Supplementary Online Content

Mitchell JE, Christian NJ, Flum DR, et al. Postoperative behavioral variables and weight change 3 years after bariatric surgery. *JAMA Surg*. Published online April 20, 2016. doi:10.1001/jamasurg.2016.0395.

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This supplementary material has been provided by the authors to give readers additional information about their work.

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eAppendix. Supplemental Text

Derivation of Behavioral Forms

The behavioral forms utilized included sections drawn from other instruments, including the Questionnaire on Eating and Weight Patterns-Revised and a version of the night eating questionnaire. However, most of the items were chosen because they had been mentioned in prior literature and/or were considered as behaviors of interest by investigators on the project to address. The composite instrument was not validated. Data on alcohol usage was obtained using the AUDIT.

Dietary and Exercise Counseling Before and After Surgery

The dietary and exercise counseling varied across sites and also varied across time, and therefore it cannot be meaningfully addressed. Some of the centers utilized well developed programs with preparatory work while others relied on one or two dietary counseling visits. No formal exercise counseling was routinely used. Also the involvement of patients in such programming was not systematically monitored.

Not Reporting Calorie Restriction Despite Weight Loss

It is of note that 31.2% of respondents reported that they never reduced calorie intake after undergoing bariatric surgery. Given these participants' substantial weight losses, this most likely resulted from calorie restriction. It is certainly true that the subjects may not have understood the question. They may have assumed we were asking the question concerning their recent behavior rather than their behavior relative to their behavior prior to surgery, since the wording did not make this clear.

Multiple Behavior Change and LAGB

The results of multiple behavior changes for LAGB are also seen in eTable 2. Participants who started to self-weigh, stopped eating when feeling full, and stopped eating continuously during the day after surgery lost on average about 26% of their baseline weight. This averages about 19% greater weight loss compared to participants who made no positive changes and 8% greater weight loss compared to participants who always reported these healthy behaviors.

Additional Discussion

In the U.S., compliance with preparatory or after-care interventions following bariatric surgery is inconsistent[1,2] and these programs may lack structure. The results reported here suggest that structured programs to modify these behaviors could be of great importance in improving outcomes among bariatric surgery patients. That many participants were able to make these changes suggest that some of these behaviors are modifiable and that changes may result from the surgery or are secondary to the interventions by the bariatric team. Clearly this is information that should be given to patients before surgery relative to problematic eating behaviors, weight loss practices they may or may not be engaging in order to address their issues following the surgery to maximize weight loss. Further research needs to be done to identify the proper time frame and methods to implement such programs pre and post-surgical programs and to determine in other samples if these factors are truly predictive of weight loss.

1. Poole NA, Al Atar A, Lukanendran D, et al. Compliance with surgical after-care following bariatric surgery for morbid obesity: a retrospective study. Obes Surg, 2005; 15:261-265. PMID: 15802071.
2. El Chaar M, McDeavitt K, Richardson S, et al. Does patients compliance with pre=operative bariatric office visits affect post=operative excess weight loss? Surg Obes Relat Dis, 2011; 7:743-748.

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Relationship between 3-Year Weight Change and Behavioral Changes

eTables 3 and 4 present the unadjusted relationships between 3-year weight change and behavioral change. Behavioral change was defined as,

- Never, participant reported not doing the behavior at baseline or at any follow-up time point
- Always, participant reported doing the behavior at baseline and at every follow-up time point
- Stopped, participant reported doing the behavior at baseline and not doing the behavior at every follow-up time point
- Started, participant reported not doing the behavior at baseline and doing the behavior at every follow-up time point
- Sometimes, initially no, participant reported not doing the behavior at baseline and doing the behavior sometimes at follow-up
- Sometimes, initially yes, participant reported doing the behavior at baseline and doing the behavior sometimes at follow-up

Participants were included in the analysis if they had data at baseline and at every follow-up visit.

The statistically significant findings are a reflection of the sample size and the detailed behavioral change definition.

For RYGB, the behavioral changes that resulted in a significant difference in percent weight change are: eating or drinking meal replacements, keep eating when feeling full, eating continuously during the day, binge eating, binge eating disorder, loss of control eating, alcohol use disorder, and smoking.

For LAGB, the behavioral changes that resulted in a significant difference in percent weight change are: self-weighing, decreasing fat intake, and eating special low calorie diet foods.

Statistical Power

To provide an idea of the effect size for behaviors that could be detected over and above that of the variables included in the models (i.e., age, baseline BMI, sex, and either pre-operative diabetes status [RYGB models] or band size [LAGB models]), we used linear regression to approximate the complex CALIS models. We used n=1513 for the RYGB models and n=509 for the LAGB models, corresponding to the sample sizes in etable 2.

If the 4 variables included in the models accounted for between 10 and 50% of the variance in 3 year weight, then adding up to 4 behavioral variables (i.e., the behavioral variable at up to 4 timepoints) would enable us, with 80% power, to detect an additional 1-2% variance explained. For example, if the 4 independent variables in the model explained 10% of the variance in 3 year weight, then four additional independent variable could explain an additional 1% of the variance for the RYGB models (using n=1513 as the sample size) or 2% for the LAGB models (n=509). If 30% of the variance was explained by the four baseline characteristics, then there would be 80% power to detect a 1%, or smaller, increase in variance explained by the behavioral variables for each surgery type.

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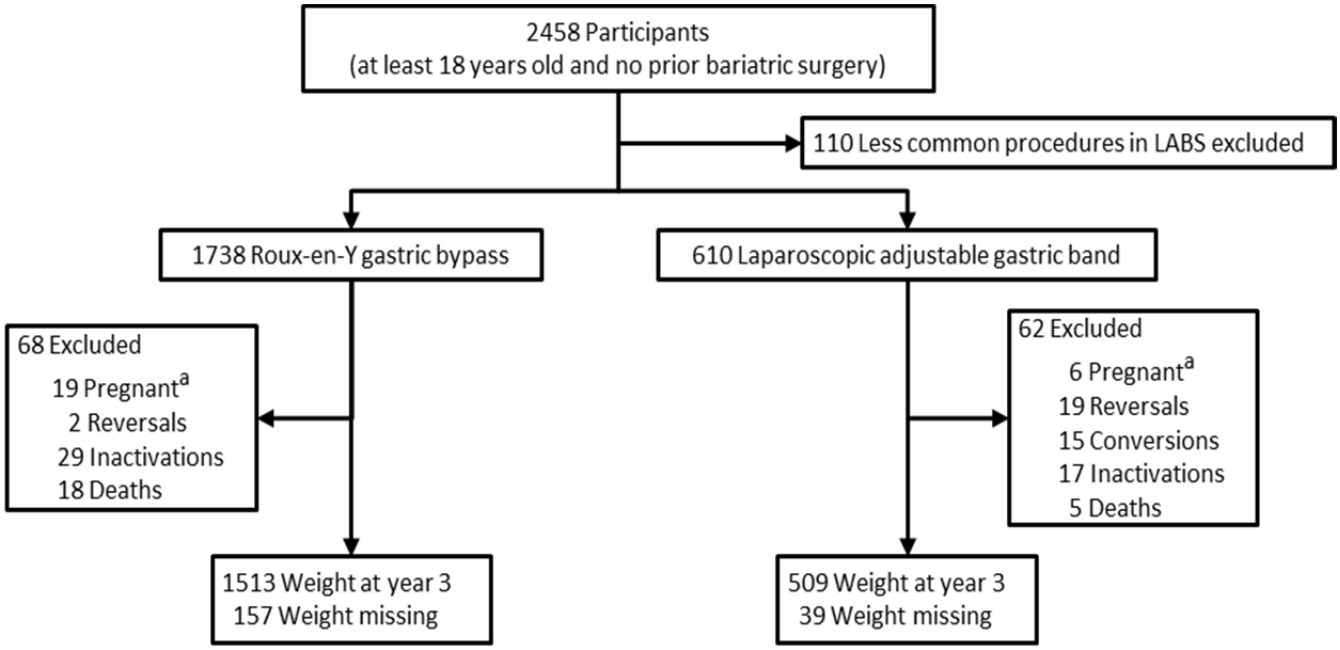
eFigure. Participants and Weight Measurements



[a]Weights of women in their 2nd or 3rd trimester and those up to 6-months postpartum were excluded.

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eTable 1. For RYGB (n=1513), relationship between the change in each modifiable behavior and year 3 percent weight change (controlling for age at time of surgery, sex, baseline BMI, and preoperative diabetes status).

	Model-Based Year 3 Percent Weight Change Mean (SE)			Model-Based Mean Difference (95% CI) of Year 3 Percent Weight Change			P-value		
Modifiable Positive Behavior[a]	Never[b]	Always[c]	Start[d]	Always – Never	Start – Never	Start – Always	Always v. Never	Start v. Never	Start v. Always
Self-weigh weekly	-31.0 (0.6)	-31.7 (0.4)	-33.9 (0.5)	-0.7 (-2.5, 1.1)	-3.0 (-4.9, -1.1)	-2.3 (-3.6, -0.9)	>0.99	<.001	<.001
See nutritionist/dietitian	-31.5 (0.3)	–	–	–	–	–	–	–	–
See trainer/exercise specialist	-31.4 (0.3)	–	–	–	–	–	–	–	–
Keep a food diary	-31.5 (0.3)	–	–	–	–	–	–	–	–
Count fat grams	-31.3 (0.3)	–	-35.8 (1.7)	–	-4.5 (-7.9, -1.1)	–	–	0.010	–
Decrease fat intake	-31.2 (0.4)	-31.9 (1.0)	-33.2 (0.9)	-0.7 (-3.5, 2.0)	-2.0 (-4.5, 0.5)	-1.3 (-3.2, 0.6)	>0.99	0.16	0.32
Reduce number of calories eaten	-31.2 (0.4)	-32.4 (1.1)	-33.7 (1.0)	-1.2 (-4.2, 1.8)	-2.5 (-5.2, 0.2)	-1.3 (-3.2, 0.5)	>0.99	0.08	0.24
Use a very low calorie diet	-31.1 (0.3)	–	-35.6 (1.4)	–	-4.6 (-7.4, -1.7)	–	–	0.002	–
Cut out between-meal-snacking	-31.1 (0.3)	–	-35.6 (1.4)	–	-4.5 (-7.5, -1.5)	–	–	0.003	–
Eat fewer high carbohydrate foods	-31.3 (0.4)	-31.7 (1.0)	-33.1 (0.8)	-0.4 (-3.2, 2.4)	-1.8 (-4.2, 0.6)	-1.4 (-3.3, 0.5)	>0.99	0.20	0.21
Eat special low calorie diet	-31.7 (0.3)	–	-31.3 (1.1)	–	0.5 (-2.0, 2.9)	–	–	0.71	–

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foods									
Eat or drink meal replacements	-31.7 (0.3)	–	-31.0 (1.5)	–	0.7 (-2.3, 3.7)	–	–	0.66	–
Increase fruits and vegetables	-31.4 (0.4)	-31.7 (0.9)	-33.1 (0.9)	-0.3 (-2.9, 2.4)	-1.7 (-4.2, 0.8)	-1.4 (-3.1, 0.3)	>0.99	0.32	0.16
Cut out sugar-sweetened beverages	-31.8 (0.4)	-31.2 (0.6)	-32.0 (0.7)	0.6 (-1.6, 2.8)	-0.2 (-2.3, 1.9)	-0.8 (-2.3, 0.7)	>0.99	>0.99	0.58
Eat breakfast regularly (6-7/week)	-31.6 (0.5)	-31.2 (0.4)	-32.8 (0.6)	0.4 (-1.3, 2.1)	-1.2 (-3.1, 0.8)	-1.6 (-3.1, -0.1)	>0.99	0.44	0.03
Eat breakfast, lunch, dinner regularly (6-7/week)	-31.3 (0.5)	-31.3 (0.4)	-32.9 (0.6)	0.0 (-1.7, 1.7)	-1.6 (-3.5, 0.3)	-1.6 (-3.1, -0.2)	>0.99	0.12	0.02

Modifiable Negative Behavior	**Model-Based Year 3 Percent Weight Change Mean (SE)**			**Model-Based Mean Difference (95% CI) of Year 3 Percent Weight Change**			**P-value**		
	Never[b]	**Always**[c]	**Stop**[e]	**Always – Never**	**Stop – Never**	**Stop – Always**	**Always v. Never**	**Stop v. Never**	**Stop v. Always**
Keep eating when feel full, more than once a week	-31.3 (0.3)	-24.7 (1.5)	-33.9 (0.5)	6.6 (2.8, 10.5)	-2.6 (-4.0, -1.1)	-9.2 (-13.3, -5.1)	<.001	<.001	<.001
Keep eating when not hungry,more than once a week	-31.5 (0.3)	-25.8 (1.1)	-33.6 (0.5)	5.7 (2.8, 8.6)	-2.1 (-3.4, -0.7)	-7.8 (-10.8, -4.7)	<.001	<.001	<.001
Eat continuously during the day	-33.2 (0.4)	-29.2 (0.4)	-34.8 (0.6)	4.0 (2.2, 5.7)	-1.6 (-2.9, -0.2)	-5.6 (-7.3, -3.8)	<.001	0.01	<.001
Binge eating disorder	-31.6 (0.3)	–	-33.2 (0.7)	–	-1.6 (-3.1, -0.1)	–	–	0.04	–

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Loss of control eating	-32.6 (0.3)	-28.1 (0.6)	-34.6 (0.6)	4.5 (2.6, 6.4)	-2.0 (-3.5, -0.6)	-6.5 (-8.5, -4.5)	<.001	0.003	<.001
Night eating syndrome	-31.9 (0.3)	-27.3 (1.3)	-32.1 (0.8)	4.6 (1.2, 8.0)	-0.2 (-2.2, 1.9)	-4.8 (-8.4, -1.2)	0.003	>0.99	0.005
Evening hyperphagia	-31.7 (0.3)	-28.3 (1.3)	-33.3 (1.0)	3.4 (0.1, 6.7)	-1.6 (-4.1, 0.9)	-5.0 (-9.1, -0.9)	0.04	0.37	0.01
Night eating	-31.6 (0.3)	-27.6 (1.6)	–	4.0 (0.7, 7.3)	–	–	0.02	–	–
Alcohol use disorder	-31.6 (0.3)	-31.2 (1.2)	-31.9 (1.3)	0.4 (-2.7, 3.5)	-0.4 (-3.3, 2.6)	-0.8 (-3.9, 2.3)	>0.99	>0.99	>0.99
Smoker	-31.0 (0.3)	-34.8 (1.7)	–	-3.9 (-7.2, -0.5)	–	–	0.02	–	–
Illegal drug use	-31.4 (0.3)	-34.2 (1.6)	-29.6 (1.5)	-2.8 (-6.8, 1.1)	1.8 (-1.8, 5.4)	4.6 (0.1, 9.2)	0.26	0.69	0.04

[a] If a behavioral pattern was uncommon or (less than 5 participants with complete data reporting the pattern) then the mode-based estimates for that behavior were excluded from the results (shown by "-" in the table)
[b] *Never*, participant reported not doing the behavior at baseline or at any follow-up time point
[c] *Always*, participant reported doing the behavior at baseline and at every follow-up time point
[d] *Start*, participant reported not doing the behavior at baseline and doing the behavior at every follow-up time point
[e] *Stop*, participant reported doing the behavior at baseline and not doing the behavior at every follow-up time point

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eTable 2. For LAGB (n=509), relationship between the change in each modifiable behavior and year 3 percent weight change (controlling for age at time of surgery, sex, baseline BMI, and band size (large versus small)).

Modifiable Positive Behavior[a]	Model-Based Year 3 Percent Weight Change Mean (SE)			Model-Based Mean Difference (95% CI) of Year 3 Percent Weight Change			P-value		
	Never[b]	Always[c]	Start[d]	Always – Never	Start – Never	Start – Always	Always v. Never	Start v. Never	Start v. Always
Self-weigh weekly	-14.5 (1.0)	-16.3 (0.8)	-20.5 (1.1)	-1.8 (-5.2, 1.6)	-6.0 (-9.6, -2.4)	-4.2 (-6.9, -1.5)	0.61	<.001	<.001
See nutritionist/dietitian	-15.9 (0.5)	–	–	–	–	–	–	–	–
See trainer/exercise specialist	-16.1 (0.5)	–	–	–	–	–	–	–	–
Keep a food diary	-16.1 (0.5)	–	–	–	–	–	–	–	–
Count fat grams	-15.7 (0.5)	–	–	–	–	–	–	–	–
Decrease fat intake	-14.9 (0.7)	–	-19.6 (1.7)	–	-4.7 (-8.6, -0.7)	–	–	0.02	–
Reduce number of calories eaten	-14.5 (0.7)	–	-21.3 (1.7)	–	-6.8 (-10.7, -2.8)	–	–	<.001	–
Use a very low calorie diet	-15.4 (0.6)	–	–	–	–	–	–	–	–
Cut out between-meal-snacking	-15.4 (0.6)	–	-19.5 (2.2)	–	-4.1 (-8.9, 0.7)	–	–	0.09	–
Eat fewer high carbohydrate foods	-14.8 (0.7)	–	-18.9 (1.5)	–	-4.2 (-7.8, -0.5)	–	–	0.03	–
Eat special low calorie diet	-14.9 (0.6)	–	–	–	–	–	–	–	–

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foods									
Eat or drink meal replacements	-15.6 (0.6)	–	–	–	–	–	–	–	–
Increase fruits and vegetables	-15.2 (0.6)	–	-20.6 (1.9)	–	-5.5 (-9.7, -1.2)	–	–	0.01	–
Cut out sugar-sweetened beverages	-15.4 (0.8)	-17.1 (1.4)	-17.2 (1.3)	-1.7 (-6.4, 2.9)	-1.9 (-6.1, 2.4)	-0.1 (-3.0, 2.8)	>0.99	0.88	>0.99
Eat breakfast regularly (6-7/week)	-15.9 (1.0)	-16.0 (0.8)	-16.3 (1.3)	-0.1 (-3.6, 3.4)	-0.4 (-4.2, 3.4)	-0.3 (-3.3, 2.7)	>0.99	>0.99	>0.99
Eat breakfast, lunch, dinner regularly (6-7/week)	-15.5 (0.9)	-16.7 (0.9)	-16.9 (1.3)	-1.1 (-4.5, 2.2)	-1.3 (-5.0, 2.3)	-0.2 (-3.2, 2.7)	>0.99	>0.99	>0.99

	Model-Based Year 3 Percent Weight Change Mean (SE)			**Model-Based Mean Difference (95% CI) of Year 3 Percent Weight Change**			**P-value**		
Modifiable Negative Behavior	**Never**[b]	**Always**[c]	**Stop**[e]	**Always – Never**	**Stop – Never**	**Stop – Always**	**Always v. Never**	**Stop v. Never**	**Stop v. Always**
Keep eating when feel full, more than once a week	-16.6 (0.6)	-9.6 (1.8)	-20.1 (1.1)	7.0 (2.0, 11.9)	-3.5 (-6.2, -0.7)	-10.5 (-15.5, -5.5)	0.002	0.008	<.001
Keep eating when not hungry, more than once a week	-16.5 (0.7)	-10.8 (1.4)	-19.8 (1.0)	5.8 (1.7, 9.9)	-3.2 (-5.9, -0.6)	-9.0 (-13.4, -4.7)	0.002	0.01	<.001
Eat continuously during the day	-18.5 (1.0)	-13.8 (0.9)	-19.8 (1.2)	4.7 (0.9, 8.5)	-1.4 (-4.0, 1.3)	-6.1 (-9.8, -2.4)	0.009	0.66	<.001

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Binge eating disorder	-16.1 (0.5)	–	-21.1 (1.3)	–	-5.0 (-7.8, -2.2)	–	–	<.001	–
Loss of control eating	-17.7 (0.7)	-12.7 (1.1)	-20.0 -1.2	5.1 (1.4, 8.8)	-2.3 (-5.1, 0.5)	-7.4 (-11.2, -3.6)	0.003	0.14	<.001
Night eating syndrome	-16.5 (0.6)	–	-15.7 (1.6)	–	0.8 (-2.5, 4.2)	–	–	0.63	–
Alcohol use disorder	-15.5 (0.5)	–	-19.0 (2.7)	–	-3.4 (-8.7, 1.8)	–	–	0.20	–
Evening hyperphagia	-16.4 (0.6)	-13.7 (2.1)	-15.6 (2.3)	2.7 (-2.8, 8.1)	0.8 (-4.7, 6.3)	-1.9 (-8.9, 5.1)	0.72	>0.99	>0.99
Night eating	-16.3 (0.5)	–	-15.8 (3.1)	–	0.5 (-5.7, 6.7)	–	–	0.88	–
Smoker	-15.9 (0.5)	–	–	–	–	–	–	–	–
Illegal drug use	-15.9 (0.5)	–	–	–	–	–	–	–	–

[a] If a behavioral pattern was uncommon or (less than 5 participants with complete data reporting the pattern) then the mode-based estimates for that behavior were excluded from the results (shown by "-" in the table)
[b] *Never*, participant reported not doing the behavior at baseline or at any follow-up time point
[c] *Always*, participant reported doing the behavior at baseline and at every follow-up time point
[d] *Start*, participant reported not doing the behavior at baseline and doing the behavior at every follow-up time point
[e] *Stop*, participant reported doing the behavior at baseline and not doing the behavior at every follow-up time point

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eTable 3. For RYGB (n=1514), unadjusted relationship between the change in each predictor and 3-year percent weight change.

Factor	n	(%)	Median (IQR) [range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Self-weigh at least weekly (n=779, R2=2.6%)						
Never	112	(14.4)	-33.4 (-39.4,-25.2) [-54.8,0.6]	-32.1 (10.4)	(reference)	
Always	221	(28.4)	-31.0 (-38.1,-25.4) [-57.7,-3.3]	-31.4 (9.6)	0.6	(-2.2, 3.5)
Stopped	18	(2.3)	-28.7 (-33.4,-22.9) [-45.2,-16.6]	-28.5 (7.4)	3.6	(-2.7, 9.8)
Started	137	(17.6)	-33.6 (-40.1,-26.8) [-55.2,-12.2]	-33.9 (9.7)	-1.9	(-5.0, 1.2)
Sometimes, initially no	186	(23.9)	-32.0 (-39.4,-25.3) [-58.3,-0.3]	-32.4 (9.8)	-0.4	(-3.3, 2.6)
Sometimes, initially yes	105	(13.5)	-29.3 (-34.8,-22.7) [-50.0,0.9]	-28.7 (9.4)	3.3	(-0.0, 6.6)
See nutritionist/dietitian (n=770, R2=0.5%)						
Never	633	(82.2)	-32.0 (-38.4,-25.3) [-57.7,0.6]	-31.6 (9.8)	(reference)	
Stopped	121	(15.7)	-31.8 (-37.4,-25.2) [-58.3,0.9]	-31.5 (9.2)	0.2	(-2.2, 2.5)
Sometimes, initially no	9	(1.2)	-30.5 (-46.3,-20.3) [-55.7,-16.1]	-33.6 (14.3)	-1.9	(-9.9, 6.0)
Sometimes, initially yes	7	(0.9)	-45.2 (-51.3,-26.1) [-53.7,-0.3]	-38.7 (19.2)	-7.0	(-16.0,2.0)
See trainer/exercise specialist (n=769, R2=0.7%)						
Never	673	(87.5)	-32.0 (-38.3,-25.2) [-57.7,0.9]	-31.6 (9.9)	(reference)	
Always	2	(0.3)	-29.3 (-33.8,-24.8) [-33.8,-24.8]	-29.3 (6.3)	2.2	(-15.6,20.1)
Stopped	26	(3.4)	-32.5 (-37.6,-26.4) [-58.3,-21.5]	-33.4 (9.5)	-1.8	(-6.9, 3.2)
Started	4	(0.5)	-30.8 (-43.5,-27.3) [-53.9,-26.0]	-35.4 (12.7)	-3.8	(-16.5,8.9)
Sometimes, initially no	58	(7.5)	-31.2 (-39.1,-23.9) [-53.7,-14.9]	-31.7 (9.8)	-0.2	(-3.6, 3.3)
Sometimes, initially yes	6	(0.8)	-40.5 (-44.6,-33.6) [-45.6,-31.1]	-39.3 (5.9)	-7.7	(-18.1,2.6)
Count fat grams (n=745, R2=1.7%)						
Never	612	(82.1)	-31.7 (-38.1,-25.0) [-57.7,0.6]	-31.4 (9.6)	(reference)	
Always	3	(0.4)	-44.0 (-53.7,-29.5) [-53.7,-29.5]	-42.4 (12.2)	-11.0	(-25.4,3.4)
Stopped	14	(1.9)	-32.7 (-36.4,-28.5) [-48.7,-16.6]	-32.8 (9.1)	-1.5	(-8.2, 5.3)
Started	5	(0.7)	-38.8 (-50.0,-37.9) [-54.0,-29.0]	-41.9 (10.1)	-10.6	(-21.7,0.6)
Sometimes, initially no	94	(12.6)	-32.7 (-40.9,-25.5) [-54.5,-11.3]	-32.9 (10.7)	-1.6	(-4.3, 1.2)
Sometimes, initially yes	17	(2.3)	-27.0 (-34.2,-21.8) [-45.6,-8.1]	-28.8 (10.2)	2.6	(-3.5, 8.7)
Decrease fat intake (n=748, R2=1.0%)						
Never	319	(42.6)	-31.2 (-38.0,-23.7) [-57.5,0.9]	-30.7 (10.4)	(reference)	
Always	15	(2.0)	-34.0 (-44.0,-24.0) [-54.5,-14.9]	-33.6 (12.6)	-2.9	(-9.6, 3.8)
Stopped	24	(3.2)	-30.7 (-38.4,-23.9) [-44.5,-15.8]	-30.6 (8.7)	0.2	(-5.2, 5.5)
Started	28	(3.7)	-29.4 (-39.0,-25.2) [-50.0,-18.6]	-31.6 (8.4)	-0.9	(-5.9, 4.1)
Sometimes, initially no	289	(38.6)	-32.5 (-38.8,-26.5) [-58.3,-9.1]	-32.8 (9.5)	-2.0	(-4.1, 0.0)
Sometimes, initially yes	73	(9.8)	-32.0 (-37.9,-26.1) [-53.7,-8.1]	-31.5 (9.3)	-0.7	(-4.0, 2.6)

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Factor	n	(%)	Median (IQR) [range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Reduce number of calories eaten (n=731, R2=0.5%)						
Never	311	(42.5)	-31.9 (-38.4,-24.8) [-57.7,0.9]	-31.7 (10.3)	(reference)	
Always	8	(1.1)	-31.5 (-46.7,-25.5) [-54.5,-18.1]	-35.0 (13.7)	-3.3	(-12.4,5.8)
Stopped	37	(5.1)	-29.4 (-36.2,-24.4) [-48.7,-0.3]	-29.6 (10.1)	2.1	(-2.3, 6.5)
Started	18	(2.5)	-33.4 (-38.8,-28.9) [-50.0,-18.6]	-33.6 (7.9)	-1.9	(-8.0, 4.3)
Sometimes, initially no	295	(40.4)	-32.1 (-39.1,-25.4) [-58.3,-9.2]	-32.1 (9.5)	-0.4	(-2.4, 1.7)
Sometimes, initially yes	62	(8.5)	-29.9 (-37.9,-25.6) [-53.7,-12.0]	-31.2 (9.3)	0.6	(-2.9, 4.1)
Use a very low calorie diet (n=721, R2=0.0%)						
Never	686	(95.1)	-32.1 (-38.8,-25.4) [-58.3,0.9]	-31.8 (10.0)	(reference)	
Stopped	35	(4.9)	-29.4 (-36.0,-25.2) [-53.7,-8.1]	-30.9 (9.6)	0.9	(-2.5, 4.3)
Cut out between-meal-snacking (n=710, R2=0.7%)						
Never	468	(65.9)	-31.3 (-38.1,-24.6) [-57.7,0.9]	-31.4 (9.9)	(reference)	
Always	2	(0.3)	-33.9 (-36.0,-31.7) [-36.0,-31.7]	-33.9 (3.0)	-2.5	(-20.1,15.2)
Stopped	49	(6.9)	-30.7 (-39.4,-25.6) [-51.7,-0.3]	-31.4 (10.8)	-0.0	(-3.8, 3.7)
Started	6	(0.8)	-38.3 (-46.9,-28.9) [-48.2,-22.6]	-37.2 (10.0)	-5.8	(-16.0,4.4)
Sometimes, initially no	165	(23.2)	-32.3 (-39.2,-26.5) [-54.5,-10.1]	-32.9 (9.5)	-1.5	(-3.7, 0.8)
Sometimes, initially yes	20	(2.8)	-30.4 (-38.8,-26.3) [-44.0,-24.8]	-32.5 (6.8)	-1.1	(-6.8, 4.6)
Eat fewer high carbohydrate foods (n=753, R2=0.9%)						
Never	290	(38.5)	-31.2 (-38.1,-24.6) [-57.7,0.9]	-31.4 (10.3)	(reference)	
Always	16	(2.1)	-27.3 (-37.0,-24.8) [-41.0,-14.9]	-29.1 (7.9)	2.3	(-4.1, 8.8)
Stopped	33	(4.4)	-30.1 (-36.2,-22.9) [-51.7,-3.3]	-29.0 (10.1)	2.4	(-2.3, 7.0)
Started	31	(4.1)	-33.1 (-38.0,-26.4) [-53.9,-12.0]	-32.8 (9.1)	-1.4	(-6.1, 3.3)
Sometimes, initially no	317	(42.1)	-32.4 (-39.4,-25.9) [-58.3,-9.1]	-32.6 (9.5)	-1.2	(-3.3, 0.8)
Sometimes, initially yes	66	(8.8)	-31.8 (-37.4,-26.4) [-54.0,-8.1]	-31.7 (9.4)	-0.3	(-3.7, 3.1)
Eat special low calorie diet foods (n=738, R2=0.7%)						
Never	472	(64.0)	-31.4 (-38.4,-24.1) [-57.7,0.9]	-31.2 (10.1)	(reference)	
Always	4	(0.5)	-26.2 (-30.2,-22.8) [-34.0,-19.6]	-26.5 (5.9)	4.8	(-7.9, 17.4)
Stopped	27	(3.7)	-33.0 (-36.8,-26.9) [-48.7,-20.6]	-32.9 (7.0)	-1.7	(-6.7, 3.3)
Started	11	(1.5)	-28.9 (-38.8,-23.8) [-44.3,-19.4]	-30.8 (8.4)	0.5	(-7.2, 8.1)
Sometimes, initially no	183	(24.8)	-32.2 (-39.2,-26.3) [-58.3,-10.1]	-32.9 (9.4)	-1.7	(-3.9, 0.5)
Sometimes, initially yes	41	(5.6)	-31.8 (-37.9,-26.3) [-54.0,-8.1]	-31.5 (10.5)	-0.3	(-4.4, 3.8)
Eat or drink meal replacements (n=738, R2=1.6%)						
Never	564	(76.4)	-31.2 (-38.1,-25.0) [-58.3,0.6]	-31.4 (9.8)	(reference)	
Always	1	(0.1)	-20.2 (-20.2,-20.2) [-20.2,-20.2]	-20.2 (.)	11.2	(-13.8,36.3)
Stopped	12	(1.6)	-32.5 (-34.9,-25.2) [-39.9,-8.1]	-29.2 (9.4)	2.2	(-5.1, 9.6)
Started	12	(1.6)	-34.6 (-42.4,-26.4) [-48.2,-19.4]	-33.9 (9.3)	-2.5	(-9.9, 4.8)
Sometimes, initially no	137	(18.6)	-34.2 (-40.6,-26.9) [-54.5,0.9]	-33.8 (10.0)	-2.4	(-4.8, -0.0)
Sometimes, initially yes	12	(1.6)	-27.8 (-33.4,-24.7) [-44.0,-3.3]	-27.3 (10.9)	4.1	(-3.2, 11.5)

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Factor	n	(%)	Median (IQR)	[range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Increase fruits and vegetables (n=729, R2=0.4%)							
Never	293	(40.2)	-31.8 (-38.6,-25.1)	[-58.3,0.9]	-31.6 (10.3)	(reference)	
Always	15	(2.1)	-26.3 (-32.1,-25.1)	[-54.5,-17.0]	-28.7 (8.7)	3.0	(-3.8, 9.7)
Stopped	42	(5.8)	-31.6 (-38.9,-22.9)	[-52.8,-0.3]	-30.9 (11.0)	0.8	(-3.4, 5.0)
Started	18	(2.5)	-33.5 (-39.9,-24.1)	[-48.2,-18.5]	-32.8 (9.3)	-1.1	(-7.3, 5.0)
Sometimes, initially no	274	(37.6)	-32.4 (-39.1,-26.3)	[-53.9,-9.1]	-32.4 (9.7)	-0.8	(-2.9, 1.4)
Sometimes, initially yes	87	(11.9)	-32.9 (-38.3,-26.0)	[-55.0,-8.1]	-32.1 (9.1)	-0.5	(-3.6, 2.6)
Cut out sugar-sweetened beverages (n=732, R2=0.2%)							
Never	161	(22.0)	-32.0 (-39.5,-25.5)	[-57.7,-6.7]	-32.5 (10.0)	(reference)	
Always	58	(7.9)	-30.5 (-39.3,-24.0)	[-53.7,-10.1]	-31.5 (10.0)	1.0	(-2.9, 4.9)
Stopped	37	(5.1)	-31.4 (-38.1,-24.5)	[-55.0,-12.5]	-31.7 (9.7)	0.7	(-3.9, 5.4)
Started	48	(6.6)	-31.9 (-38.3,-24.9)	[-54.0,-16.3]	-32.2 (9.6)	0.2	(-3.9, 4.4)
Sometimes, initially no	286	(39.1)	-32.0 (-38.3,-25.2)	[-58.3,0.9]	-31.5 (10.2)	1.0	(-1.5, 3.5)
Sometimes, initially yes	142	(19.4)	-31.5 (-37.5,-25.8)	[-52.8,-3.3]	-31.2 (9.8)	1.3	(-1.6, 4.2)
Keep a food diary (n=751, R2=0.6%)							
Never	646	(86.0)	-31.6 (-38.1,-25.0)	[-58.3,0.9]	-31.5 (9.9)	(reference)	
Stopped	57	(7.6)	-33.0 (-37.9,-27.6)	[-54.5,-3.3]	-32.8 (9.3)	-1.3	(-4.7, 2.1)
Started	1	(0.1)	-25.6 (-25.6,-25.6)	[-25.6,-25.6]	-25.6 (.)	5.9	(-18.7,30.5)
Sometimes, initially no	40	(5.3)	-34.5 (-42.9,-26.4)	[-53.7,-13.0]	-34.6 (10.6)	-3.1	(-7.1, 0.9)
Sometimes, initially yes	7	(0.9)	-33.3 (-40.5,-26.5)	[-41.1,-20.2]	-32.1 (7.6)	-0.6	(-9.9, 8.7)
Eat breakfast regularly (6-7/week) (n=782, R2=1.3%)							
Never	95	(12.1)	-30.4 (-38.2,-25.2)	[-58.3,-7.8]	-31.5 (10.2)	(reference)	
Always	333	(42.6)	-31.4 (-37.6,-24.8)	[-57.7,0.6]	-30.9 (9.6)	0.6	(-2.3, 3.5)
Stopped	22	(2.8)	-33.2 (-44.0,-24.2)	[-57.5,-12.7]	-33.4 (13.0)	-1.9	(-7.7, 4.0)
Started	116	(14.8)	-32.9 (-40.7,-27.1)	[-55.2,-12.4]	-33.9 (9.3)	-2.4	(-5.8, 1.0)
Sometimes, initially no	131	(16.8)	-32.6 (-38.4,-25.7)	[-54.5,-9.2]	-32.0 (10.1)	-0.5	(-3.8, 2.8)
Sometimes, initially yes	85	(10.9)	-29.8 (-37.6,-23.9)	[-54.0,0.9]	-30.3 (9.8)	1.2	(-2.5, 4.9)
Eat lunch regularly (6-7/week) (n=784, R2=1.7%)							
Never	20	(2.6)	-31.5 (-42.4,-25.3)	[-55.7,-12.1]	-32.8 (11.6)	(reference)	
Always	456	(58.2)	-31.8 (-38.3,-25.0)	[-58.3,0.9]	-31.7 (9.7)	1.1	(-4.2, 6.5)
Stopped	15	(1.9)	-30.8 (-39.7,-21.6)	[-57.5,-12.7]	-30.8 (12.2)	2.0	(-5.9, 10.0)
Started	96	(12.2)	-34.8 (-40.9,-28.5)	[-53.4,-10.1]	-34.5 (9.6)	-1.6	(-7.4, 4.1)
Sometimes, initially no	81	(10.3)	-29.4 (-36.9,-23.2)	[-50.0,-7.8]	-29.6 (10.0)	3.2	(-2.6, 9.0)
Sometimes, initially yes	116	(14.8)	-30.2 (-35.8,-24.6)	[-51.3,-8.1]	-30.5 (9.5)	2.4	(-3.3, 8.0)

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Factor	n	(%)	Median (IQR)	[range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Eat dinner regularly (6-7/week) (n=784, R2=0.9%)							
Never	3	(0.4)	-22.7 (-32.6,-18.2)	[-32.6,-18.2]	-24.5 (7.4)	(reference)	
Always	635	(81.0)	-32.2 (-38.5,-25.4)	[-58.3,0.9]	-32.0 (9.8)	-7.5	(-20.8,5.8)
Stopped	2	(0.3)	-41.4 (-44.5,-38.3)	[-44.5,-38.3]	-41.4 (4.4)	-16.9	(-37.8,4.1)
Started	36	(4.6)	-31.5 (-40.8,-20.9)	[-51.9,-12.0]	-30.5 (10.9)	-6.0	(-19.8,7.8)
Sometimes, initially no	16	(2.0)	-28.9 (-35.9,-24.6)	[-44.8,-12.7]	-29.4 (8.2)	-4.9	(-19.3,9.6)
Sometimes, initially yes	92	(11.7)	-30.6 (-36.7,-23.8)	[-57.5,-9.2]	-30.3 (10.3)	-5.8	(-19.2,7.7)
Eat breakfast, lunch, dinner regularly (n=775, R2=1.2%)							
Never	130	(16.8)	-30.0 (-38.3,-24.2)	[-58.3,-7.8]	-31.2 (10.3)	(reference)	
Always	240	(31.0)	-32.1 (-37.9,-24.8)	[-57.7,0.6]	-31.1 (9.6)	0.1	(-2.7, 2.8)
Stopped	17	(2.2)	-30.8 (-35.4,-22.9)	[-57.5,-12.7]	-32.1 (11.9)	-0.9	(-7.3, 5.6)
Started	125	(16.1)	-33.3 (-40.5,-27.4)	[-55.2,-11.3]	-33.9 (9.5)	-2.7	(-5.9, 0.4)
Sometimes, initially no	166	(21.4)	-31.9 (-38.1,-26.1)	[-54.5,-9.2]	-31.6 (9.9)	-0.4	(-3.3, 2.5)
Sometimes, initially yes	97	(12.5)	-31.5 (-37.5,-23.6)	[-54.0,0.9]	-30.3 (10.1)	0.9	(-2.4, 4.3)
Eat when not hungry (n=789, R2=2.8%)							
Never	439	(55.6)	-32.2 (-38.9,-25.3)	[-58.3,-6.7]	-32.0 (9.7)	(reference)	
Always	19	(2.4)	-28.6 (-36.5,-21.2)	[-49.2,0.9]	-27.9 (12.8)	4.1	(-1.7, 10.0)
Stopped	198	(25.1)	-32.6 (-39.2,-26.7)	[-55.2,-10.1]	-33.1 (9.1)	-1.1	(-3.2, 1.0)
Started	5	(0.6)	-22.9 (-34.6,-15.1)	[-36.4,-0.3]	-21.9 (14.9)	10.2	(-1.1, 21.4)
Sometimes, initially no	41	(5.2)	-27.9 (-35.6,-20.8)	[-45.4,-3.3]	-28.0 (10.1)	4.1	(-0.0, 8.1)
Sometimes, initially yes	87	(11.0)	-29.2 (-36.9,-23.1)	[-53.9,0.6]	-29.5 (10.1)	2.5	(-0.4, 5.4)
Eat when feel full (n=797, R2=2.6%)							
Never	519	(65.1)	-32.2 (-38.8,-25.3)	[-58.3,-3.3]	-32.0 (9.7)	(reference)	
Always	5	(0.6)	-28.6 (-30.0,-28.2)	[-49.2,-26.1]	-32.4 (9.5)	-0.5	(-11.7,10.7)
Stopped	165	(20.7)	-33.0 (-39.1,-26.7)	[-55.2,-10.1]	-33.1 (9.2)	-1.2	(-3.4, 1.1)
Started	2	(0.3)	-26.4 (-36.4,-16.4)	[-36.4,-16.4]	-26.4 (14.2)	5.5	(-12.1,23.2)
Sometimes, initially no	37	(4.6)	-27.9 (-33.3,-19.6)	[-51.0,-0.3]	-26.0 (10.2)	6.0	(1.7, 10.2)
Sometimes, initially yes	69	(8.7)	-29.2 (-36.9,-22.9)	[-53.9,0.9]	-29.4 (11.3)	2.6	(-0.6, 5.8)
Eat continuously during the day (n=756, R2=5.2%)							
Never	170	(22.5)	-34.4 (-40.8,-26.7)	[-57.7,-14.7]	-34.3 (9.2)	(reference)	
Always	155	(20.5)	-30.0 (-36.5,-24.4)	[-53.9,-0.3]	-29.7 (9.8)	4.6	(1.9, 7.3)
Stopped	78	(10.3)	-34.2 (-40.5,-29.5)	[-53.7,-11.2]	-34.5 (9.5)	-0.1	(-3.5, 3.2)
Started	54	(7.1)	-25.8 (-33.4,-21.2)	[-45.4,-12.0]	-27.1 (8.2)	7.2	(3.4, 11.0)
Sometimes, initially no	150	(19.8)	-29.5 (-38.1,-23.6)	[-55.2,0.6]	-30.5 (9.9)	3.8	(1.1, 6.5)
Sometimes, initially yes	149	(19.7)	-32.6 (-38.0,-25.4)	[-55.0,0.9]	-31.9 (9.8)	2.5	(-0.3, 5.2)

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Factor	n	(%)	Median (IQR) [range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Binge eating (n=764, R2=2.0%)						
Never	551	(72.1)	-32.2 (-39.1,-25.5) [-58.3,0.6]	-32.2 (9.7)	(reference)	
Always	4	(0.5)	-18.6 (-27.4,-10.1) [-28.6,-9.1]	-18.7 (10.1)	13.5	(1.0, 25.9)
Stopped	136	(17.8)	-32.2 (-38.1,-24.9) [-53.7,-3.3]	-31.8 (9.6)	0.4	(-2.0, 2.8)
Started	2	(0.3)	-18.3 (-36.4,-0.3) [-36.4,-0.3]	-18.3 (25.6)	13.8	(-3.8, 31.5)
Sometimes, initially no	32	(4.2)	-29.5 (-35.2,-22.8) [-45.7,-12.1]	-29.1 (9.2)	3.1	(-1.4, 7.7)
Sometimes, initially yes	39	(5.1)	-28.3 (-34.4,-23.1) [-53.9,-12.5]	-30.1 (9.9)	2.1	(-2.0, 6.2)
Binge eating disorder (n=766, R2=2.0%)						
Never	629	(82.1)	-32.2 (-38.9,-25.4) [-58.3,0.6]	-32.1 (9.7)	(reference)	
Stopped	90	(11.7)	-32.4 (-37.8,-25.2) [-53.9,-12.1]	-32.1 (9.7)	0.0	(-2.7, 2.7)
Started	2	(0.3)	-18.3 (-36.4,-0.3) [-36.4,-0.3]	-18.3 (25.6)	13.7	(-3.4, 30.8)
Sometimes, initially no	26	(3.4)	-27.2 (-32.6,-21.2) [-39.6,-12.1]	-25.9 (7.8)	6.2	(1.3, 11.0)
Sometimes, initially yes	19	(2.5)	-27.6 (-31.2,-23.0) [-50.7,-11.1]	-29.1 (10.7)	3.0	(-2.6, 8.6)
Loss of control eating (n=744, R2=5.4%)						
Never	336	(45.2)	-33.3 (-39.9,-25.6) [-57.7,0.9]	-32.9 (9.9)	(reference)	
Always	64	(8.6)	-28.8 (-35.3,-25.4) [-48.3,-0.3]	-28.2 (9.5)	4.7	(1.4, 8.1)
Stopped	72	(9.7)	-34.9 (-41.1,-29.4) [-53.7,-11.2]	-35.5 (8.8)	-2.5	(-5.7, 0.7)
Started	23	(3.1)	-27.2 (-32.9,-24.6) [-40.6,-10.1]	-27.6 (7.8)	5.4	(0.1, 10.7)
Sometimes, initially no	129	(17.3)	-27.2 (-34.9,-22.3) [-53.7,-10.1]	-28.7 (9.5)	4.2	(1.7, 6.7)
Sometimes, initially yes	120	(16.1)	-32.7 (-37.4,-25.2) [-55.0,-7.8]	-31.8 (9.3)	1.2	(-1.5, 3.8)
Night eating syndrome (n=515, R2=1.5%)						
Never	380	(73.8)	-32.9 (-39.5,-25.6) [-57.7,0.6]	-32.7 (10.0)	(reference)	
Always	8	(1.6)	-25.5 (-38.0,-22.4) [-47.4,-11.1]	-28.8 (11.9)	3.9	(-5.3, 13.1)
Stopped	38	(7.4)	-31.5 (-36.2,-26.0) [-49.8,-12.2]	-31.1 (8.8)	1.6	(-2.8, 6.0)
Started	2	(0.4)	-37.2 (-42.3,-32.0) [-42.3,-32.0]	-37.2 (7.3)	-4.4	(-22.7,13.8)
Sometimes, initially no	60	(11.7)	-31.3 (-38.5,-22.5) [-45.4,0.9]	-29.4 (10.7)	3.3	(-0.2, 6.9)
Sometimes, initially yes	27	(5.2)	-33.4 (-39.5,-26.1) [-50.7,-9.2]	-32.3 (10.6)	0.4	(-4.7, 5.5)
Alcohol use disorder (n=786, R2=1.6%)						
Never	644	(81.9)	-31.6 (-38.6,-24.9) [-58.3,0.9]	-31.5 (10.0)	(reference)	
Always	15	(1.9)	-32.2 (-34.4,-22.9) [-50.7,-10.1]	-29.9 (11.0)	1.6	(-4.9, 8.2)
Stopped	14	(1.8)	-40.3 (-45.0,-33.0) [-50.0,-24.6]	-38.4 (8.3)	-6.9	(-13.6,-0.1)
Started	17	(2.2)	-37.9 (-39.7,-28.7) [-51.4,-12.5]	-35.5 (9.7)	-3.9	(-10.1,2.2)
Sometimes, initially no	76	(9.7)	-31.0 (-36.3,-25.9) [-48.3,-0.3]	-31.2 (8.0)	0.3	(-2.8, 3.3)
Sometimes, initially yes	20	(2.5)	-34.3 (-40.2,-30.2) [-51.0,-18.0]	-35.3 (8.6)	-3.8	(-9.5, 1.9)

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Factor	n	(%)	Median (IQR) [range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Drink any alcohol (n=794, R2=0.3%)						
Never	225	(28.3)	-31.8 (-38.8,-24.0) [-57.5,0.9]	-31.3 (10.5)	(reference)	
Always	331	(41.7)	-32.2 (-38.3,-25.6) [-55.2,-7.8]	-32.1 (9.3)	-0.9	(-3.1, 1.3)
Stopped	35	(4.4)	-31.8 (-40.6,-24.7) [-57.7,-16.6]	-33.0 (10.6)	-1.7	(-6.3, 2.9)
Started	30	(3.8)	-30.8 (-34.6,-23.1) [-58.3,-17.3]	-30.7 (9.1)	0.6	(-4.3, 5.5)
Sometimes, initially no	78	(9.8)	-32.1 (-37.9,-25.0) [-51.9,-0.3]	-31.0 (9.6)	0.3	(-3.0, 3.6)
Sometimes, initially yes	95	(12.0)	-31.8 (-40.1,-25.5) [-52.8,0.6]	-31.7 (10.4)	-0.4	(-3.5, 2.7)
Drink alcohol regularly (2+/week) (n=794, R2=0.9%)						
Never	646	(81.4)	-31.8 (-38.9,-25.0) [-58.3,0.9]	-31.7 (10.1)	(reference)	
Always	32	(4.0)	-29.4 (-34.6,-22.8) [-49.2,-7.8]	-28.6 (9.5)	3.2	(-1.4, 7.7)
Stopped	7	(0.9)	-35.1 (-49.0,-33.7) [-50.0,-33.3]	-38.9 (7.3)	-7.2	(-16.7,2.4)
Started	15	(1.9)	-31.6 (-39.7,-24.5) [-48.7,-12.2]	-31.9 (9.6)	-0.2	(-6.8, 6.4)
Sometimes, initially no	82	(10.3)	-32.1 (-37.4,-26.5) [-48.4,-10.1]	-31.6 (8.0)	0.1	(-2.8, 3.1)
Sometimes, initially yes	12	(1.5)	-28.6 (-42.2,-26.1) [-51.4,-20.2]	-33.5 (10.9)	-1.7	(-9.0, 5.6)
Smoker (n=833, R2=2.3%)						
Never	742	(89.1)	-31.4 (-38.1,-24.8) [-57.7,0.9]	-31.3 (9.9)	(reference)	
Always	7	(0.8)	-38.3 (-48.4,-29.6) [-48.7,-23.9]	-38.6 (9.6)	-7.3	(-16.8,2.2)
Stopped	1	(0.1)	-28.8 (-28.8,-28.8) [-28.8,-28.8]	-28.8 (.)	2.5	(-22.6,27.5)
Started	38	(4.6)	-36.2 (-44.3,-28.5) [-57.5,-14.9]	-36.7 (10.5)	-5.5	(-9.6, -1.3)
Sometimes, initially no	43	(5.2)	-34.4 (-37.5,-28.5) [-58.3,-12.0]	-34.0 (8.5)	-2.8	(-6.7, 1.1)
Sometimes, initially yes	2	(0.2)	-41.8 (-43.9,-39.7) [-43.9,-39.7]	-41.8 (3.0)	-10.6	(-28.3,7.2)
Illegal drug use (n=787, R2=0.2%)						
Never	731	(92.9)	-31.9 (-38.3,-25.2) [-58.3,0.6]	-31.7 (9.8)	(reference)	
Always	8	(1.0)	-32.9 (-43.9,-27.0) [-48.3,-18.4]	-34.3 (10.6)	-2.6	(-11.5,6.3)
Stopped	13	(1.7)	-26.7 (-35.4,-23.9) [-46.3,-15.3]	-29.6 (9.3)	2.1	(-4.9, 9.1)
Started	5	(0.6)	-37.4 (-39.7,-27.4) [-43.1,-25.3]	-34.6 (7.8)	-2.9	(-14.1,8.4)
Sometimes, initially no	26	(3.3)	-32.6 (-38.5,-25.2) [-57.5,-8.1]	-32.3 (10.8)	-0.5	(-5.6, 4.5)
Sometimes, initially yes	4	(0.5)	-33.0 (-45.7,-22.9) [-48.4,-22.9]	-34.3 (13.3)	-2.6	(-15.2,10.0)

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eTable 4. For LAGB (n=509), unadjusted relationship between the change in each predictor and 3-year percent weight change.

Factor	n	(%)	Median (IQR)	[range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Self-weigh at least weekly (n=270, R2=4.1%)							
Never	44	(16.3)	-13.7 (-21.3,-7.3)	[-38.1,11.7]	-14.5 (9.9)	(reference)	
Always	89	(33.0)	-18.3 (-24.9,-11.1)	[-56.1,12.5]	-17.8 (11.0)	-3.3	(-8.4, 1.9)
Stopped	5	(1.9)	-16.9 (-20.8,-4.2)	[-29.8,2.1]	-13.9 (12.8)	0.6	(-12.5,13.7)
Started	38	(14.1)	-21.6 (-28.1,-17.0)	[-48.4,11.3]	-21.8 (12.1)	-7.3	(-13.4,-1.1)
Sometimes, initially no	48	(17.8)	-16.3 (-23.7,-10.1)	[-49.2,2.8]	-17.6 (11.1)	-3.0	(-8.8, 2.7)
Sometimes, initially yes	46	(17.0)	-13.9 (-23.1,-7.8)	[-35.0,4.2]	-15.5 (10.3)	-1.0	(-6.8, 4.9)
See nutritionist/dietitian (n=267, R2=3.5%)							
Never	231	(86.5)	-16.7 (-25.5,-10.3)	[-49.2,12.5]	-17.6 (10.7)	(reference)	
Stopped	23	(8.6)	-17.1 (-23.9,-8.7)	[-43.4,-0.6]	-18.0 (11.1)	-0.3	(-6.2, 5.6)
Started	1	(0.4)	3.9 (3.9,3.9)	[3.9,3.9]	3.9 (.)	21.6	(-5.5, 48.6)
Sometimes, initially no	8	(3.0)	-15.1 (-19.9,-6.4)	[-22.7,2.8]	-12.8 (9.1)	4.8	(-4.9, 14.5)
Sometimes, initially yes	4	(1.5)	-19.8 (-38.2,-18.4)	[-56.1,-17.5]	-28.3 (18.6)	-10.6	(-24.2,3.0)
See trainer/exercise specialist (n=265, R2=1.1%)							
Never	226	(85.3)	-16.5 (-24.5,-10.0)	[-56.1,12.5]	-17.4 (11.0)	(reference)	
Always	3	(1.1)	-17.3 (-28.1,-8.7)	[-28.1,-8.7]	-18.0 (9.7)	-0.6	(-17.0,15.9)
Stopped	7	(2.6)	-21.7 (-30.3,-12.7)	[-32.0,-0.8]	-19.9 (10.8)	-2.5	(-13.3,8.4)
Started	2	(0.8)	-29.8 (-43.4,-16.2)	[-43.4,-16.2]	-29.8 (19.2)	-12.4	(-32.5,7.7)
Sometimes, initially no	23	(8.7)	-18.7 (-26.5,-8.1)	[-31.0,3.5]	-16.7 (10.4)	0.7	(-5.5, 6.9)
Sometimes, initially yes	4	(1.5)	-19.0 (-27.5,-8.4)	[-28.5,-5.2]	-17.9 (11.4)	-0.5	(-14.8,13.8)
Count fat grams (n=261, R2=2.3%)							
Never	220	(84.3)	-16.3 (-23.8,-9.6)	[-56.1,12.5]	-16.9 (11.0)	(reference)	
Stopped	4	(1.5)	-25.2 (-29.4,-19.0)	[-30.3,-16.2]	-24.2 (6.5)	-7.4	(-21.2,6.5)
Started	2	(0.8)	-31.8 (-46.2,-17.5)	[-46.2,-17.5]	-31.8 (20.3)	-15.0	(-34.6,4.6)
Sometimes, initially no	30	(11.5)	-18.8 (-27.9,-8.7)	[-42.6,2.8]	-17.5 (11.1)	-0.7	(-6.0, 4.7)
Sometimes, initially yes	5	(1.9)	-22.8 (-29.7,-17.0)	[-33.7,-1.0]	-20.9 (12.8)	-4.0	(-16.5,8.5)
Decrease fat intake (n=261, R2=3.9%)							
Never	126	(48.3)	-14.7 (-20.6,-8.9)	[-56.1,12.5]	-15.2 (11.1)	(reference)	
Always	4	(1.5)	-20.7 (-27.9,-18.0)	[-33.1,-17.5]	-23.0 (7.1)	-7.8	(-22.3,6.7)
Stopped	11	(4.2)	-21.5 (-28.6,-11.1)	[-32.0,-0.8]	-19.4 (10.1)	-4.2	(-13.1,4.8)
Started	9	(3.4)	-8.7 (-23.2,-8.1)	[-31.3,-4.5]	-15.0 (9.9)	0.2	(-9.6, 10.0)
Sometimes, initially no	93	(35.6)	-19.7 (-26.5,-11.3)	[-46.2,11.7]	-19.3 (11.3)	-4.1	(-8.0, -0.2)
Sometimes, initially yes	18	(6.9)	-22.3 (-30.6,-7.2)	[-33.9,-1.0]	-20.0 (11.7)	-4.8	(-12.0,2.4)

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Factor	n	(%)	Median (IQR)	[range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Reduce number of calories eaten (n=254, R2=3.6%)							
Never	113	(44.5)	-14.9 (-22.7,-9.5)	[-56.1,12.5]	-15.8 (11.2)	(reference)	
Always	2	(0.8)	-27.2 (-31.5,-22.8)	[-31.5,-22.8]	-27.2 (6.2)	-11.3	(-31.7,9.0)
Stopped	7	(2.8)	-6.4 (-16.7,-0.8)	[-26.2,0.5]	-9.1 (9.6)	6.7	(-4.4, 17.8)
Started	11	(4.3)	-25.5 (-30.6,-11.4)	[-31.6,-6.3]	-21.6 (9.3)	-5.8	(-14.8,3.3)
Sometimes, initially no	99	(39.0)	-18.1 (-25.5,-10.0)	[-48.4,11.7]	-18.1 (11.4)	-2.3	(-6.2, 1.7)
Sometimes, initially yes	22	(8.7)	-16.6 (-29.7,-8.7)	[-33.1,-1.0]	-17.2 (10.3)	-1.3	(-8.0, 5.3)
Use a very low calorie diet (n=252, R2=0.3%)							
Never	241	(95.6)	-16.4 (-23.9,-9.3)	[-56.1,12.5]	-17.0 (11.2)	(reference)	
Stopped	11	(4.4)	-18.6 (-30.3,-16.2)	[-32.0,-1.0]	-20.1 (9.4)	-3.2	(-9.9, 3.5)
Cut out between-meal-snacking (n=245, R2=1.0%)							
Never	165	(67.3)	-16.0 (-23.4,-9.9)	[-56.1,12.5]	-16.5 (11.2)	(reference)	
Always	1	(0.4)	-17.5 (-17.5,-17.5)	[-17.5,-17.5]	-17.5 (.)	-1.0	(-29.8,27.8)
Stopped	7	(2.9)	-16.7 (-21.8,-7.0)	[-26.5,-0.8]	-14.6 (8.9)	1.9	(-9.1, 13.0)
Started	6	(2.4)	-18.6 (-34.8,-8.1)	[-38.1,-4.5]	-20.5 (14.2)	-4.0	(-15.9,8.0)
Sometimes, initially no	61	(24.9)	-19.2 (-26.5,-10.3)	[-42.6,11.7]	-18.6 (11.1)	-2.1	(-6.4, 2.2)
Sometimes, initially yes	5	(2.0)	-14.2 (-16.2,-11.9)	[-30.6,-8.7]	-16.3 (8.4)	0.2	(-12.9,13.2)
Eat fewer high carbohydrate foods (n=257, R2=3.3%)							
Never	96	(37.4)	-13.3 (-20.2,-7.0)	[-56.1,12.5]	-14.5 (11.4)	(reference)	
Always	2	(0.8)	-24.2 (-25.5,-22.8)	[-25.5,-22.8]	-24.2 (1.9)	-9.7	(-29.7,10.3)
Stopped	6	(2.3)	-17.2 (-18.3,-11.7)	[-26.2,-8.9]	-16.6 (6.0)	-2.1	(-13.9,9.7)
Started	16	(6.2)	-17.1 (-31.5,-9.7)	[-40.6,-4.5]	-20.1 (11.5)	-5.6	(-13.2,2.0)
Sometimes, initially no	119	(46.3)	-17.9 (-25.5,-10.1)	[-48.4,11.7]	-17.8 (10.6)	-3.3	(-7.2, 0.5)
Sometimes, initially yes	18	(7.0)	-17.8 (-28.6,-12.0)	[-32.9,-1.0]	-19.2 (9.7)	-4.7	(-11.9,2.5)
Eat special low calorie diet foods (n=253, R2=6.0%)							
Never	165	(65.2)	-14.7 (-21.8,-8.1)	[-56.1,12.5]	-15.3 (11.0)	(reference)	
Always	2	(0.8)	-29.8 (-33.1,-26.5)	[-33.1,-26.5]	-29.8 (4.7)	-14.4	(-34.2,5.4)
Stopped	12	(4.7)	-15.1 (-17.4,-7.8)	[-26.5,-0.8]	-13.1 (7.8)	2.2	(-6.1, 10.5)
Started	4	(1.6)	-15.7 (-27.1,-6.6)	[-31.5,-4.5]	-16.9 (12.5)	-1.5	(-15.6,12.6)
Sometimes, initially no	58	(22.9)	-21.4 (-28.2,-13.5)	[-46.2,2.8]	-20.7 (10.4)	-5.3	(-9.6, -1.1)
Sometimes, initially yes	12	(4.7)	-17.0 (-28.4,-12.0)	[-48.4,-3.2]	-20.0 (12.6)	-4.7	(-13.0,3.6)
Eat or drink meal replacements (n=261, R2=3.0%)							
Never	203	(77.8)	-16.0 (-23.4,-8.7)	[-56.1,12.5]	-16.4 (11.0)	(reference)	
Always	1	(0.4)	-31.9 (-31.9,-31.9)	[-31.9,-31.9]	-31.9 (.)	-15.4	(-43.8,12.9)
Stopped	3	(1.1)	-15.5 (-31.5,-10.1)	[-31.5,-10.1]	-19.0 (11.2)	-2.6	(-19.1,13.8)
Started	3	(1.1)	-18.1 (-46.2,-16.2)	[-46.2,-16.2]	-26.8 (16.8)	-10.4	(-26.9,6.1)
Sometimes, initially no	48	(18.4)	-20.3 (-28.4,-11.6)	[-43.4,3.9]	-19.2 (11.1)	-2.8	(-7.4, 1.7)
Sometimes, initially yes	3	(1.1)	-12.0 (-18.6,-0.8)	[-18.6,-0.8]	-10.4 (9.0)	6.0	(-10.5,22.4)

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Factor	n	(%)	Median (IQR)	[range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Increase fruits and vegetables (n=257, R2=1.9%)							
Never	142	(55.3)	-15.6 (-22.3,-9.5)	[-56.1,12.5]	-15.9 (10.6)	(reference)	
Always	3	(1.2)	-18.1 (-18.6,-12.5)	[-18.6,-12.5]	-16.4 (3.3)	-0.5	(-16.9,15.9)
Stopped	17	(6.6)	-16.2 (-26.2,-12.5)	[-40.3,0.5]	-17.6 (11.3)	-1.7	(-8.9, 5.6)
Started	6	(2.3)	-18.5 (-31.5,-10.5)	[-38.1,-8.1]	-20.9 (11.8)	-5.0	(-16.7,6.7)
Sometimes, initially no	72	(28.0)	-17.8 (-25.3,-10.0)	[-48.4,3.9]	-18.7 (11.3)	-2.8	(-6.9, 1.2)
Sometimes, initially yes	17	(6.6)	-19.8 (-29.7,-11.1)	[-33.9,1.7]	-19.3 (11.9)	-3.4	(-10.7,3.8)
Cut out sugar-sweetened beverages (n=256, R2=2.6%)							
Never	62	(24.2)	-15.4 (-22.0,-8.2)	[-40.3,12.5]	-15.7 (11.4)	(reference)	
Always	14	(5.5)	-25.1 (-28.7,-10.5)	[-48.4,0.5]	-21.7 (13.4)	-6.0	(-14.2,2.2)
Stopped	12	(4.7)	-14.2 (-27.1,-8.3)	[-30.2,-1.0]	-15.9 (10.0)	-0.2	(-9.0, 8.5)
Started	17	(6.6)	-17.5 (-31.2,-11.4)	[-46.2,-4.6]	-21.5 (12.9)	-5.8	(-13.4,1.8)
Sometimes, initially no	100	(39.1)	-16.3 (-23.2,-10.0)	[-43.4,3.5]	-16.8 (9.7)	-1.1	(-5.6, 3.3)
Sometimes, initially yes	51	(19.9)	-17.0 (-24.9,-10.3)	[-49.2,11.7]	-16.8 (11.1)	-1.1	(-6.3, 4.1)
Keep a food diary (n=269, R2=0.7%)							
Never	242	(90.0)	-16.8 (-24.7,-10.1)	[-49.2,12.5]	-17.3 (10.7)	(reference)	
Stopped	15	(5.6)	-17.0 (-22.8,-10.3)	[-33.1,-0.8]	-16.1 (10.5)	1.2	(-5.6, 8.0)
Started	1	(0.4)	-14.3 (-14.3,-14.3)	[-14.3,-14.3]	-14.3 (.)	3.0	(-22.7,28.7)
Sometimes, initially no	11	(4.1)	-10.0 (-21.8,-3.8)	[-34.8,1.7]	-12.9 (11.4)	4.5	(-3.5, 12.4)
Eat breakfast regularly (6-7/week) (n=268, R2=1.4%)							
Never	34	(12.7)	-14.7 (-23.2,-9.9)	[-38.1,11.7]	-15.6 (11.2)	(reference)	
Always	108	(40.3)	-16.8 (-24.4,-9.1)	[-49.2,12.5]	-16.8 (10.4)	-1.2	(-6.7, 4.3)
Stopped	13	(4.9)	-16.6 (-19.4,-9.7)	[-42.6,3.5]	-16.8 (11.8)	-1.2	(-10.3,7.9)
Started	22	(8.2)	-20.2 (-26.1,-11.9)	[-32.7,-1.4]	-19.5 (8.8)	-3.9	(-11.5,3.7)
Sometimes, initially no	38	(14.2)	-17.8 (-24.5,-12.4)	[-56.1,6.7]	-19.6 (12.2)	-4.0	(-10.6,2.6)
Sometimes, initially yes	53	(19.8)	-17.0 (-27.0,-9.5)	[-48.4,11.3]	-18.0 (12.3)	-2.4	(-8.5, 3.8)
Eat lunch regularly (6-7/week) (n=270, R2=1.2%)							
Never	18	(6.7)	-14.8 (-24.9,-8.9)	[-37.5,2.8]	-16.6 (10.9)	(reference)	
Always	146	(54.1)	-16.8 (-25.5,-10.5)	[-56.1,12.5]	-17.5 (11.0)	-0.9	(-7.8, 5.9)
Stopped	8	(3.0)	-15.3 (-25.5,-7.6)	[-38.1,-7.2]	-17.8 (11.4)	-1.1	(-12.8,10.5)
Started	15	(5.6)	-18.4 (-24.7,-13.4)	[-32.0,-3.6]	-18.9 (8.7)	-2.3	(-11.9,7.3)
Sometimes, initially no	29	(10.7)	-13.5 (-21.8,-9.5)	[-34.2,6.7]	-14.3 (10.0)	2.3	(-6.0, 10.5)
Sometimes, initially yes	54	(20.0)	-17.8 (-24.9,-11.9)	[-46.2,11.3]	-18.6 (12.3)	-2.0	(-9.5, 5.5)

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Factor	n	(%)	Median (IQR) [range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Eat dinner regularly (6-7/week) (n=268, R2=1.0%)						
Never	5	(1.9)	-14.7 (-34.2,-14.2) [-38.1,-8.1]	-21.9 (13.4)	(reference)	
Always	206	(76.9)	-16.7 (-24.9,-9.6) [-56.1,12.5]	-17.4 (11.3)	4.5	(-7.7, 16.7)
Stopped	2	(0.7)	-7.4 (-14.1,-0.8) [-14.1,-0.8]	-7.4 (9.4)	14.4	(-8.1, 37.0)
Started	10	(3.7)	-17.0 (-23.6,-10.3) [-32.0,-1.4]	-16.5 (9.6)	5.4	(-9.4, 20.1)
Sometimes, initially no	8	(3.0)	-18.3 (-21.3,-14.2) [-30.3,-1.0]	-17.4 (8.5)	4.5	(-10.9,19.8)
Sometimes, initially yes	37	(13.8)	-16.6 (-23.9,-12.4) [-34.8,3.9]	-17.6 (10.2)	4.3	(-8.5, 17.1)
Eat breakfast, lunch, dinner regularly (n=265, R2=1.3%)						
Never	59	(22.3)	-14.7 (-23.2,-9.6) [-46.2,11.7]	-16.1 (10.9)	(reference)	
Always	71	(26.8)	-17.1 (-25.3,-8.4) [-49.2,12.5]	-16.7 (10.6)	-0.6	(-5.6, 4.3)
Stopped	14	(5.3)	-17.1 (-20.2,-7.2) [-42.6,3.5]	-16.5 (12.5)	-0.4	(-8.8, 7.9)
Started	23	(8.7)	-17.0 (-25.5,-11.9) [-32.7,-3.6]	-18.3 (7.9)	-2.2	(-9.1, 4.7)
Sometimes, initially no	46	(17.4)	-21.1 (-23.6,-12.0) [-56.1,6.7]	-19.4 (10.4)	-3.4	(-8.9, 2.2)
Sometimes, initially yes	52	(19.6)	-16.9 (-29.8,-8.4) [-48.4,11.3]	-18.3 (13.0)	-2.3	(-7.6, 3.1)
Eat when not hungry (n=270, R2=4.0%)						
Never	123	(45.6)	-16.2 (-26.5,-9.3) [-56.1,12.5]	-17.4 (12.2)	(reference)	
Always	19	(7.0)	-16.0 (-21.5,-3.2) [-49.2,1.7]	-14.0 (12.3)	3.3	(-3.6, 10.2)
Stopped	56	(20.7)	-20.9 (-26.5,-14.5) [-46.2,3.5]	-20.4 (8.8)	-3.0	(-7.5, 1.5)
Started	2	(0.7)	-17.8 (-34.2,-1.4) [-34.2,-1.4]	-17.8 (23.2)	-0.5	(-20.3,19.4)
Sometimes, initially no	24	(8.9)	-13.1 (-18.5,-6.6) [-27.3,3.9]	-12.5 (7.8)	4.8	(-1.4, 11.0)
Sometimes, initially yes	46	(17.0)	-15.4 (-23.5,-11.1) [-40.3,2.3]	-16.8 (9.3)	0.6	(-4.2, 5.4)
Eat when feel full (n=270, R2=4.9%)						
Never	157	(58.1)	-16.9 (-25.5,-10.0) [-56.1,12.5]	-17.4 (11.5)	(reference)	
Always	9	(3.3)	-6.4 (-17.3,-1.2) [-49.2,1.7]	-13.2 (16.1)	4.2	(-5.4, 13.7)
Stopped	46	(17.0)	-21.2 (-26.5,-13.5) [-46.2,-3.2]	-20.7 (8.8)	-3.3	(-7.9, 1.4)
Started	4	(1.5)	-3.2 (-13.9,-0.5) [-22.8,0.5]	-7.2 (10.7)	10.2	(-3.9, 24.3)
Sometimes, initially no	28	(10.4)	-12.2 (-17.9,-5.8) [-34.2,3.9]	-13.0 (10.1)	4.3	(-1.4, 10.0)
Sometimes, initially yes	26	(9.6)	-16.9 (-23.5,-11.9) [-31.9,2.1]	-17.7 (8.5)	-0.3	(-6.2, 5.6)
Eat continuously during the day (n=260, R2=5.1%)						
Never	40	(15.4)	-17.1 (-21.8,-11.0) [-35.0,-4.5]	-17.3 (7.2)	(reference)	
Always	67	(25.8)	-14.9 (-22.7,-6.4) [-31.9,3.9]	-14.5 (9.5)	2.8	(-2.7, 8.3)
Stopped	17	(6.5)	-18.8 (-26.5,-10.0) [-33.7,2.8]	-18.3 (10.9)	-1.1	(-9.0, 6.9)
Started	12	(4.6)	-10.8 (-15.7,-4.0) [-26.5,4.2]	-10.2 (8.4)	7.0	(-2.0, 16.1)
Sometimes, initially no	52	(20.0)	-19.1 (-30.4,-8.7) [-56.1,11.7]	-19.8 (14.7)	-2.5	(-8.3, 3.2)
Sometimes, initially yes	72	(27.7)	-18.0 (-25.5,-11.9) [-46.2,12.5]	-18.6 (10.7)	-1.3	(-6.7, 4.1)

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Factor	n	(%)	Median (IQR) [range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Binge eating (n=258, R2=4.7%)						
Never	174	(67.4)	-16.8 (-24.7,-10.5) [-56.1,12.5]	-17.8 (11.4)	(reference)	
Always	6	(2.3)	-6.5 (-14.6,-1.2) [-28.1,-0.6]	-9.6 (10.4)	8.2	(-3.5, 20.0)
Stopped	42	(16.3)	-21.6 (-26.5,-14.2) [-46.2,2.3]	-20.2 (9.8)	-2.4	(-7.2, 2.5)
Started	2	(0.8)	-9.3 (-17.1,-1.4) [-17.1,-1.4]	-9.3 (11.1)	8.5	(-11.6,28.7)
Sometimes, initially no	18	(7.0)	-12.4 (-19.2,-4.9) [-28.6,6.7]	-11.5 (10.2)	6.3	(-0.7, 13.3)
Sometimes, initially yes	16	(6.2)	-13.4 (-25.3,-10.4) [-33.1,1.7]	-16.3 (10.3)	1.6	(-5.9, 9.0)
Binge eating disorder (n=257, R2=5.1%)						
Never	203	(79.0)	-16.4 (-24.7,-10.0) [-56.1,12.5]	-17.3 (11.3)	(reference)	
Always	3	(1.2)	-1.2 (-14.6,-0.6) [-14.6,-0.6]	-5.5 (7.9)	11.8	(-4.7, 28.4)
Stopped	28	(10.9)	-22.8 (-29.4,-16.7) [-46.2,-6.8]	-22.4 (9.1)	-5.1	(-10.8,0.6)
Started	1	(0.4)	-1.4 (-1.4,-1.4) [-1.4,-1.4]	-1.4 (.)	15.8	(-12.7,44.4)
Sometimes, initially no	11	(4.3)	-16.2 (-20.1,-4.9) [-33.1,6.7]	-13.6 (12.4)	3.7	(-5.1, 12.5)
Sometimes, initially yes	11	(4.3)	-10.5 (-24.2,-5.1) [-31.9,1.7]	-14.3 (10.9)	3.0	(-5.8, 11.8)
Loss of control eating (n=254, R2=5.3%)						
Never	94	(37.0)	-16.6 (-23.2,-11.1) [-56.1,2.8]	-18.0 (10.1)	(reference)	
Always	36	(14.2)	-11.8 (-23.3,-4.7) [-31.9,3.9]	-13.0 (10.5)	5.0	(-0.4, 10.5)
Stopped	21	(8.3)	-23.9 (-29.4,-10.0) [-40.6,-4.2]	-21.6 (11.3)	-3.6	(-10.3,3.1)
Started	9	(3.5)	-16.4 (-18.3,-10.5) [-26.5,-3.2]	-15.0 (7.8)	3.0	(-6.7, 12.7)
Sometimes, initially no	54	(21.3)	-16.0 (-21.2,-7.0) [-48.4,11.7]	-15.1 (12.5)	2.9	(-1.8, 7.6)
Sometimes, initially yes	40	(15.7)	-20.6 (-25.1,-13.9) [-46.2,12.5]	-19.7 (10.6)	-1.7	(-7.0, 3.5)
Night eating syndrome (n=191, R2=0.9%)						
Never	140	(73.3)	-17.0 (-24.8,-10.0) [-46.2,12.5]	-17.2 (10.7)	(reference)	
Always	2	(1.0)	-8.3 (-9.5,-7.0) [-9.5,-7.0]	-8.3 (1.7)	8.9	(-11.2,29.0)
Stopped	14	(7.3)	-17.7 (-22.7,-4.6) [-48.4,3.5]	-17.4 (14.0)	-0.2	(-8.1, 7.7)
Started	2	(1.0)	-18.7 (-20.3,-17.1) [-20.3,-17.1]	-18.7 (2.2)	-1.5	(-21.6,18.5)
Sometimes, initially no	23	(12.0)	-20.1 (-25.3,-11.4) [-30.6,3.9]	-17.6 (9.8)	-0.4	(-6.8, 5.9)
Sometimes, initially yes	10	(5.2)	-15.1 (-21.5,-6.8) [-37.5,6.7]	-15.1 (12.8)	2.0	(-7.2, 11.3)
Alcohol use disorder (n=273, R2=2.6%)						
Never	234	(85.7)	-16.5 (-23.5,-9.6) [-56.1,12.5]	-16.7 (10.8)	(reference)	
Always	3	(1.1)	-20.0 (-21.7,-8.9) [-21.7,-8.9]	-16.9 (6.9)	-0.2	(-16.6,16.3)
Stopped	6	(2.2)	-22.1 (-30.3,-10.0) [-33.9,0.4]	-19.7 (13.6)	-2.9	(-14.7,8.8)
Started	2	(0.7)	-16.4 (-21.0,-11.9) [-21.0,-11.9]	-16.4 (6.4)	0.3	(-19.8,20.4)
Sometimes, initially no	16	(5.9)	-19.8 (-33.7,-12.6) [-48.4,-3.6]	-23.1 (14.3)	-6.4	(-13.7,0.9)
Sometimes, initially yes	12	(4.4)	-24.6 (-28.3,-13.4) [-33.1,-7.4]	-21.6 (8.7)	-4.9	(-13.3,3.5)

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Factor	n	(%)	Median (IQR) [range]	Mean (SD)	Mean Difference	Simultaneous 95% CI
Drink any alcohol (n=276, R2=2.8%)						
Never	74	(26.8)	-15.3 (-21.4,-9.6) [-56.1,6.7]	-15.4 (10.3)	(reference)	
Always	141	(51.1)	-17.0 (-25.5,-9.7) [-49.2,12.5]	-17.5 (11.0)	-2.1	(-6.1, 2.0)
Stopped	5	(1.8)	-15.0 (-28.7,-13.7) [-38.1,-3.2]	-19.7 (13.7)	-4.3	(-17.4,8.7)
Started	5	(1.8)	-25.6 (-32.9,-24.2) [-48.4,-6.5]	-27.5 (15.2)	-12.1	(-25.1,0.9)
Sometimes, initially no	28	(10.1)	-18.1 (-27.3,-13.1) [-46.2,2.3]	-19.3 (11.4)	-3.9	(-10.2,2.4)
Sometimes, initially yes	23	(8.3)	-15.6 (-24.9,-11.9) [-40.6,11.3]	-17.4 (10.8)	-2.0	(-8.7, 4.8)
Drink alcohol regularly (2+/week) (n=276, R2=3.7%)						
Never	226	(81.9)	-15.9 (-23.1,-9.5) [-56.1,11.7]	-16.4 (10.9)	(reference)	
Always	19	(6.9)	-22.8 (-30.2,-18.3) [-33.9,-7.4]	-22.8 (7.7)	-6.3	(-13.0,0.3)
Stopped	4	(1.4)	-18.7 (-28.7,-0.8) [-34.2,12.5]	-14.8 (20.0)	1.7	(-12.4,15.8)
Started	3	(1.1)	-23.4 (-25.9,-16.3) [-25.9,-16.3]	-21.8 (5.0)	-5.4	(-21.7,10.9)
Sometimes, initially no	22	(8.0)	-21.3 (-31.6,-11.1) [-46.2,-3.2]	-21.3 (12.3)	-4.9	(-11.1,1.4)
Sometimes, initially yes	2	(0.7)	-23.2 (-29.4,-17.0) [-29.4,-17.0]	-23.2 (8.8)	-6.8	(-26.7,13.1)
Smoker (n=283, R2=0.5%)						
Never	260	(91.9)	-16.9 (-24.8,-9.7) [-56.1,12.5]	-17.3 (11.2)	(reference)	
Always	1	(0.4)	-13.7 (-13.7,-13.7) [-13.7,-13.7]	-13.7 (.)	3.7	(-24.8,32.1)
Stopped	2	(0.7)	-18.7 (-18.7,-18.6) [-18.7,-18.6]	-18.7 (0.1)	-1.4	(-21.5,18.8)
Started	8	(2.8)	-17.4 (-23.8,-8.0) [-26.5,2.8]	-15.2 (10.2)	2.1	(-8.1, 12.2)
Sometimes, initially no	11	(3.9)	-16.4 (-20.3,-13.1) [-32.4,-5.2]	-17.6 (7.1)	-0.3	(-9.0, 8.4)
Sometimes, initially yes	1	(0.4)	-6.5 (-6.5,-6.5) [-6.5,-6.5]	-6.5 (.)	10.8	(-17.6,39.2)
Illegal drug use (n=266, R2=2.6%)						
Never	252	(94.7)	-16.5 (-24.1,-9.6) [-56.1,12.5]	-17.1 (10.9)	(reference)	
Always	3	(1.1)	-16.7 (-28.1,-12.3) [-28.1,-12.3]	-19.1 (8.1)	-2.0	(-18.6,14.6)
Stopped	2	(0.8)	-17.5 (-18.1,-16.9) [-18.1,-16.9]	-17.5 (0.8)	-0.4	(-20.7,19.9)
Started	2	(0.8)	-31.4 (-48.4,-14.3) [-48.4,-14.3]	-31.4 (24.1)	-14.3	(-34.6,6.0)
Sometimes, initially no	2	(0.8)	-8.4 (-28.5,11.7) [-28.5,11.7]	-8.4 (28.5)	8.7	(-11.6,29.0)
Sometimes, initially yes	5	(1.9)	-25.5 (-27.0,-15.8) [-42.6,-12.5]	-24.7 (11.8)	-7.6	(-20.5,5.3)

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eTable 5. The SRMR for each model for the RYGB analysis.

Baseline Model	SRMR	n
Age, BMI, Sex, Diabetes status	1.2374E-8	1513

Obs	label	n	SRMR
1	Self-weigh weekly	1513	.000005895
2	See nutritionist/die	1513	.000000927
3	See trainer/exercise	1513	.000000739
4	Keep a food diary	1513	.000001529
5	Count fat grams	1513	.000000461
6	Decrease fat intake	1513	.000005538
7	Reduce number of cal	1513	.000000549
8	Use a very low calor	1513	.000000410
9	Cut out between-meal	1513	.000000780
10	Eat fewer high carbo	1513	.000000602
11	Eat special low calo	1513	.000006283
12	Eat or drink meal re	1513	.000000930
13	Increase fruits and	1513	.000000343
14	Cut out sugar-sweete	1513	.000001289
15	Eat breakfast regula	1513	.000000395
16	Eat breakfast, lunch	1513	.000000273
17	Eat when feel full,	1513	.000000624
18	Eat when not hungry,	1513	.000000266
19	Eat continuously dur	1513	.000001332
20	Binge eating disorde	1513	.000002168
21	Loss of control eati	1513	.000001553
22	Night eating syndrom	1513	.000000949
23	Evening hyperphagia	1513	.000000092
24	Night eating	1513	.000000094
25	Alcohol use disorder	1513	.000000295
26	Smoker	1513	.000008223
27	Illegal drug use	1513	.000000730

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eTable 6. The SRMR for each model for the LAGB analysis.

Baseline Model	SRMR	n
Age, BMI, Sex, Diabetes status	0	509

Obs	label	n	SRMR
1	Self-weigh weekly	509	.000014898
2	See nutritionist/die	509	.000000746
3	See trainer/exercise	509	.000001344
4	Keep a food diary	509	.000021280
5	Count fat grams	509	.000001542
6	Decrease fat intake	509	.000000957
7	Reduce number of cal	509	.000008371
8	Use a very low calor	509	.000001771
9	Cut out between-meal	509	.000006075
10	Eat fewer high carbo	509	.000007847
11	Eat special low calo	509	.000000979
12	Eat or drink meal re	509	.000001589
13	Increase fruits and	509	.000007444
14	Cut out sugar-sweete	509	.000003179
15	Eat breakfast regula	509	.000011986
16	Eat breakfast, lunch	509	.000012189
17	Eat when feel full,	509	.000002299
18	Eat when not hungry,	509	.000006960
19	Eat continuously dur	509	.000010163
20	Binge eating disorde	509	.000005275
21	Loss of control eati	509	.000012423
22	Night eating syndrom	509	.000005568
23	Evening hyperphagia	509	.000000316
24	Night eating	509	.000001573
25	Alcohol use disorder	509	.000002585
26	Smoker	509	.000028494
27	Illegal drug use	509	.000000975

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eTable 7. Fit Summary Example: Self-weigh Week Model LAGB.

Fit Summary		
Modeling Info	**Number of Complete Observations**	270
	Number of Incomplete Observations	239
	Number of Variables	9
	Number of Moments	45
	Number of Parameters	45
	Number of Active Constraints	0
	Saturated Model Estimation	FIML
	Saturated Model Function Value	27.8684
	Saturated Model -2 Log-Likelihood	14185.0403
	Baseline Model Estimation	Converged
	Baseline Model Function Value	29.0034
	Baseline Model -2 Log-Likelihood	14762.7433
	Baseline Model Chi-Square	577.7031
	Baseline Model Chi-Square DF	36
	Pr > Baseline Model Chi-Square	<.0001
Absolute Index	**Fit Function**	27.8684
	-2 Log-Likelihood	14185.0403
	Chi-Square	.
	Chi-Square DF	0
	Pr > Chi-Square	.
	Z-Test of Wilson & Hilferty	.
	Hoelter Critical N	.
	Root Mean Square Residual (RMR)	0.0001
	Standardized RMR (SRMR)	0.0000
	Goodness of Fit Index (GFI)	1.0000
Parsimony Index	**Adjusted GFI (AGFI)**	.
	Parsimonious GFI	0.0000
	RMSEA Estimate	.
	Probability of Close Fit	.
	Akaike Information Criterion	14275.0403
	Bozdogan CAIC	14510.5004
	Schwarz Bayesian Criterion	14465.5004
	McDonald Centrality	.
Incremental Index	**Bentler Comparative Fit Index**	.
	Bentler-Bonett NFI	0.0391
	Bentler-Bonett Non-normed Index	.
	Bollen Normed Index Rho1	.
	Bollen Non-normed Index Delta2	.
	James et al. Parsimonious NFI	.
NOTE: Saturated mean structure parameters are excluded from the computations of fit indices.		

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eTable 8. Fit Summary Example: Self-weigh Week Model RYGB.

Fit Summary		
Modeling Info	**Number of Complete Observations**	777
	Number of Incomplete Observations	736
	Number of Variables	9
	Number of Moments	45
	Number of Parameters	45
	Number of Active Constraints	0
	Saturated Model Estimation	FIML
	Saturated Model Function Value	27.6899
	Saturated Model -2 Log-Likelihood	41894.7835
	Baseline Model Estimation	Converged
	Baseline Model Function Value	28.5022
	Baseline Model -2 Log-Likelihood	43123.7951
	Baseline Model Chi-Square	1229.0115
	Baseline Model Chi-Square DF	36
	Pr > Baseline Model Chi-Square	<.0001
Absolute Index	**Fit Function**	27.6899
	-2 Log-Likelihood	41894.7835
	Chi-Square	0.0000
	Chi-Square DF	0
	Pr > Chi-Square	.
	Z-Test of Wilson & Hilferty	.
	Hoelter Critical N	.
	Root Mean Square Residual (RMR)	0.0000
	Standardized RMR (SRMR)	0.0000
	Goodness of Fit Index (GFI)	1.0000
Parsimony Index	**Adjusted GFI (AGFI)**	.
	Parsimonious GFI	0.0000
	RMSEA Estimate	.
	Probability of Close Fit	.
	Akaike Information Criterion	41984.7835
	Bozdogan CAIC	42269.2668
	Schwarz Bayesian Criterion	42224.2668
	McDonald Centrality	1.0000
Incremental Index	**Bentler Comparative Fit Index**	1.0000
	Bentler-Bonett NFI	0.0285
	Bentler-Bonett Non-normed Index	.
	Bollen Normed Index Rho1	.
	Bollen Non-normed Index Delta2	1.0000
	James et al. Parsimonious NFI	0.0000
NOTE: Saturated mean structure parameters are excluded from the computations of fit indices.		

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eTable 9. Number of participants represented on each variable in eTables 1 and 2.

RYGB	Cumulative Frequency	LAGB	Cumulative Frequency
Item		**Item**	
Self-weigh	778	Self-weigh	270
Nutritionist/dietitian	769	Nutritionist/dietitian	267
Trainer/exercise specialist	768	Trainer/exercise specialist	265
Keep a food diary	750	Keep a food diary	269
Count fat grams	744	Count fat grams	261
Decrease fat intake	747	Decrease fat intake	261
Reduce calories eaten	730	Reduce calories eaten	254
Use very low calorie diet	720	Use very low calorie diet	252
No between-meal-snacking	709	No between-meal-snacking	245
Eat fewer high carb foods	752	Eat fewer high carb foods	257
Eat special low calorie diet foods	737	Eat special low calorie diet foods	253
Eat/drink meal replacements	737	Eat/drink meal replacements	261
Increase fruit/vegetables	728	Increase fruit/vegetables	257
No sugar-sweetened beverages	731	No sugar-sweetened beverages	256
Eat breakfast regularly	781	Eat breakfast regularly	268
Eat breakfast, lunch, dinner regularly	774	Eat breakfast, lunch, dinner regularly	265
Eat when full more than once a wk	796	Eat when full more than once a wk	270
Eat when not hungry, >1/wk	788	Eat when not hungry, >1/wk	270
Eat continuously during day	756	Eat continuously during day	260
Binge Eating Disorder	765	Binge Eating Disorder	257
Loss of control eating	744	Loss of control eating	254
Night eating syndrome	515	Night eating syndrome	191
Evening hyperphagia	908	Evening hyperphagia	321
Night eating	915	Night eating	322
Alcohol use disorder	785	Alcohol use disorder	273
Smoker	832	Smoker	283
Illegal drug use	786	Illegal drug use	266

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