

[IOH] research highlights



[IOH] EXISTING RESEARCH HIGHLIGHTS
VIEW CLINICAL STUDY FOR REFERENCES

[IOH] PRESCRIPTION* SOUND RADIATION

- MODULATES OXYTOCIN
- MODULATES DOPAMINE
- MODULATES GENE EXPRESSION

*FREQUENCIES HARMONIC WITH FIBONACCI NUMBERS

[EMDR] EYE MOVEMENT DESENSITISATION & REPROCESSING

- MOST EFFECTIVE* TREATMENT FOR PTSD
- FASTEST PERMANENT TREATMENT FOR PTSD
- LEAST TRAUMATIC THERAPY FOR PTSD

*EQUALLY WITH TRAUMA BASED COGNITIVE BEHAVIOURAL THERAPY
THIS EMDR RESEARCH IS WITH ADULTS. EFFECTIVENESS WITH YOUTH, WHILE REQUIRING ADDITIONAL RESEARCH, IS PROMISING.

[explore research highlights](#)



SOLUTION

INITIAL RESULTS

INTERNET OF HAPPINESS
HOUSING HOURS

**“THIS HAS BEEN FANTASTIC AT 2AM
INSTEAD OF TRAMADOL FOR THE PAIN.”**

NEXT GENERATION HEALTH

**33.3% reduction in heart rate & blood pressure after 9 minutes of
[IOH] biotechnology on 📱 for a patient with chronic hypertension**

[IOH] targets neurotransmitter based genes 🧬, oxytocin, dopamine & serotonin, for precision trauma recovery

INTERNET OF HAPPINESS [IOH]
THE CURRENCY FOR HAPPINESS



INTERNET OF HAPPINESS

[IOH] MEASURES **HAPPINESS** VIA OXYTOCIN¹

¹ **Oxytocin modulates authentic human connection**
Nature, Journal of Neuroscience, Journal of Psychoneuroendocrinology

[\(Oxytocin & Empathy - Nature\)](#)

[\(Oxytocin & Empathy - Journal of Neuroscience\)](#)

[\(Oxytocin & Peace - Psychoneuroendocrinology\)](#)



INTERNET OF HAPPINESS

OXYTOCIN IS FUNDAMENTAL IN HEALING TRAUMA

Nature, European Journal of Psychotraumatology, Frontiers In

[\(Nature - Oxytocin durably rescues trauma-induced PTSD\)](#)

[\(PMC - Preventing PTSD with oxytocin\)](#)

[\(Frontiers In - Decreased oxytocin in PTSD patients\)](#)

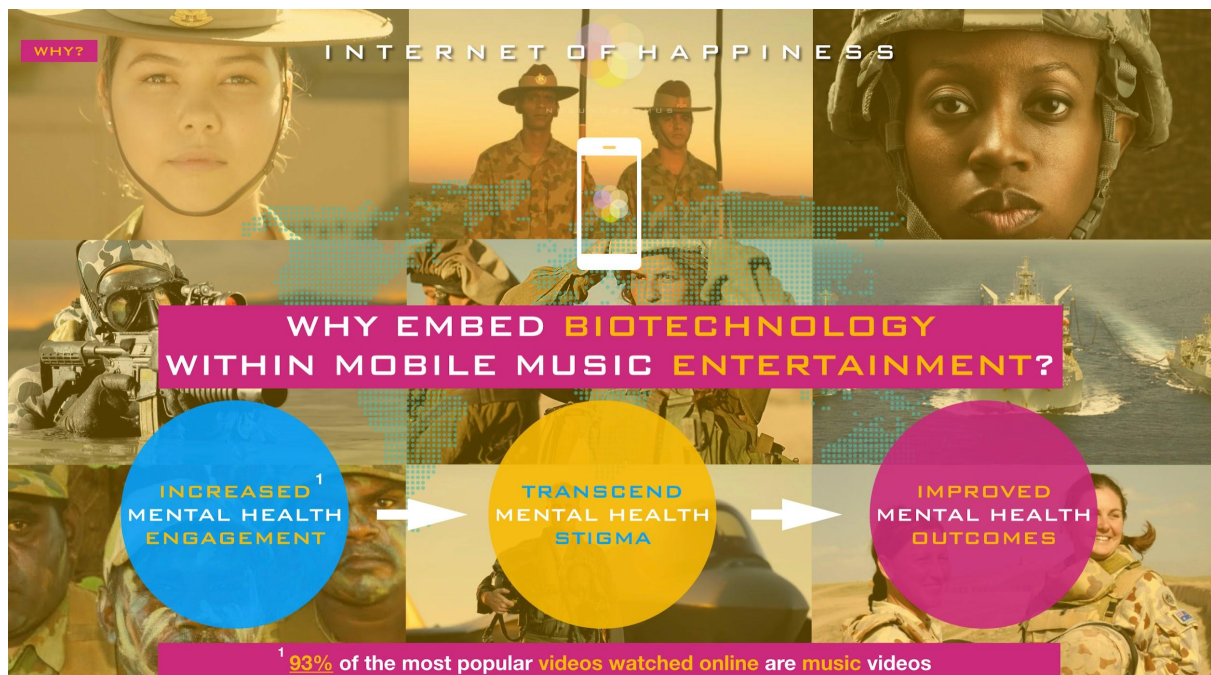
the epigenetics of happiness - phase i-iii clinical study
[Internet of Happiness \[IOH\]](#) | double blind, randomised controlled research | [return to index](#)

INTERNET OF HAPPINESS [IOH]

THE CURRENCY FOR HAPPINESS



(Jama Internal Medicine - Social based gamification significantly improves health engagement) (Citation - Gamification Studies)



(93% of the most popular videos watched online are music videos)

the epigenetics of happiness - phase i-iii clinical study
[Internet of Happiness \[IOH\]](#) | double blind, randomised controlled research | [return to index](#)

index

i. [EMDR](#) + + +

ii. [Prescription Sound Radiation](#) + + +

iii. [Mantra](#) + + +

[iii-a - music and mantra aka sub conscious therapeutic affirmations reduce pain and improve recovery](#) + + +

evidence quality score

GRADE	LEVEL OF EVIDENCE
+ + +	ROBUST RESEARCH WITH AT LEAST 3 DOUBLE BLIND, RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

GRADE	LEVEL OF EVIDENCE
+ +	ROBUST RESEARCH WITH AT LEAST 3 RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

GRADE	LEVEL OF EVIDENCE
+	ROBUST RESEARCH WITH AT LEAST 3 PEER REVIEWED TRIALS

emdr

eye movement desensitisation & reprocessing




impact

articles: 55

publications: 33

citations: 3210

evidence

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 DOUBLE BLIND, RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS
GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS
GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 PEER REVIEWED TRIALS

“EMDR is akin to penicillin and clean water in its potential for transformational change in developing countries”

(Rolf Carriere, UNICEF Head of Health and Nutrition, India)

index

click to jump to research | search by keyword in pdf viewer

i. EMDR modulates mental health

[i. EMDR modulates emotions and heals PTSD](#)  

[ii. EMDR modulates emotions and heals PTSD for war veterans](#)  

[iii. EMDR modulates emotions and heals PTSD for refugees](#)  

[iv. EMDR modulates emotions and heals trauma for Indigenous Youth](#) 

[v. Australian Government recommends EMDR for veterans with PTSD](#)   


[vi. World Health Organisation and UNHCR recommend EMDR for acute stress & PTSD](#)   

[vii. US Department of Veteran Affairs recommends EMDR](#)   

[viii. Group, Online and Self Help EMDR transform trauma with general population and at risk communities including refugees and those suffering from the violence of war](#)  

EMDR modulates mental health

i. EMDR modulates emotions and heals PTSD

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

"EMDR has been clinically validated by more than 30 randomized, controlled studies (the gold standard for clinical studies)."

[Google Scholar](#)

"The results from the post treatment measurement can be considered strong empirical indicators of the safety and effectiveness of prolonged exposure and EMDR. The six-month and twelve-month follow-up data have the potential of reliably providing documentation of the long-term effects of both treatments on the various outcome variables"

A multi-site single blind clinical study to compare the effects of prolonged exposure, eye movement desensitization and reprocessing and waiting list on patients with a current diagnosis of psychosis and co morbid post traumatic stress disorder: study protocol for the randomized controlled trial

Treating Trauma in Psychosis

BMC

<https://www.ncbi.nlm.nih.gov/m/pubmed/23702050/?i=3&from=/27148134/related>

randomised controlled trial, single blind
citations: 54

"This study supports the efficacy of brief EMDR treatment to produce substantial and sustained reduction of PTSD and depression in most victims of adult-onset trauma."

A randomized clinical trial of eye movement desensitization and reprocessing (EMDR), fluoxetine, and pill placebo in the treatment of posttraumatic stress disorder: treatment effects and long-term maintenance

Journal of Clinical Psychiatry

<https://www.ncbi.nlm.nih.gov/m/pubmed/17284128/>

randomised controlled trial
citations: 501



"EMDR and CBWT are brief, trauma-focused treatments that yielded equally large remission rates for PTSD and reductions in the severity of PTSD and comorbid difficulties in children and adolescents seeking treatment for PTSD tied to a single event."

Comparison of eye movement desensitization and reprocessing therapy, cognitive behavioral writing therapy, and wait-list in pediatric posttraumatic stress disorder following single-incident trauma: a multicenter randomized clinical trial

Journal of Childhood Psychology & Psychiatry

<https://www.ncbi.nlm.nih.gov/m/pubmed/28660669/?i=2&from=/16740177/related>

randomised controlled trial

citations: 33

"Trauma focused CBT and EMDR are effective and efficient in reducing Post Traumatic Stress Symptoms in children."

Trauma-focused cognitive behavioral therapy or eye movement desensitization and reprocessing: what works in children with posttraumatic stress symptoms? A randomized controlled trial

European Child Adolescence Psychiatry

<https://www.ncbi.nlm.nih.gov/m/pubmed/24965797/>

randomised controlled trial

citations: 148

"EMDR therapy provides physicians and other clinicians with an efficient approach to address psychological and physiologic symptoms stemming from adverse life experiences."

The Role of Eye Movement Desensitization and Reprocessing (EMDR) Therapy in Medicine: Addressing the Psychological and Physical Symptoms Stemming from Adverse Life Experiences

The Permanente Journal

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3951033/>

randomised controlled trial

citations: 217

Psychological and Brain Connectivity Changes Following Trauma-Focused CBT and EMDR Treatment in Single-Episode PTSD Patients

Frontiers in Psychology

<https://www.frontiersin.org/articles/10.3389/fpsyg.2019.00129/full>

semi-randomised controlled trial

citations: 4

Eye Movement Desensitization and Reprocessing Versus Treatment as Usual in the Treatment of Depression: A Randomized-Controlled Trial

Frontiers in Psychology

<https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01384/full>

randomised controlled trial

citations: 7

How Does Eye Movement Desensitization and Reprocessing Therapy Work? A Systematic Review on Suggested Mechanisms of Action

Frontiers in Psychology

<https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01395/full>

randomised controlled trial

citations: 24

"This study confirmed that EMDR therapy significantly reduces the symptoms of PTSD, depression, anxiety, and subjective distress in PTSD patients. The subgroup analysis indicated that a treatment duration of more than 60 min per session was a major contributing factor in the amelioration of anxiety and depression, and that a therapist with experience in conducting PTSD group therapy was a major contributing factor in the reduction of PTSD symptoms."

Efficacy of Eye-Movement Desensitization and Reprocessing for Patients with Posttraumatic-Stress Disorder: A Meta-Analysis of Randomized Controlled Trials

PLOS ONE

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0103676>

randomised controlled trial

citations: 135

Eye Movement Desensitization and Reprocessing for Posttraumatic Stress Disorder: A Pilot Blinded, Randomized Study of Stimulation Type

Psychotherapy and Psychosomatics

<https://www.karger.com/Article/Abstract/93950>

randomised controlled trial

citations: 84

ii. EMDR modulates emotions and heals PTSD for war veterans

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

"Given the predicted worldwide increase of depression and the limited success of Trauma As Usual, it is important to develop adjunctive therapy strategies. The present randomized study examined whether EMDR therapy produces a positive effect in the treatment of depression beyond TAU."

"the present study thus suggests that EMDR may improve treatment outcomes when added to Trauma As Usual"

Eye Movement Desensitization and Reprocessing Versus Treatment as Usual in the Treatment of Depression: A Randomized-Controlled Trial

Frontiers in Psychology

<https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01384/full>

randomised controlled trial

citations: 7

"The intensive daily format and the weekly treatment approach both offer benefits for participating veterans."

Effective Treatment of Veterans With PTSD: Comparison Between Intensive Daily and Weekly EMDR Approaches

Frontiers in Psychology

<https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01458/full>

randomised controlled trial

citations: 14

"Compared with the other conditions, significant treatment effects in the EMDR condition were obtained at post treatment on a number of self-report, psychometric, and standardized interview measures. Relative to the other treatment group, these effects were generally maintained at 3-month follow-up"

Eye movement desensitization and reprocessing (EMDR) treatment for combat-related posttraumatic stress disorder

Journal of Traumatic Stress

<https://www.ncbi.nlm.nih.gov/pubmed/9479673/>

randomised controlled trial

citations: 452



Efficacy of Eye-Movement Desensitization and Reprocessing for Patients with Posttraumatic-Stress Disorder: A Meta-Analysis of Randomized Controlled Trials

PLoS One

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0103676>

randomised controlled trial

citations: 135

Outcomes from eye movement desensitization and reprocessing in active-duty service members with posttraumatic stress disorder

Psychological Trauma

<https://www.ncbi.nlm.nih.gov/pubmed/26963955/>

randomised controlled trial

citations: 10

Psychological and Brain Connectivity Changes Following Trauma-Focused CBT and EMDR Treatment in Single-Episode PTSD Patients

Frontiers in Psychology

<https://www.frontiersin.org/articles/10.3389/fpsyg.2019.00129/full>

citations: 4

The Role of Eye Movement Desensitization and Reprocessing (EMDR) Therapy in Medicine: Addressing the Psychological and Physical Symptoms Stemming from Adverse Life Experiences

The Permanente Journal

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3951033/>

citations: 217

Responding to an identified need: A joint Department of Defense/Department of Veterans Affairs training program in eye movement desensitization and reprocessing (EMDR) for clinicians providing trauma services

Fracine Shapiro Library

<https://emdria.omeka.net/items/show/17354>

citations: 49

Eye movement desensitization and reprocessing (EMDR) in the treatment of war veterans
Journal of Clinical Psychology

<https://www.ncbi.nlm.nih.gov/pubmed/18612994/>

citations: 88

iii. EMDR modulates emotions and heals PTSD for refugees

GRADE	LEVEL OF EVIDENCE
 	ROBUST RESEARCH WITH AT LEAST 3 RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

“EMDR may be effective in reducing PTSD and depression symptoms among Syrian refugees with PTSD located in a refugee camp”

The efficacy of eye movement desensitization and reprocessing for post-traumatic stress disorder and depression among Syrian refugees: results of a randomized controlled trial

Psychological Medicine

<https://www.ncbi.nlm.nih.gov/pubmed/27353367/>

randomised controlled trial

citations: 84

“This study indicated that EMDR G-TEP effectively reduced PTSD symptoms among refugees living in a camp, after two treatment sessions conducted over a period of 3 days.”

An Eye Movement Desensitization and Reprocessing (EMDR) Group Intervention for Syrian Refugees With Post-traumatic Stress Symptoms: Results of a Randomized Controlled Trial

Frontiers in Psychology

<https://www.frontiersin.org/articles/10.3389/fpsyg.2018.00493/full>

randomised controlled trial

citations: 21

“The pilot RCT indicated that EMDR may be effective in reducing PTSD and depression symptoms among Syrian refugees located in a camp.”

EMDR for Syrian refugees with posttraumatic stress disorder symptoms: results of a pilot randomized controlled trial

European Journal for Psychotraumatology

<https://www.tandfonline.com/doi/abs/10.3402/ejpt.v6.27414>

randomised controlled trial

citations: 117



EMDR versus stabilisation in traumatised asylum seekers and refugees: results of a pilot study

European Journal for Psychotraumatology

<https://www.tandfonline.com/doi/abs/10.3402/ejpt.v2i0.5881>

randomised controlled trial

citations: 56

Evaluating the EMDR Group Traumatic Episode Protocol With Refugees: A Field Study

Journal of EMDR Practice and Research

<https://connect.springerpub.com/content/sqremdr/11/3/129>

randomised controlled trial

citations: 17

EMDR With Traumatized Refugees: From Experience-Based to Evidence-Based Practice

Journal of EMDR Practice and Research

<https://connect.springerpub.com/content/sqremdr/8/3/147>

randomised controlled trial

citations: 12

Light in the Heart of Darkness: EMDR and the Treatment of War and Terrorism Survivors

Canadian Child and Adolescent Psychiatry Review

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2533840/>

citations:

iv. EMDR modulates emotions and heals trauma for Indigenous Youth

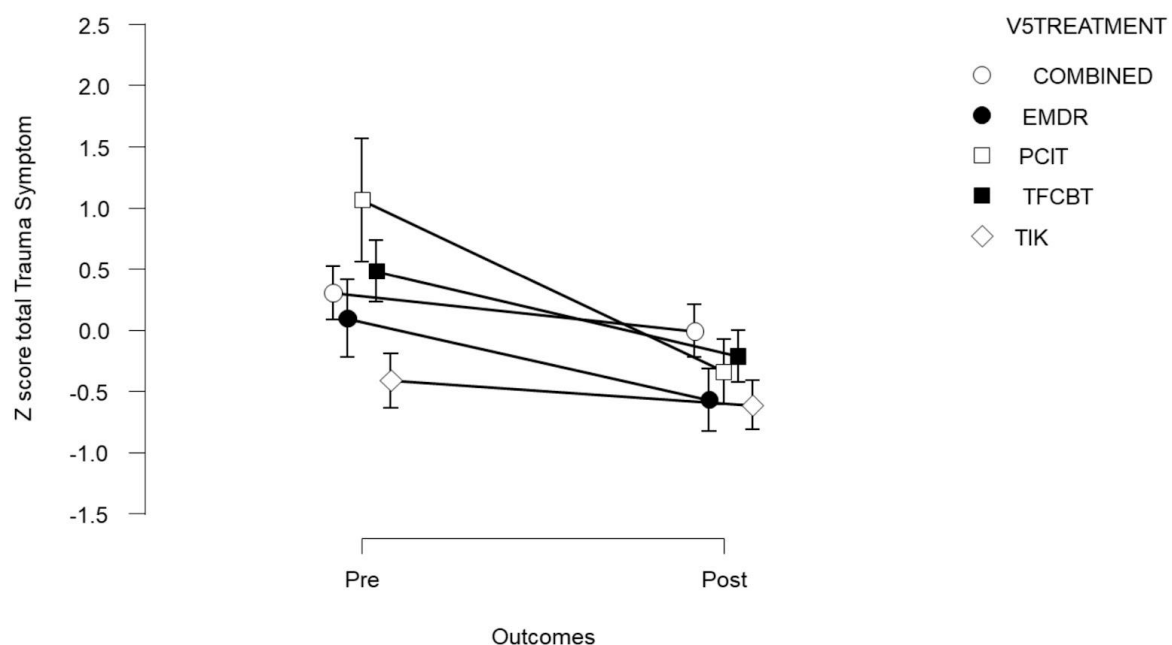


544 referrals accepted into the LINKS program

- 159 total assessment completers from October 2017 to August 2020.
- Data :77 Aboriginal and 82 non-Aboriginal children (aged between 3-16 years)
- Referral was voluntary and via caseworker
- Criteria:
 - child/young person 16yrs and under Instability in placement
 - increased need for respite
 - 2 or more placement changes in 6 mths

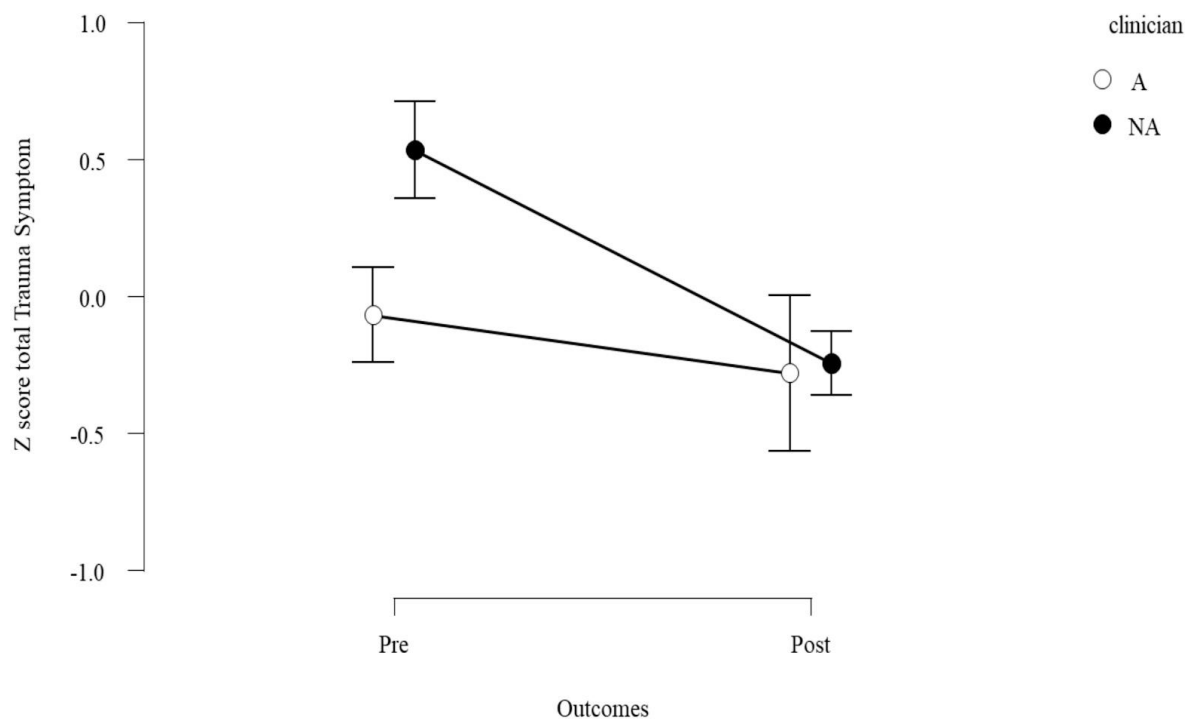
EMDR has equal largest reduction in trauma for Indigenous Youth

Figure 1
Outcomes TSCYC/TSCC Pre and Post for Aboriginal Children/Young People Across Five Treatments



Non Aboriginal Clinicians empower equal or greater reduction in trauma for Indigenous Youth

Figure 2
Outcomes TSCYC/TSCC Pre and Post for Aboriginal Children/Young People Across Culture of Clinician




The Efficacy of trauma-based therapies for Aboriginal children and young people in Out of Home Care. A Journey Through LINKS.

FACS NSW Government

https://www.facs.nsw.gov.au/_data/assets/pdf_file/0005/835457/Debbie-Haynesv2-.pdf

v. Australian Government recommends EMDR for veterans with PTSD

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 DOUBLE BLIND, RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

"Trauma-focussed cognitive behavioural therapy (TF-CBT), including exposure components and eye movement desensitisation and reprocessing (EMDR), is the most effective treatment for veterans with PTSD."

Open Arms Mental Health FAQs

Australian Government Department of Veteran Affairs

https://www.openarms.gov.au/sites/default/files/2020-01/webinar_9_mental_health_fags_panelist.pdf

citations:

*"Psychological interventions for adults with PTSD. Strong recommendation FOR EMDR
For adults with PTSD, we recommend eye movement desensitisation and reprocessing (EMDR)."*


Australian Guidelines for PTSD

Australian Government National Research and Medical Council with Phoenix Australia

<https://www.phoenixaustralia.org/australian-guidelines-for-ptsd/>

citations:

vi. World Health Organisation and UNHCR recommend EMDR for acute stress & PTSD

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 DOUBLE BLIND, RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

"EMDR is an advanced psychological intervention for stress and PTSD.

Like CBT-T, EMDR aims to reduce subjective distress and strengthen adaptive beliefs related to the traumatic event. Unlike CBT-T, EMDR does not involve (a) detailed descriptions of the event, (b) direct challenging of beliefs, (c) extended exposure or (d) homework."


Assessment and Management of Conditions Specifically related to Stress

World Health Organisation and UNHCR

https://apps.who.int/iris/bitstream/handle/10665/85623/9789241505932_eng.pdf

citations:

vii. US Department of Veteran Affairs recommends EMDR

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 DOUBLE BLIND, RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

“trauma-focused psychotherapy (including Eye Movement Desensitization and Reprocessing) is one of the most effective types of treatment for PTSD.”

“EMDR can help you process upsetting memories, thoughts, and feelings related to the trauma. By processing these experiences, you can get relief from PTSD symptoms.”

Eye Movement Desensitization and Reprocessing (EMDR) for PTSD

National Center for PTSD, US Department of Veteran Affairs

https://www.ptsd.va.gov/understand_tx/emdr.asp

citations:

viii. Group, Online and Self Help EMDR transform trauma with general population and at risk communities including refugees and those suffering from the violence of war

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

"This study indicated that EMDR G-TEP effectively reduced PTSD symptoms among refugees living in a camp, after two treatment sessions conducted over a period of 3 days"

An Eye Movement Desensitization and Reprocessing (EMDR) Group Intervention for Syrian Refugees With Post-traumatic Stress Symptoms: Results of a Randomized Controlled Trial

Frontiers In Psychology

https://www.frontiersin.org/articles/10.3389/fpsyg.2018.00493/full?&utm_source=Email_to_authors_&utm_medium=Email&utm_content=T1_11.5e1_author&utm_campaign=Email_publication&field=&journalName=Frontiers_in_Psychology&id=335721

randomised controlled trial
citations: 64

"The randomized controlled trial (RCT) indicated that STEP may be effective in increasing general self-efficacy and reducing symptoms of depression, anxiety, and stress among Mental Health clinicians in the context of COVID-19."

Randomized Controlled Trial: Self-Care Traumatic Episode Protocol (STEP), Computerized EMDR Treatment of COVID-19 Related Stress

Journal of EMDR Practice and Research

<https://connect.springerpub.com/content/sgremdr/early/2021/03/10/emdr-d-20-00047.abstract>

randomised controlled trial
citations: 10

"The intervention group had significant pre-post improvement on all but one subscale, while the waitlist group showed significant increase in state anxiety on the STAIC. In conclusion, posttraumatic stress was found to be high in children during the COVID-19 outbreak period, and EMDR-derived self-help intervention appeared to be an effective psychosocial intervention tool."

Use of EMDR-Derived Self-Help Intervention in Children in the Period of COVID-19: A Randomized-Controlled Study

Journal of EMDR Practice and Research

<https://connect.springerpub.com/content/sgremdr/early/2021/02/17/emdr-d-20-00054.abstract>

randomised controlled trial | citations: 10



“Overall, group EMDR interventions significantly reduce PTSD, depression and anxiety symptoms at posttreatment compared with pretreatment or control groups.”

Group eye movement desensitization and reprocessing interventions in adults and children: A systematic review of randomized and nonrandomized trials

Clinical Psychology & Psychotherapy

<https://onlinelibrary.wiley.com/doi/full/10.1002/cpp.2549>

randomised controlled trial

citations: 8

“Analyses showed that online EMDR therapy was effective in reducing the PTSD level in all groups.”

The effect of the online eye movement desensitization and reprocessing early intervention protocol (EMDR R-TEP) for the risk groups with post-traumatic stress symptoms during the COVID-19 pandemic

Frontiers In Psychology

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9559741/>

citations:

“EMDR delivered via the internet can be an effective treatment for clients experiencing mental health issues.”

An evaluation of eye movement desensitization and reprocessing therapy delivered remotely during the Covid-19 pandemic

BMC Psychiatry

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8581955/>

citations: 8

“Testing EMDR, the results suggest that intensive, trauma-focused treatment of severe or Complex PTSD delivered via home-based telehealth is feasible, safe and effective, and can be a viable alternative to face-to-face delivered intensive trauma-focused treatment.”

Safety and effectiveness of intensive treatment for complex PTSD delivered via home-based telehealth

European Journal of Psychotraumatology

<https://www.tandfonline.com/doi/full/10.1080/20008198.2020.1860346>

citations: 8



"Results revealed that both treatments reduced anxiety by 30%, and traumatic and depressive symptoms by 55%. Present findings indicate the internet-based EMDR and CBT as equally effective brief treatments."

COVID-19, Isolation, Quarantine: On the Efficacy of Internet-Based Eye Movement Desensitization and Reprocessing (EMDR) and Cognitive-Behavioral Therapy (CBT) for Ongoing Trauma

[Brain Sciences](#)

citations: 15

"it offers an excellent template for the future development of efficacious low-intensity EMDR interventions. Developing safe, easy-to-use, affordable, and readily available low-intensity interventions will make effective EMDR treatment available to many millions of people around the world."

Low-Intensity Interventions and EMDR Therapy

Journal of EMDR Practice & Research

<https://connect.springerpub.com/content/sgremdr/early/2021/03/31/emdr-d-21-00009.abstract>

citations: 7

"The results show that EMDR G-TEP is effective on depression (BDI) and PTSD symptoms (MINI & IES-R)"

Early EMDR Interventions with Syrian Refugees in Turkey R-TEP and G-TEP

EMDR Europe Conference

<https://www.ifemdr.fr/wp-content/uploads/2014/10/asena-yurtsever.pdf>

citations: 9

"These results provide preliminary evidence that it might be effective to treat groups of traumatized refugees with EMDR G-TEP."

Evaluating the EMDR Group Traumatic Episode Protocol With Refugees: A Field Study

Journal of EMDR Practice and Research

<https://connect.springerpub.com/content/sgremdr/11/3/129.abstract>

citations: 49

the epigenetics of happiness - phase i-iii clinical study
[Internet of Happiness \[IOH\]](#) | double blind, randomised controlled research | [return to index](#)



"Repeated measures comparisons of PTSD symptoms, anxiety, and depression revealed significant differences between pretest and posttest, with most results maintained at follow-up."

The Effects of the EMDR Group Traumatic Episode Protocol With Cancer Survivors

Journal of EMDR Practice and Research

<https://connect.springerpub.com/content/sqremdr/12/3/105.abstract>

citations: 15

"Participants showed improvements in all outcome measures, an increase in parental self-esteem and a reduction in mental health symptoms. Findings also suggest that remote interventions are promising as a scalable approach for displaced families."

"Online delivery gave me privacy and distance from others": feasibility trial and qualitative evaluation of an online intervention for refugees and asylum seekers; LTP + EMDR G-TEP

Counselling and Psychotherapy Research

<https://onlinelibrary.wiley.com/doi/full/10.1002/capr.12580>

citations:

"A statistically significant reduction was observed on total burnout, and personal and work-related subscales; and a significant improvement in subjective units of distress. EMDR G-TEP has the potential to offer a novel method to improve staff wellbeing within mental health settings."

Effects of EMDR Group Traumatic Episode Protocol on Burnout Within IAPT HealthCare Professionals: A Feasibility and Acceptability Study

Journal of EMDR Practice and Research

<https://connect.springerpub.com/content/sqremdr/early/2022/08/22/emdr-2022-0029.abstract>

citations:

"Face to face, online and group EMDR sessions - this study provides evidence for the efficacy of EMDR in reducing traumatic stress symptom severity for residential OoHC staff."

Early intervention for residential out-of-home care staff using eye movement desensitization and reprocessing (EMDR).

Psychological Trauma

<https://psycnet.apa.org/record/2023-31127-001>

citations:




"The results indicated significantly reduced symptoms of PTSD, depression, anxiety, distress and disability between pre-treatment and 3 month follow-up."

Self-administered EMDR therapy: potential solution for expanding the availability of psychotherapy for PTSD or unregulated recipe for disaster?

[BJ Psych Open](#)

citations: 8

Prescription Sound Radiation modulates oxytocin + dopamine, cellular health and gene expression

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 DOUBLE BLIND, RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

*"In the 528 Hz condition, mean levels of **cortisol significantly decreased**, **chromogranin A tended to decrease**, and **oxytocin doubled after only 5 minutes of music exposure**. However, no significant change was observed in any salivary biomarkers in the 440 Hz condition."*

*The influence of music on the autonomic nervous system and endocrine system varies depending on the frequency of the music, and furthermore, that **528 Hz** music has an **especially strong stress-reducing effect**, even following **only five minutes of exposure**."*

Effect of 528 Hz Music on the Endocrine System and Autonomic Nervous System [Scientific Research Publishing](#)

*"sound waves with **528 Hz** frequency in 100 dB intensity **induce** testosterone production in **brain** by enhancing StAR and SF-1 and reducing P450 aromatase **gene expression**."*

*"Frequency of 528 Hz also reduces total concentration of reactive oxidative species in brain tissue."
 "Prolonged exposure to this sound wave showed **reduction of anxiety** related behaviors in rats. The results reveal that **reduced anxiety** is related to increased concentration of testosterone in brain. This study may lead to ascertain a possible therapy in which **sounds may be utilized to reduce anxiety in individual**."*

Influence of various intensities of 528 Hz sound-wave in production of testosterone in rat's brain and analysis of behavioral changes [Genes and Genomics](#)

*"**Central Nervous System, high frequencies, psychological effects**: One interpretation of these results is that **low-frequency acoustic stimuli** are **coded** in the **peripheral nervous system** by the periodicity of the neural discharges."*

*"The resulting estimated pitch function (where the minimal discharge interval is assumed to occur at 15khz) is in excellent agreement with that psychoacoustically generated function of reference frequency **528hz** which may be expected to **possess the least bias**"*

Neural Coding of High-Frequency Tones [NASA](#)



*"The current results show that in IC50 of ethanol, the frequency of **528 Hz increased cells viability** about 20% and the level of ROS production has been reduced up to 100%."*

*"In this research the complex effects of two agents such as ethanol along with 528 Hz sound wave was studied and results of human astrocyte cell culture exposed with ethanol and **528 Hz sound wave showed that the ethanol damages reduced by the sound wave** and therefore it can be useful for alcohol addicted peoples."*

*"The neural changes induced by alcohol consumption may be related to the disorder of signaling pathways such as protein expression and gene transcription at the cellular level. Therefore, the use of **these sound waves can be useful to reduce the toxic effects of ethanol** on astrocytes cells culture."*

The Effects of 528 Hz Sound Wave to Reduce Cell Death in Human Astrocyte Primary Cell Culture Treated with Ethanol | [Journal of Addiction Research & Therapy](#)

*"Electron Emission Stimulation System: The outline and size of this device are almost the same as those of a **6-well culture plate lid**. Each device has **six electron emission** elements, arranged on the inside of a 6-well culture plate lid. This potential difference (13.5 ~ 22.0 V) is defined as a drive voltage (Vd [V]), whose waveform and frequency are rectangular pulses and **528 Hz**, respectively."*

"These results suggest that our new electron emission-based cell culture device, while providing a relatively weak stimulus in comparison with atmospheric plasma systems, promotes cell proliferation and differentiation."

*This system is expected to find **application in regenerative medicine**, specifically in relation to bone regeneration."*

A novel electron emission-based cell culture device promotes cell proliferation and differentiation of pre-osteoblastic MC3T3-E1 cells | [PLOS ONE](#)

*"Fast-gamma band (**50-100hz**) power increases at left fronto-temporal cluster were significant after 75, 100 and 125 min from ayahuasca (**DMT**) ingestion"*

Acute Biphasic Effects of Ayahuasca | [PLOS ONE](#)

*"The supporting data for **DMT** as a **neurotransmitter** have continued to accumulate. DMT has also been shown to be taken up into neuronal cells via **serotonin uptake transporters (SERT)** on neuronal plasma membrane. Blough et al. (2014) have also shown that **DMT releases 5-HT via SERT** with an EC50 in the low nM range. This indicates that DMT is a substrate for the SERT transporter and provides a further mechanism for the neuronal accumulation of DMT."*

N, N-Dimethyltryptamine (DMT), an Endogenous Hallucinogen: Past, Present, and Future Research to Determine Its Role and Function | [Frontiers in Neuroscience](#)



*"This is the first study to provide evidence of extrastriatal DA **D2 (DRD2 dopamine receptor)** modulation following **10 Hz** repetitive transcranial magnetic stimulation"*

rTMS of the Left Dorsolateral Prefrontal Cortex Modulates Dopamine Release in the Ipsilateral Anterior Cingulate Cortex and Orbitofrontal Cortex | [PLOS ONE](#)

*"All subjects underwent 3 PHNO-PET scans preceded by rTMS (sham, 1 Hz or **10 Hz**), on 3 separate days. Low frequency rTMS (1 Hz), targeting the insular cortex, significantly decreased **dopamine** levels in the substantia nigra, sensorimotor striatum and associative striatum."*

Deep TMS of the insula using the H-coil modulates dopamine release: a crossover [11C] PHNO-PET pilot trial in healthy humans | [Brain Imaging And Behavior](#)

*"Five patients with a major depressive episode (DSM-IV) underwent an acute **10 Hz** rTMS challenge with 3000 stimuli over the left dorsolateral prefrontal cortex during an IBZM-SPECT bolus and constant infusion protocol.*

*Data of nine SPECT investigations showed a significant reduction by $9.6 \pm 6.2\%$ in IBZM **binding to striatal dopamine D2 receptors** after rTMS challenge compared to baseline.*

*The reduction of IBZM binding observed after rTMS challenge is suggestive of a **release** in **endogenous dopamine** induced by prefrontal rTMS."*

Striatal dopamine release after prefrontal repetitive transcranial magnetic stimulation in major depression: Preliminary results of a dynamic IBZM SPECT study | [Journal of Psychiatric Research](#)

*"**Fifty veterans with PTSD** received 10 days of sham-controlled iTBS (1,800 pulses/day), followed by 10 unblinded sessions."*

*"**iTBS appears to be a promising new treatment for PTSD.**"*

*"intermittent **theta burst stimulation** fires a frequency of 50hz at 5 cycles per minute, **5hz**, for a therapeutic duration of [3 minutes](#)"*

Theta-Burst Transcranial Magnetic Stimulation for Posttraumatic Stress Disorder
[AM J Psychiatry](#) | Randomized Controlled Trial



the epigenetics of happiness - phase i-iii clinical study
[Internet of Happiness \[IOH\]](#) | double blind, randomised controlled research | [return to index](#)



*"We screened **195 articles** identified upon search from PubMed, EBSCO/CINAHL, and CENTRAL; 23 were retrieved for inclusion assessment. Ultimately **10 articles were included in the meta-analyses**. Of these, nine were single-center trials and one was a multicenter Canadian study¹. Four studies took place in Germany two in Taiwan and one each in Australia, Belgium, Canada, and Israel"*

*"The finding of **positive effects of TBS on major depressive disorder** confirm prior meta-analyses, expand upon prior findings, and support the growing interest in application of TBS protocols for treating neuropsychiatric disorders such as major depressive disorder."*

Theta burst stimulation for the acute treatment of major depressive disorder: A systematic review and meta-analysis | [Nature](#) | Meta Analysis

*"In summary, greater accumulated exposure to active **iTBS demonstrated clinically meaningful improvements in the year following stimulation**, and default mode connectivity could be used to predict longer-term outcomes."*

One-year clinical outcomes following theta burst stimulation for post-traumatic stress disorder
[Nature](#)

As discovered by Nobel Prize winner Luc Montagnier, who discovered HIV.

*"**DNA signalling is stimulated by 7 Hz naturally occurring waves on earth. Waves produced by the human brain are also in the range of 7 Hz.**"*

*"**The stimulation by the electromagnetic background of very low frequency is essential. The background is either produced from natural sources (the Schumann resonances which start at 7.83 Hz) or from artificial sources**"*

*"**This result shows that, upon 7 Hz excitation, the transmission into pure water of the oscillation of the nanostructures initially originating from DNA has been achieved.**"*

DNA waves and water | [Journal of Physics](#)

*"exposure to square wave with **7.83±0.3 Hz** (sweep step 0.1 Hz) was shown to inhibit the growth of B16F10 melanoma tumor cells."*

Inhibition of B16F10 Cancer Cell Growth by Exposure to the Square Wave with 7.83+/-0.3Hz Involves L- and T-Type Calcium Channels | [Electromagnetic Biology and Medicine](#)



*"The results yielded a **17% inhibition rate under 7.83 Hz** compared with that of the control group. Moreover, sweep frequencies in narrow intervals (7.83 ± 0.1 Hz for the step 0.05 Hz) caused an **inhibition rate of 26.4%**, and inhibitory effects decreased as frequency sweep intervals increased.*

*These results indicate that a Schumann resonance frequency of **7.83 Hz can inhibit the growth of cancer cells** and that using a specific frequency type can lead to more effective growth inhibition."*

Effects of extremely low-frequency electromagnetic fields on B16F10 cancer cells

[Electromagnetic Biology and Medicine](#)

*"The method uses the **Schuman frequency**, or any ELF, to **induce the DNA solution to emit electromagnetic signals** in the range 300 - 4000 Hz that are producing spectra that result to be typical for each disease"*

New Perspectives of Bioelectromagnetics in Biology and in Medicine

[DNA Spectra for Diagnostic Purposes](#)

*"In particular, it is immediately recognized the observed relevance of extremely low signal (ELS) in the phenomena under study. The stimulation caused by the electromagnetic background of very low frequency is indeed observed to be essential in order for the **DNA-water system to emit the EMS**. In the experiments, the background ELS is either produced from natural sources (the Schumann resonances which start at **7.83 Hz** (Montagnier, Aïssa, Del Giudice, et al., 2011; Nikolaenko and Hayakawa, 2002)) or from artificial sources."*

Transduction of DNA information through water and electromagnetic waves

[Electromagnetic Biology and Medicine](#)

*"The Gateway Process is a training system for obtaining power, concentration, and consistency of the amplitude and frequency of brain waves between the left and right hemispheres to make consciousness change. The **entire body**, based on its own micromotion, functions as a tuned vibrational system which **transfers energy** in a range between 6.8 and 7.5 Hertz into the **Earth's ionospheric cavity**, which itself resonates at about **7-7.5 Hertz**."*

Analysis and Assessment of Gateway Process

[US Central Intelligence Agency \(CIA\)](#)



*“alpha brain stimulation induces a constant **improvement** in the total power spectral density of **heart rate variability** (and thus induces an increase in total heart rhythm variability) and in particular in the **parasympathetic** (high frequency) band spectrum of hrv”*

A Fast Fourier Transform Analysis of Time Series Data of Heart Rate Variability During Alfa-Rhythm Stimulation in Brain Entrainment | [NeuroQuantology](#)

*“When placed under an acute stressor after using music embedded with BBT, participants showed a **decrease in sympathetic response** and an **increased in parasympathetic response**. Those who used music alone had the opposite effect. In other words, those who did not use the technology exhibited more cardiovascular signs of chronic stress exposure.”*

**The Sound Mind Warrior Study:
Using Sound Technology to Combat Stress in Military Service Members**
[Sigma Global Nursing](#) | randomised controlled trial, double blind

*“Acute exposure to **theta-frequency binaural beats** in a young, healthy sample of college students resulted in **increased parasympathetic activation**, increased sympathetic withdrawal, and increased self-reported relaxation post-exercise. Binaural-beat-associated HRV appeared to be more tightly coupled with self-reported relaxation than placebo-associated HRV. These findings support the putative clinical effectiveness of binaural beats in their own right, the effects of which may be synergistically enhanced through combination with other therapeutic factors such as verbal guidance and music.”*

Auditory driving of the autonomic nervous system: Listening to theta-frequency binaural beats post-exercise increases parasympathetic activation and sympathetic withdrawal
[Frontiers in Psychology](#) | randomised controlled trial, double blind

“The use of binaural beat technology in the theta brainwave frequency embedded into music decreases physical and psychological indications of stress. Binaural beat technology embedded with beta and delta frequencies may improve cognitive functioning and sleep quality, respectively.”

The Effect of Binaural Beat Technology on the Cardiovascular Stress Response in Military Service Members With Postdeployment Stress
[Journal of Nursing Scholarship](#) | randomised controlled trial, double blind



"Significant change over time in the parasympathetic parameter HRV-HF power derived from ECG was only found under binaural beats"

"Pre- vs. post saliva samples revealed significant increases only under Placebo in stress-related biomarkers (Cortisol, α -Amylase and Salivary Secretory Immunoglobulin A, SIgA), but not under binaural beats"

"The ability of the binaural beat stimulus to decrease arousal levels and induce/boost altered states of consciousness (ASCs) implies applications in several practical-clinical contexts and calls for further field studies."

Psychophysiological reactivity to auditory Binaural Beats stimulation in the alpha and theta EEG brain-wave frequency bands: A randomized, double-blind and placebo-controlled study in human healthy young adult subjects

[Independent University of Madrid, Department of Biological and Health Psychology](#)

randomised controlled trial, double blind

"The use of binaural-rhythm stimulation for Parkinson's Disease, as designed in this study, seems to be an effective, portable, inexpensive and noninvasive method to modulate brain activity"

"It resulted in a normalization of EEG power (altered in Parkinson's Disease), normalization of brain FC (also altered in Parkinson's Disease) and working memory improvement (a normalizing effect)"

"We consider that sound, particularly binaural-rhythmic sound, may be a co-assistant tool in the treatment of Parkinson's Disease"

Short-Term Effects of Binaural Beats on EEG Power, Functional Connectivity, Cognition, Gait and Anxiety in Parkinson's Disease

[International Journal of Neural Systems](#) | randomised controlled trial, double blind

"In conclusion, our findings demonstrate that patients using intra-operative Hemi-Sync tapes whilst undergoing a range of different surgical procedures under standardised general anaesthesia with a laryngeal mask require substantially less fentanyl when compared with controls"

"It is possible that the Hemi-Sync tapes, used intra-operatively or with the addition of pre- and postoperative tapes, could have longer-term effects on postoperative recovery, and may even result in cost savings through reduced analgesic requirement and shorter hospital stay."

"In our study, we found that patients exposed to a Hemi-Sync audio tape whilst undergoing surgery under 'light' general anaesthesia required significantly less analgesia with fentanyl when compared with patients listening to a blank tape or to classical music."

Hemispheric-synchronisation during anaesthesia: a double-blind randomised trial using audiotapes for intra-operative nociception control

[Wiley Online Library: Anaesthesia](#) | randomised controlled trial, double blind

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[Internet of Happiness \[IOH\]](#) | double blind, randomised controlled research | [return to index](#)



“parents and adolescents stated that homework problems due to inattention improved during the 3-week study. Parents and participants stated that the modality was easy to use and helpful. Therefore, this modality should be studied over a longer time frame in a larger sample to further its effectiveness to reduce the symptom of inattention in those diagnosed with attention-deficit/hyperactivity disorder”

Pilot Feasibility Study of Binaural Auditory Beats for Reducing Symptoms of Inattention in Children and Adolescents with Attention-Deficit/Hyperactivity Disorder

[Journal of Paediatric Nursing](#) | randomised controlled trial, double blind

“offering binaural beat audio before day case procedures might serve to bring about anxiolysis in the majority of patients without impacting adversely on postoperative functioning”

A prospective, randomised, controlled study examining binaural beat audio and pre-operative anxiety in patients undergoing general anaesthesia for day case surgery

[Anaesthesia](#) | randomised controlled trial, double blind

“In moderately anxious emergency department patients, state anxiety was reduced by 10%–15% following exposure to purpose-designed sound interventions.”

Original sound compositions reduce anxiety in emergency department patients: a randomised controlled trial

[Medical Journal of Australia](#) | randomised controlled trial

“Music, both with and without binaural beat, was proven to decrease anxiety level and lower systolic blood pressure.”

“Patients who received binaural beat audio showed additional decrease in heart rate.”

“Binaural beat embedded musical intervention may have benefit over musical intervention alone in decreasing operative anxiety.”

The effect of music with and without binaural beat audio on operative anxiety in patients undergoing cataract surgery: a randomized controlled trial

[Nature](#) | randomised controlled trial

“complete group had the greatest reduction in both Fibromyalgia Impact Questionnaire and Health Assessment Questionnaire, with a significant improvement in Health Assessment Questionnaire, suggesting that the combined use of music, binaural beats and vibration exerts a greater effect on Fibromyalgia symptoms”

Effects of music in combination with vibration in acupuncture points on the treatment of fibromyalgia | [Journal of Alternative and Complimentary Medicine](#) | randomised controlled trial

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mantra meditation modulates cognition, creativity & mental health

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

Effects of a Randomized Controlled Trial of Transcendental Meditation on Components of the Metabolic Syndrome in Subjects With Coronary Heart Disease

JAMA Internal Medicine

<https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/410453>

randomised controlled trial, single blind

citations: 307

"This randomized, controlled trial found that a selected mind–body, stress reduction intervention, the TM program, significantly reduced risk for mortality, MI, and stroke in black men and women with coronary heart disease."

Stress Reduction in the Secondary Prevention of Cardiovascular Disease: Randomized, Controlled Trial of Transcendental Meditation and Health Education in Blacks

Circulation: Cardiovascular Quality and Outcomes

<https://www.ahajournals.org/doi/full/10.1161/CIRCOUTCOMES.112.967406>

randomised controlled trial, single blind

citations: 222

"This is the first randomised controlled trial to demonstrate that a selected mind–body intervention, the transcendental meditation program, decreased blood pressure in association with decreased psychological distress, and increased coping in young adults at risk for hypertension."

A Randomized Controlled Trial on Effects of the Transcendental Meditation Program on Blood Pressure, Psychological Distress, and Coping in Young Adults

American Journal of Hypertension

<https://academic.oup.com/ajh/article/22/12/1326/182024>

randomised controlled trial, single blind

citations: 197



"Results indicate that TM can be effective in improving the quality of life and functional capacity of African American congestive heart failure patients."

Effectiveness of Transcendental Meditation on Functional Capacity and Quality of Life of African Americans with Congestive Heart Failure: A Randomized Control Study

Ethnicity and Disease

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2048830/>

randomised controlled trial, single blind

citations: 142

"Overall, TM practice is more effective than treatment as usual and most alternative treatments, with greatest effects observed in individuals with high anxiety."

Effects of the Transcendental Meditation Technique on Trait Anxiety: A Meta-Analysis of Randomized Controlled Trials

The Journal of Alternative and Complimentary Medicine

<https://www.liebertpub.com/doi/full/10.1089/acm.2013.0204>

randomised controlled trial, single blind

citations: 139

"Results indicate that the Transcendental Meditation technique improves the quality of life of older breast cancer patients."

A Randomized Controlled Trial of the Effects of Transcendental Meditation on Quality of Life in Older Breast Cancer Patients

Integrative Cancer Therapies

<https://journals.sagepub.com/doi/abs/10.1177/1534735409343000>

randomised controlled trial, single blind

citations: 73

"The results of this randomized controlled study indicate that the TM program was effective at four-month follow-up in reducing psychological distress and burnout in employees working in a therapeutic school for students with behavioral problems."

Effect of Transcendental Meditation on Employee Stress, Depression, and Burnout: A Randomized Controlled Study

The Permanente Journal

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3951026/>

randomised controlled trial

citations: 100

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The cumulative effects of Transcendental Meditation on cognitive function — a systematic review of randomised controlled trials

Wiener Klinische Wochenschrift

<https://link.springer.com/article/10.1007/BF03040500>

randomised controlled trial

citations: 95

mantra meditation research via David Lynch Foundation

<https://www.davidlynchfoundation.org/research.html>

Benefits to Education

1. 21% increase in high school graduation rate, Education 133 (4): 495-500, 2013
2. 10% improvement in test scores and GPA, Education 131: 556–565, 2011
3. Increased attendance and decreased suspensions for high school students, Health and Quality of Life Outcomes 1:10, 2003
4. Reduced ADHD symptoms and symptoms of other learning disorders, Mind & Brain: The Journal of Psychiatry 2 (1): 73-81, 2011
5. Increased intelligence and creativity, Intelligence 29: 419-440, 2001
6. 40% reduction in psychological distress, including stress, anxiety and depression, American Journal of Hypertension 22(12): 1326-1331, 2009
7. Reduction in teacher burnout and perceived stress, Permanente Journal 18 (1): 19-23, 2014

Improved Brain Functioning

1. Human Physiology 25 (1999) 171-180.
2. Psychophysiology 31 Abstract (1994) S67.
3. Psychophysiology 27 Supplement (1990) 4A.
4. Psychophysiology 26 (1989) 529.
5. International Journal of Neuroscience 15 (1981) 151-157.
6. International Journal of Neuroscience 14: (1981) 147–151.
7. International Journal of Neuroscience 13: (1981) 211-217.
8. Psychosomatic Medicine 46: (1984) 267–276.

Increased Blood Flow to the Brain

1. Physiology & Behavior, 59(3) (1996): 399-402 .
2. American Journal of Physiology 235(1)(1978): R89–R92.
3. Psychophysiology 13 (1976): 168.
4. The Physiologist 21 (1978): 60.

Increased Flexibility of Brain Functioning

1. Biological Psychology, 55 (2000): 41-55.
2. Psychophysiology 14 (1977): 293–296.

Increased Efficiency of Information Transfer in the Brain

1. Motivation, Motor and Sensory Processes of the Brain, Progress in Brain Research 54 (1980): 447–453.
2. International Journal of Neuroscience 10 (1980): 165–170.
3. Psychophysiology 26 (1989): 529.

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Mobilization of the Latent Reserves of the Brain

1. Proceedings of the International Symposium: Physiological and Biochemical Basis of Brain Activity, St. Petersburg, Russia, (June 22–24, 1994).

Increased Intelligence in Secondary and College Students

1. Intelligence 29/5 (2001): 419-440.
2. Journal of Personality and Individual Differences 12 (1991): 1105–1116.
3. Perceptual and Motor Skills 62 (1986): 731–738.
4. College Student Journal 15 (1981): 140–146.
5. Journal of Clinical Psychology 42 (1986): 161–164.
6. Gedrag: Tijdschrift voor Psychologie [Behavior: Journal of Psychology] 3 (1975): 167–182.
7. Dissertation Abstracts International 38(7) (1978): 3372B–3373B.
8. Higher Education Research and Development 15 (1995): 73–82.

Increased Creativity

1. Journal of Personality and Social Psychology 57 (1989) 950-964.
2. The Journal of Creative Behavior 19 (1985) 270-275.
3. Dissertation Abstracts International 38(7): 3372B–3373B, 1978.

Improved Memory

1. Memory and Cognition 10 (1982): 207–215.

Improved Academic Performance

1. Education 107 (1986): 49–54.
2. Education 109 (1989): 302–304.
3. British Journal of Educational Psychology 55 (1985): 164–166.

Benefits in Special Education

1. Journal of Clinical Psychiatry 42 (1981) 35-36.
2. Journal of Biomedicine 1 (1980) 73-88.

Increased Integration of Personality

Increased Self-Confidence and Self-Actualization

1. Journal of Social Behavior and Personality 6 (1991): 189–247.
2. Higher Stages of Human Development: Perspectives on Adult Growth (New York: Oxford University Press, 1990), 286–341.
3. British Journal of Psychology 73 (1982) 57-68.
4. College Student Journal 15 (1981): 140–146.
5. Journal of Counseling Psychology 20 (1973): 565-566.
6. Journal of Counseling Psychology 19 (1972): 184–187.

Improved Perception

1. Perceptual and Motor Skills 49 (1979): 270.
2. Perceptual and Motor Skills 64 (1987): 1003–1012.

Increased Efficiency of Perception and Memory

1. Memory and Cognition 10 (1982): 207–215.

Orientation Towards Positive Values

1. Perceptual and Motor Skills 64 (1987): 1003–1012.



Improved Problem-Solving Ability

1. Personality and Individual Differences 12 (1991): 1105–1116.
2. Dissertation Abstracts International 38(7): 3372B–3373B, 1978.

Decreased Hostility

1. Criminal Justice and Behavior 5 (1978): 3–20.
2. Criminal Justice and Behavior 6 (1979): 13–21.

Improved Left Hemispheric Functioning—Improved Verbal and Analytical Thinking

1. The Journal of Creative Behavior 13 (1979): 169–180.
2. The Journal of Creative Behavior 19 (1985): 270–275.
3. Perceptual and Motor Skills 62 (1986): 731–738.

Improved Right Hemispheric Functioning—Improved Synthetic and Holistic Thinking

1. The Journal of Creative Behavior 13 (1979): 169–180.
2. Journal of Clinical Psychology 42 (1986): 161–164.
3. Biofeedback and Self-Regulation 2 (1977): 407–415.

Increased Field Independence—Increased Resistance to Distraction and Social Pressure

1. Perceptual and Motor Skills 39 (1974): 1031–1034.
2. Perceptual and Motor Skills 65 (1987): 613–614.
3. Perceptual and Motor Skills 59 (1984): 999–1000.
4. Dissertation Abstracts International 38(7) (1978): 3372B–3373B.

Reduced Anxiety

1. Journal of Clinical Psychology 45 (1989) 957–974.
2. Anxiety, Stress and Coping: An International Journal 6 (1993) 245–262.
3. Journal of Clinical Psychology 33 (1977) 1076–1078.
4. Dissertation Abstracts International 38(7) (1978): 3372B–3373B.
5. Hospital & Community Psychiatry 26 (1975): 156–159.

Decreased Depression

1. Journal of Counseling and Development 64 (1986): 212–215.
2. Journal of Humanistic Psychology 16(3)(1976): 51–60.
3. Gedrag: Tijdschrift voor Psychologie [Behavior: Journal of Psychology] 4 (1976): 206–218.

Improved School-Related Behavior

Reduction of Anger, Absenteeism, Disciplinary Infractions and Suspensions

1. Annals of Behavioral Medicine 23 (2001) S100.
2. Health and Quality of Life Outcomes 1 (2003): 10.

Increased Tolerance

1. The Journal of Psychology 99 (1978): 121–127.
2. International Journal of the Addictions 26 (1991): 293–325.
3. Dissertation Abstracts International 38(7) (1978): 3372B–3373B.

Reduced Substance Abuse

1. Alcoholism Treatment Quarterly 11 (1994) 1-524.
2. Bulletin of the Society of Psychologists in Addictive Behaviors 2 (1983) 28-33.
3. The International Journal of the Addictions 12 (1977) 729-754.
4. Journal of Offender Rehabilitation 36 (2003): 127-160.
5. American Journal of Psychiatry 132 (1975): 942-945.
6. American Journal of Psychiatry 131 (1974): 60-63.

Accelerated Cognitive Development in Children

1. Perceptual and Motor Skills 65 (1987): 613-614
2. Journal of Social Behavior and Personality 17 (2005): 65-91.
3. Journal of Social Behavior and Personality 17 (2005): 47-64.

Greater Interest in Academic Activities

1. Western Psychologist 4 (1974): 104-111.

Improved Health

Physiological Rest

1. American Physiologist 42 (1987) 879-881.
2. Science 167 (1970) 1751-1754.
3. American Journal of Physiology 221 (1971) 795-799.

Increased Muscle Relaxation

1. Electroencephalography and Clinical Neurophysiology 35 (1973): 143-151.
2. Psychopathométrie 4 (1978): 437-438.

Faster Reactions

1. Personality and Individual Differences 12 (1991): 1106-1116.
2. Perceptual and Motor Skills 38 (1974): 1263-1268.
3. Perceptual and Motor Skills 46 (1978): 726.
4. Motivation, Motor and Sensory Processes of the Brain, Progress in Brain Research 54 (1980): 447-453.
5. L'Encéphale [The Brain] 10 (1984): 139-144.

Decreased Stress Hormone (Plasma Cortisol)

1. Hormones and Behavior 10(1)(1978): 54-60.
2. Journal of Biomedicine 1 (1980): 73-88.
3. Clinical and Experimental Pharmacology and Physiology 7 (1980): 75-76.
4. Experientia 34 (1978): 618-619.

Increased Stability of the Autonomic Nervous System

1. Psychosomatic Medicine 35 (1973): 341-349.
2. Psychosomatic Medicine 44 (1982): 133-153.

Healthier Response to Stress

1. Psychosomatic Medicine 35 (1973): 341-349.
2. Journal of Counseling and Development 64 (1986): 212-215.
3. Psychosomatic Medicine 49 (1987): 212-213.
4. Journal of Psychosomatic Research 33 (1989): 29-33.
5. Psychosomatic Medicine 44 (1982): 133-153.
6. International Journal of Neuroscience 46 (1989): 77-86.



Reduced Blood Pressure in Adolescents

1. Annals of Behavioral Medicine 22 (2000) S133.
2. American Journal of Hypertension (2004).

Decreased Blood Pressure in Hypertensive Subjects

1. Hypertension 26 (1995): 820-827.
2. Journal of Personality and Social Psychology 57 (1989): 950-964.

Decreased Insomnia

1. The New Zealand Family Physician 9 (1982): 62-65.
2. Journal of Counseling and Development 64 (1986): 212-215.
3. Japanese Journal of Public Health 37 (1990): 729.

Healthier Family Life

1. Psychological Reports 51 (1982): 887-890.
2. Journal of Counseling and Development 64 (1986): 212-215

Lower Health Insurance Utilization Rates

1. Psychosomatic Medicine 49 (1987) 493-507.
2. American Journal of Health Promotion 10 (1996) 208-216.

Improved Mind-Body Coordination

1. Journal of Clinical Psychology 42 (1986) 161-164.
2. Perceptual and Motor Skills 46 (1978) 726.
3. Perceptual and Motor Skills 38 (1974) 1263-1268.

mindfulness modulates DNA

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

"Psychosocial interventions providing stress reduction and emotional support resulted in trends toward telomere length maintenance in distressed breast cancer survivors, compared with decreases in usual care"

Mindfulness-based cancer recovery and supportive-expressive therapy maintain telomere length relative to controls in distressed breast cancer survivors

Cancer, Wiley Periodicals

<https://onlinelibrary.wiley.com/doi/full/10.1002/cncr.29063>

randomised controlled trial, double blind
citations: 160

"Regular yoga practice remarkably attenuated oxidative stress and improved antioxidant levels of the body."

"Yoga practice also significantly increased immune-related cytokines, such as interleukin-12"

"Moreover, yoga beneficially affected stress hormone releases as well as partially improved immune function"

Regular Yoga Practice Improves Antioxidant Status, Immune Function, and Stress Hormone Releases in Young Healthy People: A Randomized, Double Blind, Controlled Pilot Study

The Journal of Alternative and Complimentary Medicine

<https://www.liebertpub.com/doi/abs/10.1089/acm.2014.0044>

randomised controlled trial, double blind
citations: 57



"it is shown that two different definitions of meditation are able to change the expression of genes in distinct ways and that the mental silence definition of meditation may exert its biological effects by altering the expression of genes related to the immune system/inflammation, cancer and cell structure and function"

Epigenetic Changes Associated With Two Different Conceptualisations of Meditation- A Randomised Trial

Sydney Medical School The University of Sydney

<https://ses.library.usyd.edu.au/handle/2123/16649>

randomised controlled trial

citations:

"This work provides an initial indication that mindfulness based stress reduction may be a novel treatment approach for reducing loneliness and related pro-inflammatory gene expression in older adults"

Mindfulness-Based Stress Reduction training reduces loneliness and pro-inflammatory gene expression in older adults: a small randomized controlled trial

Brain Behavioural Immunology

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3635809/>

randomised controlled trial, single blind

citations: 458

"DNA epigenetic status of the subjects was affected by the MBT-T mind-body therapeutic protocol treatment."

Pilot Study on Epigenetic Response to A Mind-Body Treatment

Translational Medicine

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6067070/>

randomised controlled trial

citations: 9



"The results of 18 studies that used gene expression analysis in research on meditation and related MBIs have overall found downregulation of NF-κB-targeted genes, which can be understood as the reversal of the molecular signature of the effects of chronic stress"

What Is the Molecular Signature of Mind–Body Interventions? A Systematic Review of Gene Expression Changes Induced by Meditation and Related Practices

Frontiers in Immunology

<https://www.frontiersin.org/articles/10.3389/fimmu.2017.00670/full>

randomised controlled trial

citations: 121

"A brief daily yogic meditation intervention may reverse the pattern of increased NF-κB-related transcription of pro-inflammatory cytokines and decreased IRF1-related transcription of innate antiviral response genes previously observed in healthy individuals confronting a significant life stressor"

Yogic meditation reverses NF-κB and IRF-related transcriptome dynamics in leukocytes of family dementia caregivers in a randomized controlled trial

Psychoneuroendocrinology

<https://www.sciencedirect.com/science/article/pii/S0306453012002260?via%3Dihub>

randomised controlled trial

citations: 219

"A 12-week restorative Iyengar yoga intervention reduced inflammation-related gene expression in breast cancer survivors with persistent fatigue. These findings suggest that a targeted yoga program may have beneficial effects on inflammatory activity in this patient population, with potential relevance for behavioral and physical health."

"the yoga group showed reduced activity of the pro-inflammatory transcription factor nuclear factor kappa B (NF-κB)"

Yoga reduces inflammatory signaling in fatigued breast cancer survivors: A randomized controlled trial

Psychoneuroendocrinology

<https://www.sciencedirect.com/science/article/pii/S0306453014000444?via%3Dihub>

randomised controlled trial

citations: 181



"A 4-week mindfulness based stress reduction resulted in significant improvement in sperm DNA integrity and regulation of oxidative stress may affect the sperm epigenome"

Impact of mindfulness based stress reduction on sperm DNA damage

Journal of the Anatomical Society of India

<https://www.sciencedirect.com/science/article/pii/S0003277818300583>

randomised controlled trial

citations: 6

"Qigong practice may regulate immunity, metabolic rate, and cell death, possibly at the transcriptional level. Our pilot study provides the first evidence that Qigong practice may exert transcriptional regulation at a genomic level"

Genomic profiling of neutrophil transcripts in Asian Qigong practitioners: a pilot study in gene regulation by mind-body interaction

Journal of Alternative and Complimentary Medicine

<https://www.ncbi.nlm.nih.gov/pubmed/15750361/>

citations: 66

"Meditation helps regulate the stress response, thereby suppressing chronic inflammation states and maintaining a healthy gut-barrier function. Conclusions The current research team recommends the integration of meditation into conventional health care and wellness models"

The Effects of Stress and Meditation on the Immune System, Human Microbiota, & Epigenetics

Adv Mind Body Med

<https://www.ncbi.nlm.nih.gov/pubmed/29306937/>

citations: 32

The impact of psychological distress during pregnancy on the developing fetus: biological mechanisms and the potential benefits of mindfulness interventions

Journal of Perinatal Medicine

<https://www.degruyter.com/view/j/jpme.2017.45.issue-9/jpm-2016-0189/jpm-2016-0189.xml>

citations: 29

The bioinformatics of psychosocial genomics in alternative and complementary medicine

Forsch Komplementarmed Klass Naturheilkd

<https://www.ncbi.nlm.nih.gov/pubmed/12853721/>

citations: 12

"there are rapid (within 2 hours of start of practice) and significant gene expression changes in PBMCs peripheral blood mononuclear cells of practitioners during a comprehensive yoga program. These data suggest that previously reported effects of yoga practices have an integral physiological component at the molecular level which is initiated immediately during practice and may form the basis for the long term stable effects"

Rapid gene expression changes in peripheral blood lymphocytes upon practice of a comprehensive yoga program

PLoS One

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3629142/>

citations: 99

"This study provides the first compelling evidence that the RR relaxation response elicits specific gene expression changes in short-term and long-term practitioners. Our results suggest consistent and constitutive changes in gene expression resulting from RR may relate to long term physiological effects."

Genomic counter-stress changes induced by the relaxation response

PLoS One

<https://www.ncbi.nlm.nih.gov/pubmed/18596974/>

citations: 355

"Three recent studies started to provide some of this information through gene expression profiling in circulating immune cells, which support the hypothesis that yogic/meditative practices have a measurable effect at the molecular level"

Regulation of gene expression by yoga, meditation & related practices: a review of recent studies

Asian Journal of Psychiatry

<https://www.ncbi.nlm.nih.gov/pubmed/23380323/>

citations: 76

Rapid changes in histone deacetylases and inflammatory gene expression in expert meditators

Psychoneuroendocrinology

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4039194/>

citations: 256



Genome-wide expression changes in a higher state of consciousness

Conscious Cognition

<https://www.ncbi.nlm.nih.gov/pubmed/22742996>

citations: 17

Social regulation of gene expression in human leukocytes

Genome Biology

<https://www.ncbi.nlm.nih.gov/pubmed/17854483/>

citations: 711

Psychosocial genomics: gene expression, neurogenesis, and human experience in mind-body medicine

Advanced Mind Body Medicine

<https://www.ncbi.nlm.nih.gov/pubmed/12629875/>

citations: 43

Epigenetic changes in response to tai chi practice: a pilot investigation of DNA methylation marks

Evidence Based Complimentary Alternative Medicine

<https://www.ncbi.nlm.nih.gov/pubmed/22719790>

citations: 36

Mind-controlled transgene expression by a wireless-powered optogenetic designer cell implant

Natural Communication

<https://www.ncbi.nlm.nih.gov/pubmed/25386727>

citations: 95

mindfulness modulates OXTR Oxytocin Receptor Gene, empowering connectedness



"the effect of oxytocin on spirituality was moderated by oxytocin-related genotypes."

"participants were also genotyped for polymorphisms in two genes critical for oxytocin signaling, the oxytocin receptor gene (OXTR rs53576) and CD38 (rs6449182 and rs3796863)."

"These results provide the first experimental evidence that spirituality, endorsed by millions worldwide, appears to be supported by oxytocin."

Effects of oxytocin administration on spirituality and emotional responses to meditation

Social Cognitive and Affective Neuroscience

<https://academic.oup.com/scan/article/11/10/1579/2413952>

citations: 44

Common variant in OXTR predicts growth in positive emotions from loving-kindness training

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5359600/>

citations: 27

Neurogenetic Mechanisms of Self-Compassionate Mindfulness: the Role of Oxytocin-Receptor Genes

Springer: Mindfulness

<https://link.springer.com/article/10.1007/s12671-019-01141-7>

citations: 3

"Psychological resources of optimism, mastery, and self-esteem have been found to be significant predictors of effective stress management, neurophysiological responses to stress, and physical and psychological health-related outcomes in previous research. The present results suggest that OXTR is one gene that is linked to these resources"


Oxytocin receptor gene (OXTR) is related to psychological resources

PNAS

<https://www.pnas.org/content/108/37/15118>

citations: 273

mindfulness modulates interleukin 6 (IL-6), reducing inflammation, anxiety and depression

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

Depression following open-heart surgery: A path model involving interleukin-6, spiritual struggle, and hope under preoperative distress

Journal of Clinical Psychiatry

<https://onlinelibrary.wiley.com/doi/abs/10.1002/jclp.20716>

citations: 40

"Among breast cancer survivors with insomnia, 3 months of Tai Chi reduced cellular inflammatory responses, and reduced expression of genes encoding proinflammatory mediators. Given the link between inflammation and cancer, these findings provide an evidence-based molecular framework to understand the potential salutary effects of Tai Chi on cancer survivorship"

"Levels of toll-like receptor-4-activated monocyte production of IL-6 showed an overall reduction in Tai Chi"

Tai chi, cellular inflammation, and transcriptome dynamics in breast cancer survivors with insomnia: a randomized controlled trial

National Cancer Institute Monographs

<https://www.ncbi.nlm.nih.gov/m/pubmed/25749595/>

randomised controlled trial

citations: 93

Openness and conscientiousness predict 34-SSweek patterns of Interleukin-6 in older persons

Brain, Behaviour and Immunity

<https://www.sciencedirect.com/science/article/pii/S0889159111000080>

citations: 57

Trait mindfulness is associated with blood pressure and interleukin-6: exploring interactions among subscales of the Five Facet Mindfulness Questionnaire to better understand relationships between mindfulness and health

Journal of Behavioural Medicine

<https://link.springer.com/article/10.1007/s10865-014-9575-4>

citations: 71

A Pilot Study Evaluating the Effect of Mindfulness-Based Stress Reduction on Psychological Status, Physical Status, Salivary Cortisol, and Interleukin-6 Among Advanced-Stage Cancer Patients and Their Caregivers

Journal of Holistic Nursing

<https://journals.sagepub.com/doi/abs/10.1177/089801011435949>

citations: 150

"The findings suggest possible effects of mindfulness meditation on specific markers of inflammation, cell-mediated immunity, and biological aging"

Mindfulness meditation and the immune system: a systematic review of randomized controlled trials

<https://nyaspubs.onlinelibrary.wiley.com/doi/pdf/10.1111/nyas.12998>

randomised controlled trial

citations: 310

"The results of this 3-month pre-post study indicate that participation in this yoga and meditation retreat was associated with alterations in psychological functioning, neurotrophic pathways, HPA axis activity, and inflammatory pathway signaling suggesting enhanced stress resilience and well-being"

"As a group, participants showed significant improvements in depression, anxiety, somatic complaints, increases in mindfulness scores, and a small but significant decrease in BMI"

Yoga, Meditation and Mind-Body Health: Increased BDNF, Cortisol Awakening Response, and Altered Inflammatory Marker Expression after a 3-Month Yoga and Meditation Retreat

Frontiers in Human Neuroscience

<https://www.frontiersin.org/articles/10.3389/fnhum.2017.00315/full>

citations: 86

"A brief, mindfulness-based intervention demonstrated preliminary short-term efficacy in reducing stress, behavioral symptoms, and proinflammatory signaling in younger breast cancer survivors"

"women in the mindfulness group who practiced more frequently did evidence lower levels of IL-6 at the post-treatment assessment"

"our trial indicates that the benefits of mindfulness may extend to genomic markers of inflammation, including reductions in proinflammatory gene expression and activity of the proinflammatory transcription factor NF- κ B"

Mindfulness meditation for younger breast cancer survivors: A randomized controlled trial
Cancer

<https://onlinelibrary.wiley.com/doi/full/10.1002/cncr.29194>

randomised controlled trial
citations: 194

Alterations in Resting-State Functional Connectivity Link Mindfulness Meditation With Reduced Interleukin-6: A Randomized Controlled Trial

Biological Psychiatry

<https://www.sciencedirect.com/science/article/pii/S0006322316000792>

randomised controlled trial
citations: 218

Effect of compassion meditation on neuroendocrine, innate immune and behavioral responses to psychosocial stress

Psychoneuroendocrinology

<https://www.sciencedirect.com/science/article/pii/S0306453008002199>

citations: 825

Innate immune, neuroendocrine and behavioral responses to psychosocial stress do not predict subsequent compassion meditation practice time

Psychoneuroendocrinology

<https://www.sciencedirect.com/science/article/pii/S0306453009001991>

citations: 119



Mindfulness Meditation for Alcohol Relapse Prevention: A Feasibility Pilot Study

Journal of Addictive Medicine

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4106278/>

citations: 146

"Neuroendocrine studies suggest that compassion meditation reduces subjective distress and immune response to stress"

Loving-kindness and compassion meditation: Potential for psychological interventions

Clinical Psychology Review

citations: 880

Effects of Buddhism Walking Meditation on Depression, Functional Fitness, and Endothelium-Dependent Vasodilation in Depressed Elderly

The Journal of Alternate and Complimentary Medicine

<https://www.liebertpub.com/doi/full/10.1089/acm.2013.0205>

citations: 71

Self-compassion as a predictor of interleukin-6 response to acute psychosocial stress

Brain, Behaviour and Immunity

<https://www.sciencedirect.com/science/article/pii/S0889159113005370>

citations: 175

Comparison of cognitive behavioral and mindfulness meditation interventions on adaptation to rheumatoid arthritis for patients with and without history of recurrent depression

APA Psychiatry

<https://psycnet.apa.org/record/2008-06469-005>

citations: 472

mindfulness modulates telomere length, increasing biological longevity



"telomerase activity may be in part regulated by levels of both psychological and metabolic stress"

Changes in stress, eating, and metabolic factors are related to changes in telomerase activity in a randomized mindfulness intervention pilot study

Psychoneuroendocrinology

<https://www.ncbi.nlm.nih.gov/pubmed/22169588?dopt=Abstract>

randomised controlled trial

citations: 194

"integrating meditation practice into daily routine may have a protecting effect in terms of epigenetic aging in the long run"

Epigenetic clock analysis in long-term meditators

Psychoneuroendocrinology

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5863232/>

randomised controlled trial

citations: 31

"Relative telomere length was longer in Loving-Kindness (metta) meditators vs. controls, suggesting that this practice may alter a biomarker associated with longevity"

Loving-Kindness Meditation practice associated with longer telomeres in women

Brain, Behaviour and Immunity

<https://www.sciencedirect.com/science/article/pii/S0889159113001736>

citations: 116



"Adopting yoga/meditation-based lifestyle modification causes reversal of markers of aging, mainly oxidative stress, telomerase activity, and oxidative DNA damage."

"This may not only delay aging and prolong a youthful healthy life but also delay or prevent onset of several lifestyle-related diseases, of which oxidative stress and inflammation are the chief cause."

"This report suggests this simple lifestyle intervention may be therapeutic for oxidative DNA damage and oxidative stress."

Telomerase Activity and Cellular Aging Might Be Positively Modified by a Yoga-Based Lifestyle Intervention

The Journal of Alternative and Complimentary Medicine

<https://www.liebertpub.com/doi/10.1089/acm.2014.0298>

citations: 45

"the absence of experiential avoidance of negative emotions and thoughts is integral to the connection between meditation and telomeres"

Zen meditation, Length of Telomeres, and the Role of Experiential Avoidance and Compassion

Mindfulness

<https://link.springer.com/article/10.1007/s12671-016-0500-5>

citations: 52

"Purpose in Life is influenced by meditative practice and directly affects both perceived control and negative emotionality, affecting telomerase activity directly as well as indirectly"

"This is the first study to link meditation and positive psychological change with telomerase activity"


Intensive meditation training, immune cell telomerase activity, and psychological mediators

Psychoneuroendocrinology

<https://www.ncbi.nlm.nih.gov/pubmed/21035949>

citations: 557

music and mantra aka sub conscious therapeutic affirmations reduce pain and improve recovery

GRADE	LEVEL OF EVIDENCE
	ROBUST RESEARCH WITH AT LEAST 3 DOUBLE BLIND, RANDOMISED CONTROLLED TRIALS PLUS SUPPORTING PEER REVIEWED TRIALS

"Music or music in combination with therapeutic suggestions during surgery and postoperative recovery can be used as an adjunct in multimodal regimes to improve patient recovery process"

The effect of music and music in combination with therapeutic suggestions on postoperative recovery

Linköping University, Department of Medicine and Care, Nursing Science

<http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A248080&dswid=8121>

randomised controlled trial, double blind
citations: 23

"study results are similar to that of some previous studies and has clearly proven that music and music with therapeutic suggestions have a definite role in the improvement on the postoperative events as this group required less rescue analgesics and antiemetics."

Does Intraoperative Music Therapy or Positive Therapeutic Suggestions during General Anaesthesia affect the postoperative outcome? A double blind randomised controlled trial.

[Indian Journal of Anaesthesia](#)

randomised controlled trial, double blind
citations: 17

"intra-operative music and music in combination with therapeutic suggestions may have some beneficial effects on postoperative recovery after hysterectomy"

Improved recovery after music and therapeutic suggestions during general anaesthesia: a double-blind randomised controlled trial

Acta Anaesthesiologica Scandinavica

<https://onlinelibrary.wiley.com/doi/abs/10.1034/j.1399-6576.2001.045007812.x>

randomised controlled trial, double blind
citations: 243