ---
## 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)    17.3359     1.3254  37.2436  13.079  1.7e-15 ***
## egg             0.3678     0.5524 190.5339   0.666    0.506
## ---
## 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)    79.3128     3.0983  22.9645  25.599  < 2e-16 ***
```

```
## age             0.3445     0.1065  22.8369   3.236  0.00368 **
## nuts            0.1589     0.2599 197.9897   0.611  0.54172
## ---
## 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)    418.968      6.948  34.683  60.300   <2e-16 ***
## nuts             5.458      3.361 167.232   1.624    0.106
## ---
## 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)    56.0858     7.6194  32.1089   7.361 2.22e-08 ***
## age            -0.8009     0.2617  31.9537  -3.060  0.00445 **
## nuts            1.0184     0.7501 193.4204   1.358  0.17611
## ---
## 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)    17.62699    1.31900  36.42742  13.364  1.3e-15 ***
## nuts           -0.07602    0.39009 194.67709  -0.195    0.846
## ---
## 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)    79.42820    3.06562  22.70646  25.909  < 2e-16 ***
## age             0.33966    0.10544  22.65091   3.221  0.00383 **
## dairy           0.09718    0.28432 195.30242   0.342  0.73285
## ---
## 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)    410.887      8.514  55.603  48.261   <2e-16 ***
## dairy            7.827      3.579 146.701   2.187   0.0304 *
## ---
## 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)    57.3243     7.6810  31.8694   7.463 1.75e-08 ***
## age            -0.8245     0.2641  31.8367  -3.121  0.00381 **
## dairy           0.1627     0.8181 184.6048   0.199  0.84254
## ---
```

```
## 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)    18.1937     1.4409  49.9798  12.626   <2e-16 ***
## dairy          -0.3977     0.4285 197.5904  -0.928    0.354
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Model 97: se vs. added_sugar
##                Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)    79.32412    3.06523  22.29272  25.879  < 2e-16 ***
## age             0.33153    0.10613  22.73055   3.124  0.00482 **
## added_sugar     0.05823    0.06013 182.79927   0.968  0.33409
## ---
## 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)   410.6078     8.4357  47.8782  48.675   <2e-16 ***
## added_sugar     1.5481     0.7213 110.8971   2.146    0.034 *
## ---
## 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)    56.5258     7.4714  31.2863   7.566 1.49e-08 ***
## age            -0.8653     0.2593  32.0319  -3.338  0.00215 **
## added_sugar     0.2645     0.1699 163.5917   1.557  0.12151
## ---
## 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)    17.09539    1.49124  52.53703  11.464  6.5e-16 ***
## added_sugar     0.05596    0.09165 198.77377   0.611    0.542
## ---
## 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.