

Premier’s Anika Foundation Youth Depression Awareness Scholarship

It’s Not all in the Mind

Depression is a brain and body based condition

Sandra Scott

School Counsellor, North Sydney Girls High School

Sponsored by



# Introduction

The project title and premise It’s Not all in the Mind seeks to broaden awareness of depression as both a brain and body based condition. Research on causation has developed well beyond the serotonin model, a simple chemical imbalance, to recognise a complex interaction of body systems, especially implicating the influence of the gut-brain axis, the hypothalamus-pituitary-adrenal-axis, immune and mitochondrial function. Genetics is a factor, especially in the most resistant presentations, but epigenetics, the impact of environment on gene expression is explaining how we may all have much greater agency over physical and mental health outcomes than previously thought.

Resilience to depression is achieved, not only through attention to our thought processes, feelings and behaviours, but at the fundamental level of cellular health. Raising awareness of the bidirectional mind/body influence, is important to challenging the pervading myth and stigma that mental illness is a trait of a weak mind or indulgence to be resolved by a change of attitude. Better psycho-education about everyday environmental factors which contribute to an individual’s stress burden and risk profile may assist in normalising mental illness. Access to a wider variety of socially palatable prevention and treatment modalities is required to depathologise, destigmatise and give agency back to the individual.

The education sector must step up as a major player, not only in prevention, but effective triage and ongoing support after mental health related school absence. The number of young Australians seeking help has doubled compared with 15 years ago, and positive activities such as sports, exercise and healthy eating are now beating alcohol, drugs and smoking as the preferred way to handle mental health issues for the majority of teens (Ley, 2015). Adolescents at an impressionable and self-conscious age of identity formation, need and want positive and socially engaged ways to cope with their challenges. Our current, pathologizing model of care is not youth friendly nor culturally sensitive and it needs to change. Funnelling young people through medical practitioners for individual mental health care plans (MHCP) and hospital emergency departments to access psychological services is highly confronting. Psychology has more to offer young people than pathology; it’s time for a full range of positive psychology and active prevention approaches that coach young people towards brain fitness.

By 2030, depression will represent the world’s largest health burden (WHO, 2011) and society requires large scale support to combat this trend. Daily access to eating and activity behaviours makes a lifestyle approach highly unique from other potential prevention options (Hoare, 2016). Education is a microcosm of society, where views are formed, and behaviours established. To prevent depression and optimise wellbeing, the potential and positive peer to peer influence of teens needs to be harnessed and facilitated in schools. The fundamentals: nutrition, sleep and exercise should not only be taught, but modelled, prescribed and practised as a matter of routine.

# Focus of Study

The aim of this Anika Scholarship project is to promote radical cultural change around how we perceive and respond to adolescent depression. Young people need to experience better options than their own popularised models for coping: such as self-injury and substance use, and the depersonalised medical model dominating the professional response.

Conclusions from the joint Mission Australia Black Dog Institute Youth Survey (2016) support the premise that the best way to reach out to adolescents is to harness the most influential models of behaviour, the young people themselves. This project set out to consider three key questions:

1. what may schools teach young people about nutrition, exercise and sleep and their own agency in preventing and managing depression
2. how might schools support young people as ambassadors for radical cultural change
3. how might education and health sectors better support youth access to and from psychological services?

# Significant Learning

### The importance and scope of nutrition, exercise and sleep in preventative mental health

“Adolescence is a period characterized by a combination of significant brain alterations, high levels of stress, and emergence of psychopathology” (Sheth et al, 2017). In 2016, the top three issues of personal concern for young people meeting the criteria for a probable serious mental illness were coping with stress, school or study problems and depression (p 5, Youth Mental Health Report, 2016). Chronic stress can induce changes in neurobiology, hence, high school is an inopportune time for sustained activation of the stress system via highly competitive, academic processes.

It is well established that regular physical activity is extremely important to reducing the impact of stress. Evidence has been accumulating for some time, especially in regard to the significant influence of exercise on depressive symptoms and relapse prevention. Research from the Black Dog Institute has indicated that just one hour of exercise per week can help prevent up to 12% of future cases of depression (Harvey et al, 2017). Alongside this critical period for the stress system, is increased nutrient requirement. The essential role of nutrition begins in utero, and remains throughout childhood, but total nutrient needs are higher during adolescence than at any other time in the life cycle ([Marino DD](https://www.ncbi.nlm.nih.gov/pubmed/?term=Marino%20DD%5BAuthor%5D&cauthor=true&cauthor_uid=6445537), [King JC](https://www.ncbi.nlm.nih.gov/pubmed/?term=King%20JC%5BAuthor%5D&cauthor=true&cauthor_uid=6445537), 1980). Studies have shown the beneficial effects of combining antidepressants or psychotherapy with key nutrients to achieve better results. Sleep is of course the other significant variable and adolescents require more sleep than they commonly achieve. The cyclical relationship between depression and sleep, and correlation between sleep disorder and suicide makes sleep an obvious and urgent target for intervention. Since nutrition, exercise and sleep are all the more critical during adolescence they deserve a more active response from education and health services.

### Eminent work in the field

The Food Mood Centre at Deakin University Victoria is leading the world in research into the impact of diet on depression. Key findings from a prospective study of diet quality and adolescent mental health (2011) noted an association between diet quality and adolescent mental health; improvements in diet quality were matched by improvements in mental health and reductions in diet quality were associated with declining psychological functioning. There are many biological pathways by which an insufficiency of healthful foods and/or an excessive intake of unhealthy and processed foods could increase the risk for mental health problems in adolescents (Jacka et al 2011). We need substantial investment in understanding the nutrient deficiencies or imbalances which might be more likely to create or exacerbate mental illness symptoms.

Prominent researcher Dr William Walsh of the not for profit Walsh Research Institute, is a global pioneer in educating psychiatrists about the impact of nutrition on mental health. He has identified five high incidence biotypes of clinical depression that he says represent about 95% of cases. His extensive classification system is based on studies of 2,800 patients, including more than 250,000 blood/urine chemistry results and an in-depth medical history. Until now, he suggests, most mainstream experts have regarded depression as a single condition with variations along a central theme, i.e. low activity at serotonin receptors.

“We have observed low serotonin activity in **two** of the biotypes, with **different** brain disorders dominating the other cases.”

His republished book “Nutrient Power” (2018) presents to the lay reader his interesting theory about the biotypes of depression, elucidating possible reasons why some people might respond better to antidepressants and adjunctive nutrient support better than others.



Biochemical individuality is an important consideration for health professionals and indeed for researchers who may struggle to truly identify pure control and treatment groups based on superficial mental health labels.

**Figure 1: Dr William Walsh: Five, high incidence biotypes of depression**

The success of renowned child and adolescent psychiatrist Dr James Greenblatt in treating attention deficit hyperactivity disorder and depression is noteworthy, and reinforces what Deakin University Mood Food Centre has published.

“There is sufficient evidence to consider a nutrient as a viable monotherapy in the treatment of ADHD, whilst depression remains somewhat more reliably treated with a combination of antidepressants and nutrients”.

Whilst exercise and good sleep is generally acknowledged by the medical community as important to mental health, emerging information about key nutrients and brain-gut interaction is challenging current perceptions. Dr Greenblatt’s book “Depression Solution” adds immensely to the literature on holistic treatment and his functional medical approach is achieving significant results for his patients. Whilst anecdotal case study evidence cannot provide standardised protocols derived from large scale randomised controls, improved individual outcomes are demonstrating that personalised psychiatry is the way of the future. The recently established International Society for Nutritional Psychiatry Research (ISNPR) headed by Australia’s Associate Professor Felice Jacka, is now promoting nutritional medicine as mainstream in psychiatry.

General professional consensus regarding what youth need to know about nutrition as prevention and treatment for mental health, includes:

* poor diet creates nutrient deficiencies which can contribute to depressive symptoms
* a Mediterranean type diet appears most effective in prevention and treatment
* nutrients derived from a wide variety of colourful fresh foods are the most recognisable to body systems and provide a synergistic combination of vitamins, minerals and micronutrients which may not be easy to replicate in tablet form
* individual requirements are not necessarily met via common multivitamin supplements
* nutrient requirements may not always be met through dietary measures alone
* nutrients may be an important adjunctive support to the efficacy of antidepressants
* vitamins and other nutrients are not benign substances, and incorrect supplementation can create imbalances
* changes in diet or supplementation should be supervised by a qualified health practitioner.

Practitioners need to become educated in how nutrition, exercise and sleep impact mental functioning, and resource clients to make the lifestyle changes required to sustain improvements in their own mental health.

### Meaningful engagement through psycho-education and experiential learning

Neuroscience informed psychoeducation has the potential to take current pedagogy to a higher, more personally relevant level and make intelligent sense out of tired concepts. Whilst almost everybody knows that good nutrition, sleep and exercise support mental health, most people do not understand why or how. Until education invests itself in the detail and the implementation of best practice, our words about these important topics will remain ineffectual.

It is a credit to the New South Wales Government and education system that many programs have already been established towards the promotion of healthy eating and exercise. The majority, however, have application in the primary school setting, up until Year 10, for uptake outside of school hours, or designed for those with weight management issues. There is need for better understanding that healthy lifestyle habits are to be pursued not only, nor primarily to attain a certain body mass index, but that these habits are critical to brain function and mental health. For this reason, there should be an equal, if not greater emphasis for these kinds of programs to extend to later adolescence and take precedence within the secondary education setting.

The NSW Department of Education Healthy Schools Canteen Strategy is an important advance towards practising what we preach. All government schools to are expected to comply by the 2019 target, but healthy eating policy will remain ineffectual if compliance is not effectively monitored and high sugar and saturated-fat laden foods remain front and centre to tempt children. Schools should actively promote healthy eating messages.



Education is the place to listen to important research and model best-practice

Not

the place to endorse junk food options for developing minds

Figure 2: Junk Food (Photo provided by a school counsellor 2018)

BRAiNgrow is a whole school K-12 wellbeing program that uses the latest neuroscience research to provide students with a range of tools to improve social, emotional and educational learning. An Australian initiative, BRAiNgrow has been successfully trialled in schools nationally and internationally. Castle Cove Public School is set to take up a trial of the program commencing 2019. The importance of BRAiNgrow is its capacity to help students explore a new and fascinating vernacular about brain function and apply this knowledge to their own social and emotional experiences. It embeds teaching of mental health without reference to confronting medicalised terminology; it explains, normalises and destigmatises common thoughts and feelings. Each lesson over the five week program provides students with theoretical knowledge combined with an experiential activity. The metacognitive and interactive nature of the learning encourages self-reflection, and effectively invites peer to peer acceptance of key concepts.



“BRAiNgrow ensures that schools, educators, and students understand the importance of developing safe and socially connected learning environments in order to access higher order regions of the brain.”

Figure 3: BRAiNgrow Institute Pty Ltd (used with permission)

### The importance of youth agency

Educating young people in the fundamental lifestyle factors they may address themselves, is necessary to creating personal agency and a sense of hope. The Canadian Jack.Org charity is empowering young people by providing essential skills in leadership to help them become safe and effective ambassadors for change. The movement has proven successful in presenting authentic, relatable information. Whilst the entire approach is overseen by an expert mental health committee, the key to its success lies in utilising young people themselves in the planning and delivery of effective and relevant psychoeducation. Where young people see other young people do something, they want to do it too and this is the way to revolutionise mental health. A close equivalent to Jack.Org in Australia is ‘Batyr’. Another Canadian initiative is the Warrior Within Project led by guidance officer Catherine Wachter of Toronto University Schools. She is taking psycho-education out of the counselling room and across the school curriculum with innovative student led arts and film projects. Students are connecting with themes relevant to themselves and cross curricular wellbeing is taking on new dimensions.

The Peer To Peer Depression Awareness Campaign operating out of Ohio State University and Erika’s Lighthouse, are influential drivers of successful mental health programs in North American schools offering online platforms to remotely tap into the energy of youth as ambassadors for change. Guided by a toolkit of ideas and proven strategies, young people passionate about promoting wellbeing do not need to waste time and resources reinventing the wheel. A centralised point of quality control equips them to bring suitable wellness initiatives to their schools.

### Student friendly triage to support and aftercare

Placing barriers in front of teens to access the psychological care they need, (i.e. GP visit-MHCP and parent permission) is a serious misstep causing many students who need early intervention to resort to their own maladaptive coping strategies. It is well understood medically, that the longer you neglect treatment for stress or depressive symptoms the more serious it can become, but medicalising all referrals to psychological support as a mental health concern is creating undue stigma, and especially so in some cultural communities. Australia needs a more multiculturally sensitive triage to a wider variety of psychological supports.

COPE Healthy Lifestyles: Creating Opportunities for Personal Empowerment is an online and manualised classroom friendly cognitive behaviour therapy (CBT) program developed by Bernadette Melnyk PhD. COPE has been delivered to over 8,400 children in 44 US states and Canada; it pre-teaches CBT and presents a model for healthy lifestyle strategy that students can apply in daily life. Pre-teaching CBT and raising health consciousness makes more sense than waiting until students are already depressed and less inclined to learn.

After a mental health related absence, students need a streamlined in-school protocol to facilitate a confidential, supportive and gradual transition back to full-time study. The Bridge for Resilient Youth in Transition (BRYT) Program created by the psychiatric team of the Brookline Centre, Boston, enables students to the receive wrap-around support they require for gentle re-entry to school. Students who drop out of school suffer considerable personal loss and social disadvantage. BRYT has created a safety-net for more than 113,000 students in 102 US schools and decreased the drop-out rate for students with serious mental illness from 50 to 8%. In the selective high school setting, where performance anxiety can become most debilitating, a program like BRYT can effectively minimise school refusal. North Sydney Girls High School will be the first Australian school to trial this program, commencing 2019.

### Implementing evidence-based psychology within education

A program that comes and goes makes an impact for a short time only. Schools need to do more to support sustainable healthy life consciousness across the school day. The National Education Initiative (2018) being delivered to schools through Beyond Blue will help to screen for quality evidence-based programs. However, to accomplish meaningful integration with the needs of the students at a local level requires better analysis of exactly what those needs are. Students are already saturated with online and generic psycho-education that lacks personal relevance and impact. The New South Wales Department of Education offers a world class model in the provision of registered psychologists within schools who are privy to information about student concerns like no other staff, but student needs, hidden from common view must be known, prioritised and inform cross-curricular welfare aims. Psychology in education should not remain closed in an office reacting to crises, it should be fully integrated, informing executive decisions and planning.

# Conclusion

### Wellbeing first and foremost

Schools are under pressure to prioritise and push students through academic performance scales, rather than foster whole person wellbeing. It’s time we recognise the missed opportunity, not only in the all-important prevention of youth suicide, but in actually optimising brain growth, development and learning. Schools have an ethical imperative to take robust measures to assess the major stressors impacting young people, then prevent and manage harm. Schools are formational, and they should be good for you!

The NSW Curriculum Review (2018) should take the opportunity to seriously address the imbalance towards sedentary, competitive academic learning and take home workload affecting the health of students and teachers. The following recommendations are offered:

* Integrate healthy eating, movement breaks and sleep self-monitoring as a routine part of brain fitness to optimise learning success. This should be taught, practised and monitored across the curriculum through to Year 12. A program such as BRAingrow might assist in creating a neuroscience informed brain fitness vernacular.
* The NSW Healthy Canteens Strategy should be accompanied by a healthy eating education campaign consistently promoted across the school community.
* Promising programs such as Burn 2 Learn (out of the University of Newcastle) now trialling in NSW schools should be widely implemented as a way to facilitate recommended intervals of supervised exercise throughout a school day.
* Mental health awareness needs to touch all subjects and aspects of school life. Evidence-based best practice should be informing school methodology in student recognition, reward and ranking practices. Emphasis must shift to a rubric of developmental progress towards skills, and away from a fixed snapshot of outcomes (p 12. Lawless, 2017).
* High Schools need a dedicated space and consistent protocols of support for students returning to school after a mental health/wellbeing related absence, to prevent relapse and school refusal. The BRYT program now successfully implemented across USA schools should be a NSW schools wellbeing imperative.
* New South Wales students are the best ambassadors for mental health awareness/brain fitness among their peers. The NSW Department of Education could produce an online support platform modelled from Erika’s Lighthouse or Michigan Peer to Peer Awareness to encourage and guide enthusiastic students in their on-site wellbeing initiatives.
* Schools need to optimise their promotion of the school psychology service. School-based psychology should favour a coaching rather than clinical profile to make counselling services more socially desirable for improved educational and wellbeing outcomes. School counsellors with dual qualifications/training in teaching and psychology should be positioned to advise and inform cross-curricular wellbeing strategy and planning.
* Students need improved access to a socially palatable range of mental health and wellbeing supports. GPs have an important role to play in acute case management, however, initial referrals to psychologists should be enabled through school counsellors or parents rather than requiring a medical plan. The consulting psychologist should then involve a GP if further sessions or more intensive oversight is required.
* My scholarship work has been shared through school’s P & C, school counsellor teams, the Mental Health Professionals Network and the Australian Psychological Society. More detail about the promising research and programs highlighted by this study tour may be accessed through my website [It’s Not All in the Mind](http://www.itsnotallinthemind.com/).
* Finally, establishing an Anika Foundation Scholars Alumni could assist the NSW Department of Education to discuss, explore and promote useful recommendations within scholars’ projects. Maximum potential is lost if Anika Foundation reports become archives rather than blueprints for change.

# References

1. Australian Institute of Health and Welfare (2017). A Picture of Overweight and Obesity.
2. Be You, Educators Handbook: Primary and Secondary Schools. Beyond Blue. https://www.beyondblue.org.au/healthy-places/learning-communities
3. BRAiNgro. [www.braingro.com.au](http://www.braingro.com.au)
4. Burn 2 Learn: University of Newcastle. <https://www.newcastle.edu.au/highlights/our-researchers/education-arts/education/fit-for-learning>
5. COPE. [www.cope2thrive.com](file:///C%3A%5CUsers%5Csandra.scott%5CDownloads%5Cwww.cope2thrive.com)
6. Harvey SB et al (2017). Exercise and the prevention of depression: Results of the HUNT cohort study. The American Journal of Psychiatry, October. Exercise Your Mood; Black Dog Institute
7. Health Direct. https://www.healthdirect.gov.au/obesity-in-children
8. Healthy Kids NSW: https://www.healthykids.nsw.gov.au/campaigns-programs/nsw-healthy-school-canteen-strategy.aspx
9. <https://www.healthykids.nsw.gov.au/teachers-childcare/healthy-lifestyle-programs-for-primary-schools/sporting-schools.aspx>
10. Hoare (2016). Mood and Food Centre <https://foodandmoodcentre.com.au/complex-systems-and-mental-health/>
11. Jack.Org <https://jack.org/Home>
12. Felice N. Jacka , Peter J. Kremer, Michael Berk, Andrea M. de Silva-Sanigorski, Marjorie Moodie, Eva R. Leslie, Julie A. Pasco, Boyd A. Swinburn (2011). A Prospective Study of Diet Quality and Mental Health in Adolescents. https://doi.org/10.1371/journal.pone.0024805
13. Lawless, B (2017) Bad Grades. Education Today, Term 2.
14. Ley (2015) Media Release, Minister for Health and Sport, The Hon Sussan Ley MP, 7 August.
15. [Marino DD](https://www.ncbi.nlm.nih.gov/pubmed/?term=Marino%20DD%5BAuthor%5D&cauthor=true&cauthor_uid=6445537), [King JC](https://www.ncbi.nlm.nih.gov/pubmed/?term=King%20JC%5BAuthor%5D&cauthor=true&cauthor_uid=6445537) (1980). Nutritional concerns during adolescence. [Pediatr Clin North Am.](https://www.ncbi.nlm.nih.gov/pubmed/6445537) 1980 Feb;27(1):125-39
16. Sheth C, McGlade E,Yurgelun-Todd D, (2017). Chronic Stress in Adolescents and Its Neurobiological and Psychopathological Consequences: An RDoC Perspective.
17. Sleep Foundation. https://www.sleepfoundation.org/sleep-topics/teens-and-sleep
18. World Health Organisation (2011). Global burden of mental disorders and the need for

a comprehensive, coordinated response from health and social sectors at the country level.

# Acknowledgements

* BRAiNgrow: Dr David Collins, Melbourne, Victoria, Australia
* Brookline Centre, Boston, MA, USA:BRYT Bridge to Resilient Youth in Transition Program
* COPE: Creating Opportunities for Personal Empowerment. Dr Bernadette Melnyk
* Erika’s Lighthouse, Winnetka, Chicago, USA
* Felicity Wilson, MP North Shore for hosting Anika Premier’s Scholarship: Australian Psychological Society Girls Matter Forum
* Genevieve Gariepy, McGill. Montreal, Canada
* Jack.org Foundation, Toronto, Canada
* James Greenblatt MD; Psychiatrist, Waltham MA, USA
* Mood and Food Centre: Deakin University, Victoria, Australia
* Michelle Fortier, Physical Activity Counselling University of Ottawa, Canada
* Michigan Peer to Peer Depression Awareness Program: School Based Prevention to Address Depression Among Teens. Dr Stephanie Salazar
* Walsh Research Institute: William Walsh PhD, Chicago, USA
* Warrior Within Program: Inspiring a student driven curriculum. Catherine Wachter, Guidance counsellor at University of Toronto Schools