

Food response inhibition training reduces snacking and weight more in overweight individuals and with a higher 'dose' of training

Which factors predict the effects of food response inhibition training on food intake and weight?

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Intro

- 64% of UK adults are overweight or obese
- Excess energy intake is a leading cause of obesity
- Food response inhibition training (inhibiting key presses to food pictures) reduces food intake, food liking and body weight¹
- We examined predictors of training effects in a large public sample (open trial)

Methods

1. Delivered training (fig 1) to the public via computer (web) (N=1033) or smartphone app (N=1234)
2. Participants reported snacking & weight pre-training
3. Did 1 week of daily 4-8 min food go/no-go training
4. Reported snacking & weight 4-6 weeks later
5. Linear mixed effects models identified variables interacting with effects of time (training)

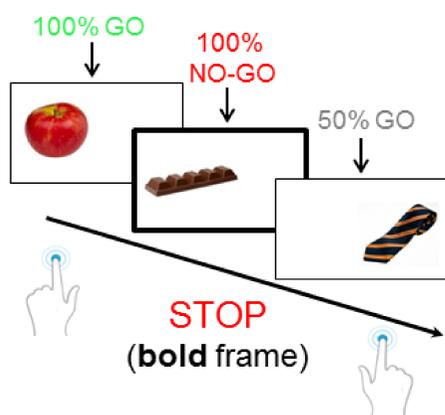
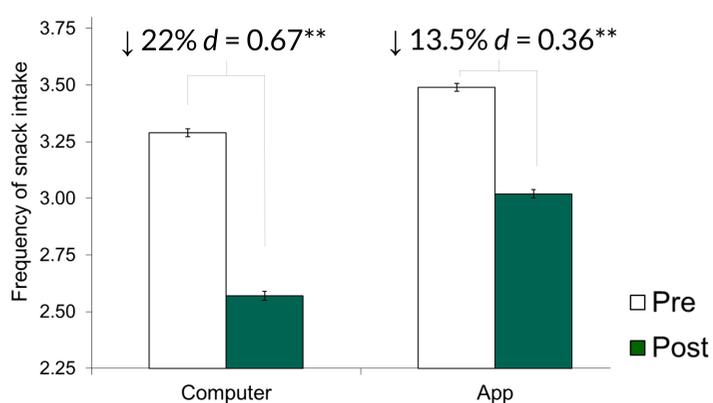


Figure 1: Computer food go/no-go training. Participants press left/right keys to indicate image location except when frame is bold (no-go). In phone app, participants touch image directly (see top right of poster).

Discussion

- Participants showed small-medium decreases in snacking and weight
- Effects were greater with more training and for those who need it most (more overweight, more disinhibited eating)
- Validation in larger, longer-term RCTs is needed

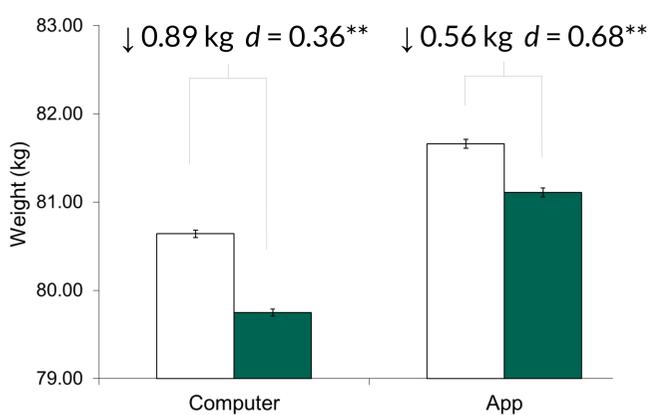
Results - Snacking



Greater reductions in snacking associated with:

- ✓ Computer vs. app training
- ✓ More training
- ✓ Higher baseline weight
- ✓ Higher disinhibited eating scores² (computer only)

Results - Weight



Greater reductions in weight associated with:

- ✓ Computer vs. app training
- ✓ More training
- ✓ Male gender
- ✓ Higher disinhibited eating scores² (computer)



Extra Info

Measure of snacking (past month)
Food Frequency Questionnaire

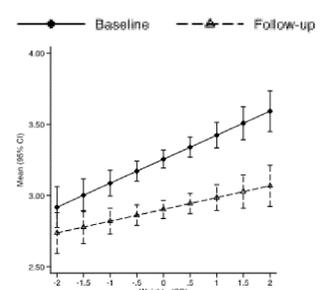
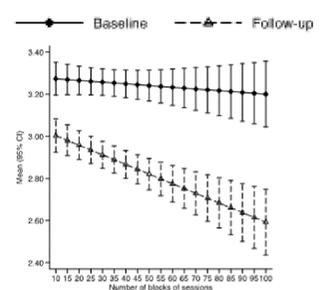
Score	8	7	6	5	4	3	2	1
	4 or more times a day	2 or 3 times a day	Once a day	5 or 6 times a week	2 to 4 times a week	Once a week	1 to 3 times a month	Less often or never
Sweets	○	○	●	○	○	○	○	○
Cakes	○	○	○	○	○	●	○	○
Chocolate	○	○	○	○	○	○	○	○
Biscuits	○	○	○	○	○	○	○	○

Sample

Recruited via media reports (TV, news)
78% female; Age=45.5 ± 14 (18-92);
BMI= 29 ± 6 (18.6-64); 50% dieting;
15% metabolic disorder; Disinhibited eating² = 10.8 ± 3.5 (population M=5.7)

Linear mixed models were adjusted for age, baseline weight, gender, smoking, dieting, metabolic conditions, and amount of training (blocks completed)

Plots below show app data: More training (top) and higher baseline weight (bottom) associated with less food intake at follow-up (post-training)



References

- 1) Lawrence, N. S., et al. (2015). *Appetite*, 95, 17-28.
- 2) TFEQ: Stunkard, A., & Messick, S. (1985). *J Psychosomatic Res*, 29, 71-83.

