

APPLIED SCIENCES WEBINAR SERIES

MENTAL HEALTH & PSYCHOLOGY

POST WEBINAR HANDOUT 4 - DR SUSANNE SCHWEIZER

Thank you for attending our Applied Sciences Webinar! Here's a quick recap of some of the highlights and some further reading you might be interested in.

WHY IS MENTAL HEALTH AN ISSUE?

Rates of psychiatric morbidity have increased over time. Mental illness and suicide are estimated to have cost the Australian economy **\$43-51 billion** in 2018-19. Accessing treatment and specialist services is often difficult and associated with lengthy waiting times.

Additionally, many treatments and therapies only have an efficacy rate of ~60%. For young people, loss of productivity due to mental health conditions is particularly important as they lose a lot of time that could have been spent learning useful skills.



TREATING MENTAL HEALTH

Treatment needs to be targeted at an aspect that is modifiable and with many downstream effects.

Ideally, it will also be **transdiagnostic**, meaning that the process targeted is associated with many potentially comorbid disorders. This will ensure its efficacy for a wide range of individuals.

DR SUSANNE SCHWEIZER'S RESEARCH

Dr Schweizer focuses on affective control, which is the cognitive mechanism underlying emotional regulation with relation to task goals. Good affective control means that individuals are able to focus on the task at hand regardless of emotional distractors, whether they be positive or negative.

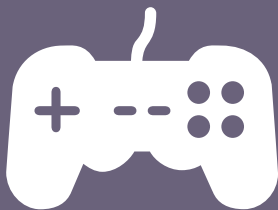
Her research suggests that poorer affective control can impact an individual's multitasking ability, working memory and higher order cognition when they are distracted by negative emotional stimuli.

APPLICATIONS OF EMOTIONAL WORKING MEMORY TRAINING

Structures such as the **amygdala** and **fusiform gyrus** are involved in emotional processing. Studies found **decreased activation of emotional processing areas** when individuals with emotional working memory training performed simple working memory and operational tasks involving negative emotional stimuli.

Individuals who have had emotional working memory training still reacted to negative stimuli but became **better at regulating their emotional response**.

If brain training can increase affective control, it could be a potential therapeutic option for individuals with conditions such as PTSD.



Incorporating emotional working memory training in downloadable games and apps may be useful for improving affective emotional control in adolescents with trauma.



Some Further Reading

Schweizer, S., & Dalgleish, T. (2011). Emotional working memory capacity in posttraumatic stress disorder (PTSD). *Behaviour Research And Therapy*, 49(8), 498-504. doi: 10.1016/j.brat.2011.05.007

EMOTIONAL WORKING MEMORY CAPACITY IN PTSD

This study investigated the effect of negative and neutral distractors when performing an operational task (evaluating sentence syntax) and a storage task (word memorising).

Individuals who have undergone trauma tend to use negative sentences and have negative thoughts, which contributes to the mental disorder. Hence, they are less likely to recognise the difference between negative and neutral stimuli sentences.

Schweizer, S., & Dalgleish, T. (2016). The impact of affective contexts on working memory capacity in healthy populations and in individuals with PTSD. *Emotion*, 16(1), 16-23. doi: 10.1037/emo0000072

THE IMPACT OF AFFECTIVE CONTEXTS ON WORKING MEMORY CAPACITY IN HEALTHY POPULATIONS AND IN INDIVIDUALS WITH PTSD

This study followed a similar structure having individuals respond to neutral and negative images, aiming to look at the impact of visual stimuli upon visuospatial task performance.

In most individuals, having negative images as a distractor resulted in a lower score when performing operational tasks such as counting shapes. However, individuals with PTSD tended to have a significantly greater difference in score when distracted by negative images. This suggests that those with PTSD are more severely affected by negative images than the general population.