

# **Non-pharmacological approaches for enhancing mental health and wellbeing**

**Professor Darren Morton**

Director, Lifestyle Medicine & Health Research Centre, Avondale University

# LEARNING OUTCOMES:

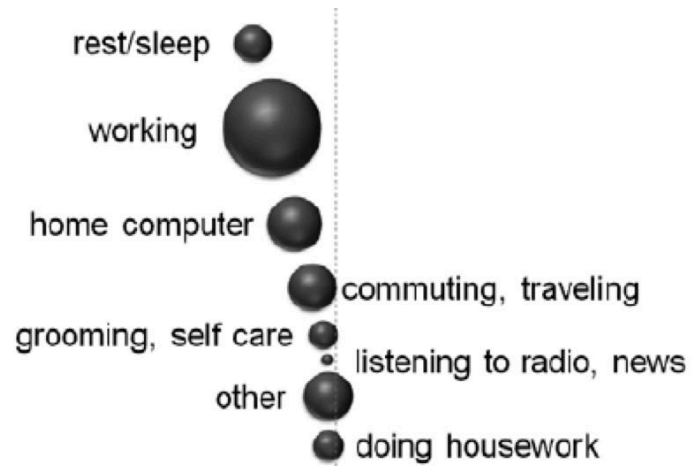
1. Recognise the value of non-pharmacological approaches for the prevention, management and treatment of mental health conditions.
2. Identify non-pharmacological strategies for the promotion of mental health and wellbeing.
3. Outline how non-pharmacological approaches can be utilised in clinical settings through brief interventions.
4. Review the use of The Lift Project as an intervention for mental health conditions.





## Declarations

Director of a profit-for-purpose Trust that promotes a mental health and wellbeing program called **The Lift Project** that is used in healthcare, workplace, education and community settings in numerous countries.



**Feeling**





**Feeling**





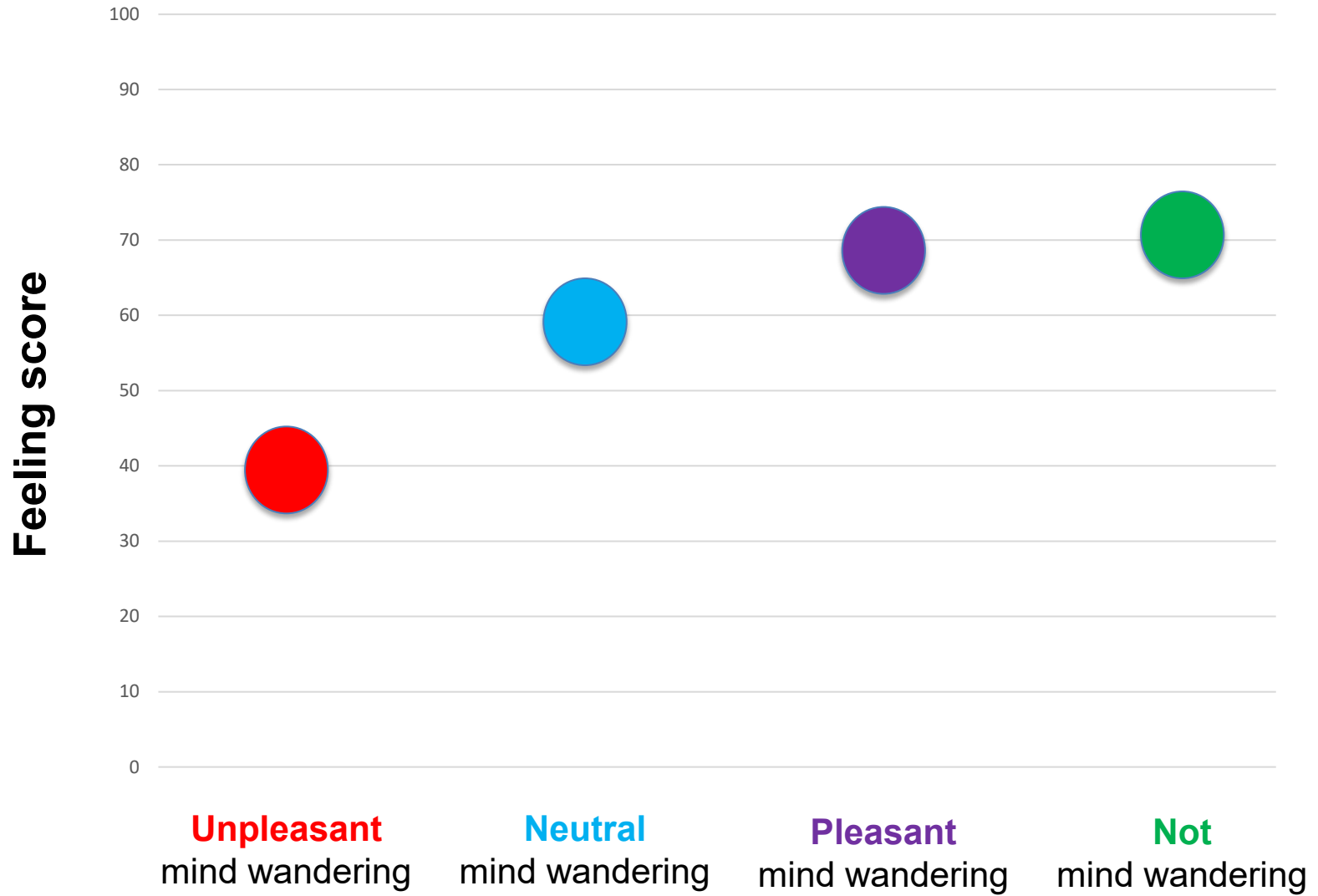
**Feeling**





**Feeling**



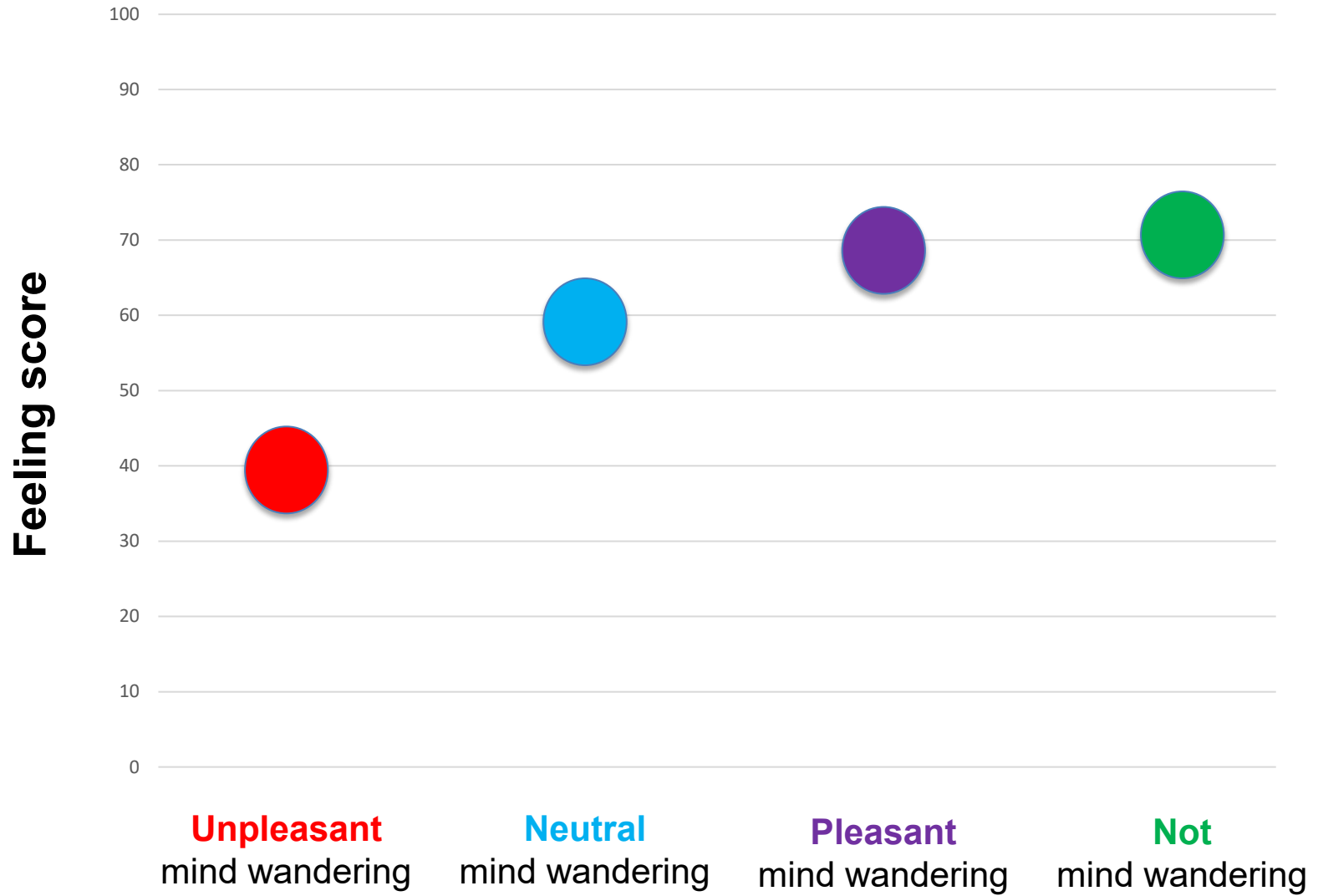


Killingworth & Gilbert (2010). Science 330:932.

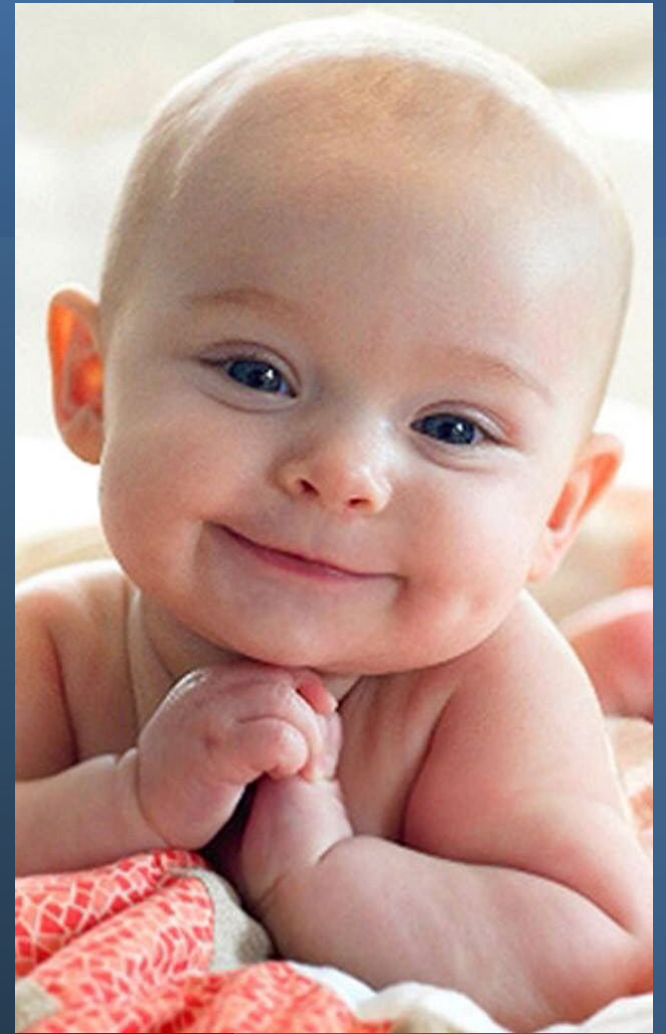




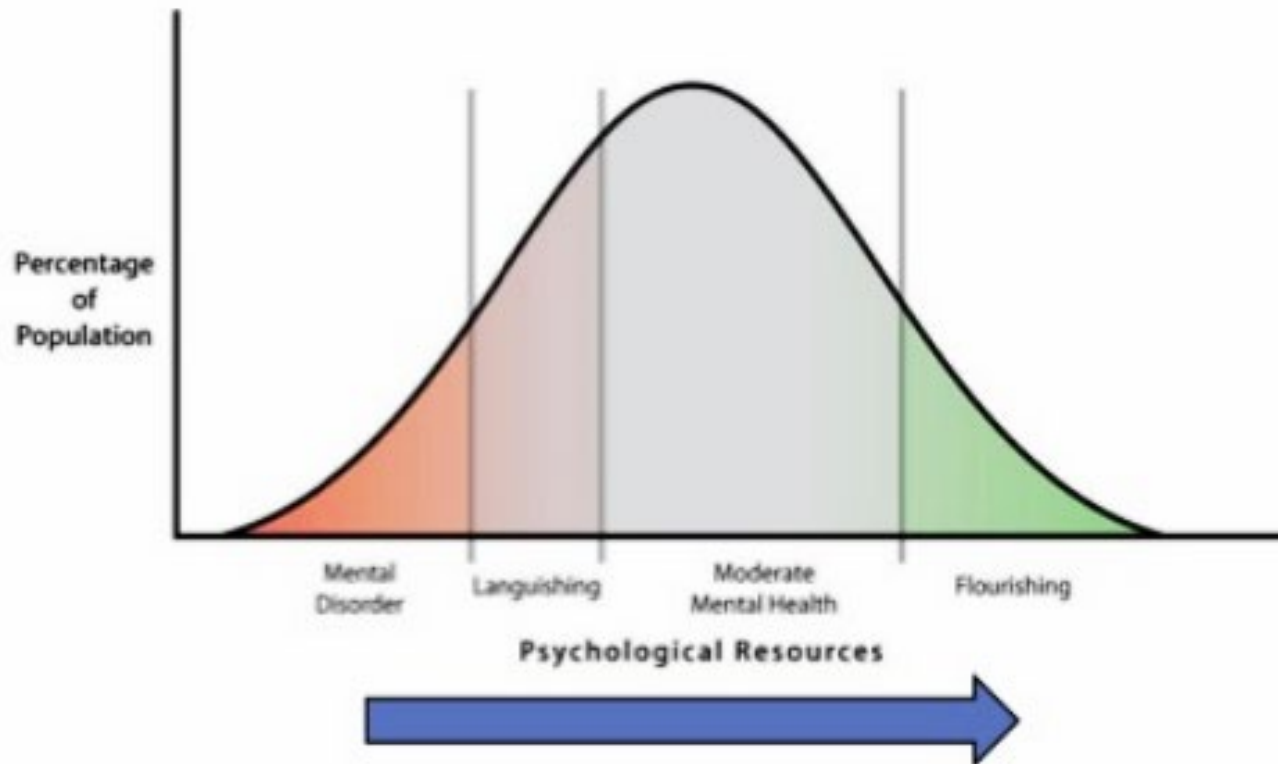
Mind Full, or Mindful?



Killingworth & Gilbert (2010). Science 330:932.



# Mental Health Spectrum



*(Well-being Institute, University of Cambridge, 2011)*

## Changes in antidepressant use in Australia: A nationwide analysis (2015–2021)

Australian & New Zealand Journal of Psychiatry  
2023, Vol. 57(1) 49–57  
DOI: 10.1177/00048674221079740

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Juliana de Oliveira Costa<sup>1\*</sup> , Malcolm B. Gillies<sup>1\*</sup> ,  
Andrea L. Schaffer<sup>1</sup> , David Peiris<sup>2</sup>, Helga Zoega<sup>1,3†</sup>  
and Sallie-Anne Pearson<sup>1†</sup>

### Abstract

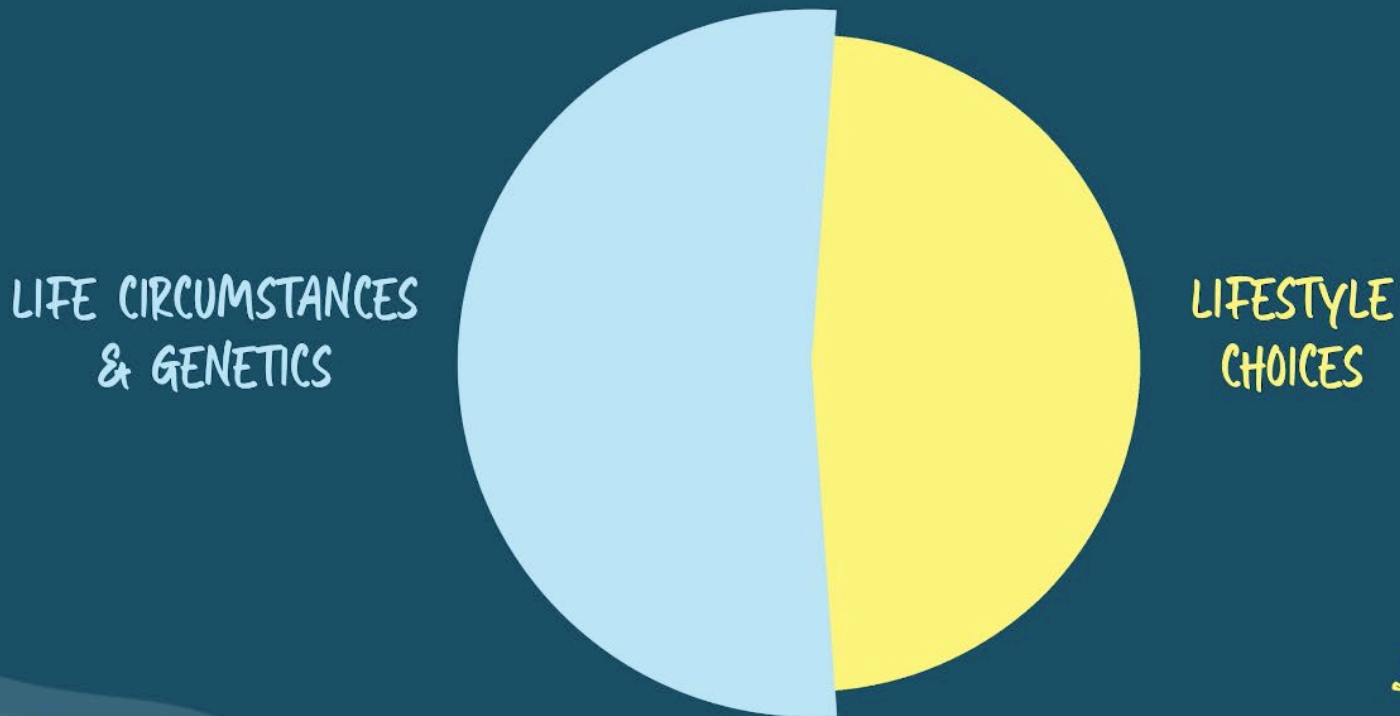
**Background:** Depression and anxiety affect 4–14% of Australians every year; symptoms may have been exacerbated during the COVID-19 pandemic. We examined recent patterns of antidepressant use in Australia in the period 2015–2021, which includes the first year of the pandemic.

**Methods:** We used national dispensing claims for people aged  $\geq 10$  years to investigate annual trends in prevalent and new antidepressant use (no antidepressants dispensed in the year prior). We conducted stratified analyses by sex, age group and antidepressant class. We report outcomes from 2015 to 2019 and used time series analysis to quantify changes during the first year of the COVID-19 pandemic (March 2020–February 2021).

**Results:** In 2019, the annual prevalence of antidepressant use was 170.4 per 1000 women and 101.8 per 1000 men, an increase of 7.0% and 9.2% from 2015, respectively. New antidepressant use also increased for both sexes (3.0% for women and 4.9% for men) and across most age groups, particularly among adolescents (aged 10–17 years; 46–57%). During the first year of the COVID-19 pandemic, we observed higher than expected prevalent use (+2.2%, 95% CI = [0.3%, 4.2%]) among females, corresponding to a predicted excess of 45,217 (95% CI = [5,819, 84,614]) females dispensed antidepressants. The largest increases during the first year of the pandemic occurred among female adolescents for both prevalent (+11.7%, 95% CI = [4.1%, 20.5%]) and new antidepressant use (+15.6%, 95% CI = [8.5%, 23.7%]).

**Conclusion:** Antidepressant use continues to increase in Australia overall and especially among young people. We found a differential impact of the COVID-19 pandemic in treated depression and anxiety, greater among females than males, and greater among young females than other age groups, suggesting an increased mental health burden in populations already on a trajectory of increased use of antidepressants prior to the pandemic. Reasons for these differences require further investigation.

## % OF HAPPINESS DETERMINED BY



# LIFESTYLE MEDICINE



LIFESTYLE MEDICINE FOCUSES ON 6 AREAS TO IMPROVE HEALTH



# POSITIVE PSYCHOLOGY

Introducing a New Theory of Well-Being



# LIFESTYLE MEDICINE



**LIFESTYLE MEDICINE FOCUSES ON 6 AREAS TO IMPROVE HEALTH**





# Lifestyle Psychiatry

*There is increasing academic and clinical interest in how “lifestyle factors” traditionally associated with physical health may also relate to mental health and psychological well-being*

## RESEARCH REPORT

### A meta-review of “lifestyle psychiatry”: the role of exercise, smoking, diet and sleep in the prevention and treatment of mental disorders

Joseph Firth<sup>1,2</sup>, Marco Solmi<sup>3</sup>, Robyn E. Wootton<sup>4</sup>, Davy Vancampfort<sup>5,6</sup>, Felipe B. Schuch<sup>7</sup>, Erin Hoare<sup>8</sup>, Simon Gilbody<sup>9</sup>, John Torous<sup>10</sup>, Scott B. Teasdale<sup>11</sup>, Sarah E. Jackson<sup>12</sup>, Lee Smith<sup>13</sup>, Melissa Eaton<sup>2</sup>, Felice N. Jacka<sup>14</sup>, Nicola Veronese<sup>15</sup>, Wolfgang Marx<sup>14</sup>, Garcia Ashdown-Franks<sup>16-18</sup>, Dan Siskind<sup>19,20</sup>, Jerome Sarris<sup>22,21</sup>, Simon Rosenbaum<sup>11</sup>, André F. Carvalho<sup>22,23</sup>, Brendon Stubbs<sup>17,18</sup>

<sup>1</sup>Division of Psychology and Mental Health, Faculty of Biology, Medicine & Health, University of Manchester, Manchester, UK; <sup>2</sup>NICM Health Research Institute, Western Sydney University, Westmead, NSW, Australia; <sup>3</sup>Department of Neurosciences, University of Padua, Padua, Italy; <sup>4</sup>MRC Integrative Epidemiology Unit, University of Bristol, Bristol, UK; <sup>5</sup>KU Leuven Department of Rehabilitation Sciences, Leuven, Belgium; <sup>6</sup>University Psychiatric Centre KU Leuven, Kortenberg, Belgium; <sup>7</sup>Department of Sports Methods and Techniques, Federal University of Santa Maria, Santa Maria, Brazil; <sup>8</sup>UKCRC Centre for Diet and Activity Research (CEDAR) and MRC Epidemiology Unit, University of Cambridge, Cambridge, UK; <sup>9</sup>Mental Health and Addictions Research Group, Department of Health Sciences, University of York, York, UK; <sup>10</sup>Department of Psychiatry, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA; <sup>11</sup>School of Psychiatry, Faculty of Medicine, University of New South Wales, Sydney, NSW, Australia; <sup>12</sup>Department of Behavioural Science and Health, University College London, London, UK; <sup>13</sup>Cambridge Centre for Sport and Exercise Sciences, Anglia Ruskin University, Cambridge, UK; <sup>14</sup>Food & Mood Centre, IMPACT – Institute for Mental and Physical Health and Clinical Translation, School of Medicine, Deakin University, Geelong, VIC, Australia; <sup>15</sup>Geriatric Unit, Department of Internal Medicine and Geriatrics, University of Palermo, Palermo, Italy; <sup>16</sup>Department of Exercise Sciences, University of Toronto, Toronto, ON, Canada; <sup>17</sup>South London and Maudsley NHS Foundation Trust, London, UK; <sup>18</sup>Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, UK; <sup>19</sup>Metro South Addiction and Mental Health Service, Brisbane, QLD, Australia; <sup>20</sup>School of Medicine, University of Queensland, Brisbane, QLD, Australia; <sup>21</sup>Department of Psychiatry, University of Melbourne, The Melbourne Clinic, Melbourne, VIC, Australia; <sup>22</sup>Centre for Addiction & Mental Health, Toronto, ON, Canada; <sup>23</sup>Department of Psychiatry, University of Toronto, Toronto, ON, Canada

*There is increasing academic and clinical interest in how “lifestyle factors” traditionally associated with physical health may also relate to mental health and psychological well-being. In response, international and national health bodies are producing guidelines to address health behaviors in the prevention and treatment of mental illness. However, the current evidence for the causal role of lifestyle factors in the onset and prognosis of mental disorders is unclear. We performed a systematic meta-review of the top-tier evidence examining how physical activity, sleep, dietary patterns and tobacco smoking impact on the risk and treatment outcomes across a range of mental disorders. Results from 29 meta-analyses of prospective/cohort studies, 12 Mendelian randomization studies, two meta-reviews, and two meta-analyses of randomized controlled trials were synthesized to generate overviews of the evidence for targeting each of the specific lifestyle factors in the prevention and treatment of depression, anxiety and stress-related disorders, schizophrenia, bipolar disorder, and attention-deficit/hyperactivity disorder. Standout findings include: a) convergent evidence indicating the use of physical activity in primary prevention and clinical treatment across a spectrum of mental disorders; b) emerging evidence implicating tobacco smoking as a causal factor in onset of both common and severe mental illness; c) the need to clearly establish causal relations between dietary patterns and risk of mental illness, and how diet should be best addressed within mental health care; and d) poor sleep as a risk factor for mental illness, although with further research required to understand the complex, bidirectional relations and the benefits of non-pharmacological sleep-focused interventions. The potentially shared neurobiological pathways between multiple lifestyle factors and mental health are discussed, along with directions for future research, and recommendations for the implementation of these findings at public health and clinical service levels.*

**Key words:** Lifestyle factors, mental disorders, psychological well-being, physical activity, sedentary behavior, tobacco smoking, dietary patterns, sleep, depression, anxiety disorders, bipolar disorder, schizophrenia

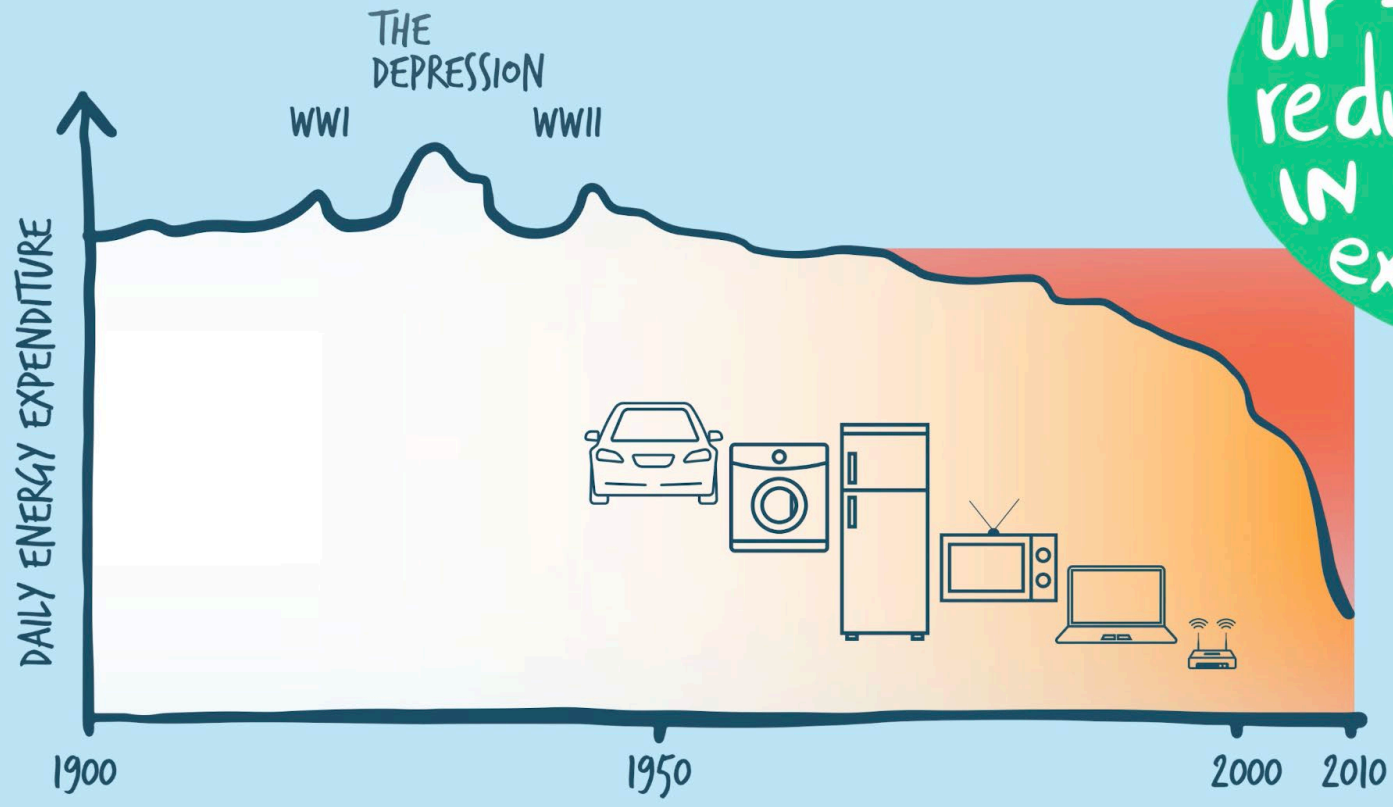
(*World Psychiatry* 2020;19:360–380)



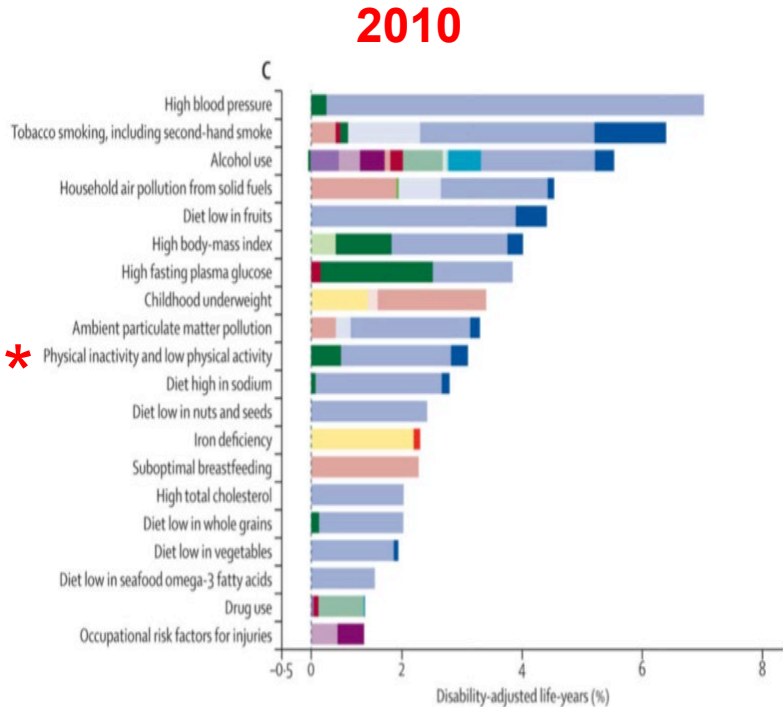
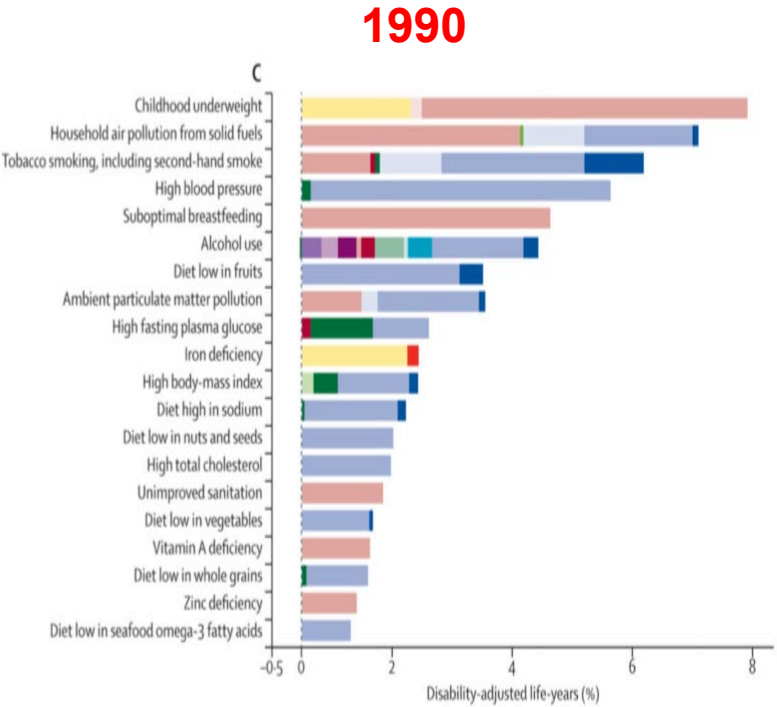
*Motion creates emotion*

MOVE DYNAMICALLY

up to 70%  
reduction  
IN DAILY  
exercise



# Comparative risk of factors contributing to burden of disease



Review > J Affect Disord. 2022 Aug 15;311:353-363. doi: 10.1016/j.jad.2022.05.089.

Epub 2022 May 21.

# The acute affective response to physical activity in people with depression: A meta-analysis

Matthew Bourke <sup>1</sup>, Rhiannon K Patten <sup>2</sup>, Lisa Klamert <sup>2</sup>, Bojana Klepac <sup>3</sup>, Sarah Dash <sup>4</sup>,  
Michaela C Pascoe <sup>2</sup>

Affiliations + expand

PMID: 35605707 DOI: [10.1016/j.jad.2022.05.089](https://doi.org/10.1016/j.jad.2022.05.089)

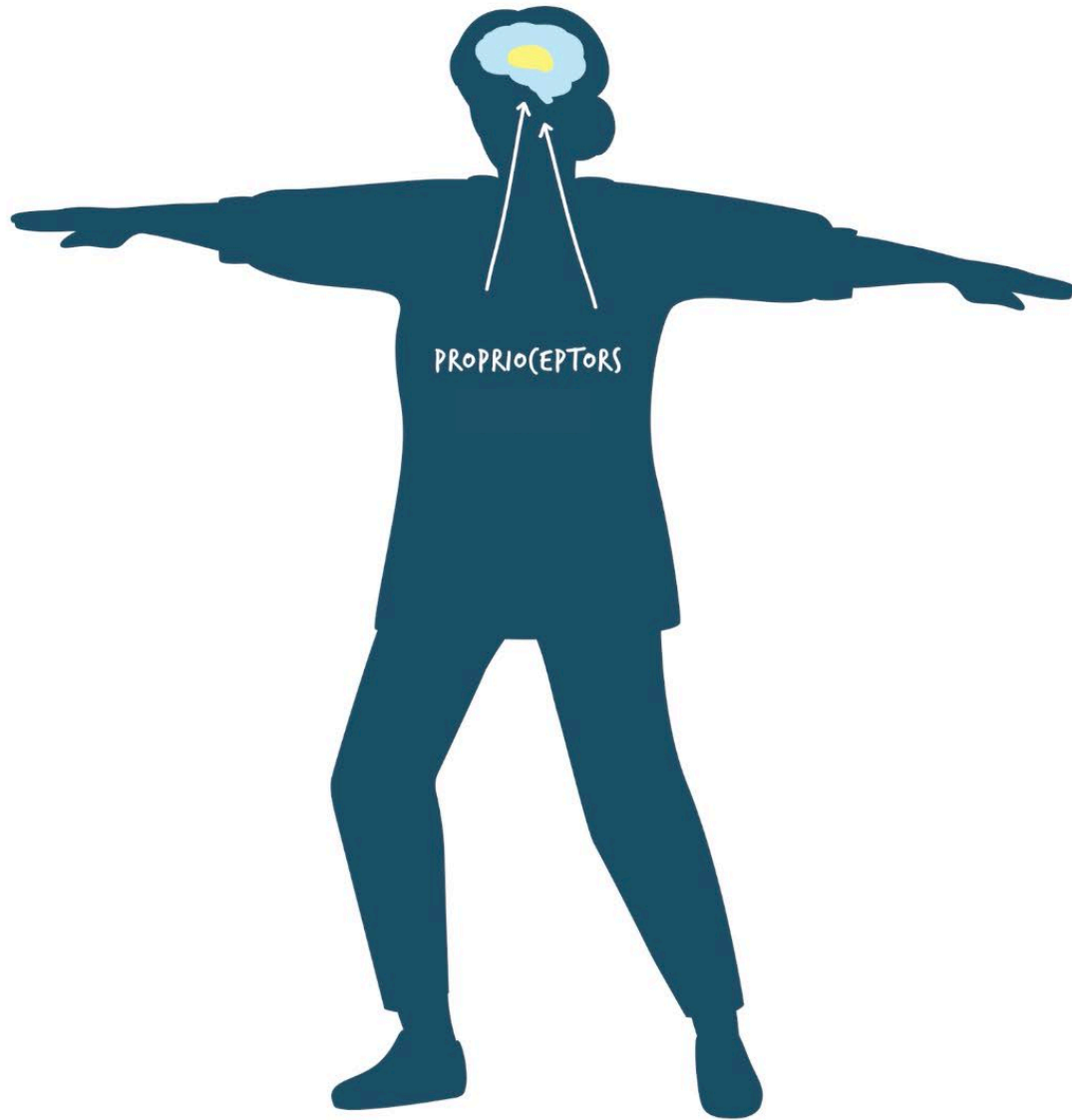
*“Acute bouts of physical activity can significantly improve affective states in people with depression.”*

## Global trends in insufficient physical activity among adolescents: a pooled analysis of 298 population-based surveys with 1·6 million participants

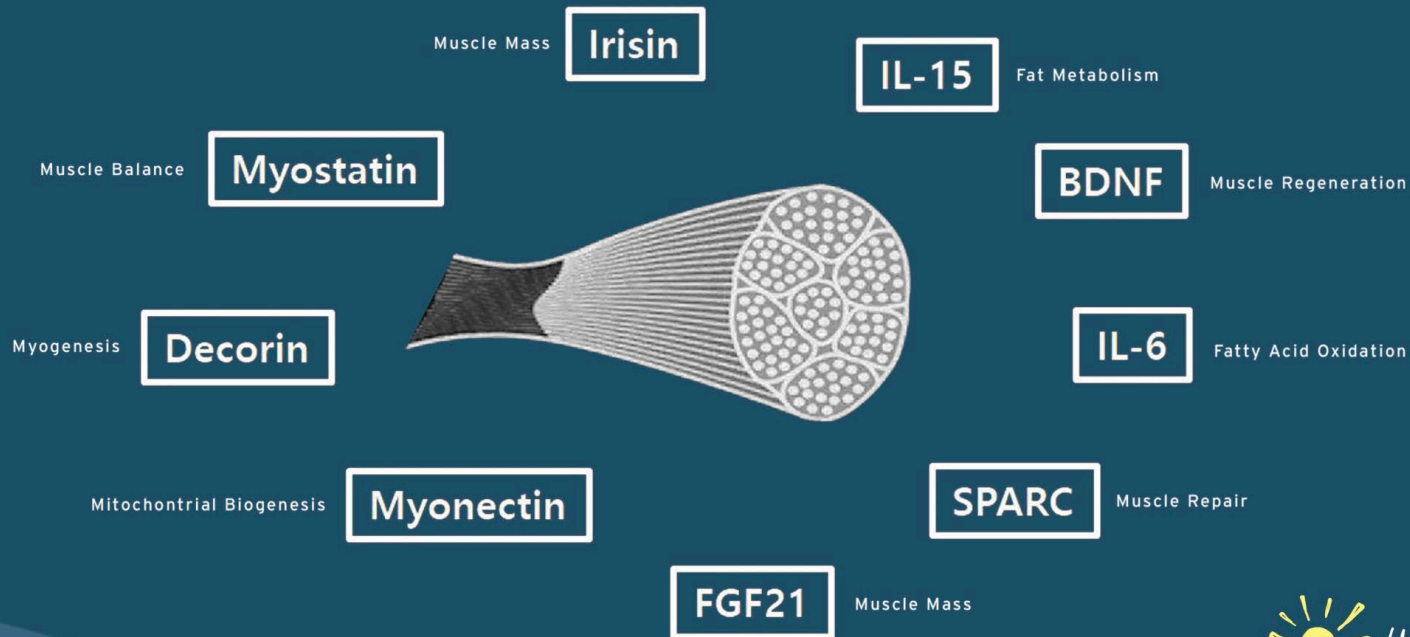
Regina Guthold, Gretchen A Stevens, Leanne M Riley, Fiona C Bull



*Globally, in 2016, 81·0% of students aged 11–17 years were insufficiently physically active, 77·6% of boys and 84·7% of girls.*



# WHEN MUSCLES CONTRACT THEY PRODUCE MYOKINES





## Exercise Duration and Mood State: How Much Is Enough to Feel Better?

Cheryl J. Hansen, Larry C. Stevens, and J. Richard Coast  
Northern Arizona University

The effects of exercise duration on mood state were examined. In a repeated-measures design, the Profile of Mood States inventory (D. M. McNair, M. Lorr, & L. F. Droppleman, 1971) was administered before and after 1 quiet resting trial and 3 exercise trials of 10, 20, and 30 min on a bicycle ergometer. Heart rate levels were controlled at 60% of the participant's estimated  $VO_{2max}$  level. An overall analysis of variance found improved levels of vigor with reduced levels of confusion, fatigue, and total negative mood. Planned analyses revealed that the improvements in vigor, fatigue, and total mood occurred after 10 min of exercise, with progressive improvements in confusion over 20 min and with no additional improvement over longer periods. These results complement current recommendations, which suggest that to experience positive fitness and health benefits, healthy adults should participate in a total of 30 min of moderate physical exercise daily, accumulated in short bouts throughout the day.

*Key words:* exercise duration, exercise and mood change, acute aerobic exercise, mood, psychological states

*“Improvements in vigour, fatigue and total mood occurred after 10 minutes of exercise.”*





$R_x$

- ✓ Move for 10 minutes or more  
3 times throughout the day.
  - Walk
  - Cycle
  - Swim
  - Dance!

A scenic landscape featuring a rocky cliff in the foreground where three hikers are sitting, looking out over a coastal area with rolling green hills and a blue ocean under a bright sky with scattered clouds. The hikers are seen from behind, wearing outdoor gear like hoodies and backpacks. The overall atmosphere is peaceful and adventurous.

*Blue and green should often be seen*

IMMERSE IN AN UPLIFTING PHYSICAL ENVIRONMENT



ELSEVIER

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

Public Health

journal homepage: [www.elsevier.com/puhe](http://www.elsevier.com/puhe)



## Original Research

# An ecological study investigating the association between access to urban green space and mental health

D. Nutsford<sup>a,\*</sup>, A.L. Pearson<sup>b</sup>, S. Kingham<sup>a</sup>

<sup>a</sup> University of Canterbury, GeoHealth Laboratory, Christchurch, New Zealand

<sup>b</sup> University of Otago, Department of Public Health, Wellington, New Zealand

*“every 1% increase in the proportion of green space was associated with a 4% lower anxiety/mood disorder treatment”*

OPEN

## Spending at least 120 minutes a week in nature is associated with good health and wellbeing

Received: 8 May 2018

Accepted: 8 May 2019

Published online: 13 June 2019

Mathew P. White<sup>1</sup>, Ian Alcock<sup>2</sup>, James Grollier<sup>3</sup>, Benedict W. Wheeler<sup>1</sup>, Terry Hartig<sup>2</sup>, Sara L. Warber<sup>4,5</sup>, Angie Bone<sup>2</sup>, Michael H. Depledge<sup>1</sup> & Lora E. Fleming<sup>1</sup>

Spending time in natural environments can benefit health and well-being, but exposure-response relationships are under-researched. We examined associations between recreational nature contact in the last seven days and self-reported health and well-being. Participants ( $n = 19,806$ ) were drawn from the Monitor of Engagement with the Natural Environment Survey (2014/15–2015/16); weighted to be nationally representative. Weekly contact was categorised using 60 min blocks. Analyses controlled for residential greenspace and other neighbourhood and individual factors. Compared to no nature contact last week, the likelihood of reporting good health or high well-being became significantly greater with contact  $\geq 120$  mins (e.g. 120–179 mins: ORs [95%CI]: Health = 1.59 [1.31–1.92]; Well-being = 1.23 [1.08–1.40]). Positive associations peaked between 200–300 mins per week with no further gain. The pattern was consistent across key groups including older adults and those with long-term health issues. It did not matter how 120 mins of contact a week was achieved (e.g. one long vs. several shorter visits/week). Prospective longitudinal and intervention studies are a critical next step in developing possible weekly nature exposure guidelines comparable to those for physical activity.

A growing body of epidemiological evidence indicates that greater exposure to, or 'contact with', natural environments (such as parks, woodlands and beaches) is associated with better health and well-being, at least among populations in high income, largely urbanised, societies<sup>1</sup>. While the quantity and quality of evidence varies across outcomes, living in greener urban areas is associated with lower probabilities of cardiovascular disease<sup>2</sup>, obesity<sup>3</sup>, diabetes<sup>4</sup>, asthma hospitalisation<sup>5</sup>, mental distress<sup>6</sup>, and ultimately mortality<sup>7</sup>, among adults; and lower risks of obesity<sup>8</sup> and myopia<sup>9</sup> in children. Greater quantities of neighbourhood nature are also associated with better self-reported health<sup>10–12</sup>, and subjective well-being<sup>13</sup> in adults, and improved birth outcomes<sup>14</sup>, and cognitive development<sup>15</sup>, in children.

However, the amount of greenspace in one's neighbourhood (e.g. percent of land cover in a 1 km radius from the home), or the distance of one's home to the nearest publicly accessible green space or park<sup>16</sup> is only one way of assessing an individual's level of nature exposure. An alternative is to measure the amount of time individuals actually spend outside in natural environments<sup>17,18</sup>, sometimes referred to as 'direct' exposure<sup>19</sup>. Both approaches are potentially informative. Residential proximity to nature may be related to health promoting factors such as reduced air and noise pollution (although the relationships are complex<sup>20</sup>); and may also provide 'indirect' exposure via views from the property<sup>21</sup>. Residential proximity is also generally positively related to 'direct' exposure; i.e. people in greener neighbourhoods tend to report visiting greenspace more often<sup>22</sup>. Yet many nature visits take place outside of the local neighbourhood<sup>23</sup>. Moreover, such visits may compensate for a lack of nature in the neighbourhood<sup>24</sup>. In other words, direct exposure, or more specifically in the current context, recreational time spent in natural environments per week, cannot accurately be inferred from neighbourhood greenspace near the home.

Using data from a representative sample of the adult population of England, we aimed to better understand the relationships between time spent in nature per week and self-reported health and subjective well-being. Our research builds directly on a small number of studies that have started to look at similar issues<sup>17,18,25,26</sup>, and answers the call made in several recent reviews for more work in this area<sup>27,28</sup>. Quantification of these 'exposure-response'

<sup>1</sup>European Centre for Environment and Human Health, University of Exeter Medical School, Exeter, UK. <sup>2</sup>Institute for Housing and Urban Research, Uppsala University, Box 514, SE-75120, Uppsala, Sweden. <sup>3</sup>Department of Family Medicine, University of Michigan Medical School, Ann Arbor, MI, USA. Correspondence and requests for materials should be addressed to M.P.W. (email: mathew.white@exeter.ac.uk)

**VISITING A FOREST, BUT NOT A CITY, INCREASES HUMAN NATURAL KILLER  
ACTIVITY AND EXPRESSION OF ANTI-CANCER PROTEINS**

Q. LI, K. MORIMOTO<sup>1</sup>, M. KOBAYASHI, H. INAGAKI, M. KATSUMATA,  
Y. HIRATA, K. HIRATA, H. SUZUKI, Y.J. LI, Y. WAKAYAMA, T. KAWADA,  
B.J. PARK<sup>2</sup>, T. OHIRA<sup>2</sup>, N. MATSUI<sup>2</sup>, T. KAGAWA<sup>2</sup>, Y. MIYAZAKI<sup>2</sup>  
and A.M. KRENSKY<sup>3</sup>

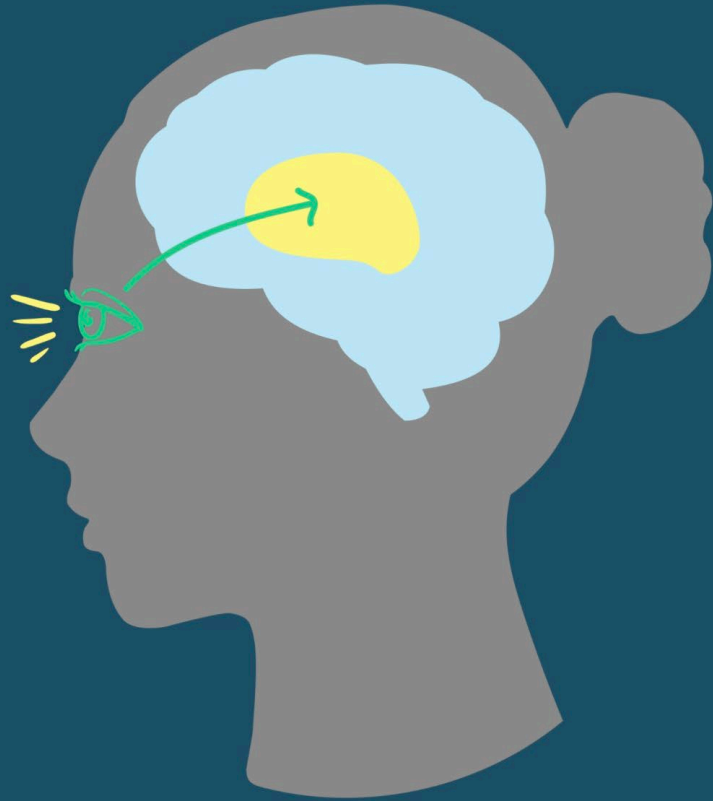
*Department of Hygiene and Public Health, Nippon Medical School, Tokyo;*


*<sup>1</sup>Department of Social and Environmental Medicine, Osaka University Graduate School of  
Medicine, Osaka; <sup>2</sup>Forestry and Forest Products Research Institute, Tsukuba, Japan; <sup>3</sup>Department  
of Pediatrics, Stanford University School of Medicine, Stanford, CA, USA*

*“a forest bathing trip increased NK activity, number of NK cells, and  
levels of intracellular anti-cancer proteins, and that this effect lasted  
at least 7 days after”*









Research

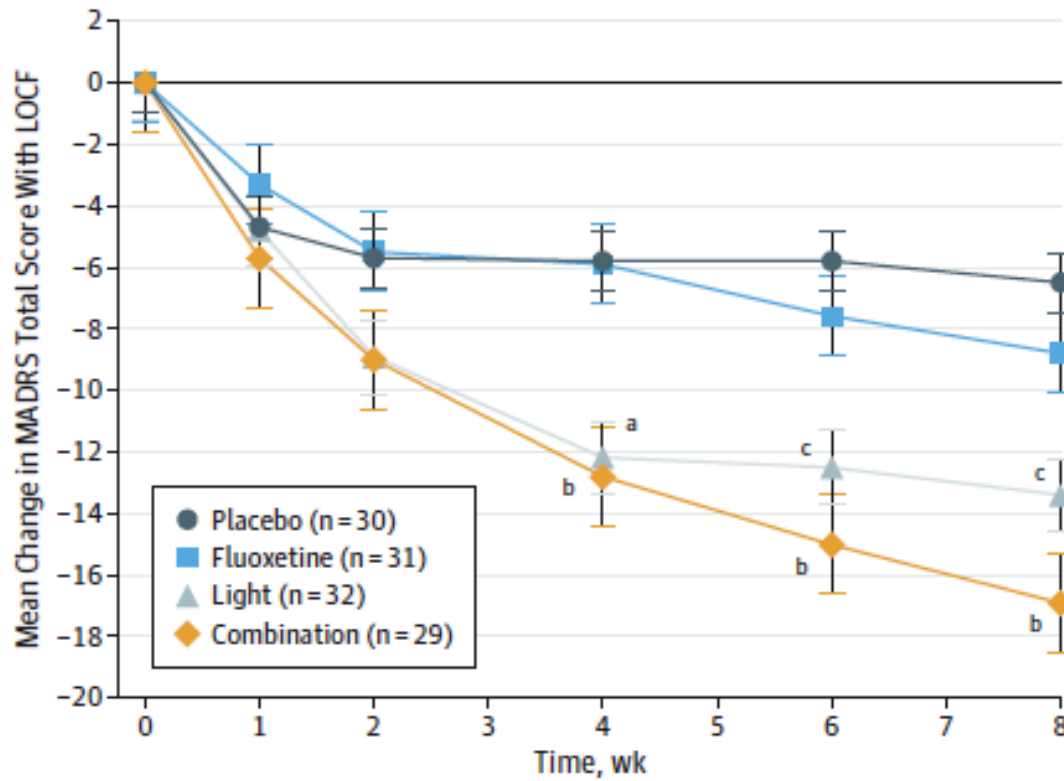
Original Investigation

# Efficacy of Bright Light Treatment, Fluoxetine, and the Combination in Patients With Nonseasonal Major Depressive Disorder A Randomized Clinical Trial

Raymond W. Lam, MD; Anthony J. Levitt, MBBS; Robert D. Levitan, MD, MSc; Erin E. Michalak, PhD; Rachel Morehouse, MD; Rajamannar Ramasubbu, MD; Lakshmi N. Yatham, MBBS, MBA; Edwin M. Tam, MDCM

Lam et al. (2016). JAMA Psychiatry. 73(1):56-63.

Figure 2. Change Scores on the Montgomery-Åsberg Depression Rating Scale (MADRS) From Baseline to End Point With Last Observation Carried Forward (LOCF) at Each Treatment Week



Lam et al. (2016). JAMA Psychiatry. 73(1):56-63.



$R_x$

- ✓ Spend 30 minutes each day outside during daylight hours (ideally in the early morning).
- ✓ Spend at least 2 hours each week in a natural environment.



*Food feeds your mood*  
EAT NUTRITIOUSLY



REVIEW

# Nutritional psychiatry: Towards improving mental health by what you eat



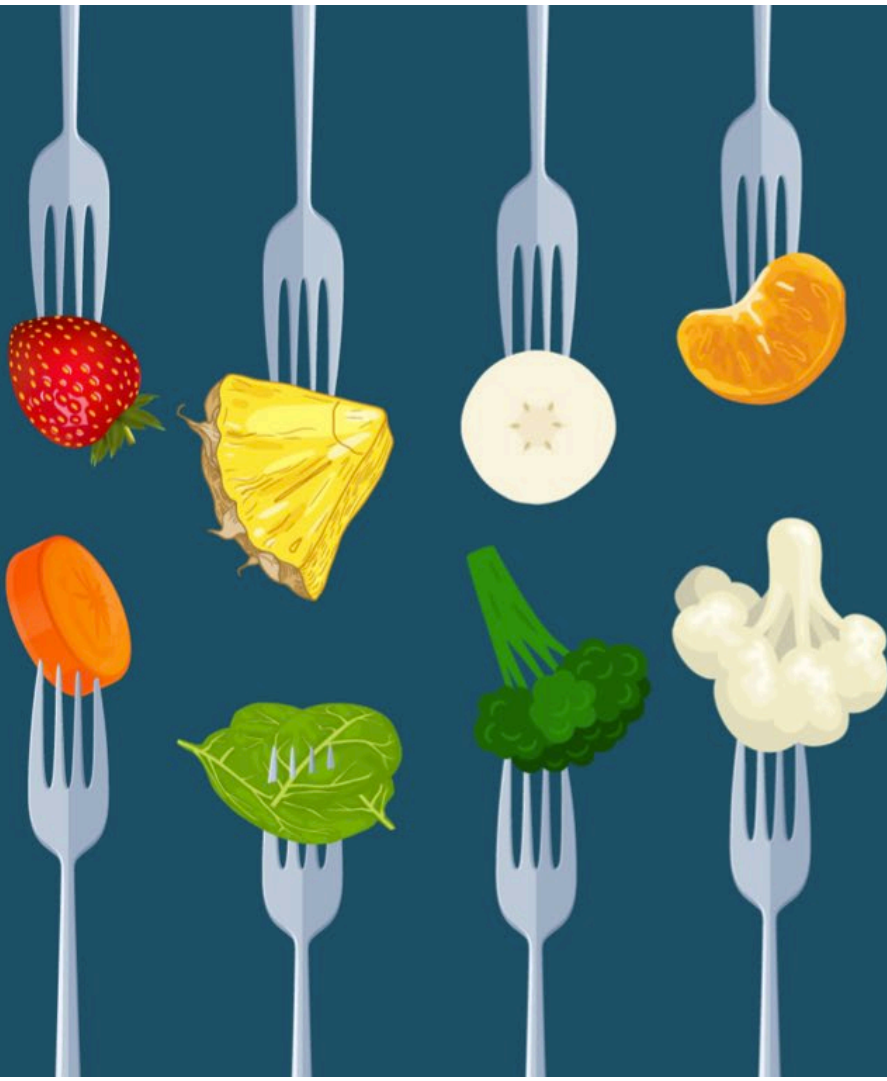
Roger A.H. Adan<sup>a,b,\*</sup>, Eline M. van der Beek<sup>c,d</sup>,  
Jan K. Buitelaar<sup>e,f</sup>, John F. Cryan<sup>g</sup>, Johannes Hebebrand<sup>h</sup>,  
Suzanne Higgs<sup>i</sup>, Harriet Schellekens<sup>g</sup>, Suzanne L. Dickson<sup>b,\*\*</sup>

*“diet and nutrition are not only critical for human physiology and body composition, but also have significant effects on mood and mental wellbeing.”*

## **Is Psychological Well-Being Linked to the Consumption of Fruit and Vegetables?**

**David G. Blanchflower · Andrew J. Oswald · Sarah Stewart-Brown**

*“Happiness and mental health rise in an approximately dose–response way with the number of daily portions of fruit and vegetables”.*







# **Many apples a day keep the blues away – Daily experiences of negative and positive affect and food consumption in young adults**

Bonnie A. White<sup>1</sup>, Caroline C. Horwath<sup>1</sup> and Tamlin S. Conner<sup>2\*</sup>

<sup>1</sup>Department of Human Nutrition, University of Otago, Dunedin, New Zealand

<sup>2</sup>Department of Psychology, University of Otago, Dunedin, New Zealand

*“...fruits and vegetables predicted improvements in positive affect (happiness) the next day.”*

*You have gut bacteria!*



**Ha Ha!**

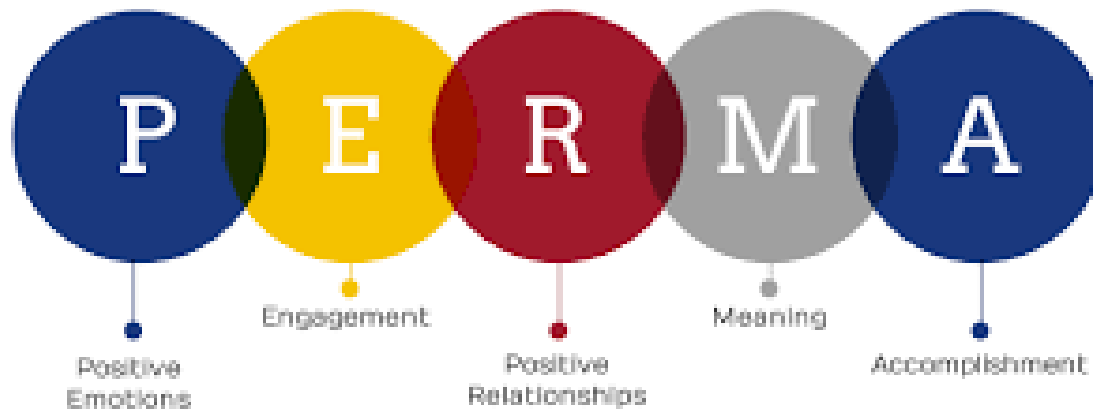


$R_x$

- ✓ Aim for 8 serves of fibre each day:
  - Fruits
  - Vegetables
  - Legumes (beans)
  - Whole grains

# POSITIVE PSYCHOLOGY

## Introducing a New Theory of Well-Being





*Feelings follow your focus*

LOOK TO THE POSITIVE

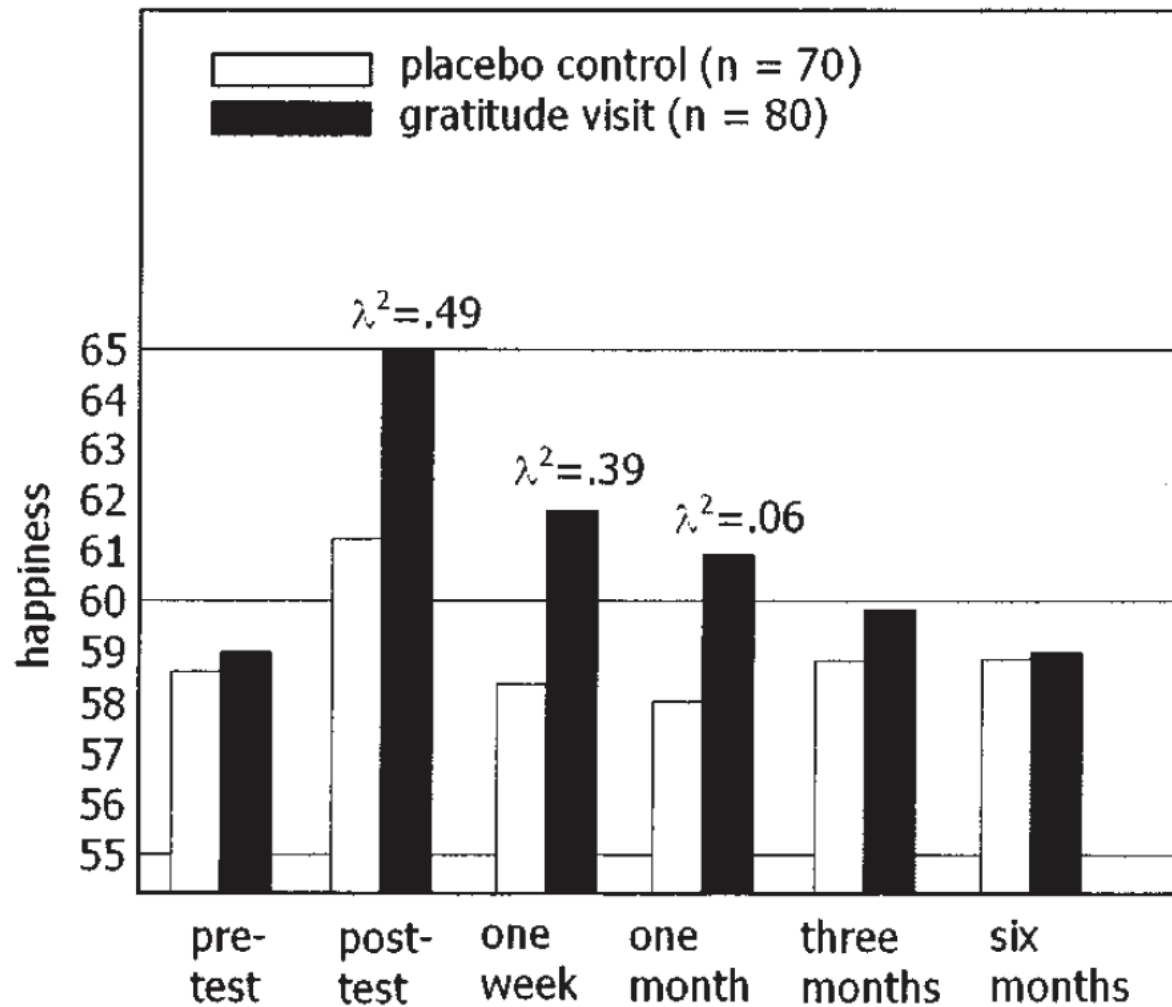
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**Question #1:**  
**What am**  
**I truly**  
***grateful***  
**for?**

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# The Gratitude Visit



Eammons & McCullough (2003). *J Personality Soc Psych* 84(2):377-389.



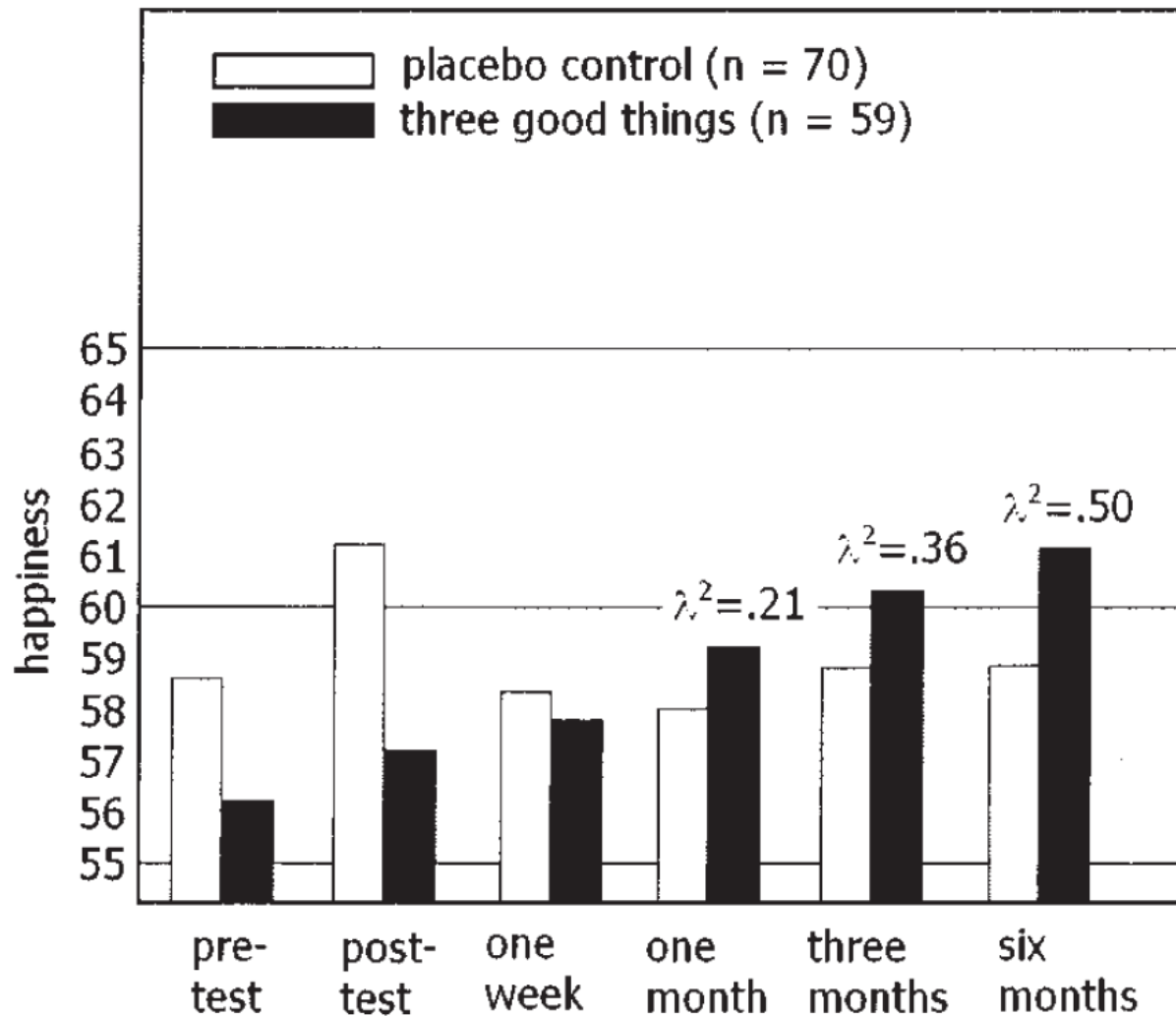
**Question #2:**  
**What went**  
***well?***

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# Three Good Things



Seligman et al. (2005). *Am Psychol* 60(5): 410–421.

**Question #3:**  
**What am**  
**I truly**  
***excited***  
**about and**  
***hopeful***  
**for?**

---





$R_x$

- ✓ Each evening, write down three things that went well that day and why you are grateful for them.
- ✓ Plan something to look forward to.

A photograph of three people in a backyard setting, engaged in gardening. A man in a blue t-shirt and khaki shorts is in the foreground, smiling and holding a wheelbarrow. A woman in a pink tank top and shorts is in the middle ground, also smiling and holding a shovel. A man in a grey t-shirt is in the background, partially visible, also holding a shovel. The background shows a wooden fence and lush greenery.

*Giving is living*

SERVE



*“Doing a kindness produces the single most reliable increase in well-being (happiness) of any exercise we have tested”.*



*“Our species is apparently the only one with a genetic makeup that promotes selflessness and true altruistic behaviour”.*



$R_x$

- ✓ Perform at least one Random Act of Kindness each day.
- ✓ Write down three things that you are good at and how you could use that to lift someone.



**Register for *The PHN Lift Project***

**Start your journey on 8 October, 2023**



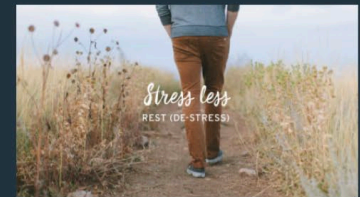
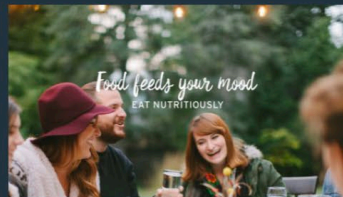
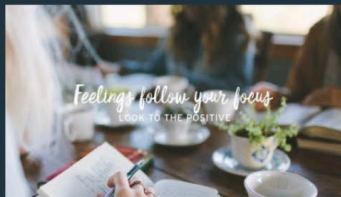
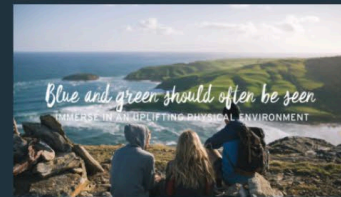
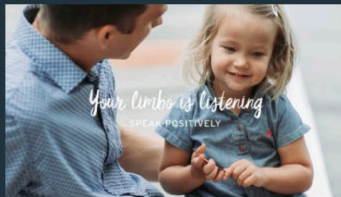
# WHAT IS THE LIFT PROJECT?

- **Multidisciplinary mental health and wellbeing program.**
  - **Pitched in the positive** (stigma free and inviting).
  - **Online access but designed for group engagement.**
- 

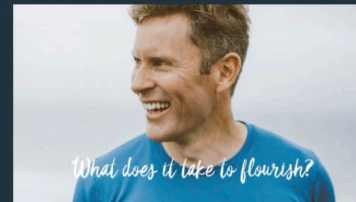




the lift project



10 fascinating lessons.



Choose your own adventure.

# EVIDENCE FOR THE LIFT PROJECT

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Results published in academic journals showing significant:

- ✓ **Reductions** in **depressive symptoms**, **anxiety** and **stress**.
- ✓ **Improvements** in overall **mental health**, **vitality** and **life satisfaction**.
- ✓ Increases in **flourishing**.





[www.theliftproject.global/lift/registerthephn/](http://www.theliftproject.global/lift/registerthephn/)



**Register for *The PHN Lift Project***

Start your journey on 8 October, 2023