



Turning Point

TREATMENT · RESEARCH · EDUCATION

The MAAT trial

**A randomised controlled trial of personalised
approach bias modification for methamphetamine use**

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**NCCRED Symposium
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easternhealth



**MONASH
University**

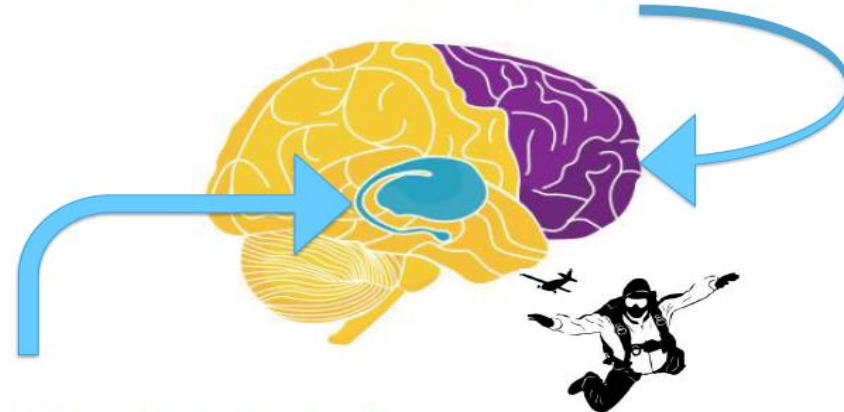
Dual Process model of Addiction



Frontal Lobe

Under-active Reflective 'Top Down' processes:

- Slow
- Controlled
- Rational decision-making
- Considers negative consequences, alternative behaviours, longer future goals/rewards



Limbic System

Over-active Automatic/Impulsive 'motivational' processes:

- Bottom-up
- Fast/spontaneous
- Associative
- Evoked by drug-related stimuli
- Influenced by attentional bias and approach bias

(Stacy & Wiers, 2010)

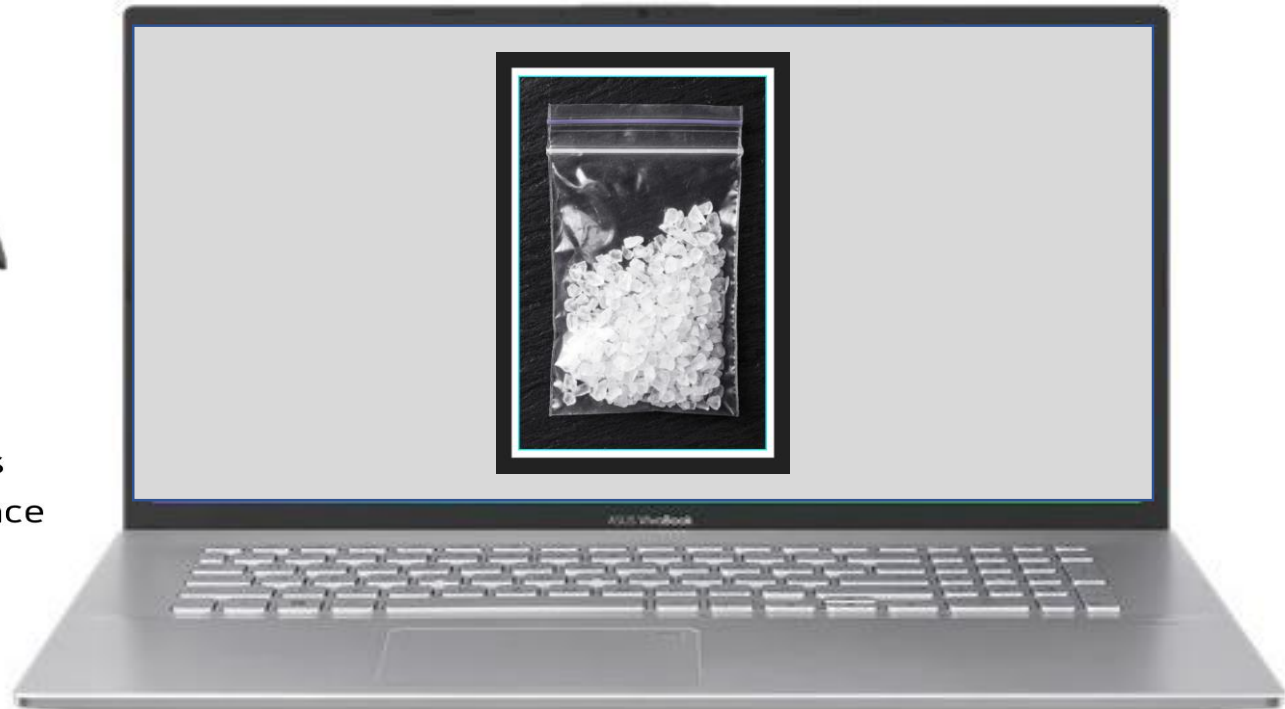
Approach Bias Modification (ABM)

Author (date)	Substance	Approach bias reduced?	Did AOD outcomes improve?
Wiers et al. (2011) [n=214]	alcohol	yes	yes
Eberl et al. (2013) [n=509]	alcohol	yes	yes
Manning et al. (2016) [n=83]	alcohol	Not measured	yes
Manning et al. (2020) [n=300]*	Alcohol	yes	yes
den Uyl et al. (2017) [n=100]	alcohol	unsure	no
Rinck et al. (2018) [n=1405]	alcohol	yes	yes
Loijen et al. (2018) [n=106]	alcohol	yes	Not measured
Manning et al. (2019) [n=47]	methamphetamine	Not measured	yes
Sherman et al (2015) [n=33]	Cannabis	no	Yes (males only)

Methamphetamine *avoidance* movement



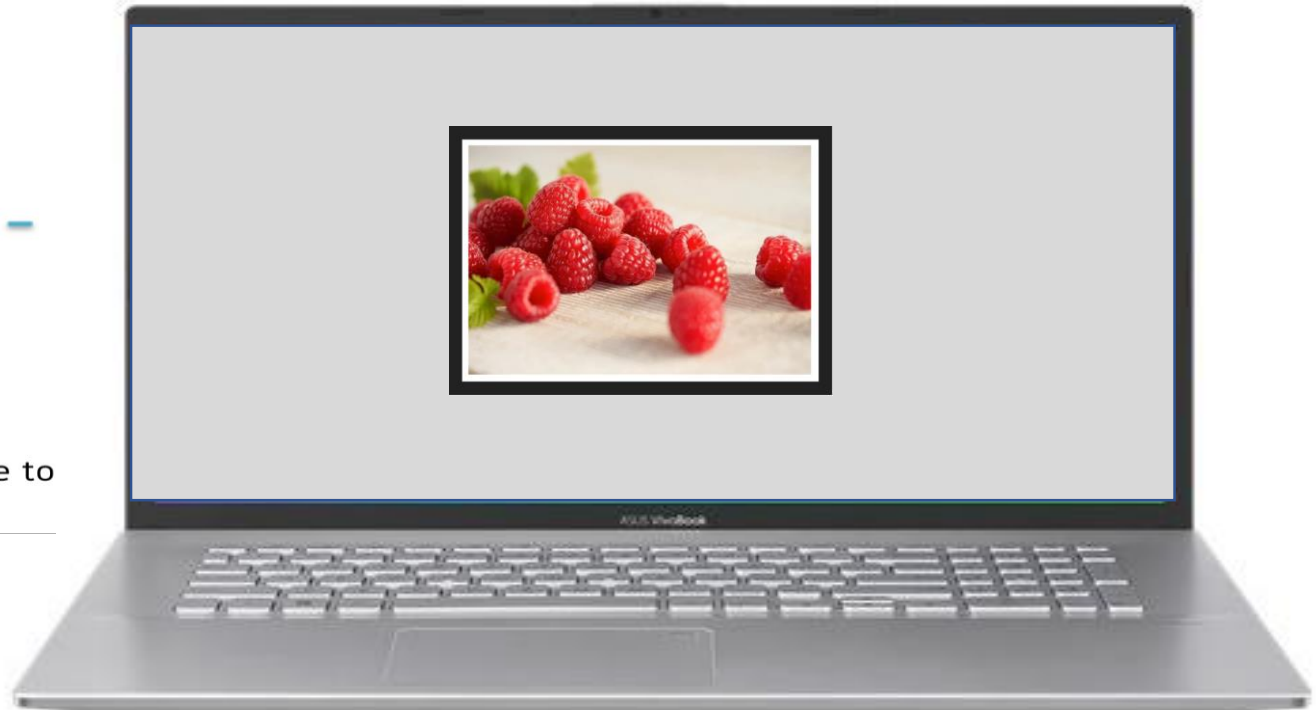
Pushing joystick shrinks
image to simulate avoidance



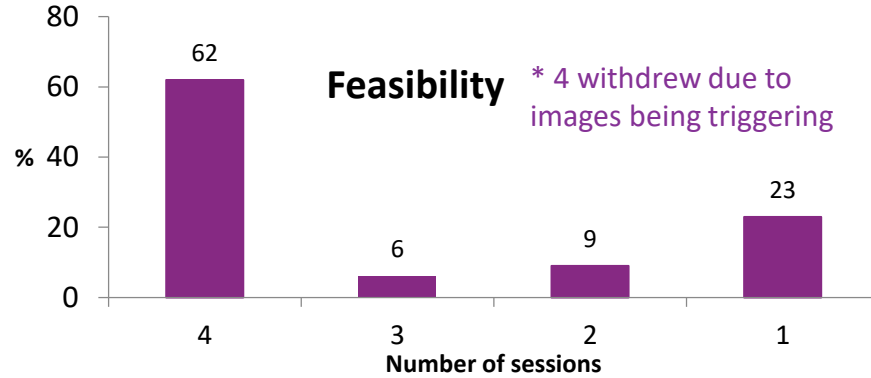
Non-methamphetamine *approach* movement



Pulling joystick enlarges image to simulate approach



Pilot trial (N=47)



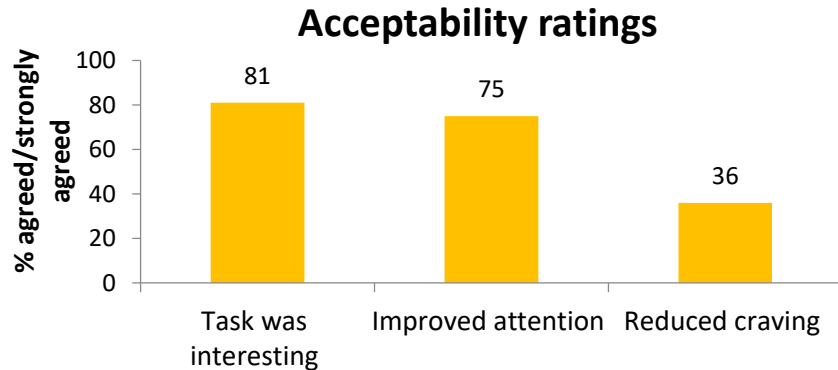
Craving (MCQ) mean score:

2.7 pre-training

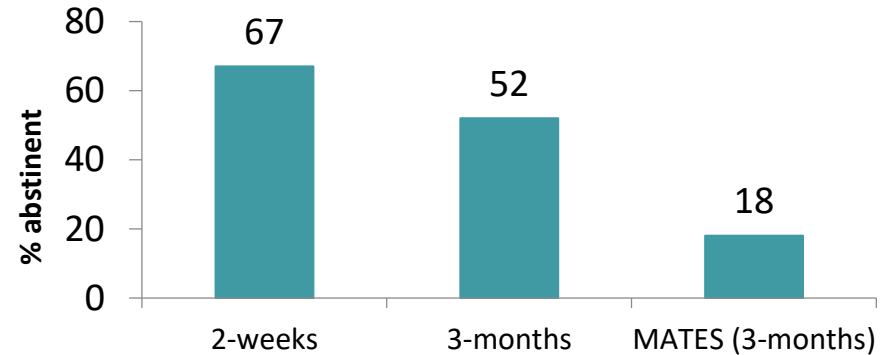


2.1 post-training

($p < .001$)

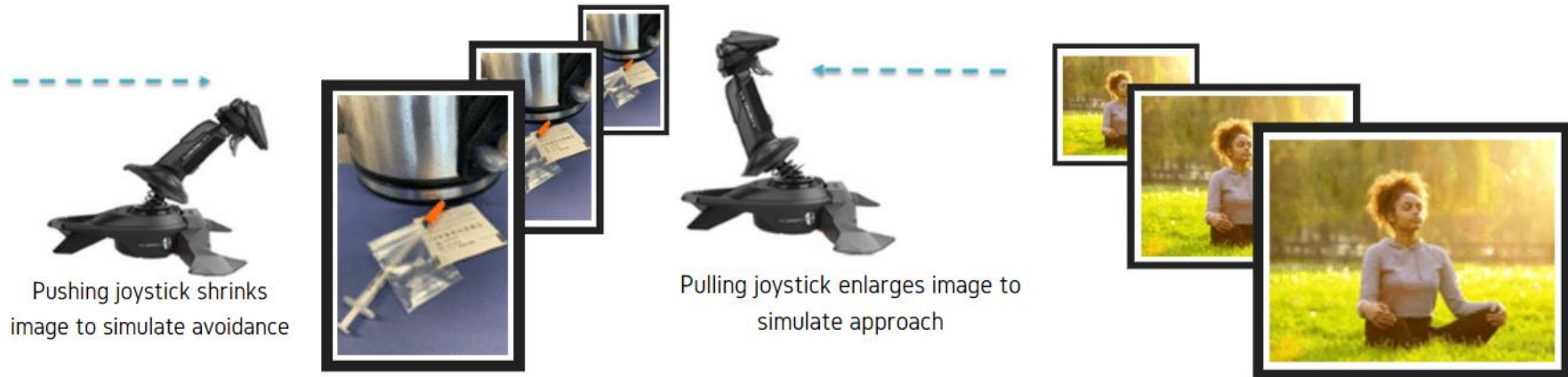


Outcomes (abstinence post-discharge)



Personalised Methamphetamine ABM – An RCT

- RCT of personalised ABM for methamphetamine clients ($N=100$) in residential rehabilitation (versus “sham training” control)
- Use of self-selected images of avoid stimuli (meth images) and approach stimuli (positive images) to increase personal relevance, engagement and potency



Picture selection

Methamphetamine images: view 50 methamphetamine-related images and rate each image on a scale (scored 0-100) : “How much does this image *remind you of the times you’ve used methamphetamine (ice)*”.



0
Not at all

100
Very much

Positive images: 50 positive images and rate each one in response to the question, “How much does this image *remind you of your goals, things you enjoy, or things you would like to spend more time doing?*”.



Training sessions

6 x 10-15 minute sessions over 2 weeks: 240 image presentations

Active condition:

- Personalised: 10 most highly-rated meth & 10 most highly-rated positive pictures used in training (12 times each per session).
- Trained to avoid methamphetamine and approach positive:
 - 95% of meth pictures with portrait frame (**push away**)
 - 95% of positive pictures have a landscape frame (**pull closer**)

“Sham training” control condition:

- Not personalised: random presentation of 40 methamphetamine and 40 positive images, 3 times each per session.
- Not trained to approach or avoid: 50% of each picture type in each orientation.

Schedule

	1 week after admission	1-3 weeks after admission			4 weeks after leaving	12 weeks after leaving
TIMEPOINT:	Baseline	session 1	sessions 2-5	session 6	4-week follow-up	3-month follow-up
Eligibility Screening	X					
ASSESSMENTS:						
Demographic and clinical history	X					
Methamphetamine use disorder (SCID-5-RV)	X					X
Severity of dependence scale	X				X	X
Drug use questionnaire (timeline follow-back)	X				X	X
Methamphetamine craving (CEQ)		X		X	X	X
Picture selection		X				
Approach bias measurement		X		X		
Acceptability (EDS)				X		
INTERVENTION:						
ABM - training		X	X	X		

Progress to date

- Completed focus groups with consumers
- Registered Protocol – ACTRN12620000072910
- Protocol paper: Garfield, J.B.B. Piercy, H., Arunogiri, S., Lubman, D., Campbell, S., Sanfiliop, P., Gavin, Hopwood, M., Kotler, E., George, S., Okedara, G., Manning, V. Protocol for the methamphetamine approach-avoidance training (MAAT) trial, a pilot randomised controlled trial of personalised approach bias modification for methamphetamine use disorder. *Trials (In Press)*
- Ethics and Governance Approval (MUHREC 21625)
- Commenced recruitment (Mar 16, 2020 and again 12/11/20)
- Recommence recruitment (Nov 2020) – Anticipated 10-month recruitment period

Acknowledgements

Co-Investigators

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