Maastricht University

Faculty of Psychology and Neuroscience

Project title: Turning negative memories around: what works best?

Project leader: Pauline Dibbets

Function: Assistant professor

Collaborators: Tom Smeets

Proposal (250 words):

Introduction: It is assumed that fear responses can be altered by changing the contingency between a conditioned stimulus (CS) and an aversive unconditioned stimulus (US), or by devaluing the mental representation of the US. The advantage of the devaluation-based procedures is that they are thought to be less context-dependent and, therefore, less prone to relapse; whereas contingency-based methods are thought to be highly effective in changing US-expectancies.
Hypothesis and Objectives: The aim of the present project is to compare the efficacy of contingency- and devaluation-based intervention techniques on the diminishment in – and return of fear. We hypothesize that extinction (contingency based) will outperform devaluation-based techniques regarding contingency measures, but that devaluation-based techniques will be more effective in reducing the mental representation of the US. Additionally, we expect that devaluation-based techniques will be less sensitive to relapse induction.
Setting and Methods: Healthy participants will receive a differential fear conditioning paradigm followed by one of three interventions: extinction (contingency-based), imagery rescripting (devaluation-based) or eye movement desensitization and reprocessing (devaluation-based). The efficacy of these methods on the return of fear will be tested using a reinstatement (study 1), renewal (study 2) or spontaneous recovery (study 3) procedure. Study 4 will address additive effects of the intervention techniques. US-expectancy (online ratings and skin conductance responses) and subjective values (e.g., distress, vividness, arousal of the mental US representation) will be measured.
Impact: Our project, using techniques that are already part of clinical interventions, helps to disentangle processes involved in the diminishment and reoccurrence of fear.

Requirements candidate: Highly motivated student with good English communication skills and proactive and resolute attitude. Additionally: knowledge of and interest in human fear conditioning.

Keywords: fear conditioning; US devaluation; extinction; imagery rescripting; eye movement desensitization and reprocessing.

Top 5 selected publications:

1. **Dibbets, P.**, & Evers, E. A. (2017). The influence of state anxiety on fear discrimination and extinction in females. *Frontiers in Psychology*, *8*. doi: 10.3389/fpsyg.2017.00347
2. **Dibbets, P.**, & Arntz, A. (2016). Imagery rescripting: Is incorporation of the most aversive scenes necessary? Memory, 24(5), 683-695. doi: 10.1080/09658211.2015.1043307 Cited by: 7
3. **Dibbets, P.**, van den Broek, A., & Evers, E. A. (2015). Fear conditioning and extinction in anxiety- and depression-prone persons. *Memory*, *23*(3), 350-364. doi:10.1080/09658211.2014.886704 Cited by: 13
4. Leer, A., Engelhard, I. M., **Dibbets, P.**, & Van den Hout, M. (2013). Dual-tasking attenuates the return of fear after extinction. *Journal of Experimental Psychopathology*, *4*, 325-340. doi: http://dx.doi.org/10.5127/jep.029412 Cited by: 3
5. **Dibbets, P.**, Poort, H., & Arntz, A. (2012). Adding imagery rescripting during extinction leads to less ABA renewal. *Journal of Behavior Therapy and Experimental Psychiatry*, *43*(1), 614-624. doi:10.1016/j.jbtep.2011.08.006 Cited by: 29