

Project title: Beyond temptation: Strengthening inhibition towards unhealthy food

Project leader: Katrijn Houben (PI)

Function: Assistant Professor

Collaborators: Anita Jansen (Co-PI, promotor)

Proposal (250 words):

Introduction: Overweight and obesity put a heavy global burden on society, which necessitates the development of effective weight loss interventions. Given the pivotal role of inhibitory control in excessive eating and weight gain, strengthening inhibition is a key target for interventions. This research project addresses this issue by translating insights from associative learning theory to inhibitory control training to (1) increase knowledge of inhibitory learning in eating behavior, and (2) to aid the development of new interventions for weight management.

Hypothesis and Objectives: The objective of this research project is to investigate whether the mechanisms that drive behavioral change in food inhibition training are similar to those that drive behavioral change in extinction learning.

Setting and Methods: This research project will consist of experimental laboratory studies that systematically test whether inhibition training, like extinction learning, is sensitive to renewal of the original response following context change, to spontaneous recovery, and to rapid reacquisition of the original response. It is also investigated whether strategies that have shown to improve extinction generalization, like adding a partial reinforcement schedule and training across multiple learning contexts and time delays, can be used to enhance the generalization and effectiveness of inhibition training. All studies will be conducted at the Faculty of Psychology and Neuroscience (Maastricht University; the Netherlands).

Impact: By taking a translational approach, this project opens new avenues to understanding the mechanisms that cause and maintain excessive food intake and overweight, which is indispensable for effective treatment and prevention of obesity.

Requirements candidate: Highly motivated student with good English communication skills and proactive and resolute attitude.

Keywords: Obesity; Overeating; Inhibitory learning; Extinction; Cognitive training

Top 5 selected publications:

NOTE: IF = Impact Factor 2015; Times Cited = number of citations (Web of Science 20/10/2017)

1. Houben, K., & Jansen, A. (2015). Chocolate equals stop: Chocolate-specific inhibition training reduces chocolate intake and go associations with chocolate. *Appetite*, *87*, 318-323. IF = 3.403; Times Cited = 28
2. Jansen, A., Houben, K., & Roefs, A. (2015). A cognitive profile of obesity and its translation into new treatment interventions. *Frontiers in Eating Behaviors*, *27*, 1807. IF = - ; Times Cited = 11
3. Houben, K., Nederkoorn, C., & Jansen, A. (2014). Eating on impulse? The relation between overweight and food-specific inhibitory control. *Obesity*, *22*, E6-E8. IF = 3.873; Times Cited = 47
4. Houben, K. (2011). Overcoming the urge to splurge: The role of inhibitory control in eating behavior. *Journal of Behavior Therapy and Experimental Psychiatry*, *42*, 384-388. IF = 2.517; Times Cited = 85
5. Houben, K., & Jansen, A. (2011). Training inhibitory control: A recipe for resisting sweet temptations. *Appetite*, *56*, 345-349. IF = 3.403; Times Cited: 117