Overall Microstructure Summary for Portion Size Meals

Contents

1	Demographics	2
2	Meal Intake	2
3	Microstructure	3
	3.1 Behaviors Across Meals	3
	3.2 Coding Reliability	3
	3.3 Portion Correlation Matrices	
4	Test of Multivariate Dispersons	8
5	Permutational Multivariate Analysis of Variance Using Distance Matrices	9
	5.1 Portion Size	9
	5.2 Visits	
	5.3 Exploratory Univariate Analyses	
	5.4 Repeated Measures Correlation	13
6	Replication of 'Obesogenic' Style of Eating	14
	6.1 Association with Intake	14
	6.2 Association with BMI Percentile	

1 Demographics

Table 1: Demographics

Characteristic	N = 91
Sex	
Male	46 (51%)
Female	45 (49%)
Age, yr	7.8(0.6)
BMI %tile	47.8(24.6)
Ethnicity	
Hispanic/Lantinx	0 (0%)
Not Hispanic/Lantinx	91 (100%)
Race	
0	88 (97%)
2	3 (3.3%)
3	0 (0%)
Income	, ,
< \$51,000	$11\ (12\%)$
>\$100,000	33 (38%)
\$51,000 - \$100,000	44 (50%)
Unknown	3
Mother's Education	
> Bachelor Degree	28 (31%)
AA/Technical Degree	9 (10%)
Bachelor Degree	44 (49%)
High School/GED	9 (10%)
Unknown	1
Father's Education	
> Bachelor Degree	32 (37%)
AA/Technical Degree	14 (16%)
Bachelor Degree	29 (33%)
High School/GED	11 (13%)
Other/NA	1 (1.1%)
Unknown	4
1 (04) 15 (07)	

¹ n (%); Mean (SD)

2 Meal Intake

Table 2: Meal Intake

Characteristic	1, N = 89	2, N = 88	3, N = 87	4, N = 83
Pre-Meal Fullness	36.7 (34.3)	35.7 (31.9)	38.6 (35.5)	32.9 (34.0)
Unknown	0	1	0	0
Avg. Liking	3.9(0.6)	3.8(0.6)	3.8(0.6)	3.9(0.6)
Unknown	0	1	0	0
Intake, g	410.4 (161.3)	$445.7 \ (172.5)$	$462.2\ (188.5)$	458.2 (181.0)
Unknown	0	1	0	1
Intake, kcal	487.2 (191.9)	537.6 (237.6)	560.9 (255.7)	586.8 (247.4)
Unknown	0	1	0	1
95% consumed				
0	87 (98%)	87 (100%)	87 (100%)	82~(100%)
1	2(2.2%)	0 (0%)	0 (0%)	0 (0%)
Unknown	0	1	0	1

¹ Mean (SD); n (%)

3 Microstructure

3.1 Behaviors Across Meals

Table 3: Microstructure Behaviors by Portion Size Meal

Characteristic	1, N = 89	2, N = 88	3, N = 87	4, N = 83
bites sips active eating, min 1st bite latency, min meal duration, min	72.6 (37.9)	75.7 (37.8)	82.3 (45.1)	79.3 (44.0)
	6.6 (6.5)	7.9 (8.3)	6.9 (6.6)	5.6 (6.0)
	15.3 (7.3)	15.9 (7.0)	17.1 (7.6)	17.2 (8.0)
	0.4 (0.3)	0.4 (0.2)	0.4 (0.2)	0.4 (0.3)
	18.0 (8.8)	18.5 (8.4)	19.4 (8.4)	19.2 (8.8)
bites/min	4.3 (1.8)	4.3 (1.8)	4.5 (2.0)	4.4 (1.9)
bite/min (active)	4.9 (1.8)	4.9 (1.8)	5.0 (2.0)	4.8 (1.8)
sips/min	0.4 (0.3)	0.4 (0.5)	0.4 (0.4)	0.3 (0.3)
sips/min (active)	0.4 (0.4)	0.5 (0.5)	0.4 (0.4)	0.3 (0.4)
g/bite	6.4 (2.4)	6.7 (2.8)	6.3 (2.2)	7.0 (5.2)
Unknown kcal/bite Unknown g/min Unknown	0 7.7 (3.3) 0 25.9 (11.3) 0	1 7.9 (3.3) 1 26.9 (11.8)	0 7.7 (3.2) 0 26.3 (10.8) 0	1 8.9 (6.5) 1 27.2 (12.5) 1
kcal/min Unknown g/min (active) Unknown kcal/min (active)	31.4 (14.8)	33.2 (19.2)	32.3 (16.0)	35.0 (16.4)
	0	1	0	1
	29.7 (11.9)	30.7 (12.6)	29.4 (11.3)	30.5 (15.0)
	0	1	0	1
	35.9 (16.1)	37.6 (19.7)	35.8 (16.5)	39.1 (19.5)
Unknown active eat/meal duration, min	0	1	0	1
	0.9 (0.1)	0.9 (0.1)	0.9 (0.1)	0.9 (0.1)

¹ Mean (SD)

3.2 Coding Reliability

Table 4: Coding Reliability - ICC

Behavior	Overall	Portion 1	Portion 2	Portion 3	Portion 4
bites	1	1	1	1	1
sips	1	0.999	1	1	1
active eating	0.964	0.965	0.997	0.991	0.912
bite latency	0.944	0.994	0.865	0.958	0.925
meal duration	1	1	1	1	0.999

3.3 Portion Correlation Matrices

Table 5: Portion Size 1: Correlation Matrix

	nbites	nsips	total_active_eating	bite_latency	meal_duration	bite_rate	bite_rate_ac
nbites							
nsips	0.32						ļ
$total_active_eating$	0.7	0.39					ļ
bite_latency	-0.02	0.16	-0.06				ļ
$meal_duration$	0.59	0.5	0.91	0.04			
bite_rate	0.52	-0.12	-0.14	-0.15	-0.31		
bite_rate_active	0.5	-0.01	-0.2	0.01	-0.25	0.94	ļ
sip_rate	0.01	0.73	-0.07	0.01	-0.03	0.07	0.13
sip_rate_active	0	0.8	-0.06	0.19	0.07	-0.02	0.12
$bite_size_g$	-0.59	0.01	-0.38	0.12	-0.33	-0.37	-0.38
bite_size_kcal	-0.59	-0.25	-0.44	0.09	-0.43	-0.29	-0.32
eat_rate_g	-0.09	-0.1	-0.45	-0.08	-0.57	0.56	0.5
eat_rate_kcal	-0.11	-0.26	-0.49	-0.12	-0.61	0.55	0.5
eat_rate_active_g	-0.18	-0.02	-0.53	0.07	-0.52	0.43	0.48
$eat_rate_active_kcal$	-0.19	-0.22	-0.55	0	-0.58	0.44	0.48
prop_active	0.25	-0.24	0.13	-0.33	-0.26	0.51	0.21

Table 6: Portion Size 2: Correlation Matrix

	nbites	nsips	total_active_eating	bite_latency	$meal_duration$	bite_rate	bite_rate_ac
nbites							
nsips	0.16						
$total_active_eating$	0.64	0.34					
bite_latency	-0.2	0.09	0.05				
$meal_duration$	0.61	0.34	0.92	0.02			
bite_rate	0.5	-0.18	-0.22	-0.22	-0.32		
bite_rate_active	0.55	-0.16	-0.22	-0.21	-0.21	0.94	
sip_rate	-0.07	0.86	-0.01	0.08	-0.04	-0.09	-0.1
sip_rate_active	-0.06	0.87	-0.02	0.08	0.01	-0.12	-0.09
$bite_size_g$	-0.6	0.13	-0.33	0.15	-0.29	-0.43	-0.45
bite_size_kcal	-0.53	-0.13	-0.42	0.15	-0.4	-0.21	-0.24
eat_rate_g	-0.14	-0.06	-0.5	-0.05	-0.56	0.5	0.41
eat_rate_kcal	-0.04	-0.2	-0.45	-0.05	-0.5	0.58	0.5
eat_rate_active_g	-0.16	-0.03	-0.53	-0.04	-0.47	0.38	0.39
$eat_rate_active_kcal$	-0.05	-0.2	-0.48	-0.04	-0.45	0.52	0.51
prop_active	0.01	-0.07	0.02	0	-0.35	0.37	0.06

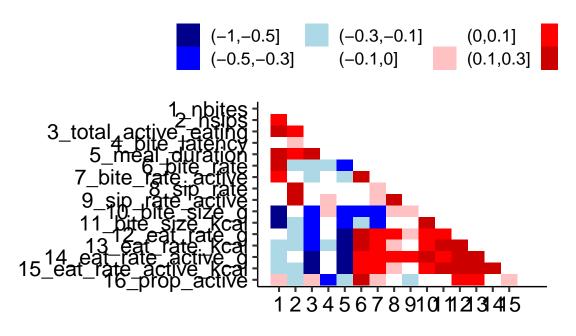
Table 7: Portion Size 3: Correlation Matrix

	nbites	nsips	total_active_eating	bite_latency	$meal_duration$	bite_rate	bite_rate_ac
nbites							
nsips	0.14						
total_active_eating	0.65	0.39					
bite_latency	-0.02	-0.16	0.04				
$meal_duration$	0.55	0.42	0.93	0.07			
bite_rate	0.62	-0.19	-0.11	-0.07	-0.25		
bite_rate_active	0.59	-0.22	-0.18	-0.02	-0.24	0.96	
sip_rate	-0.11	0.82	-0.06	-0.17	-0.06	-0.07	-0.1
sip_rate_active	-0.15	0.84	-0.07	-0.18	-0.02	-0.13	-0.13
bite_size_g	-0.62	0.19	-0.33	-0.04	-0.29	-0.47	-0.49
bite_size_kcal	-0.51	-0.16	-0.3	0.02	-0.33	-0.33	-0.38
eat_rate_g	-0.04	-0.01	-0.41	-0.09	-0.53	0.46	0.41
eat_rate_kcal	-0.01	-0.22	-0.36	-0.06	-0.49	0.46	0.39
$eat_rate_active_g$	-0.12	0	-0.49	-0.05	-0.51	0.38	0.4
eat_rate_active_kcal	-0.06	-0.23	-0.42	-0.01	-0.48	0.4	0.39
prop_active	0.26	-0.05	0.19	-0.14	-0.17	0.39	0.13

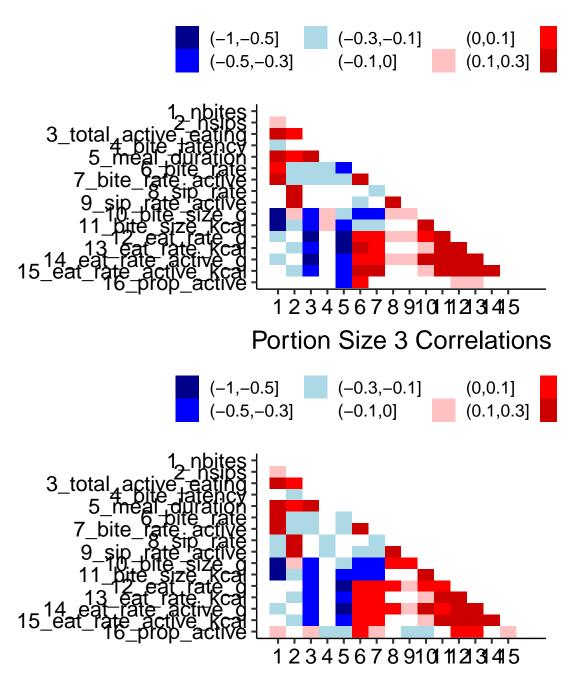
Table 8: Portion Size 4: Correlation Matrix

	nbites	nsips	total_active_eating	bite_latency	meal_duration	bite_rate	bite_rate_ac
nbites							
nsips	0.32						
total_active_eating	0.7	0.39					
bite_latency	-0.02	0.16	-0.06				
$meal_duration$	0.59	0.5	0.91	0.04			
bite_rate	0.52	-0.12	-0.14	-0.15	-0.31		
bite_rate_active	0.5	-0.01	-0.2	0.01	-0.25	0.94	
sip_rate	0.01	0.73	-0.07	0.01	-0.03	0.07	0.13
sip_rate_active	0	0.8	-0.06	0.19	0.07	-0.02	0.12
$bite_size_g$	-0.59	0.01	-0.38	0.12	-0.33	-0.37	-0.38
bite_size_kcal	-0.59	-0.25	-0.44	0.09	-0.43	-0.29	-0.32
eat_rate_g	-0.09	-0.1	-0.45	-0.08	-0.57	0.56	0.5
eat_rate_kcal	-0.11	-0.26	-0.49	-0.12	-0.61	0.55	0.5
$eat_rate_active_g$	-0.18	-0.02	-0.53	0.07	-0.52	0.43	0.48
eat_rate_active_kcal	-0.19	-0.22	-0.55	0	-0.58	0.44	0.48
prop_active	0.25	-0.24	0.13	-0.33	-0.26	0.51	0.21

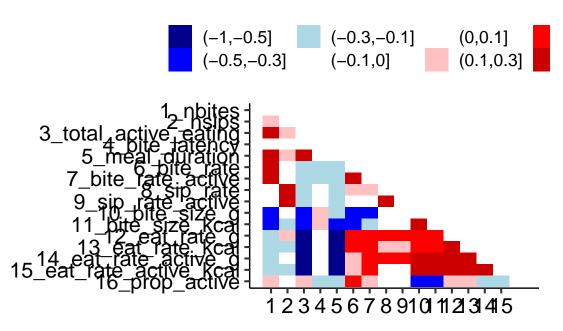
Portion Size 1 Correlations



Portion Size 2 Correlations



Portion Size 4 Correlations



4 Test of Multivariate Dispersons

Permutation test for homogeneity of multivariate dispersions

Permutation: free

Number of permutations: 999

Response: Distances

Df Sum Sq Mean Sq F N.Perm Pr(>F) 3 5.42 1.8070 0.6913 999 0.553

Residuals 341 891.29 2.6138

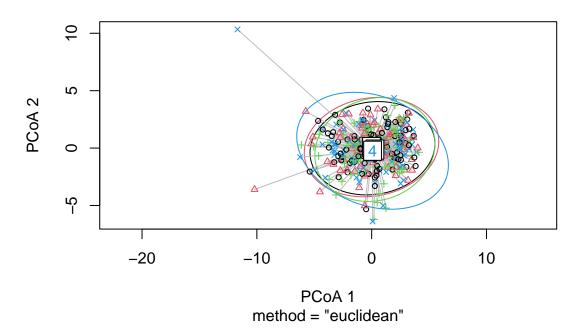
Pairwise comparisons:

(Observed p-value below diagonal, permuted p-value above diagonal)

1 2 3 4 1 0.34300 0.50500 0.210 2 0.33826 0.69600 0.676 3 0.50018 0.69051 0.446

4 0.20285 0.67188 0.42072

all_beh_disp



5 Permutational Multivariate Analysis of Variance Using Distance Matrices

5.1 Portion Size

```
Permutation test for adonis under reduced model
Terms added sequentially (first to last)
Blocks: strata
Permutation: free
Number of permutations: 999
adonis2(formula = scale(portion.beh) ~ ps, data = adonis_dat, permutations = 999, method = "euclidean",
         Df SumOfSqs
                           R2
                                  F Pr(>F)
                 23.3 0.00424 1.459 0.003 **
Residual 343
              5480.7 0.99576
         344
Total
              5504.0 1.00000
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
$parent_call
[1] "scale(portion.beh) ~ ps , strata = sub , permutations 999"
$`1_vs_2`
         Df SumOfSqs
                                   F Pr(>F)
                           R2
                 7.18 0.00269 0.4694 0.45
Residual 174 2661.26 0.99731
Total
        175 2668.44 1.00000
```

```
$`1_vs_3`
         Df SumOfSqs
                      R2
                                 F Pr(>F)
                9.76 0.00389 0.6795 0.125
Residual 174 2498.20 0.99611
        175 2507.96 1.00000
Total
$`1_vs_4`
                             F Pr(>F)
         Df SumOfSqs
                        R2
          1
             21.84 0.00778 1.3259 0.001 ***
Residual 169 2783.44 0.99222
Total
      170 2805.27 1.00000
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
$`2_vs_3`
         Df SumOfSqs
                        R2
                                F Pr(>F)
                8.32 0.0031 0.5344 0.322
          1
ps
Residual 172 2679.34 0.9969
        173 2687.66 1.0000
Total
$`2_vs_4`
         Df SumOfSqs
                         R2
                                 F Pr(>F)
              21.92 0.00734 1.2348 0.033 *
         1
Residual 167 2964.57 0.99266
     168 2986.49 1.00000
Total
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
$`3_vs_4`
                                 F Pr(>F)
         Df SumOfSqs
                         R2
         1
            13.93 0.00495 0.8307 0.106
Residual 167 2801.52 0.99505
        168 2815.45 1.00000
Total
attr(,"class")
[1] "pwadstrata" "list"
5.2 Visits
Permutation test for adonis under reduced model
Terms added sequentially (first to last)
Blocks: strata
Permutation: free
Number of permutations: 999
adonis2(formula = scale(portion.beh) ~ visit, data = adonis_dat, permutations = 999, method = "euclidea
                        R2
                                 F Pr(>F)
         Df SumOfSqs
          3
                30.7 0.00557 0.6371 0.204
visit
Residual 341
              5473.3 0.99443
Total
        344 5504.0 1.00000
```

5.3 Exploratory Univariate Analyses

Table 9: Number of Bites by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	40.246	16.184	329.386	2.487	0.013
avg_vas	8.583	3.923	336.055	2.188	0.029
freddy_pre_meal	-0.093	0.058	333.691	-1.614	0.107
ps_order	-0.025	1.100	252.852	-0.023	0.982
ps	3.065	1.101	253.590	2.785	0.006

Table 10: Number of Sips by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	4.485	3.057	290.855	1.467	0.143
avg_vas	0.859	0.745	293.211	1.153	0.250
freddy_pre_meal	0.006	0.011	339.318	0.553	0.581
ps_order	-0.133	0.231	255.355	-0.576	0.565
ps	-0.391	0.231	256.460	-1.693	0.092

Table 11: Active Eating Time (min) by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	9.865	2.969	328.895	3.322	0.001
avg_vas	1.511	0.720	335.686	2.099	0.037
freddy_pre_meal	-0.011	0.011	333.873	-1.011	0.313
ps_order	-0.254	0.202	252.124	-1.255	0.211
ps	0.728	0.202	252.870	3.598	0.000

Table 12: Meal Duration (min) by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	14.277	3.400	332.078	4.199	0.000
avg_vas	1.102	0.823	338.231	1.339	0.182
freddy_pre_meal	-0.003	0.012	331.385	-0.286	0.775
ps_order	-0.327	0.229	252.461	-1.430	0.154
ps	0.500	0.229	253.161	2.187	0.030

Table 13: Latency to First Bite (min) by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	0.497	0.110	199.961	4.500	0.000
avg_vas	-0.032	0.026	170.866	-1.195	0.234
freddy_pre_meal	0.000	0.000	235.772	0.905	0.367
ps_order	0.000	0.011	261.880	0.027	0.979
ps	-0.001	0.011	263.607	-0.091	0.928

Table 14: Bites/min by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	2.983	0.710	334.582	4.198	0.000
avg_vas	0.319	0.172	339.838	1.858	0.064
freddy_pre_meal	-0.004	0.003	329.031	-1.584	0.114
ps_order	0.074	0.047	253.469	1.574	0.117
ps	0.042	0.047	254.124	0.885	0.377

Table 15: Bites/min (active) by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	4.093	0.700	337.817	5.845	0.000
avg_vas	0.202	0.169	340.997	1.195	0.233
freddy_pre_meal	-0.002	0.002	324.059	-0.971	0.332
ps_order	0.060	0.046	253.314	1.321	0.188
ps	-0.023	0.046	253.901	-0.504	0.614

Table 16: Sips/min by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	0.392	0.168	288.971	2.333	0.020
avg_vas	0.008	0.041	291.064	0.184	0.854
freddy_pre_meal	0.000	0.001	338.972	0.134	0.893
ps_order	0.002	0.013	254.554	0.149	0.882
ps	-0.024	0.013	255.677	-1.847	0.066

Table 17: Sips/min (active) by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	0.480	0.195	288.655	2.461	0.014
avg_vas	-0.002	0.047	290.666	-0.048	0.962
freddy_pre_meal	0.001	0.001	338.880	0.854	0.394
ps_order	0.008	0.015	254.639	0.527	0.598
ps	-0.035	0.015	255.763	-2.390	0.018

Table 18: g/Bite by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	8.259	1.512	234.672	5.464	0.000
avg_vas	-0.514	0.367	222.940	-1.399	0.163
freddy_pre_meal	0.009	0.006	300.699	1.473	0.142
ps_order	-0.132	0.133	255.758	-0.997	0.320
ps	0.143	0.133	257.215	1.078	0.282

Table 19: kcal/Bite by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	8.259	1.512	234.672	5.464	0.000
avg_vas	-0.514	0.367	222.940	-1.399	0.163
freddy_pre_meal	0.009	0.006	300.699	1.473	0.142
ps_order	-0.132	0.133	255.758	-0.997	0.320
ps	0.143	0.133	257.215	1.078	0.282

Table 20: g/min by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	24.181	4.872	318.214	4.963	0.000
avg_vas	0.321	1.184	325.235	0.271	0.786
freddy_pre_meal	-0.017	0.018	337.772	-0.958	0.339
ps_order	0.356	0.344	252.044	1.035	0.301
ps	0.414	0.344	252.862	1.204	0.230

Table 21: kcal/min by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	26.326	7.081	313.496	3.718	0.000
avg_vas	0.887	1.722	320.273	0.515	0.607
freddy_pre_meal	-0.049	0.026	338.919	-1.899	0.058
ps_order	0.881	0.506	251.266	1.742	0.083
ps	1.224	0.506	252.132	2.421	0.016

Table 22: g/min (active) by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	34.007	5.520	304.025	6.161	0.000
avg_vas	-1.177	1.344	309.415	-0.876	0.382
freddy_pre_meal	-0.003	0.020	339.997	-0.165	0.869
ps_order	0.144	0.404	252.791	0.357	0.722
ps	0.178	0.405	253.737	0.440	0.660

Table 23: kcal/min (active) by Portion Size Meal

	Estimate	Std. Error	df	t value	$\Pr(> t)$
(Intercept)	38.086	7.800	303.884	4.883	0.000
avg_vas	-0.929	1.899	309.340	-0.490	0.625
freddy_pre_meal	-0.038	0.029	339.995	-1.319	0.188
ps_order	0.659	0.571	252.165	1.154	0.250
ps	1.012	0.571	253.114	1.770	0.078

5.4 Repeated Measures Correlation

Table 24: Repeated Measures: Correlation Matrix

	nbites_c1	nsips_c1	total_active_eating_c1	bite_latency_c1	meal_duration_c1	bit
nbites_c1						
$nsips_c1$	0.085					
$total_active_eating_c1$	0.664	0.173				
bite_latency_c1	-0.117	0.044	-0.042			
$meal_duration_c1$	0.538	0.213	0.811	-0.006		
bite_rate_c1	0.501	-0.102	-0.076	-0.167	-0.338	
bite_rate_active_c1	0.412	-0.054	-0.294	-0.068	-0.279	0.8
sip_rate_c1	-0.098	0.825	-0.084	0.006	-0.131	-0.
sip_rate_active_c1	-0.132	0.843	-0.144	0.067	-0.056	-0.
$bite_size_g_c1$	-0.398	-0.061	-0.248	0.052	-0.238	-0.
bite_size_kcal_c1	-0.354	-0.204	-0.251	0.056	-0.263	-0.
$eat_rate_g_c1$	-0.233	-0.088	-0.409	-0.104	-0.625	0.5
$eat_rate_kcal_c1$	-0.143	-0.22	-0.356	-0.09	-0.539	0.4
eat_rate_active_g_c1	-0.346	-0.086	-0.561	0	-0.538	0.1
eat_rate_active_kcal_c1	-0.246	-0.225	-0.496	-0.002	-0.505	0.2
prop_active_c1	0.255	-0.035	0.356	-0.143	-0.219	0.4

5.4.1 ICC across portion sizes

Table 25: Coding Reliability - ICC

nbites	0.697
nsips	0.534
active_eating	0.676
bite_latency	0.160
$meal_duration$	0.699
bite_rate	0.729
bite_rate_active	0.760
sip_rate	0.524
sip_rate_active	0.522
$bite_size_g$	0.331
bite_size_kcal	0.403
eat_rate_g	0.657
eat_rate_kcal	0.673
$eat_rate_active_g$	0.594
$eat_rate_active_kcal$	0.631
prop_active	0.258

6 Replication of 'Obesogenic' Style of Eating

6.1 Association with Intake

6.1.1 Portion Size 1

Table 26: Standardized Coefficitens for Association Between Eating Behaivors and Intake (adjusted for age, sex, liking, and fullness)

Behavior	PS 1, g	PS 1, kcal	PS 2, g	PS 2, kcal	PS 3, g	PS 3, kcal	PS 4, g	PS 4, kcal
fulness	-0.006	0.014	-0.022	-0.035	-0.027	0.014	-0.027	-0.025
sex (ref = male)	-0.139	-0.165	-0.085	-0.053	0.053	-0.01	0.053	-0.072
age, yr	-0.016	-0.041	-0.001	-0.016	-0.026	-0.032	-0.026	-0.056
avg liking	0.042	0.059	0.042	0.017	0.048	0.066	0.048	0.056
bites	0.486	0.559	0.245	0.383	0.342	0.381	0.342	0.196
sips	0.075	-0.022	0.084	-0.004	0.005	-0.009	0.005	0.034
bite size	0.258	0.264	0.127	0.208	0.199	0.209	0.199	-0.014
active eat/meal, min	0.056	0.058	-0.031	-0.038	0.067	0.052	0.067	0.1
meal duration, min	0.586	0.548	0.749	0.49	0.76	0.608	0.76	0.816
eating rate	0.568	0.606	0.747	0.717	0.632	0.643	0.632	0.906

Table 27: Portion Size 1 - Standardized Coefficitens for Association Between Eating Behaivors and Intake (g) (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	$\Pr(> t)$
(Intercept)	0.069	0.057	1.205	0.232
scale(ps1_freddy_pre_meal)	-0.006	0.041	-0.150	0.881
sexFemale	-0.139	0.085	-1.642	0.105
$scale(age_yr)$	-0.016	0.041	-0.395	0.694
$scale(ps1_avg_vas)$	0.042	0.040	1.040	0.302
$scale(ps1_nbites)$	0.486	0.090	5.387	0.000
$scale(ps1_nsips)$	0.075	0.050	1.497	0.138
$scale(ps1_bite_size_g)$	0.258	0.074	3.494	0.001
$scale(ps1_prop_active)$	0.056	0.051	1.092	0.278
$scale(ps1_meal_duration)$	0.586	0.089	6.583	0.000
$scale(ps1_eat_rate_g)$	0.568	0.077	7.346	0.000

Table 28: Portion Size 1 - Standardized Coefficitens for Association Between Eating Behaivors and Intake (kcal) (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	$\Pr(> t)$
(Intercept)	0.081	0.059	1.369	0.175
scale(ps1_freddy_pre_meal)	0.014	0.043	0.319	0.751
sexFemale	-0.165	0.088	-1.871	0.065
$scale(age_yr)$	-0.041	0.041	-0.992	0.324
$scale(ps1_avg_vas)$	0.059	0.042	1.419	0.160
$scale(ps1_nbites)$	0.559	0.090	6.249	0.000
$scale(ps1_nsips)$	-0.022	0.048	-0.461	0.646
scale(ps1_bite_size_kcal)	0.264	0.074	3.544	0.001
scale(ps1_prop_active)	0.058	0.053	1.098	0.276
$scale(ps1_meal_duration)$	0.548	0.092	5.950	0.000
$scale(ps1_eat_rate_kcal)$	0.606	0.081	7.505	0.000

6.1.2 Portion Size 3

Table 29: Portion Size 3 - Standardized Coefficitens for Association Between Eating Behaivors and Intake (g) (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	$\Pr(> t)$
(Intercept)	0.028	0.072	0.387	0.700
scale(ps2_freddy_pre_meal)	-0.022	0.055	-0.394	0.695
sexFemale	-0.085	0.114	-0.750	0.455
scale(age_yr)	-0.001	0.053	-0.020	0.984
$scale(ps2_avg_vas)$	0.042	0.055	0.768	0.445
scale(ps2_nbites)	0.245	0.105	2.333	0.022
scale(ps2_nsips)	0.084	0.055	1.527	0.131
scale(ps2_bite_size_g)	0.127	0.092	1.387	0.169
scale(ps2_prop_active)	-0.031	0.060	-0.512	0.610
$scale(ps2_meal_duration)$	0.749	0.114	6.592	0.000
$scale(ps2_eat_rate_g)$	0.747	0.094	7.906	0.000

Table 30: Portion Size 2 - Standardized Coefficitens for Association Between Eating Behaivors and Intake (kcal) (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	0.015	0.070	0.209	0.835
scale(ps2_freddy_pre_meal)	-0.035	0.053	-0.645	0.521
sexFemale	-0.053	0.109	-0.488	0.627
$scale(age_yr)$	-0.016	0.051	-0.320	0.750
$scale(ps2_avg_vas)$	0.017	0.053	0.316	0.753
$scale(ps2_nbites)$	0.383	0.099	3.884	0.000
$scale(ps2_nsips)$	-0.004	0.051	-0.077	0.939
$scale(ps2_bite_size_kcal)$	0.208	0.089	2.345	0.022
$scale(ps2_prop_active)$	-0.038	0.059	-0.638	0.526
$scale(ps2_meal_duration)$	0.490	0.101	4.844	0.000
$scale(ps2_eat_rate_kcal)$	0.717	0.095	7.578	0.000

6.1.3 Portion Size 3

Table 31: Portion Size 3 - Standardized Coefficitens for Association Between Eating Behaivors and Intake (g) (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-0.028	0.055	-0.505	0.615
$scale(ps3_freddy_pre_meal)$	-0.027	0.042	-0.649	0.518
sexFemale	0.053	0.079	0.663	0.510
$scale(age_yr)$	-0.026	0.040	-0.645	0.521
$scale(ps3_avg_vas)$	0.048	0.038	1.240	0.219
scale(ps3_nbites)	0.342	0.091	3.747	0.000
$scale(ps3_nsips)$	0.005	0.045	0.119	0.906
$scale(ps3_bite_size_g)$	0.199	0.081	2.468	0.016
$scale(ps3_prop_active)$	0.067	0.043	1.537	0.128
$scale(ps3_meal_duration)$	0.760	0.085	8.960	0.000
$scale(ps3_eat_rate_g)$	0.632	0.081	7.835	0.000

Table 32: Portion Size 3 - Standardized Coefficitens for Association Between Eating Behaivors and Intake (kcal) (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	$\Pr(> t)$
(Intercept)	0.004	0.059	0.063	0.950
scale(ps3_freddy_pre_meal)	0.014	0.045	0.314	0.754
sexFemale	-0.010	0.086	-0.118	0.906
$scale(age_yr)$	-0.032	0.043	-0.750	0.455
$scale(ps3_avg_vas)$	0.066	0.041	1.602	0.113
$scale(ps3_nbites)$	0.381	0.093	4.107	0.000
$scale(ps3_nsips)$	-0.009	0.046	-0.190	0.850
$scale(ps3_bite_size_kcal)$	0.209	0.084	2.480	0.015
$scale(ps3_prop_active)$	0.052	0.048	1.064	0.291
$scale(ps3_meal_duration)$	0.608	0.087	7.023	0.000
$scale(ps3_eat_rate_kcal)$	0.643	0.090	7.135	0.000

6.1.4 Portion Size 4

Table 33: Portion Size 4 - Standardized Coefficitens for Association Between Eating Behaivors and Intake (g) (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	0.063	0.070	0.906	0.368
scale(ps4_freddy_pre_meal)	-0.035	0.048	-0.715	0.477
sexFemale	-0.134	0.099	-1.363	0.177
$scale(age_yr)$	0.006	0.050	0.113	0.910
$scale(ps4_avg_vas)$	0.053	0.048	1.102	0.274
scale(ps4_nbites)	0.160	0.073	2.183	0.032
$scale(ps4_nsips)$	0.143	0.052	2.760	0.007
$scale(ps4_bite_size_g)$	-0.027	0.065	-0.415	0.680
$scale(ps4_prop_active)$	0.115	0.060	1.923	0.059
$scale(ps4_meal_duration)$	0.844	0.084	10.024	0.000
$scale(ps4_eat_rate_g)$	0.831	0.076	10.976	0.000

Table 34: Portion Size 4 - Standardized Coefficitens for Association Between Eating Behaivors and Intake (kcal) (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	$\Pr(> t)$
(Intercept)	0.027	0.073	0.366	0.715
scale(ps4_freddy_pre_meal)	-0.025	0.050	-0.500	0.619
sexFemale	-0.072	0.104	-0.693	0.490
$scale(age_yr)$	-0.056	0.052	-1.068	0.289
$scale(ps4_avg_vas)$	0.056	0.051	1.109	0.271
$scale(ps4_nbites)$	0.196	0.079	2.475	0.016
$scale(ps4_nsips)$	0.034	0.051	0.670	0.505
scale(ps4_bite_size_kcal)	-0.014	0.067	-0.215	0.830
$scale(ps4_prop_active)$	0.100	0.061	1.652	0.103
$scale(ps4_meal_duration)$	0.816	0.087	9.392	0.000
$scale(ps4_eat_rate_kcal)$	0.906	0.076	11.977	0.000

6.2 Associaiton with BMI Percentile

6.2.1 Portion Size 1

Table 35: Standardized Coefficitens for Association Between Eating Behaivors and BMI Percentile (adjusted for age, sex, liking, and fullness)

Behavior	PS 1, g	PS 1, kcal	PS 2, g	PS 2, kcal	PS 3, g	PS 3, kcal	PS 4, g	PS 4, kcal
fulness	-0.214	-0.219	-0.155	-0.149	-0.105	-0.042	-0.045	-0.045
sex (ref = male)	-0.264	-0.195	-0.018	-0.02	-0.044	-0.026	-0.1	-0.024
age, yr	-0.126	-0.053	-0.234	-0.222	-0.104	-0.077	-0.161	-0.149
avg liking	0.047	0.047	0.09	0.083	0.017	0.026	-0.007	0.007
bites	-0.045	-0.081	0.061	0.167	0.39	0.371	0.047	-0.035
sips	0.142	0.217	-0.115	-0.055	0.143	0.259	-0.108	-0.062
bite size	-0.103	-0.102	-0.021	0.154	0.25	0.229	-0.334	-0.328
active eat/meal, min	-0.18	-0.148	-0.365	-0.345	-0.176	-0.241	-0.402	-0.36
meal duration, min	-0.062	-0.019	-0.176	-0.273	-0.352	-0.351	-0.07	0.03
eating rate	0.513	0.549	0.356	0.215	0.051	0.113	0.427	0.544

Table 36: Portion Size 1 - Standardized Coefficitens for Association Between Eating Behaivors (g) and BMI Percentile (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	$\Pr(> t)$
(Intercept)	0.126	0.148	0.850	0.398
scale(ps1_freddy_pre_meal)	-0.214	0.107	-2.002	0.049
sexFemale	-0.264	0.221	-1.198	0.234
$scale(age_yr)$	-0.126	0.107	-1.181	0.241
$scale(ps1_avg_vas)$	0.047	0.105	0.451	0.653
$scale(ps1_nbites)$	-0.045	0.234	-0.192	0.849
$scale(ps1_nsips)$	0.142	0.129	1.100	0.275
$scale(ps1_bite_size_g)$	-0.103	0.192	-0.538	0.592
$scale(ps1_prop_active)$	-0.180	0.134	-1.344	0.183
$scale(ps1_meal_duration)$	-0.062	0.231	-0.270	0.788
$scale(ps1_eat_rate_g)$	0.513	0.201	2.550	0.013

Table 37: Portion Size 1 - Standardized Coefficitens for Association Between Eating Behaivors (kcal) and BMI Percentile (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	$\Pr(> t)$
(Intercept)	0.093	0.146	0.633	0.529
scale(ps1_freddy_pre_meal)	-0.219	0.106	-2.063	0.042
sexFemale	-0.195	0.219	-0.890	0.376
$scale(age_yr)$	-0.053	0.103	-0.517	0.606
$scale(ps1_avg_vas)$	0.047	0.104	0.457	0.649
$scale(ps1_nbites)$	-0.081	0.222	-0.364	0.717
$scale(ps1_nsips)$	0.217	0.120	1.806	0.075
$scale(ps1_bite_size_kcal)$	-0.102	0.185	-0.551	0.583
$scale(ps1_prop_active)$	-0.148	0.131	-1.132	0.261
$scale(ps1_meal_duration)$	-0.019	0.228	-0.084	0.933
$scale(ps1_eat_rate_kcal)$	0.549	0.200	2.740	0.008

6.2.2 Portion Size 2

Table 38: Portion Size 3 - Standardized Coefficitens for Association Between Eating Behaivors (g) and BMI Percentile (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	0.031	0.151	0.206	0.837
scale(ps2_freddy_pre_meal)	-0.155	0.116	-1.341	0.184
sexFemale	-0.018	0.238	-0.078	0.938
scale(age_yr)	-0.234	0.111	-2.111	0.038
$scale(ps2_avg_vas)$	0.090	0.115	0.780	0.438
$scale(ps2_nbites)$	0.061	0.220	0.278	0.782
scale(ps2_nsips)	-0.115	0.115	-1.002	0.320
scale(ps2_bite_size_g)	-0.021	0.192	-0.110	0.913
scale(ps2_prop_active)	-0.365	0.127	-2.882	0.005
$scale(ps2_meal_duration)$	-0.176	0.238	-0.742	0.461
$scale(ps2_eat_rate_g)$	0.356	0.198	1.799	0.076

Table 39: Portion Size 2 - Standardized Coefficitens for Association Between Eating Behaivors (kcal) and BMI Percentile (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	0.032	0.149	0.217	0.829
scale(ps2_freddy_pre_meal)	-0.149	0.114	-1.305	0.196
sexFemale	-0.020	0.232	-0.087	0.931
$scale(age_yr)$	-0.222	0.109	-2.044	0.044
$scale(ps2_avg_vas)$	0.083	0.113	0.729	0.468
$scale(ps2_nbites)$	0.167	0.210	0.793	0.430
$scale(ps2_nsips)$	-0.055	0.108	-0.508	0.613
$scale(ps2_bite_size_kcal)$	0.154	0.189	0.813	0.419
$scale(ps2_prop_active)$	-0.345	0.126	-2.737	0.008
$scale(ps2_meal_duration)$	-0.273	0.216	-1.265	0.210
$scale(ps2_eat_rate_kcal)$	0.215	0.202	1.063	0.291

6.2.3 Portion Size 3

Table 40: Portion Size 3 - Standardized Coefficitens for Association Between Eating Behaivors (g) and BMI Percentile (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	0.023	0.158	0.148	0.882
scale(ps3_freddy_pre_meal)	-0.105	0.119	-0.879	0.382
sexFemale	-0.044	0.228	-0.194	0.846
$scale(age_yr)$	-0.104	0.114	-0.911	0.365
$scale(ps3_avg_vas)$	0.017	0.110	0.156	0.876
scale(ps3_nbites)	0.390	0.262	1.490	0.140
$scale(ps3_nsips)$	0.143	0.129	1.114	0.269
$scale(ps3_bite_size_g)$	0.250	0.232	1.076	0.285
$scale(ps3_prop_active)$	-0.176	0.125	-1.411	0.162
$scale(ps3_meal_duration)$	-0.352	0.244	-1.444	0.153
$scale(ps3_eat_rate_g)$	0.051	0.232	0.218	0.828

Table 41: Portion Size 3 - Standardized Coefficitens for Association Between Eating Behaivors (kcal) and BMI Percentile (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	0.015	0.156	0.099	0.922
scale(ps3_freddy_pre_meal)	-0.042	0.119	-0.356	0.723
sexFemale	-0.026	0.227	-0.115	0.909
$scale(age_yr)$	-0.077	0.113	-0.680	0.499
$scale(ps3_avg_vas)$	0.026	0.109	0.244	0.808
$scale(ps3_nbites)$	0.371	0.244	1.521	0.132
$scale(ps3_nsips)$	0.259	0.121	2.151	0.035
$scale(ps3_bite_size_kcal)$	0.229	0.222	1.034	0.305
$scale(ps3_prop_active)$	-0.241	0.127	-1.894	0.062
$scale(ps3_meal_duration)$	-0.351	0.228	-1.542	0.127
$scale(ps3_eat_rate_kcal)$	0.113	0.237	0.475	0.636

6.2.4 Portion Size 4

Table 42: Portion Size 4 - Standardized Coefficitens for Association Between Eating Behaivors (g) and BMI Percentile (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	0.031	0.165	0.187	0.852
scale(ps4_freddy_pre_meal)	-0.045	0.114	-0.390	0.698
sexFemale	-0.100	0.233	-0.431	0.668
$scale(age_yr)$	-0.161	0.119	-1.356	0.179
$scale(ps4_avg_vas)$	-0.007	0.114	-0.064	0.949
scale(ps4_nbites)	0.047	0.174	0.273	0.786
$scale(ps4_nsips)$	-0.108	0.123	-0.878	0.383
scale(ps4_bite_size_g)	-0.334	0.153	-2.188	0.032
$scale(ps4_prop_active)$	-0.402	0.141	-2.849	0.006
$scale(ps4_meal_duration)$	-0.070	0.199	-0.352	0.726
$scale(ps4_eat_rate_g)$	0.427	0.179	2.387	0.020

Table 43: Portion Size 4 - Standardized Coefficitens for Association Between Eating Behaivors (kcaal) and BMI Percentile (adjusted for age, sex, liking, and fullness)

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-0.009	0.162	-0.058	0.954
scale(ps4_freddy_pre_meal)	-0.045	0.111	-0.405	0.687
sexFemale	-0.024	0.229	-0.104	0.917
$scale(age_yr)$	-0.149	0.116	-1.294	0.200
$scale(ps4_avg_vas)$	0.007	0.112	0.058	0.954
scale(ps4_nbites)	-0.035	0.175	-0.200	0.842
scale(ps4_nsips)	-0.062	0.112	-0.555	0.581
scale(ps4_bite_size_kcal)	-0.328	0.148	-2.212	0.030
scale(ps4_prop_active)	-0.360	0.134	-2.686	0.009
$scale(ps4_meal_duration)$	0.030	0.191	0.157	0.876
$scale(ps4_eat_rate_kcal)$	0.544	0.167	3.263	0.002