

# A food-specific inhibition training to increase inhibitory control – a randomized controlled pilot study



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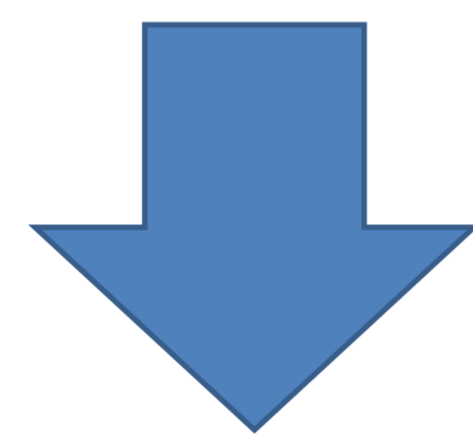
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## Theoretical background

- Inhibitory control refers to the ability to overrule automatic intentions to directly respond to stimuli without thinking (Jansen et al. 2015).
- Less effective inhibitory control in the context of food is associated with obesity (Jansen et al., 2015) and binge eating disorder (Giel et al. 2017).
- Interventions to increase inhibitory control have shown robust, but small effects on food intake and food choice in the laboratory (Aulbach et al. 2019).
- Possibilities to improve inhibitory control trainings such as explicit contingencies, individual stimuli and feedback have been suggested (Veling et al. 2017).
- Based on these suggestions, we have developed a novel and explicit food-specific inhibition training.



**Does an explicit food-specific inhibition training increase inhibitory control in the laboratory and improve eating behavior in real-life?**

## Results

Participant recruitment has been finished, training sessions and post-intervention measurement still needs to be completed.

### Outcomes:

- Laboratory: Inhibitory control (standardized and individual go/no-go tasks), food intake (bogus taste test)
- Real-life: Loss of control eating, snacking frequency, energy intake (ecological momentary assessment)

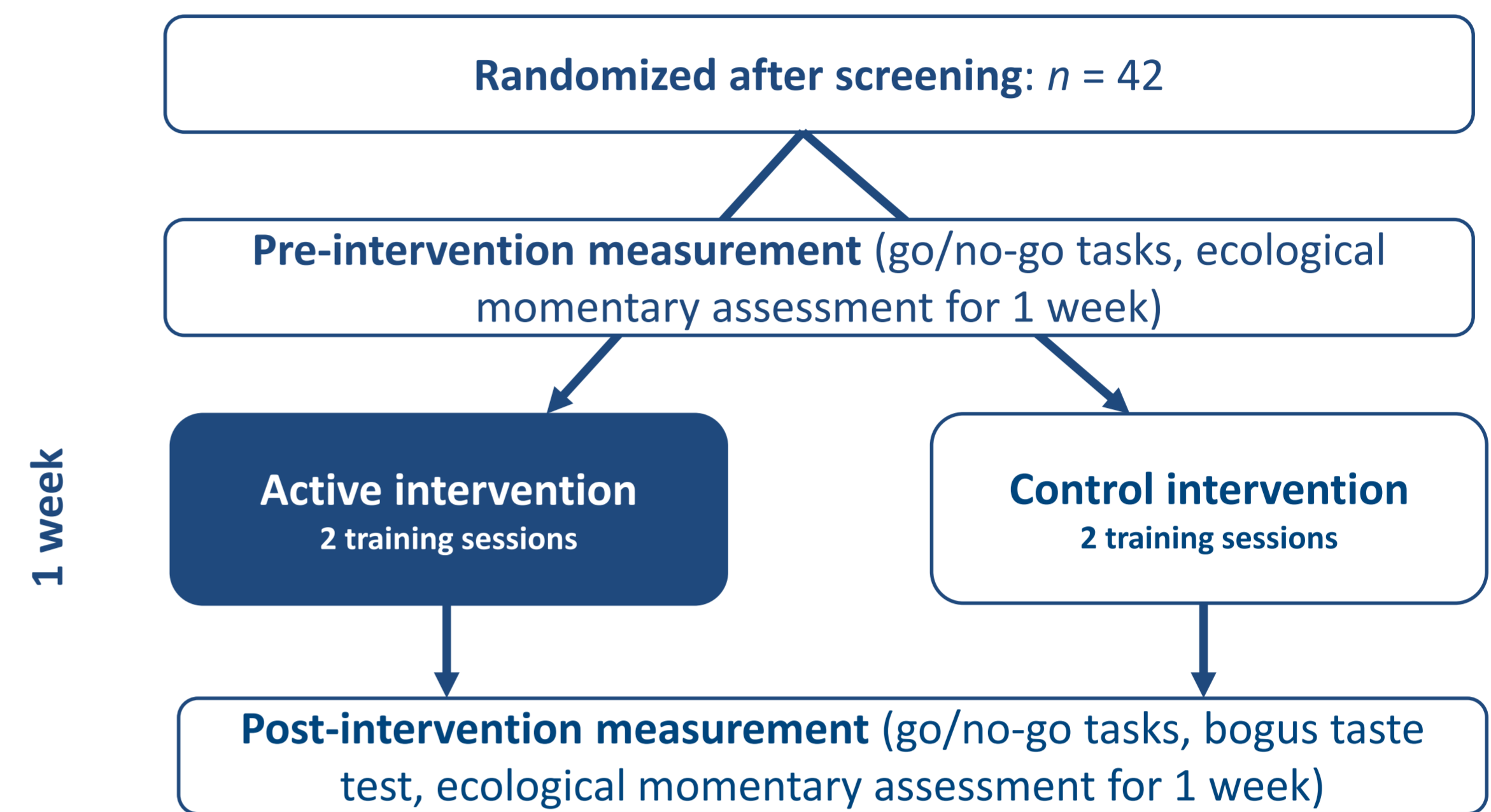
### Participant characteristics:

Variable	Active (n = 21)	Control (n = 21)	Range	F-Value (p)
Age, M (SD)	25.81 (6.21)	23.45 (4.12)	18-41	2.15 (.15)
Gender (% female)	76.2	81.0	N/A	0.14 (.71)
Education (% ≥ 10 years)	95.2	100	N/A	1.02 (.31)
BMI, M (SD)	24.23 (4.08)	23.51 (4.53)	18.88 - 39.59	0.28 (.60)
Disinhibition, M (SD)	10.86 (3.15)	10.57 (2.38)	5 - 16	0.11 (.74)
Monthly snacking, M (SD)	24.67 (5.60)	23.62 (4.58)	16 - 34	0.44 (.51)
Eating disorder symptoms, M (SD)	2.10 (1.23)	2.04 (1.11)	0.16 - 4.38	0.03 (.87)
Restraint, M (SD)	15.57 (6.02)	16.00 (6.35)	6 - 27	0.05 (.82)

Note: „Disinhibition“ refers to the Three Factor Eating Questionnaire Subscale completed at screening. „Monthly snacking“ refers to the Food Frequency Questionnaire completed at screening. „Eating disorder symptoms“ refers to the Eating Disorder Examination Questionnaire completed at pre-test. Restraint refers to the Restraint Scale completed at pre-test.

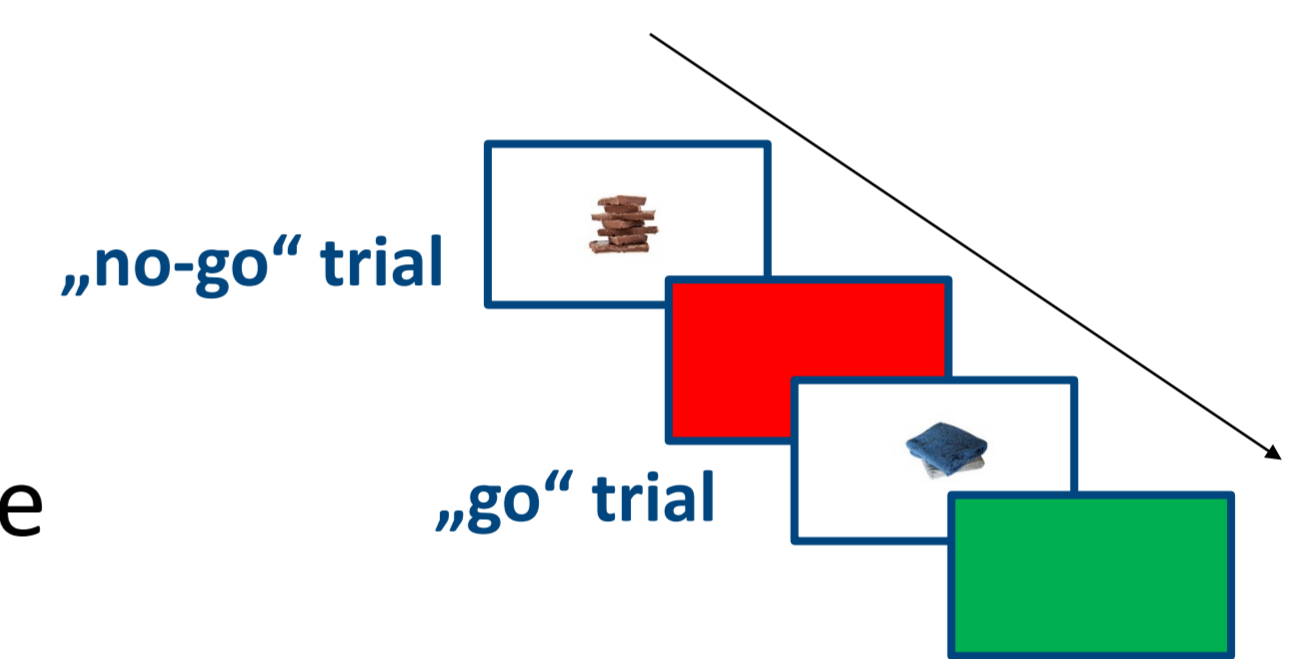
## Method

### Flow:



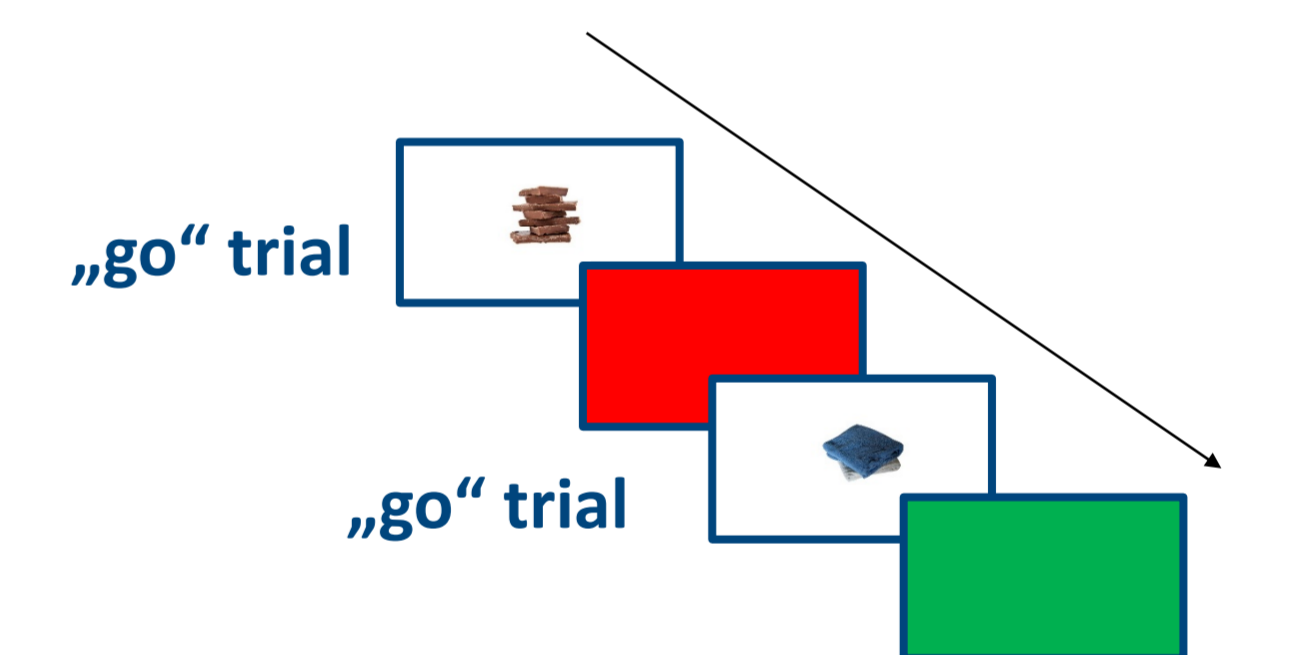
### Active intervention:

- Explicit instruction “Do not react to food, react to neutral stimuli!”
- Individual stimuli
- Feedback on inhibition performance



### Control intervention:

- Explicit instruction “React to food and react to neutral stimuli!”
- Individual stimuli
- Feedback on correct reactions



## Discussion

- Disinhibition and Restraint scores are comparable with other studies of inhibitory control trainings in student samples, whereas BMI scores in our sample tend to be a bit higher.
- Eating Disorder Pathology scores indicate that we recruited a largely subclinical sample with 23 (54.8%) participants being classified as non-clinical and 19 participants (45.2%) being classified as clinical cases.
- Laboratory and real-life outcomes still need to be analyzed.
- Results may have important practical implications for the combination of everyday CBT and computer-based inhibitory control trainings.
- Should our results be promising, we plan to evaluate this intervention in a larger sample of individuals with overweight or obesity.

