

**The SAS System****The MEANS Procedure**

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>Std Dev</b>	<b>Minimum</b>	<b>Maximum</b>
ID	400	200.5000000	115.6143013	1.0000000	400.0000000
is_female	400	0.3850000	0.9240724	-1.0000000	1.0000000
baseline_bmi_centered	400	0.000750000	3.0572605	-5.5000000	5.5000000
app	400	0.0300000	1.0008017	-1.0000000	1.0000000
coaching	400	-0.0050000	1.0012398	-1.0000000	1.0000000
R	400	0.4900000	0.5005260	0	1.0000000
meal	204	0.1176471	0.9954984	-1.0000000	1.0000000
final_kg_lost	400	2.2917500	2.5235844	-5.2000000	9.7000000

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## The SAS System

### The FREQ Procedure

R	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	204	34.23	204	34.23
1	392	65.77	596	100.00

replicate	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	400	67.11	400	67.11
2	196	32.89	596	100.00

meal	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-1	286	47.99	286	47.99
1	310	52.01	596	100.00

## The SAS System

### The GENMOD Procedure

Model Information	
Data Set	WORK.FOR_ANALYSIS
Distribution	Normal
Link Function	Identity
Dependent Variable	final_kg_lost
Scale Weight Variable	replicate_weight

Number of Observations Read	596
Number of Observations Used	596
Sum of Weights	1600

Class Level Information		
Class	Levels	Values
ID	400	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 ...

Parameter Information	
Parameter	Effect
Prm1	Intercept
Prm2	is_female
Prm3	baseline_bmi_centere
Prm4	app
Prm5	coaching
Prm6	app*coaching
Prm7	meal
Prm8	app*meal
Prm9	coaching*meal
Prm10	app*coaching*meal

Algorithm converged.

GEE Model Information	
Correlation Structure	Independent

<b>Subject Effect</b>	ID (400 levels)
<b>Number of Clusters</b>	400
<b>Correlation Matrix Dimension</b>	2
<b>Maximum Cluster Size</b>	2
<b>Minimum Cluster Size</b>	1

Algorithm converged.

<b>GEE Fit Criteria</b>	
QIC	608.6917
QICu	606.0000

<b>Analysis Of GEE Parameter Estimates</b>						
<b>Empirical Standard Error Estimates</b>						
<b>Parameter</b>	<b>Estimate</b>	<b>Standard Error</b>	<b>95% Confidence Limits</b>		<b>Z</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	2.2293	0.1130	2.0078	2.4508	19.73	<.0001
<b>is_female</b>	0.0925	0.1129	-0.1288	0.3138	0.82	0.4127
<b>baseline_bmi_centere</b>	-0.0686	0.0336	-0.1345	-0.0027	-2.04	0.0414
<b>app</b>	0.1139	0.1075	-0.0968	0.3247	1.06	0.2893
<b>coaching</b>	0.7149	0.1074	0.5044	0.9253	6.66	<.0001
<b>app*coaching</b>	0.1082	0.1075	-0.1025	0.3189	1.01	0.3142
<b>meal</b>	0.9270	0.0856	0.7593	1.0948	10.83	<.0001
<b>app*meal</b>	-0.0179	0.0857	-0.1858	0.1501	-0.21	0.8350
<b>coaching*meal</b>	0.2774	0.0852	0.1103	0.4445	3.25	0.0011
<b>app*coaching*meal</b>	0.1180	0.0855	-0.0496	0.2855	1.38	0.1675