The efficacy of attentional bias modification training as add-on to regular treatment in alcohol and cannabis dependent outpatients: A randomized controlled trial
Background

**Attentional Bias (AB)**

- Dual process models of addiction
  - implicit processes contribute to persistence
    
    (Gladwin, & Figner, 2015; Wiers et al., 2007)
Background

**Attentional Bias (AB)**

Intensity of AB found to be related to...
- Severity of addiction (Fadardi & Cox, 2006)
- Severity of craving (Field, Munafo & Franken, 2009)
- Treatment outcome (Carpenter, Schreiber, Church & McDowell, 2006)
- Risk of relapse (Schoenmakers et al., 2010)
Background

Attentional Bias Modification (ABM)
Background

What do we know about effectiveness ABM?

• Mixed results (Heitmann, Bennik, van Hemel - Ruiter, & de Jong, 2018) à reduction of symptoms more likely after multiple sessions!

• Compliance & boredom (de Voogd, Wiers, & Salemink, 2017; Beard, Weisberg, & Primack, 2012)

What we need:
Appealing ABM training with multiple sessions
Research question

Does adding multi-session internet-based ABM training to treatment as usual (TAU) in patients diagnosed with alcohol use disorder or cannabis use disorder...

• Decrease addiction symptoms (use, craving)?
• Reduce time until relapse?
• Enhance their general health?
• Reduce their use of other health care resources?
Method

Procedure

Figure 1 Participant flowchart.

Heitmann et al., 2017
Method

**Measures – self-report**

- Measurements in Addiction of Triage and Evaluation Questionnaire (MATE-Q; Schippers & Broekman, 2014)
  - frequency of use past 30 days
  - number of standard units (alcohol only)
  - craving
Method

**ABM training**

**Phase 1**
- Week 1 - 3
- iABM/placebo: daily 10 minutes

**Phase 2**
- Week 4 - 6
- iABM/placebo: 3 times a week 10 minutes

**Phase 3**
- Week 7 – end TAU
- iABM/placebo: once a week 10 minutes
Method

ABM training

https://rug.eu.qualtrics.com/jfe/form/SV_4VgvFWBL7g263Cl
Method

ABM training
Method

Placebo training
Method

Both versions
Method

Both versions
Results

Flowchart drop-out

MI model:
- 20 predictors
- 18 predictors & imputators
- 50 imputations with 50 iterations
Results

Descriptives

• $N = 142$ baseline
• Gender 72.5% male
• $\text{Mage} = 44.54$ ($SD = 13.89; \text{range 20 - 78}$)
• 78.2 % alcohol use disorder
• 77 in ABM condition, 65 in control conditions
• Mean number completed ABM sessions 11.94 ($SD = 12.69; \text{range 0 - 45}$)
Results

Frequency of use

Short-term effect
ABM: $t(1044) = 5.57; p < .001; d = 0.71$
Control conditions: $t(754) = 5.78; p < .001; d = 0.82$

Long-term effect
ABM: $t(199) = 3.61; p < .001; d = 0.57$
Control conditions: $t(363) = 3.13; p = .002; d = 0.48$
Results

Number of standard units alcohol

Short-term effect
ABM: $t(5739) = 6.78; p < .001; d = 0.92$
Control conditions: $t(5426) = 5.80; p < .001; d = 0.85$

Long-term effect
ABM: $t(186) = 1.72; p = .087; d = 0.32$
Control conditions: $t(189) = 1.46; p = .147; d = 0.29$
Discussion

Craving decreased only in ABM condition from baseline to post-test
→ ABM reduces craving?
→ ABM as prevention for relapse after treatment?
Conclusive thoughts and next steps

- Multi-session ABM interventions might have clinically relevant effects on craving

**Next steps**

- Multiple imputation and RM-ANOVA in R for direct comparison between groups
- Number of training sessions important?
- Months until relapse
- Depression, Anxiety & Stress
Internet-based attentional bias modification training as add-on to regular treatment in alcohol and cannabis dependent outpatients: a study protocol of a randomized control trial

Janika Heitmann, Madelon E. van Hemel-Ruiter, Karin M. Vermeulen, Brian D. Ostafin, Colin MacLeod, Reinout W. Wiers, Laura DeFuentes-Merillas, Martine Fledderus, Wiebren Markus and Peter J. de Jong
Many thanks to...

Dr. M. E. van Hemel-Ruiter

Dr. M. Huisman (University of Groningen)

Dr. B. D. Ostafin (University of Groningen)

Prof. Dr. P.J. de Jong (University of Groningen)
References


Images: https://unsplash.com/
Thank you for your attention!

…and keep focussing on the ‘right’ things of life ;)