

Conquer your cravings

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VALORISATION ADDENDUM

The present dissertation describes several studies investigating the effects and working mechanisms of cue exposure therapy for overweight and obese individuals. In this Valorisation Addendum, the societal and economic relevance of the findings of this dissertation are highlighted. In addition, an overview is provided of the target groups that might profit from the findings in this dissertation. Further, a number of recommendations have been formulated to improve cue exposure treatments in clinical practice. Also, activities in which these recommendations have been disseminated are mentioned, and finally, the innovation of the studies in this dissertation is highlighted.

SOCIETAL RELEVANCE

Worldwide, overweight and obesity prevalences increase disturbingly. Obesity has severe medical consequences, such as cardiovascular disease, type 2 diabetes, asthma and obstructive sleep apnoea. In addition, obesity has serious consequences for the quality of life, including weight discrimination, depression and mobility problems, altogether making obesity one of the largest health issues of our time. In essence, obesity is the result of an imbalance between energy expenditure and energy input. However, the fact that weight loss interventions that aim purely at this negative energy balance (i.e., less energy intake than energy expenditure) rarely lead to successful long-term weight loss fuels the investigation to improve our understanding of the problem of obesity, and effective interventions.

Building upon previous research on the fundamental learning mechanisms that have found to play an important role in overeating and obesity, the aim of the present dissertation was to translate these basic findings to an intervention: food cue exposure therapy. Specifically, previous research has shown that overeating often occurs in response to exposure to food-associated cues, such as the sight, taste and smell of food. Based on the principles of classical conditioning, it is assumed that exposure to food-associated cues can elicit a range of learned responses (i.e., cue reactivity), such as eating desires. Based on the assumption that overeating behaviour is learned, the aim of food cue exposure therapy is to achieve extinction of such associations by exposure to food-related cues without actual food consumption. In practice, food cue exposure therapy entails that participants are instructed to hold, smell and lick the food (i.e., cues), while food intake is not allowed. In the present dissertation, it is investigated whether food cue exposure therapy can be used as a weight loss intervention, by investigating the effects and potential working mechanisms of cue exposure therapy.

The results of this dissertation show that cue exposure therapy is indeed a valuable intervention to incorporate in weight loss interventions for obesity. Regarding the effects of cue exposure, it was found that food cue exposure leads to reduced overeating. Specifically, it was found that food cue exposure leads to less overeating of foods that were included

during cue exposure, but that these effects do not generalize to foods not included during cue exposure therapy. In addition, food cue exposure therapy leads to reductions of binge eating, and also to weight loss, compared to an active weight-loss intervention. Although further research is necessary on the long-term effects of food cue exposure therapy, this means that cue exposure indeed has high potential to help to improve current weight-loss interventions. In addition, findings of the present dissertation on the potential working mechanisms have yielded important recommendations for the use of food cue exposure therapy in clinical practice (see Products & Activities).

TARGET GROUPS

This dissertation has yielded insights into the effects of cue exposure therapy, as well as insights about the working mechanisms of cue exposure therapy that are translated into recommendations for clinical practice. The most important target group that can profit from these insights are clinical psychologists working in mental health care that treat obese clients and patients with Binge Eating Disorder. In addition, other professionals working with obese clients, such as medical doctors, nurses and dieticians also profit from these research findings by having more knowledge about important psychological mechanisms in obesity. Importantly, obese people are also a target group that (indirectly) profit from these findings: creating awareness about psychological mechanisms in obesity and the possibility of tackling these mechanisms in mental health care is of great importance. From a broader point of view, the results of the present dissertation can on the long-term also have great societal relevance when considering the improvement of effective treatments of obesity, and - as a result - the reduction of obesity-associated health costs.

PRODUCTS & ACTIVITIES

Based on the results of this dissertation, a number of recommendations have been formulated to improve cue exposure treatments in clinical practice. These recommendations are outlined in Chapter 8, General Discussion: 'Recommendations for clinical practice'.

In order to transfer these insights and clinical recommendations to the main target group, we gave several presentations and workshops for nurses, doctors and therapists of hospitals and other health-care facilities: the paediatric obesity outpatient clinic of Zuyderland hospital, Dutch Obesity Clinic (Nederlandse Obesitas Kliniek; NOK), Center for Obesity Europe (Co-Eur), Area Health Authority (Gemeenschappelijke Gezondheidsdienst; GGD), and U-center. In addition, workshops and presentations were given at Dutch and International conferences for therapists: NIP (Dutch association for student psychologists), VGct (Dutch association of Behavioural and Cognitive Therapy), NAE (Dutch Academy

of Eating Disorders) and the EABCT (European Association for Behavioural and Cognitive Therapies). Also, a paper on the effects of cue exposure therapy and recommendations for clinical practice was recently accepted for publication in a Dutch journal for mental health care professionals (*De Psycholoog*). Further dissemination of knowledge took place via personal consultations of therapists in general mental health care facilities and specialized eating disorder clinics.

Regarding the target group of obese people, the findings of this dissertation have also been communicated via media in women's magazines (*Libelle* in week 12, 2013 and in week 11, 2016), a popular science magazine (*Experiment NL*, 2015), national TV (*Tros RADAR*, 11-11-2013), and the newspaper of the university (*Observant*, 07-11-2013). Further, several lectures about general principles about the psychology of eating were given to for primary and secondary school children (*KidzCollege*), and intermediate vocational education students.

We plan to continue knowledge dissemination in the future using the channels described above.

INNOVATION

The research line of cue exposure therapy as a treatment for overeating and obesity has been introduced quite some time ago. However, the number of studies supporting the beneficial effects of cue exposure therapy for obese individuals was very scarce. In addition, no research was done on the working mechanisms of food cue exposure therapy. The studies in this dissertation are innovative, as these were one of the first to systematically investigate the effects of cue exposure therapy, and the first to investigate working mechanisms of food cue exposure. In addition, the research field of working mechanisms of exposure therapy in anxiety disorders has recently progressed substantially. In this dissertation, we translated these recent insights of exposure therapy in anxiety disorders to for food cue exposure.

In addition to further investigating the (long-term) effects and working mechanisms of cue exposure therapy for obesity in the future, we will also continue this research line of cue exposure therapy with the translation to an important and severely understudied target group: Anorexia Nervosa. Anorexia Nervosa is severe mental disorder, characterized by (extreme) self-starvation and high mortality rates, and appears to be very challenging to treat as many patients do not recover from treatments. Translating the current insights in working mechanisms of cue exposure therapy to exposure therapy for anorexia nervosa is therefore innovative and highly relevant to improve the current treatments of Anorexia Nervosa.

