

COMPUTER TRAINING OF ATTENTION AND INHIBITION FOR YOUNGSTERS WITH OBESITY: A PILOT-STUDY.

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INTRODUCTION

The "Obesity Epidemic" begins in childhood



Limited success of Multidisciplinary Obesity Treatment (MOT)



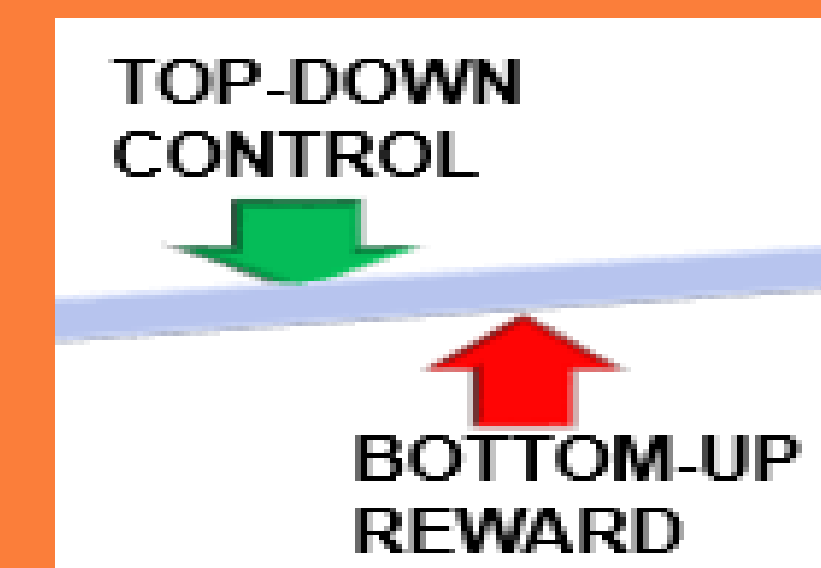
THE ROLE OF EXECUTIVE FUNCTIONING (EF)

Cognitive control: goal-directed behavior, resisting temptations

Dual Pathway (Appelhans, et al., 2011)

Top-down Inhibition (thinking before acting towards LT-goals)

Bottom-up Attention & Approach (towards rewarding stimuli)



AIM = DOES EF-TRAINING RESULT IN BETTER EF & WEIGHT LOSS MAINTENANCE IN COMPARISON TO A CONTROL CONDITION?

METHOD

PARTICIPANTS

N=36, M=12y (SD = 1.47), 53 % ♀

Obese Youngsters Inpatient Treatment

INSTRUMENTS

Weight : "Adjusted BMI" (Van Winckel & Van Mil, 2001)

EF: BRIEF & BRIEF-SR (Smidts & Huizinga, 2009)

DESIGN = 2 CONDITION

Experimental (Active* EF, N=21)

vs Control (Passive* EF, N=15)

(*Active/passive based on contingency-relationship cue/action)

TASKS (EF- measurement + training)

Inhibition = "Go No Go"

Approach = "Approach/avoidance"

Attention bias = "Dot Probe"

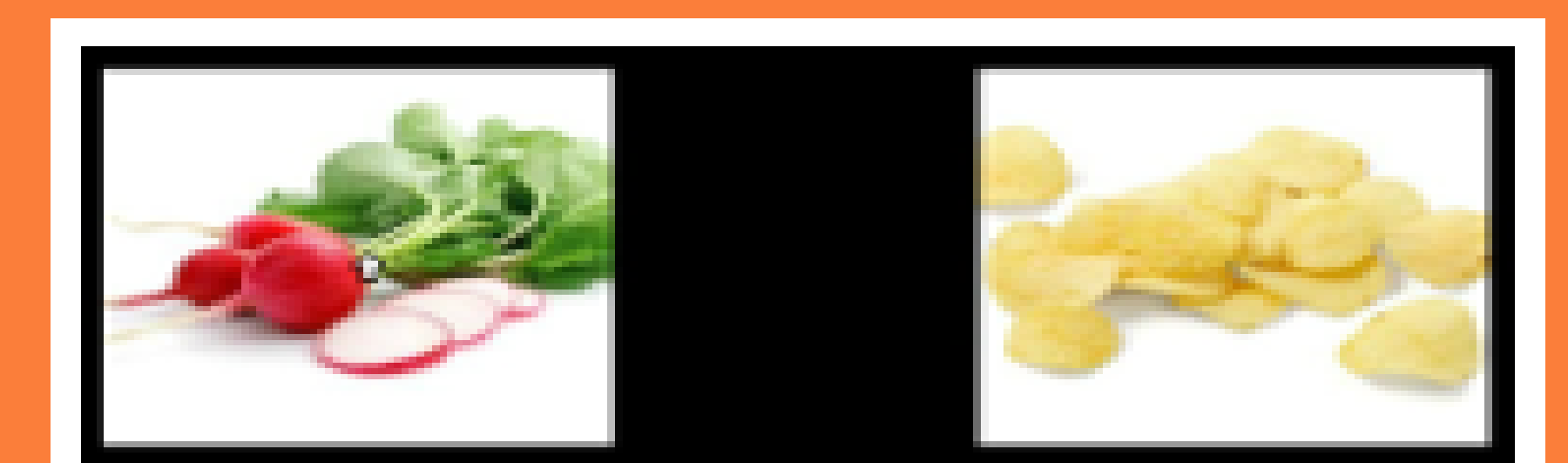
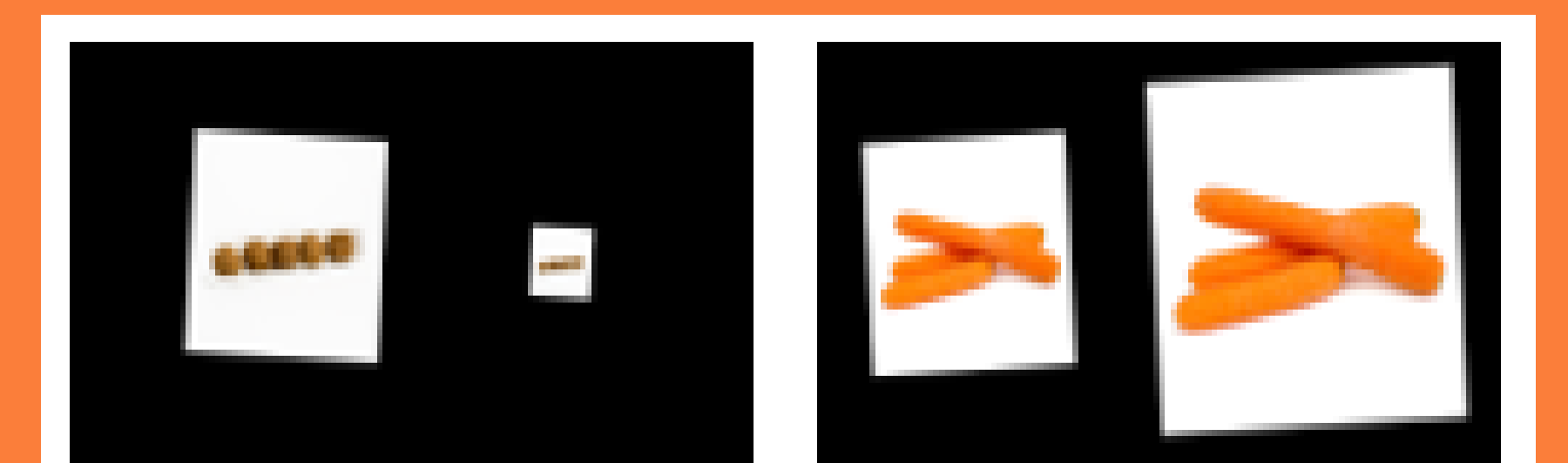
PROCEDURE

"On top" of MOT

measurement (pre),

6 sessions training (5 weeks),

measurement post + FU (8 weeks)



RESULTS

REPEATED MEASURES ANOVA

- DESCRIPTIVES = No age/gender/BMI differences between conditions
- COGNITIVE TRAINING EFFECT = no significant changes pre-post & no differences in conditions
- WEIGHT EVOLUTION
 - Significant evolution pre versus post
 - No significant changes pre versus FU or post versus FU
 - No significant differences in conditions
- EXECUTIVE FUNCTIONING = significant differences between conditions (less IC problems in experimental group)

DISCUSSION

EVALUATION

- + Trainable, with effects on behavioral executive functioning
- Limited effects, no translation in weight differences

POSSIBLE EXPLANATIONS AND SOLUTIONS

- Increase in sample sizes
- Specific knowledge on childhood processes (different from adults)
- Focus on motivational aspects
- Changing stimuli exposure: unhealthy-neutral instead of unhealthy-healthy
- Training environment with less distracting factors
- Specific food environment in MOT: need of booster-sessions after treatment/FU

