Supplementary figure 1 The PREVIEW study flow diagram (for more information, see Fogelholm et al. 2017 and Raben et al. 2021) and formulation of the present analytical sample. *A total number of participants attending the baseline visit was 2,224, but one individual withdrew a consent during the intervention and requested all data to be deleted.
**Supplementary figure 2** Overview of the PREVIEW intervention with 17 group meetings (marked in green) and seven clinical investigation days (CIDs, marked in red). The behavior change intervention was administered according to PREVIEW Behavior Modification Intervention Toolbox (PREMIT) designed for PREVIEW (Kahlert et al. 2016). Active behavior change was the goal during the first six months which were divided for preliminary, preparation and action stages (Stages 1-3) and behavior maintenance was the goal during the rest of the intervention considered as the behavior maintenance stage. LED = low energy diet.
Supplementary figure 3 Estimated marginal means (EMM) and 95% confidence intervals (CI) of eating behaviors throughout the PREVIEW intervention by diet groups (HP= high protein, low glycemic index, n=674 at baseline; MP = medium protein, medium glycemic index, n=637 at baseline). Determined using linear mixed effects models with maximum likelihood estimation adjusted for age, sex, and baseline (month 0) BMI as fixed effects and participant-ID and intervention centre as random effects. Diet x time interaction terms were not significant and hence not included in the models.
**Supplementary table 1** Participant characteristics, eating behaviors and perceived stress at baseline and at 6 months. Participants categorized according to time spent in the PREVIEW study. Analytical sample includes late drop-outs and completers. P-values from t-test for continuous variables and chi²-test for sex.

|                  | Early drop-outsa, n=912 | Late drop-outsb, n=349 | Completers, n=962 | Early drop-outs vs. Analytical samplec p-value | Late drop-outs vs. Completers p-value |
|------------------|--------------------------|-------------------------|-------------------|-----------------------------------------------|-------------------------------------|
| **Sex**          |                          |                         |                   |                                               |                                     |
| Women            | 646 (71%)                | 238 (68%)               | 619 (64%)         | 0.007                                         | 0.195                               |
| Men              | 266 (29%)                | 111 (32%)               | 343 (36%)         |                                               |                                     |
| **Age**          | 48 (12)                  | 52 (11)                 | 55 (10)           | <0.001                                        | <0.001                              |
| **Baseline**     |                          |                         |                   |                                               |                                     |
| BMI              | 36.8 (7.4)               | 36.6 (6.2)              | 33.5 (5.3)        | <0.001                                        | <0.001                              |
| Flexible restraint | 2.2 (1.9)               | 2.1 (1.9)               | 2.3 (1.8)         | 0.883                                         | 0.059                               |
| Rigid restraint  | 2.4 (1.6)                | 2.5 (1.6)               | 2.6 (1.6)         | 0.018                                         | 0.334                               |
| Disinhibition    | 9.2 (3.6)                | 9.3 (3.5)               | 9.0 (3.5)         | 0.615                                         | 0.186                               |
| Hunger           | 7.1 (3.6)                | 6.9 (3.7)               | 7.0 (3.5)         | 0.450                                         | 0.643                               |
| Perceived stress | 15.4 (6.5)               | 13.7 (6.0)              | 12.9 (6.1)        | <0.001                                        | 0.023                               |
| **Month 6**      |                          |                         |                   |                                               |                                     |
| BMI              | 33.1 (6.0)               | 32.2 (5.7)              | 29.4 (4.9)        | <0.001                                        | <0.001                              |
| Flexible restraint | 4.0 (2.0)               | 4.4 (1.9)               | 4.7 (1.8)         | <0.001                                        | 0.008                               |
| Rigid restraint  | 3.8 (1.6)                | 3.9 (1.5)               | 4.1 (1.5)         | 0.010                                         | 0.200                               |
| Disinhibition    | 7.9 (3.9)                | 7.3 (3.6)               | 7.2 (3.3)         | 0.003                                         | 0.491                               |
| Hunger           | 5.4 (3.6)                | 5.0 (3.5)               | 4.9 (3.5)         | 0.047                                         | 0.675                               |
| Perceived stress | 15.0 (6.5)               | 14.2 (6.5)              | 13.0 (6.2)        | <0.001                                        | 0.003                               |

a) Participant discontinued the study before one year study visit
b) Participant discontinued the study after one year study, and did not attend the final 3 year study visit
c) Analytical sample includes late drop-outs and completers (n=1 311)
Supplementary table 2 Mean (SD) eating behavior scores at selected time points and total change during the whole intervention (from month 0 to 36) according to 3-year weight reduction success.

|                          | Successful n=293 | Partially successful n=405 | Unsuccessful n=264 | Successful vs. Partially successful Cohen’s d, (95% CI) | Successful vs. Unsuccessful Cohen’s d, (95% CI) |
|--------------------------|------------------|-----------------------------|-------------------|--------------------------------------------------------|-----------------------------------------------|
| **Flexible restraint**   |                  |                             |                   |                                                        |                                               |
| At 36 months             | 4.7 (1.8)        | 3.9 (2.1)                   | 2.9 (2.0)         | 0.40 (0.25–0.56)                                        | 0.93 (0.74–1.11)                              |
| Total change             | 2.7 (1.8)        | 1.4 (1.9)                   | 0.6 (1.9)         | 0.67 (0.51–0.84)                                        | 1.16 (0.96–1.35)                              |
| **Rigid restraint**      |                  |                             |                   |                                                        |                                               |
| At 36 months             | 4.0 (1.5)        | 3.8 (1.6)                   | 3.5 (1.5)         | 0.13 (-0.03–0.28)                                       | 0.36 (0.19–0.54)                              |
| Total change             | 1.7 (1.6)        | 1.2 (1.4)                   | 0.9 (1.6)         | 0.38 (0.22–0.54)                                        | 0.55 (0.37–0.72)                              |
| **Disinhibition**        |                  |                             |                   |                                                        |                                               |
| At 6 months              | 6.3 (3.1)        | 7.3 (3.3)                   | 7.9 (3.4)         | 0.30 (0.15–0.46)                                        | 0.50 (0.33–0.68)                              |
| At 36 months             | 6.6 (3.3)        | 8.0 (3.7)                   | 8.9 (3.9)         | 0.38 (0.22–0.54)                                        | 0.63 (0.45–0.81)                              |
| Total change             | -2.0 (2.9)       | -1.0 (2.9)                  | -0.3 (2.6)        | 0.33 (0.17–0.50)                                        | 0.61 (0.42–0.80)                              |
| **Hunger**               |                  |                             |                   |                                                        |                                               |
| At 6 months              | 4.1 (3.3)        | 5.0 (3.4)                   | 5.7 (3.6)         | 0.25 (0.09–0.41)                                        | 0.46 (0.28–0.64)                              |
| At 36 months             | 4.3 (3.4)        | 5.5 (3.7)                   | 6.8 (3.9)         | 0.32 (0.16–0.48)                                        | 0.69 (0.51–0.88)                              |
| Total change             | -2.2 (3.1)       | -1.4 (2.7)                  | -0.6 (3.0)        | 0.25 (0.08–0.41)                                        | 0.51 (0.32–0.70)                              |

Successful = weight loss from baseline to the end of study >8% of baseline weight; partially successful = weight loss 1-8%; unsuccessful = weight loss < 1%