



# BRAIN HEALTH



## SHARED LEADERSHIP PROGRAM 2015

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## **Shared Leadership Program 2015 | Action Learning Project: Brain Health**

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### **Project Brief**

This project examines what brain health is and explores what role libraries can play in maintaining good brain health, through our core services and programming. The paper looks at how existing services and programming can be reframed with a brain health narrative, and proposes a framework for becoming a brain healthy library.

### **Disclaimer**

The information contained in this report is not intended or implied to be a substitute for professional medical advice. Lifeline: 13 11 14



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## WHAT IS BRAIN HEALTH?

Brain health is a fairly new phrase; according to Google Trends, “brain health” as a search term was relatively unused in Australia as late as 2006. Despite this, it has been an area of concern for governments of all levels for many years with local governments incorporating it into their health and wellbeing plans, and federal government discussion papers being published as early as the late nineties.

The upward trend of interest in brain health is very likely to continue, with populations around the world living longer and spending many more years living independently after they finish their working lives.

Brain health offers a new opportunity for public libraries in a time of great transition. This transition of the role of the library is well illustrated by statistics from NSLA, who reported that while loans are decreasing, customer visits have increased annually since 2010, and there is greater demand for specialised services and internet access (NSLA 2015).

*Victorian Public Libraries 2030: Strategic Framework* defines brain health as a social **need for lifelong mental engagement, stimulation and care**, and is of fundamental relevance to the Creative Library and Community Library scenarios outlined in the document. Brain health intersects these two scenarios.

| Prominent future social trends   |  |   |   |   |
|--|--|---|---|---|
| Creative scenario  |  | Community scenario  |   |   |
| Creativity<br>The desire to unlock, express, develop and record creative interests | Collaboration<br>The willingness to partner, cooperate and share with others | Brain health<br>The need for lifelong mental engagement, stimulation and care | Dynamic learning<br>The need to continually learn new knowledge and skills to participate fully in a rapidly changing environment | Community connection<br>The desire for stable and trusted relationships with people and places of common interest |

Image 1: Victorian Public Libraries 2030: Strategic Framework (2013)

Throughout Victoria, public libraries are including elements of both scenarios as part of their future planning – developing libraries as spaces where people and community groups can come together to learn, collaborate and create, and developing the library’s role as a hub of community information and learning.

The human brain is the most complex structure in the universe. One of the most basic components of it are the neurons which are a cell that generates and transmits information from nerve impulses. Neurons don’t actually touch each other, but information passes between them via a tiny gap - a synapse. The importance of this is that neurons can reshape their relationships with other neurons, and from a brain health point of view it means that people can take actions which will change their brains.

**From a functional perspective, good brain health means that your brain has the ability to remember, learn, plan, and concentrate so that you can enjoy and fully participate in life.**



Good brain health is a complex and lifelong mission for all people. It can be supported through five key elements: mental stimulation, social interaction, wellbeing and spirituality, exercise and nutrition. Many activities target multiple elements simultaneously, such as knitting (mental stimulation and wellbeing), sports (social interaction and exercise), cooking (mental stimulation and nutrition) and of course, reading (mental stimulation and wellbeing).

Victorian public libraries are a natural fit for brain health. They are free, open-to-all, democratic and non-judgemental, and are geographically accessible across the state. At their most basic, book-lending, libraries do more for the brain health of their communities than any other essential infrastructure, and modern libraries, through their technology, collections and innovative programming, can cater for all five elements of good brain health.

### **The brain is our domain.**

Many of us understand the need to maintain body fitness by being active or going to the gym. But what about brain fitness? Our aim is for Victorian public libraries to be seen as the brain gyms of Victoria.



## WHO IS IT FOR?

Brain health is a lifelong mission, but for public libraries and governments, the opportunity and challenge lies in the post working-age population.

The working age population is traditionally defined as 15-64 years, so we are defining the “post-working age population” as anyone older than 65 years, but including anyone that has left the formal vocational and educational institutions of work and school.

The greatest opportunity for public libraries in the area of brain health, is targeting this post-working age population, a steadily growing group of people that want to remain active and healthy into old age. This group is also most at risk of a decline in brain health, as many for the first time in their lives are outside of a structured learning environment such as school, university or work, which provide regular mental stimulation and social interaction.

### Lifelong Learning and Brain Health

Adult Learning Australia defines lifelong learning as “*learning beyond school throughout the adult years via the formal education system, in workplaces and through community participation*” (ALA website 2015). Life-wide learning is defined as:

*“developing the skills and knowledge required to engage in meaningful work, to participate fully as a citizen in a vibrant democracy, to live in harmony in a diverse, multi-cultural and rapidly changing society and to manage one’s health and personal wellbeing at all ages including in later life.”* (ALA 2015)

Learning and mental stimulation are integral to brain health. Libraries (or brain gyms) are the place for community participation in both formal and non-formal lifelong learning, as well as a place where the community can resource themselves to manage their health and personal wellbeing. A public library that repositions library services to focus on the five elements of brain health in programming, collections and services supports both life-wide and lifelong learning.

A 2012 Auslib conference focused on the highly significant role public libraries play in supporting learners from the cradle to the grave. The conference highlighted how public libraries are moving from “lending to learning” and profiled some innovative practices where libraries promote learning for all (Bundy 2012).

Chris Kelly, CEO of Brimbank Libraries, delivered a paper *Building a Learning Community: the Brimbank Libraries Strategy*. Kelly spoke of repositioning library services so that the library had the capacity to support the development of a learning community (Kelly 2012). Initially, program delivery had a focus of lifelong learning and were subsequently developed to fit into a category of health and wellbeing.

This strategic work at Brimbank supports the local community's lifelong learning and development of good brain health, and shows that Victorian public libraries are already operative in this growth area.



## Australia's Ageing Population

Whether it's seen as an opportunity or a challenge, the ageing population of Australia is an undeniable trend. Increased health, having fewer children and later in life, and reduced mortality all contribute to an inevitable cultural shift, brought about by a significant population of active post working-age people. This change will affect every part of life in Australia, evidenced by the increasing interest at all levels of government.

The traditional age structure of a population was a pyramid, with significantly more children than elderly people. A combination of factors has seen the age structure of many post-world war 2 populations like Australia lose the pyramid shape, as people live longer and fewer children are born. You can see the progression of change in Australia's population over the past century in the figure on the right of this page. The final graph is a projection of Australia's population structure to the year 2051.

The ageing population is of concern to all levels of government: federal, state and local, and a number of papers have been released in the last decade discussing the possible implications, which include:

- smaller tax base as more people retire
- greater demand on health services and other infrastructure such as public transport
- resourcing the above services, both financially and with skilled staff
- domestic migration of young populations to city and regional centres, and older populations to coastal areas where services may be lacking
- managing the accommodation and mobility requirements for older populations to reduce dependence and isolation

The Victorian state government has identified social isolation as a key vulnerability, particularly for members of the CALD community, which is compounded due to separation from families and limited community networks and support. Loss of independence and increased reliance upon others are an alternative vulnerability, which results in *"a need for more complex support services to maintain independent living"* (Victorian State Government, 2004, p 32).

Post working-age Victorians were also identified as a growing group of learners, both formally and informally with increasing participation in the University of the Third Age: 17,000 members at 64 centres across Victoria in 2004 increased to 33,000 members in 108 centres in 2015. *"People who have left the workforce wish to remain engaged in learning and community activities"* (Victorian State Government, 2004, p31).

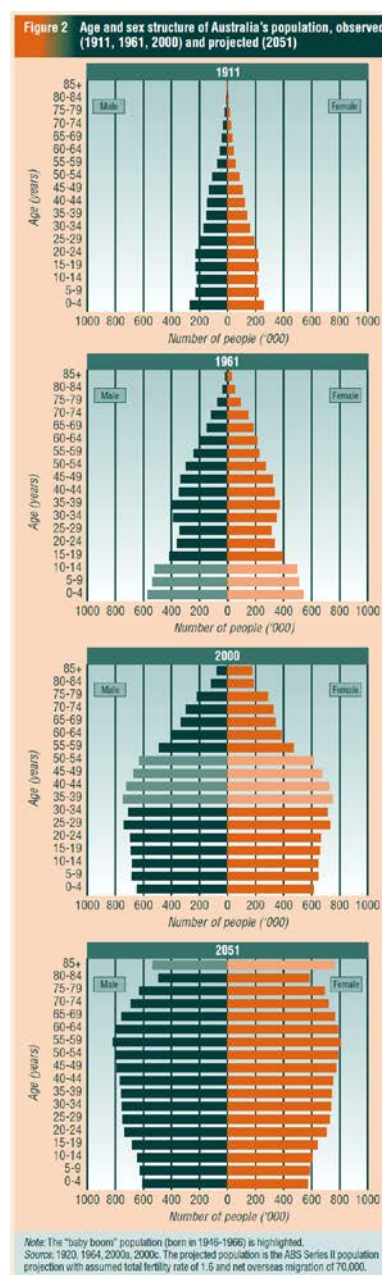


Image 2: Ageing Yet Diverse (2001)





A 2008 state government discussion paper highlighted social inclusion as a key element to a positively ageing population, saying "*lifelong learning programs and sporting, recreational and cultural activities provide opportunities for social participation by older people*" (p7). Access to information that is relevant to their interests and requirements is also identified as essential, enabling older people to fully participate in community life.

The federal government developed a *National Strategy for an Ageing Australia*, and identified four themes that outline the affected areas:

1. independence and self-provision (includes employment for mature age workers);
2. attitude, lifestyle and community support;
3. healthy ageing; and
4. world class care.

Community support includes communication and information technology needs of older people, fundamental to their ability to live independently and to reduce isolation. The strategy also emphasises that access to lifelong learning and education is increasingly seen as an important factor that can contribute to economic and social wellbeing (Commonwealth of Australia, 2002, p31). **Educational opportunities for older people to understand and use new technology is a key action** for this area, as is supporting lifelong learning for older people (p35).

Healthy ageing encompasses both providing services to those entering old age with chronic illnesses, and the healthy ageing of older people, through improving physical functioning, maintaining independence and improving quality of life. An active lifestyle in older age is linked to wellbeing, improved mental health and enhanced social life through participation in regular activities (Commonwealth of Australia, 2002, p43).

### Ageing Population - Facts and Figures

- Australia has one of the highest life expectancies of any country in the world, at 84.3 years for females and 79.9 for males in 2012 (AIHW 2015)
- Life expectancy in Australia has increased by more than 20 years since 1911 (Weston, Qu & Soriano 2001)
- By 2021 people aged 65 or over will outnumber people under 15
- By 2051 nearly 1/4 of Australia's population will be 65 years or older, double what it was in 2001
- By 2051, approximately 5% of Australia's population will be over 85, up from 1.3% (ABS Projections)
- By 2041, spending on aged care is expected to almost treble from 0.7% of GDP to 1.8% (Costello & Minchin 2002)
- In 2015, University of the 3rd Age has 33,000 Victorian members at 108 centres across the state (U3A 2015)





## Local Government Planning for Health and Wellbeing

The Victorian Public Health and Wellbeing Act 2008 legislates the statutory requirement for local councils to develop Municipal Health and Wellbeing Plans (MHWP), which local councils develop every four years. These plans reflect the role that local government plays in conjunction with the state government in health protection.

Key areas include: immunisation, food safety, environmental health, communicable disease prevention and control, and emergency management.

The plans also incorporate other key health and wellbeing actions for local councils including: health promotion, healthy eating, importance of physical activity, tobacco control, oral health, alcohol and other drug use, mental health promotion, injury prevention, skin cancer prevention and sexual and reproductive health.

Library corporations and council library services both play a role in the planning and development of the MHWP. Library management and staff involved in this planning process work with other council departments to reinforce and highlight the role that the library can play in supporting area (e) of the functions of councils:

### Public Health and Wellbeing Act 2008 (Vic) - Section 24

#### Function of Councils

The function of a Council under this Act is to seek to protect, improve and promote public health and wellbeing within the municipal district by—

- (a) creating an environment which supports the health of members of the local community and strengthens the capacity of the community and individuals to achieve better health;
- (b) initiating, supporting and managing public health planning processes at the local government level;
- (c) developing and implementing public health policies and programs within the municipal district;
- (d) developing and enforcing up-to-date public health standards and intervening if the health of people within the municipal district is affected;
- (e) facilitating and supporting local agencies whose work has an impact on public health and wellbeing to improve public health and wellbeing in the local community;
- (f) co-ordinating and providing immunisation services to children living or being educated within the municipal district;
- (g) ensuring that the municipal district is maintained in a clean and sanitary condition.

*(Public Health and Wellbeing Act 2008 (Vic) s.24 (Aust))*

Brain health is fundamental to the overall health and wellbeing of the community and libraries that profile their work in this area can clearly demonstrate the impact that libraries have on public health and wellbeing in the local community. Library services have an opportunity to leverage off these plans to emphasise the ongoing relevancy of public libraries in the area of health and wellbeing.



Mitchell Shire has also made the connection to brain health in their *Health and Wellbeing Plan 2013-2017*, which identified that the shire's first priority in this area is to "create healthy and active communities".

In the rationale of this document it focuses on the importance of lifelong learning and brain fitness in an ageing population:

*"Lifelong learning also plays an important role in wellness... Keeping an active mind through learning can help combat these age related changes in mental functioning. Researchers believe that brain fitness improves mental functioning and decreased dementia risk because mental activity stimulates brain cells and increases the ability for the cells to communicate with each other."* (Mitchell Shire 2013)

The plan identifies the significance of brain fitness for the community. Brain fitness is another term for brain health. This is an example from Mitchell Shire on the focus on brain fitness demonstrating the area of opportunity for strategic alignment. A library plan that aligns with its council or member councils MHWP can clearly demonstrate the crucial role that public libraries play in the health and wellbeing of the community.

### Positive Ageing Frameworks

Many Victorian local councils also develop Positive Ageing strategies. The framework for positive ageing was developed by the World Health Organisation (WHO 2012).

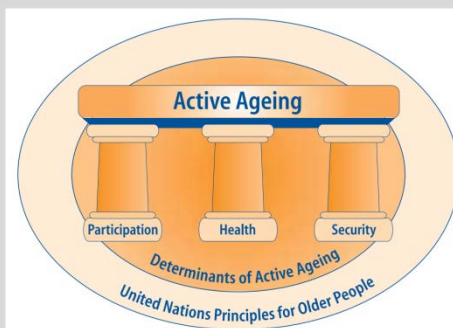
An example of this is the *Whitehorse Positive Ageing Strategy 2012-2017*. The strategy aligns with the Council Plan, Community Wellbeing Plan and Municipal Strategic Statement, as well as influencing other Council Policies, strategies and action plans. Whitehorse Manningham Regional Library Corporation is identified as one of the key stakeholders involved in the development of this strategy.

There are future opportunities and possibilities for all Victorian public libraries to continue to work as key stakeholders in these strategies, using the brain health focus as a tool for leverage with councils for partnership opportunities and funding streams.

### The WHO identifies three major pillars to positive ageing

1. **Participation** When labour market, employment, education, health and social policies and programmes support their full participation in socioeconomic, cultural and spiritual activities
2. **Health** When the risk factors (both environmental and behavioural) for chronic diseases and functional decline are kept low while the protective factors are kept high, people will enjoy both a longer quantity and quality of life
3. **Security** When policies and programmes address the social, financial and physical security needs and rights of people as they age, older people are ensured of protection, dignity and are in the event that they are no longer able to support and protect themselves.

(WHO 2002)



## WHAT DOES THE RESEARCH SAY?

Brain health is a hot topic at the moment. There is a range of research underway with widely varying results. The main areas of research are focused on ways in which to prevent or slow the onset of dementia and conditions such as Alzheimer's disease.

### Brain Basics

Your brain is made up of two main fundamental components – the neuroglia, which support the nervous system, and the neurons, which are a central nervous system cell that generates and transmits information from nerve impulses. En mass in the outer region of the brain, neurons appear grey in colour, which gives rise to the term grey matter. There are around 100 billion neurons in a human brain.

Extending out from the neurons are fibres known as “dendrites”, which act as receptors for signals from other neurons, and a single “axon” which is an electrically sensitive fibre. At the axon's terminal end as many as 10,000 branches spread out ending in axon terminals and synaptic knobs. The neurons are not physically connected to each other. Electrical impulses from an axon cross a tiny gap, a synapse, to reach another neuron, meaning neurons have the ability to make or to break relationships with other neurons. This ability to reshape neural interactions is known as **brain plasticity**. It means that as a brain is used it makes more new synaptic connections, and even though we lose individual neurons with age, keeping the brain active will increase its complexity as it increases its synaptic connections.

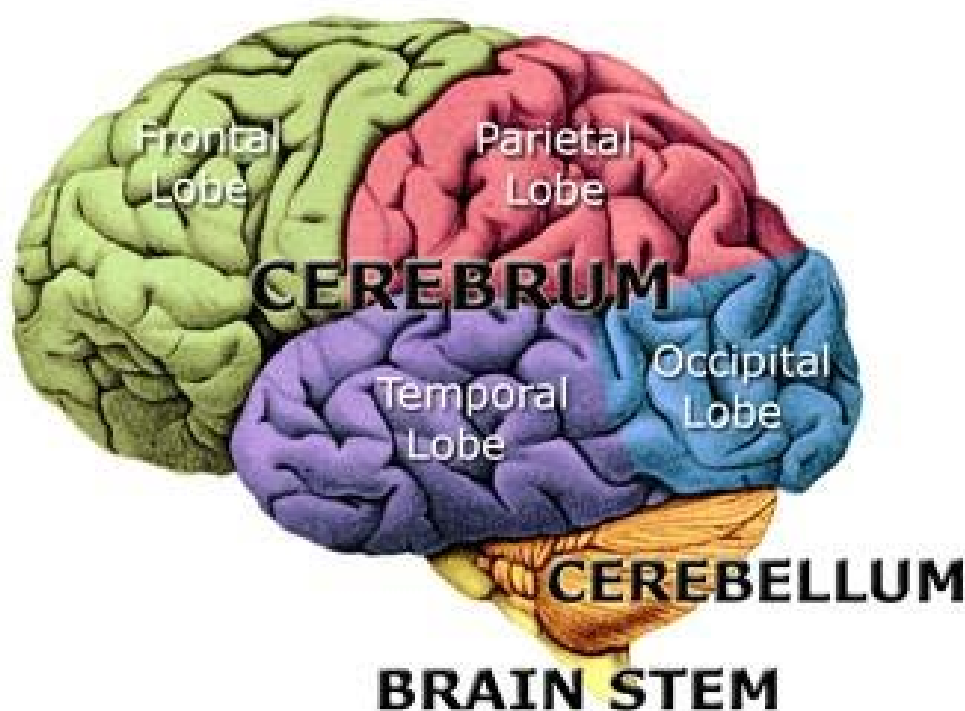


Image 3: Seattle Cancer Care Alliance (2015)



## Brain structure

### Cerebrum

The largest topmost portion of the brain, the external layer is the cerebral cortex, which is primarily responsible for information processing and complex thinking abilities such as reason, language, planning, concept formation, problem solving, personality and creative thought. Processing in this area is usually as the result of a conscious thought. The cerebrum is divided into two hemispheres. The left hemisphere has a role in processing language, while the right hemisphere has a role in emotions and spatial cognition.

The hemispheres are further divided into lobes.

### Frontal Lobe

Contains areas that control the body's movements and "*directs our ability to organise activities, maintain attention, monitor progress and act in a flexible manner*" (Tippet 2013). The frontal lobe is often called the 'executive centre' because high-level functions such as perseverance, perception and cognition are performed by areas within the frontal lobe. Another term used in relation to this area is "working memory", which refers to information kept at hand for immediate use such as when you keep a mental list of things to buy.

### Partial Lobe

Contains the somatosensory cortex which deals with stimulation of touch and other sensations, e.g. hand-eye co-ordination. It also has roles with memory, reading and writing, mathematics and spatial orientation.

### Temporal Lobes

Deal with hearing and appreciation of music, aids in the production of language and some aspects of memory. An important substructure in the temporal lobe is the hippocampus, which is the primary region where we process and encode information to assist our long-term memory. When the hippocampi are destroyed in illnesses such as Alzheimer's disease people are unable to learn new information. The hippocampi are also responsible for the development of new brain cells – a process called "neurogenesis".

### Occipital Lobe

Located near the rear of the head, the occipital lobe processes electrical impulses that originate from the eyes (basically it is responsible for our ability to see).

### Cerebellum

Co-ordinates movement and balance. Precise physical activities that need to be practised to be performed well are also processed in the cerebellum.

### Prefrontal cortex

Located just behind the forehead, the prefrontal cortex is believed to be the home for much of the neural processes associated with fluid intelligence.

### Subcortex

Located just under the cortex and on top of the brain stem, the subcortex is responsible for processing generally subconscious activities associated with rote skills such as driving, dressing or typing.



## Research Summary

Over the past decade, there has been increased interest and research into what has become known as **brain health**. This interest has come from the medical and research communities, as well as the general public. In particular, much of this interest has focused on ways in which to prevent or slow the onset of dementia and conditions such as Alzheimer's disease.

Development of a range of imaging technology such as the electroencephalogram (EEG) in 1929 and newer technology such as CAT (Computerized Axial Tomography) scans or MRI (Magnetic Resonance Imaging) have allowed scientists to gain much more detailed and localised looks at both the structure and the workings of the human brain.

Ongoing research into the human brain from the early 1960's has discovered that the brain is much more plastic, or malleable, than previously thought. A well-known study conducted at Berkeley by Marian C. Diamond and her colleagues focused on the development of rat brains when the rats were placed in, what the scientists called, an **enriched environment** – one where there were lots of toys, space and other rats to engage with, compared to rats who were kept in much more deprived conditions. The rats from the enriched environment were shown to have brains that were physically larger than the other group.

The conclusions drawn from this study were that these differences were directly related to the environment in which the rats had been living. That the size and function of a brain *“is highly sensitive and reactive to all aspects of a given environment – physical, psychological, emotional and cognitive”* (Suzuki & Fitzpatrick 2015). This ability for a brain to be altered by interaction with its environment and to change its anatomical structure and physiology is what is known as **brain plasticity**. Stimulate your brain with something new – be it things to do or people to meet – and it will react by creating new connections and grow larger, but the reverse is also true – deprive your brain of stimulation and connections will disappear and your brain can shrink in size.

**Stimulate your brain with something new and it will react by creating new connections and grow larger.**

**But the reverse is also true: deprive your brain of stimulation and connections will disappear and your brain can shrink in size.**

Other studies from the 1960's and into the 1990's proved that the adult human brain also had the ability to generate new brain cells. Up until then it was believed that you were born with a specific number of brain cells, and although you lost them as you aged, your brain did not replace them. This adult neurogenesis is another very important function of the hippocampus. Research is continuing to ascertain if there are other regions of the brain that can also create new brain cells.

As brains grow and develop they are continually creating and discarding synaptic connections. The brains of children have greater plasticity than adult brains, which is why they find it much easier to do things such as learning a second language. However, brain plasticity doesn't end at a particular age. Working to increase the number of synaptic connections in your brain is related to a concept known as **brain reserve** where a build-up of connections can assist the brain in dealing with neurodegenerative diseases. Nussbaum (2010) references research which seems



to indicate that people with higher educational and occupational levels have a brain reserve that assists them in fighting the effects of Alzheimer's disease

Five main factors are often identified as being required in an enriched environment for humans – mental stimulation, social interaction, wellbeing and spirituality, exercise and nutrition. Nussbaum (2010) proposes that these five factors “*need to be understood as one lifestyle and not separate entities*”. All five areas work together to provide an optimum environment for your body and your brain to function in. Looking after your brain by feeding it correctly, giving it enough sleep, and keeping it active with exercise both physical and mental can potentially assist you to increase your brain reserve, which has potential benefits for the ongoing functioning of your brain.

### Library Trends: Brain Health and US Public Libraries

*“The library can become the place people think about immediately when they wake up and wish to get a good brain workout. In short the library becomes a health centre geared toward brain health with opportunities and stimuli for all age groups, particularly for boomers”*

Paul Nussbaum (Schull 2013 p127)

#### Idaho Commission of Public Libraries

A brain health focus was promoted by the Idaho Commission of Public Libraries (ICfL) in 2012. This work is currently reflected in their ongoing advocacy for programs and services for midlife adults. The ICfL website states that: “*ICfL is dedicated to providing information, training, technical assistance, and resources for Idaho libraries and their community partners for all areas relating to mid-life adults*” (2015).

ICfL worked with **Dr. Paul Nussbaum** and **Steve Ristau** in 2012 to deliver professional development workshops for library staff that investigated the role public libraries play in promoting and supporting brain health. Dr Paul Nussbaum is a clinical neuropsychologist and the president and founder of [Brain Health Center](#), Inc. Stephen Ristau has led the Transforming Life After 50 initiative focused on expanding the effectiveness of public libraries to serve and engage people 50 and older. Nussbaum and Ristau's work with the commission is available on the ICfL's [website](#) as a resource to use for further investigation into brain health and libraries beyond this report.

#### California State Library: Transforming Life after 50: a resource for libraries

This initiative was designed to address the relationship that public libraries have with ageing communities. Initially a professional development program attended by representatives from 44 Californian Public Libraries, it has since expanded into further training programs, interstate partnerships, and extensive online resources. The [website](#) provides links to a wide range of material relating to libraries services and older adults, it includes resources relating to brain health and many examples of best practice in library services for midlife and senior adults.

#### 50+Library services: innovation in action

The 2013 US publication by Diantha Dow Schull has a chapter on Health and Wellness and opportunities and implications for public library services in America, as well as examples of programming. Schull includes an extensive resource list detailing brain health programs and activities in US public libraries. Information about the program, as well as its partners and funding are included. Some examples include Brain Health and Fitness Fairs at New York Public Library, Yoga for Adults at Kansas City Public Library and Montana Baby Boomers Get Fit at the Library.

#### Palo Alto City Library

In 2009, Palo Alto City Library ran a program called [Feed your head: Nourish your boomer brain](#), which was a series of talks focusing on brain health. Experts in the field of ageing and health provided attendees with information on how to keep their brains healthy after 50.

#### Powell River Public Library

Powell River Public Library has Brain Health Page on the library [website](#). This includes brain health facts and links to relevant books in their collection.





## THE 5 ELEMENTS OF BRAIN HEALTH



### Mental Stimulation

#### "Use it or lose it"

Neuroscience has produced many studies that suggest that adults who regularly challenge their brains with mentally stimulating activities throughout lives have healthier brains and are less likely to develop dementia. Changes start to occur in the brain once middle age is reached so this is an important time to maintain a brain healthy lifestyle.

It is thought that mental activity may protect against the accumulation of damaging proteins in the brains of people with Alzheimer's disease. One study by Sydney neuroscientist Dr Michael Valenzuela combined data from 29,000 people. Dr Valenzuela says: *"Even when differences in education and occupation were taken into account, people who kept mentally active after they retired were at lower risk of developing dementia. It is never too late to change your mind"*.

Keeping the brain active is just as important as keeping the body active. According to Nussbaum (2010) *"mental stimulation is critical to the development and health of the human brain"*. This begins in the womb and will continue until death. In particular, Nussbaum (2010) recommends giving the brain novel and complex stimulation. He argues that this type of stimulus is processed by the cortex, where brain reserve is generated, while activities that become rote and passive can be more related to the sub-cortex, so that the brain doesn't get the same benefits. Tippet (2013) also discusses the benefits of a highly cognitive lifestyle and notes research that indicates that there is a positive link between individuals with higher educational qualifications and cognitive decline.

Activities that are often recommended for mental stimulation are: reading, writing, learning a new language or instrument, creative activities such as arts and music, game playing, travelling and engaging in hobbies. Ganzer and Zauderer (2011) mention the use of brain fitness programs and games, as well as the playing of games such as chess or scrabble.







## Social Interaction

### "No road is long with good company"

Social interaction is great for brain vitality and has been found to have benefits for other health factors related to brain health, such as depression and vascular conditions. Leisure activities that combine physical and mental activity with social engagement are thought to be the best way to prevent dementia.

Maintaining connections with other people and staying integrated in society is an important aspect of keeping your brain healthy. Isolation is a known risk factor for dementia, and continuing research suggests that loneliness may also increase the risk. *"Research has shown that people with regular social ties are significantly less likely to demonstrate cognitive decline when compared to those who are lonely or isolated"* (Ristau 2011)

Ristau discusses a range of literature on social interaction and ageing research and gives examples such as: *"People who are socially connected may survive up to 20% longer than those who live more isolated lives"* (from the MacArthur Study of Successful Ageing), while a Swedish study found *"a poor or limited social network increased the risk of dementia by 60%"* (Fratiglioni et al, 2000). This study was also referenced in research by Crooks et al, (2008) looking at social networks, cognitive function and dementia rates amongst elderly women, whose findings suggested that *"larger social networks have a protective influence on cognitive function among elderly women"*. In a study on social relationships and cognitive ageing, Seeman et al (2001) reported findings that those with greater emotional support had better cognitive health.

The importance of social connections is also discussed by Emmons and Alter (2015) who note that the *"need for social connection is hardwired into the human brain"*. They go on to discuss how our social networks and connections can influence the choices we make about our health and how we tend to mimic the health behaviours of other people in our social networks.

Nussbaum (2010) mentions the health risks of retirement when people can become isolated, and emphasises the importance of having a purpose and reason in life. He also advocates developing a range of hobbies and enjoying the social benefits that come from them.





## Wellbeing & Spirituality

### **"A mind at peace, gives you peace of mind"**

A growing body of research is demonstrating that practices such as mindfulness, meditation, yoga and other spiritual practices have positive effects on brain health and a positive impact on ageing of the brain. The research indicates that if these types of practices are incorporated into daily life then our brains have a better chance of being healthy for longer.

A US and Australian longitudinal study published its results in January 2015 and supported the hypothesis that meditation is brain-protective and associated with a reduced age-related tissue decline (Luders et al 2015).

Another recent study delivered findings that identify that long-term yoga practice may have prevented the typically observed age-related decline of grey matter (Villemure et al 2015). A third study demonstrates that mindfulness practice leads to increases in regional brain grey matter density. This study demonstrates longitudinal changes in brain grey matter concentration following an eight-week Mindfulness-Based Stress Reduction course compared to a control group (Holzel et al 2011).

Exposure to nature can also have positive impact on your brain. A study at Stanford University has highlighted that nature experiences have a positive impact on mental health (Bratman et al 2015). Exposure to nature can help your brain work better. Designers and architects are looking at ways nature can be included into design of buildings and this philosophy is already applied to public libraries.





## Exercise

### "Get the most out of life"

As well as exercising your brain, the experts agree that regular physical exercise is associated with better brain health and reduced risk of cognitive decline. Physical activity stimulates the growth of brain cells by increasing blood flow to the brain. Your brain uses up to 15-20% of the available blood flow in your body so it is important to have a healthy heart that pumps blood efficiently. There is a wide variety of research that documents the links between physical fitness and exercise and medical conditions such as high blood pressure, diabetes, high cholesterol and obesity are all associated with an increased risk of dementia and cognitive decline.

A study by Szabo et al (2011) looking at hippocampal volume, forgetfulness and cardio-respiratory fitness in older adults concluded that *"older adults with higher levels of fitness showed greater preservation of hippocampal volume, which, in turn is associated with more accurate and faster special memory and fewer episodes of forgetting"*. Research by Clarkson-Smith and Hartley (1989) comparing reasoning, working memory and reaction time between groups of older adults who either exercised vigorously or were sedentary discovered that the group that exercised performed significantly better on various tests.

Other research by Thomas et al (2012), Bherer et al (2013), Stine-Morrow et al (2014), Phillips et al (2015), Gregory et al (2012) and Head et al (2012) also produced a range of results promoting the link between physical health and better cognition in older adults. Emmons and Alter (2015) mention two studies where researchers followed groups of older adults over a period of time and, following brain scans, discovered that those who were sedentary had lost more brain volume than the active groups.

The levels of exercise recommended for results varies, but walking is a frequently recommended option. Nussbaum (2010) recommends at least three hours of aerobic exercise per week, plus walking three to five times a week. Any movement is good movement however, and activities such as dancing or gardening are often suggested as additional ways of increasing your physical activity. Nussbaum suggests that dancing and gardening are also good for you as they make you use both sides of your brain. Any physical activity you can include in your daily routine will help, with the *National Physical Activity Guidelines* for Australian adults recommending at least 30 minutes of moderate-intensity physical activity on most days.

Being physically active and staying fit will help you get the most out of life, whatever your age.





## Nutrition

### "Feed your brain"

A healthy balanced diet can play a role in promoting brain health and evidence suggests that our brains need a range of nutrients to function properly. Research has found that a high intake of saturated fats and trans fats are associated with an increased risk of dementia.

A diet that includes a higher intake of good fats, such as those found in fish and olive oil is said to reduce the risk of dementia. Foods rich in antioxidants such as tomatoes, blueberries and tomatoes also seem to be good for brain health.

Omega 3 fatty acids contained in oily fish and walnuts may reduce inflammation in the brain and promote the growth of new brain cells.

*The Australian Dietary Guidelines 2013* recommend a variety of foods including vegetables, fruit, fish, grains, nuts, legumes and lean meat. Eat less of foods high in saturated fats, including full fat dairy products, fried foods and desserts.

While over time, drinking large quantities of alcohol may increase the risk of developing dementia, light to moderate alcohol consumption may be associated with a reduced risk. The benefits of moderate consumption include reducing inflammation, increasing good cholesterol and increasing blood flow to the brain, all of which have positive effects on brain health.



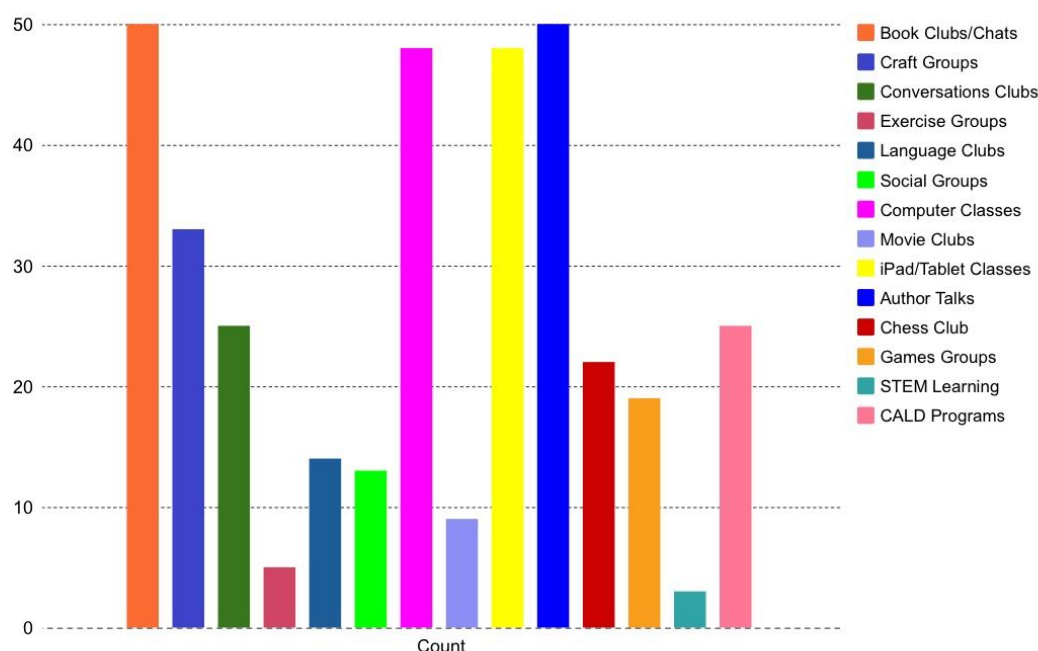
## WHAT CAN VICTORIAN PUBLIC LIBRARIES DO?

Now we know what brain health is, and what types of activities support good brain health, we have to ask the question: what can libraries do to get involved? And the answer is: we already are heavily involved. Public libraries are a natural fit for brain health.

Already across the state, our public libraries are supporting the brain health of Victorians, through programming, collections and their very existence. Even the most humble public library contains a wealth of information and expertise to exercise the minds of its community through the most fundamental activity of lending books. And being free to access, open to all and with a huge geographic spread, the public library is the most egalitarian gymnasium for the brain. The true benefits of reading are only just being discovered.

But the modern library does so much more than lend books. Our project team conducted a survey of Victorian public libraries to get an idea of the programs and collections that could be reframed or rebranded as brain healthy. See the below graph for a snapshot of the current types of programming offered in Victorian public libraries, such as book clubs, knitting clubs, language clubs, conversation groups, heritage groups, colouring for mindfulness, one-on-one tech help, and computer classes, Mahjong, Tai Chi, chess groups and exercise groups, just to name a few.

Types of program that are currently run in Libraries



There were 56 responses to this survey question, and 6 specifically promote brain healthy programs. The full results of the survey are available in the appendices.



## 5 Steps to Transforming your Library into a Brain Gym

### Step 1: Inspire and involve staff

Communicate, educate, involve and inspire staff to move towards a focus on brain health for library services and programs.

Work with key staff who can lead and influence others: for any change to take hold, we need our staff to drive it. Appoint a brain health champion whose task it is to look at all services through the brain health lens and see how the concept can be applied.

Share this report with your staff and discuss the research with them, while reminding them that it is a re-framing of our current work, and does not necessarily mean more work, just working differently. Staff in libraries are adaptable to change and embrace new ideas so using case studies to support the move toward becoming a brain health library will help them to try new programs and ideas.

### Step 2: Identify which existing programs, collections and library services address brain health concepts

Explore your collection to identify areas that support the five key elements of brain health. Libraries already group together areas of the collection like cooking, gardening and craft with their categorisation systems. The specific titles that support brain health in collections can be profiled and highlighted in similar ways. It doesn't take much to surface healthy cooking and nutrition titles, exercise and staying active titles like gardening and yoga, and self-help titles for stress reduction and mindfulness, by using separate shelving, genre stickers or displays.

For programs, investigate how they support brain health, often in more ways than one. Many activities target multiple elements simultaneously, such as knitting groups (mental stimulation, wellbeing and social interaction), sports (social interaction and exercise), cooking (mental stimulation and nutrition) and of course, reading (mental stimulation and wellbeing).

Adult Learners Week or Seniors Festivals are great opportunities for promotion of collections and programming. Make the brain health connections explicit for both staff and patrons.

### Step 3: Branding and marketing






This is the opportunity to reframe library services using creative marketing and communication tools. There are many creative ways to rebrand the core services and programs using a brain health logo or icon. Web pages, brochures, flyers and promotional material can all be given brain health branding. For more information on our branding, see the box on the next page.

A great example of a total rebrand is Tower Hamlets Libraries in London that developed the concept of the [Idea Store](#).



## Brain Health Report: logos and branding

We developed the logo and symbols in conjunction with graphic designer Annaliese Widmer. The symbols represent the five key elements of brain health with the following colour exploration:

| Mental Stimulation  | Social Interaction  | Wellbeing and Spirituality  | Exercise   | Nutrition   |
|---|---|---|--|---|
|  |  |  |  |  |
| <b>Purple</b><br>intelligence<br>creativity<br>stability<br>ambition              | <b>Orange</b><br>switched on<br>engaged<br>optimism<br>inspired                   | <b>Teal</b><br>calmness<br>concentration<br>refreshing<br>balance                 | <b>Yellow</b><br>energy<br>bright<br>optimism<br>happiness                         | <b>Green</b><br>health<br>growth<br>environment<br>fertility                        |

The logo represents the overall concept of brain health and the five colour elements are depicted as cogs that fit together to make up a healthy brain:



We have used these symbols throughout our report to identify the elements of brain health that a program, service or collection supports. Symbols and logos like these can be developed for flyers, signage, posters, websites, collections and displays.

## Step 4: Advocacy, Alignment, Partnerships and Research

Identify existing alignments with government policy and legislative requirements. Engage stakeholders such as senior management, council or board members. Align library plans with Municipal Health and Wellbeing Plans with explicit focus on brain health and demonstrate how libraries provide core programs and services that support brain health.

Keep statistics and evaluate the impact of programming and collections. Investigate possibilities for collaboration and partnerships, with organisations like University of the 3rd Age. Yarra Plenty Regional Library currently delivers a digital literacy program in partnership with its local U3A and also provides training to seniors in the resources found in their maker spaces such as 3D printers.





## Step 5: BRAINstorm ideas for new programs and collections

When developing new programs, remember the five elements of brain health and see how many your programming can address.

Look closely at the demographics of your community and identify the opportunities for supporting the retirees and ageing well that make up your population. Talk to your patrons, particularly midlife library users, engage this demographic in development of programs that suit their brain health needs. Ask how can we best support them to be self-sufficient and to independently care for their own brain health, now and in the future?

The brain health focus can be applied across programs for all ages and could be used as a focus for early years programs and collections and at other key developmental milestones, such as during the teenage years.

### The Sport of Reading

*“Reading is a kind of sport. Everyone must learn to read. Once learned, it is imperative to maintain this skill by constantly reading-both fiction and nonfiction-both for one's betterment and for the sheer enjoyment of it. Exercising the tools of reading, the eyes and the brain means that the sport of reading is also training for a healthy brain. Libraries are the power stations for this sport of reading.”*

**Hardarson and Sigurgeirsdottir 2011**

Reading (in non digital and digital forms) is core business for public libraries. Libraries provide professional support to parents and carers in the development of early years literacy skills acquisition. Public libraries foster a love of reading for all ages, provide reader development, support bookclubs and promote books and reading in the community. Public libraries play a significant role supporting adult literacy skills development.

A small, but growing body of research supports the assertion that reading is therapeutic and good for brain health. Victorian public libraries can draw on this research, and further investigate the ways in which one of the fundamental offers of a public library contributes to maintaining a healthy brain.

### Reading reduces severity of symptoms of dementia and Alzheimer's disease

Reading interventions are a therapeutic approach that demonstrate positive outcomes for people with dementia and Alzheimer's disease. The 2013 paper published by the Reader Organisation reports on a literature based intervention for older people living with dementia. This report draws on six months of both qualitative and quantitative research. The Reader Organisation runs thirty-five Get into Reading weekly groups in older people's and dementia care settings, including care homes, hospitals, day centres, sheltered housing and community centres. A Get into Reading session is based on shared reading model, bringing people together in weekly groups to listen to poems and stories read aloud. A conclusion of this research was that engagement in reading-group activity produced significant reduction in



dementia symptom severity (Billington 2013 p29). The study also found that short and long-term memory was positively influenced and listening skills were improved.

Australian reading advocate and academic Susan McLaine delivered a paper to the Alzheimer's Australia Dementia Forum in 2012 titled "*Bibliotherapy: reading for wellbeing in old age*". She reported that the 2010 Book Well program piloted 10 programs that were involved with aged care groups. She writes "*evaluations from aged care facility partners illuminate how reading aloud can have positive wellbeing effects with dementia patients.*" (McClaine, 2012 p 4)

### **Reading is good for your mental health**

There is a growing body of research into the impact that reading has on mental health. A two year research project by the Liverpool Health Inequalities Institute investigated the Get into Reading shared reading programs run in partnership with a GP surgery and a health drop-in centre in Liverpool. These groups were made up of 4-8 voluntary adult participants with a diagnosis of depression. This report identified that over a 12 month period participants in the reading groups symptoms of depression improved:

*"Get into Reading helped patients suffering from depression in terms of: their social well-being, by increasing personal confidence and reducing social isolation; their mental well-being, by improving powers of concentration and fostering an interest in new learning or new ways of understanding; their emotional and psychological well-being, by increasing self-awareness and enhancing the ability to articulate profound issues of self and being"* (Billington 2010 p.7).

The UK Reading Agency published an evaluation of their Reading Well Books on Prescription program on World Mental Health Day in October 2015. This evaluation supports the claim that reading is good for your mental health. Books on prescription schemes are run in partnership with libraries and health professionals. GPs and health professionals recommend a book to a patient and refer them to the library to borrow the recommended title. The Books on Prescription model identifies that patients can manage their mental health and well-being by reading professionally accredited self-help titles. The evaluation found that 85% of those who borrowed books from the common mental health conditions book list found that "*reading the books made them feel more confident about managing their condition*" (Reading Agency and Society of Chief Librarians 2015 p4).

### **Reading enhances your memory**

Neuroscience developments indicate that engaging in brain stimulating activities throughout your life will boost memory and brain power in old age. Those that read frequently throughout their lives may have less decline in their memory as they age. A 2013 study published in the online issue of Neurology, the medical journal of the American Academy of Neurology, suggested that reading books along with other brain training activities will help maintain a good memory. The results of this report suggest that more frequent mental stimulation in old age leads to better cognitive functioning (2012).



### **Reading reduces stress and enhances wellbeing**

A UK study "Reading between the lines: the benefits of reading for pleasure" found that regular readers for pleasure reported fewer feelings of stress and depression than non-readers, and stronger feelings of relaxation from reading than from watching television, engaging with social media or reading other leisure material (Billington 2015 p4).

A 2011 study examined stress management strategies for students. The purpose of the study was to compare the immediate effects of yoga, humour and reading on acute stress in students and found that 30 minutes a day of these activities had an effect on decreasing acute stress (Rizzolo 2011).

The many ways modern libraries support brain health are underpinned by the emerging research into the emotional and psychological benefits of reading. Innovative collection development, programming for all ages, special events and the access to new technologies, plus the training in their use, are all contributing to the democratisation of information and the empowerment of citizens.

In combination, these activities contribute to the full participation of our patrons in modern life. While libraries have been an essential part of this process for millennia, the many benefits of libraries to people's lives are only now becoming explicit.



## CONCLUSION

By looking at the research into brain health, and seeing how the changing shape of Australia's population is likely to continue, we can see that the growing interest in brain health is a great opportunity for public libraries. A shared understanding across the Victorian public library network will allow us to leverage government decision-making, and an alignment with policy will promote libraries as key stakeholders in supporting the community's brain health.

While brain health is a complex lifelong mission that requires targeted activity addressing all five elements, we have shown that public libraries already support a brain healthy lifestyle. Mental stimulation and social interaction in particular are thoroughly tackled by all public libraries across Victoria, and many are covering the other elements as well.

Through surfacing of existing materials, simple rebranding and categorisation, and education of staff, all Victorian public libraries can highlight their sizable contribution to brain health and assist patrons to make decisions to independently care for their own brains. The five steps outlined in this report are designed for application in any size library and the suggestions and case studies are all scalable.

Our key recommendations for Victorian public libraries are:

1. Promote the concept of brain health amongst staff, and how public libraries are already involved.
2. Consider the unique needs of your community and ask how the public library can help patrons address any of the five elements of brain health.
3. Align your library service's strategic plan with your local council's Health and Wellbeing Plans. Use similar phrasing and terminology to make the connections explicit.

Public libraries are a natural fit for brain health. For most public libraries, the beginning of the transformation from library to brain gym is a matter of rebranding and repackaging. This change in perspective creates opportunities for broadening services, enabling Victorian public libraries to advocate for further funding and continue to prove our relevance in the modern world.



## CASE STUDIES

### Tai Chi at Footscray Library - Maribyrnong Library Service

Turning 91 in January 2016, Marie retired from the family butchers shop at the age of 58 and has been a committee member of U3A for 28 years. Over the years she has studied many subjects, such creative writing, history, economics and cryptic crosswords to name just a few.

Always a book lover, Marie was the first person to sign up to the first book group at Footscray Library in 2006. She attends most library events and usually brings along a few friends and family members.

To quote Marie, "You've got to use it, or you lose it! And I haven't lost it yet!"

Here is Marie enjoying a Tai Chi class in the Footscray Library courtyard.



The Tai Chi program covers three elements of brain health: exercise, social interaction, and wellbeing and spirituality.



## Digital Programs in Libraries: Technology and Brain Health

Future strategies to position public libraries as a cornerstone for community brain health include digital literacy programming. There are also many applications for digital devices that support the five key elements of brain health and libraries can become a portal to these technologies and programs.

Many library services are already delivering comprehensive digital programming targeting seniors and adults in midlife. Providing opportunities for adults to learn skills that help them navigate changing technologies through mentally stimulating activities contributes to supporting brain health.



**Tech Savvy Senior Programs** were delivered throughout Victorian public libraries in 2015. This was a partnership project between Telstra and Victorian public libraries. Training was delivered through rural and remote libraries across Victoria. These programs targeted seniors giving them the opportunity to develop the skills and confidence to use technology for socialising, accessing important services or conducting personal business.

These programs supported lifelong learning and brain health by providing mental stimulation through learning, and social interaction by connecting seniors with social media.



## Book Well at West Gippsland Regional Library Corporation

*"This is so relaxing...my fitbit says my pulse rate has slowed right down!..."*  
(program attendee)\*

West Gippsland Regional Library Corporation (WGRLC) has run a range of Shared Reading program from 2010-2015. A trained Book Well facilitator runs these sessions in various locations. In 2010, sessions were run in the Adult Day Activity Support Service in Baw Baw Shire and Cooyinda Aged Care (High Care) in Warragul.

The positive effects on wellbeing of the groups and individuals were noticed by support workers at group and by the facilitator.

In 2014 and 2015, programs were run called "Six Wednesdays" and "Six Lunchtimes". Attendees of these programs met for six sessions for an in-depth shared reading experience. A range of texts were read out by the facilitator and discussion followed. One attendee of the program said *"the relaxed atmosphere and slow reading (though with expression) was very peaceful and enabled a more focused and deeper involvement into the story."* This illustrates the effect shared reading can have on individual stress reduction, which is good for brain health.

Another comment was *"this type of exercise opens our minds to all types of subjects and styles, and makes me think I should be more all-encompassing in my choice of books and genres"*, illustrating the mental stimulation found in the program.

The relaxing and calming quality of these programs, as well as the social interaction and mental stimulation provided, demonstrates the benefits of shared reading for overall health and wellbeing.

\*attendee comments supplied by WGRLC Book Well facilitator





## Surfboards at West Gippsland Regional Library Corporation

West Gippsland Regional Library Corporation (WGRLC) has surfboards available for loan at its Inverloch and Phillip Island Libraries, a popular activity in the local region. Here is Trevor borrowing the Inverloch surfboard:

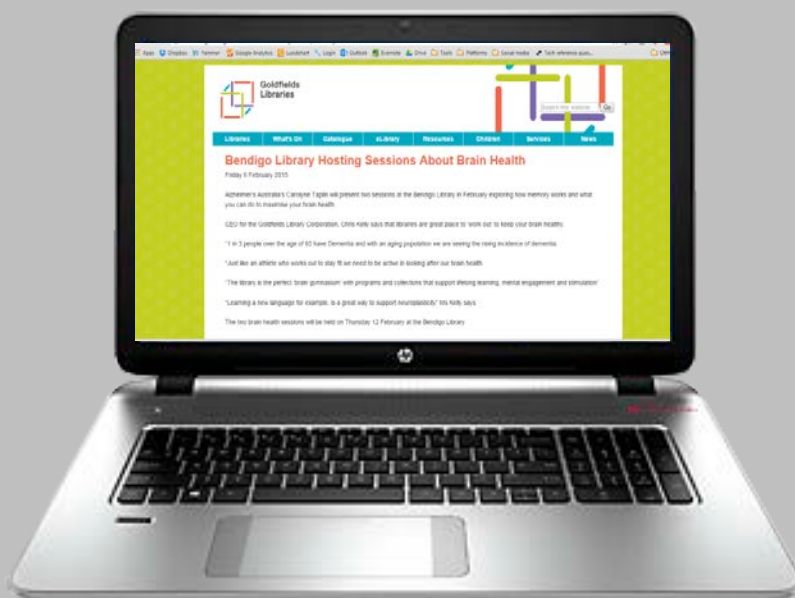


The surfboards can be borrowed just like a book. With this unique and locale specific service, WGRLC promotes exercise and wellbeing. Those who borrow the surfboard get to exercise their body, they may well be learning a new skill and they spend time in nature, nurturing their wellbeing.



## Brain Health Sessions at Goldfields Library Corporation

In February 2015, Goldfields Library Corporation hosted sessions about brain health in partnership with Alzheimer's Australia at Bendigo Library.



Chris Kelly, CEO at Goldfields Library Corporation, said: *"The library is the perfect 'brain gymnasium' with programs and collections that support lifelong learning, mental engagement and stimulation".*

During these sessions participants learned the five steps to maximise brain health, and all five elements of brain were addressed!



**Goldfields  
Libraries**



## Various Programs at Yarra Plenty Regional Library Corporation

### Yoga for Writers

A unique program run in 2015 at Diamond Valley Library. This yoga class was a targeted program that was designed especially to unlock and unleash the creativity of writers. The program was tapping into the wellbeing and spirituality element of brain health in order to support the mentally stimulating activity of writing. It would have also provided an opportunity for writers to come together and interact around a shared skill and passion.

### The Makerspace For Brain Health

Rosanna Library clientele are in the 'ageing population' demographic, with Alzheimer's and brain health being a key topic of discussion from patrons to staff. As a result, YPRL have recognised the need to run programs with a brain health focus. They will be setting up a Makerspace for Brain Health in 2016, and are already equipped with the shared leadership toolkit to kick start their launch. Their clients are very excited about it.

### BrainyGym: An Early Years Program

Mill Park Library staff have applied the brain health lens to many of their existing and new programs, not just those for the ageing population. They are applying the theories behind brain health to programs for all ages and branding their programs with a brain health perspective.

This is from the YPRL promotional material for an early years program targeted at pre-school children:

**Introducing BrainyGym; a new concept designed to challenge and teach your child through play.**

**Each month we will be incorporating specially selected activities to help develop your child. With a focus on gross and fine motor skills, hand-eye coordination, and introducing colours, shapes and numbers. The aim is to have fun while learning and growing toward kindergarten readiness.**



## Superfoods for Health at Whitehorse Manningham Libraries

### Coming in 2016

In February, 2016 Whitehorse Manningham Libraries are running a Superfood for Health cooking demonstration.

This cooking demonstration will be run by Lindy Cook, Naturopath, Nutritionist and Herbalist. The session will be a talk and guided cooking experience packed with practical advice to encourage healthy choices.

A great example of a program that addresses nutrition and healthy eating, which is good for your brain!



Whitehorse Manningham Libraries



## Ben, 79 years of age, at Frankston Library Service

Before he embraced retirement at the age of 58, Ben was a sales and marketing manager.

Sport and fitness have always been very important to him so retirement meant that he could indulge his passion for golf, which he plays three times a week. Ben also loves playing tennis socially and competitively.

Routine is very important to Ben and being an avid reader, he visits his local library monthly to borrow 5 books each time.

Ben attributes his good health and healthy brain to keeping fit and active, lots of mental stimulation, good eating habits and having an active social life, which revolves around his family, friends and sporting clubs.

**Frankston City LIBRARIES**



## The #Brainstorm at Yarra Plenty Regional Library Corporation

Yarra Plenty Regional Library (YPRL) launched its program **The #Brainstorm** at Mill Park Library in October 2015. This program aims to provide an opportunity for adults to come together in conversation. Attendees are encouraged to ask and answer questions, learn from others, share information, delve into science, philosophy and other weird and wacky topics.



Mill Park Library's Learning Coordinator Cory Greenwood said *"In ancient times, libraries were kind of a place for conversation, for people to come together to debate or share ideas. We thought we needed to build on that aspect of the community coming into our library and sharing that information with each other."*

This program promotes mental stimulation and social interaction: two of the key elements that promote good brain health



### The Shakespeare Discussion Group at Warracknabeal Library

The Shakespeare Discussion Group meets weekly at the Warracknabeal Library to read and discuss the works of William Shakespeare. The group has been meeting since 2012 and was started by a local resident interested in Shakespeare's works. A great example of mental stimulation and social interaction.



### LOTE Reading Circles at Maribyrnong Library Service

Maribyrnong Library Service runs reading circles and literature groups in Spanish, Vietnamese and Chinese. An excellent example of a library service working with CALD communities to support social interaction and mental stimulation through literacy.

Below is a photo of the Spanish Literature Group which has been meeting at Maribyrnong Branch Library for nearly 10 years.



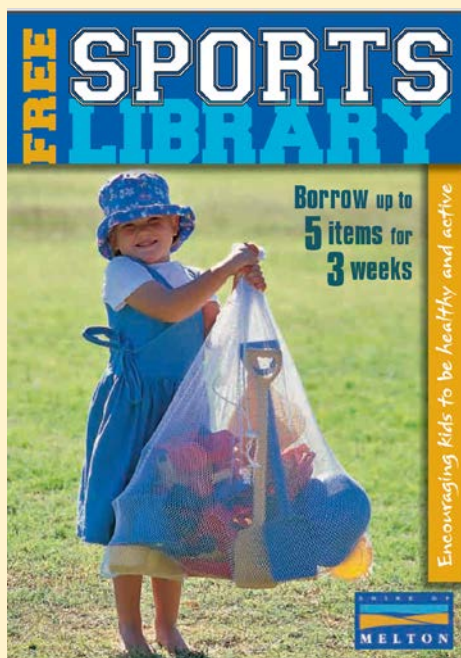


## Sports Library at Melton City Council Library Service

In Melton City Library catalogue it states:

***Online catalogue for more than just books.***

This is literally true as Melton City Council offers its community access to a sports library. The sports library is very specific and an excellent example of a library that promotes exercise and fitness, which is identified in the research as a key element for brain health.



Sporting and active recreation equipment kits are available for loan to library members for free at the Caroline Springs and Melton Libraries.

The Sports Library encourages kids to be healthy and active, and is a great example of addressing the exercise element of brain health.





## Chess Collection and Chess Room at State Library Victoria

The MV Anderson Chess Collection at State Library Victoria with over 13,000 volumes of books, magazines and tournament reports, is one of the largest chess collections in the world.

Mental stimulation and social interaction are comprehensively addressed on the second floor of State Library Victoria in the Chess Room. Researchers, players and chess enthusiasts can learn about the history of the game and prepare for chess tournaments, and meet with others to play chess.



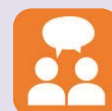
There are eight or nine tables set up with chess sets and another board with Chinese chess, or Xiangqi, can also be found there. Outside State Library Victoria there is a giant chess set that is frequently played and used rain, hail or shine.

This collection and facility promotes mental stimulation and social interaction - two of the key elements that promote good brain health.



**STATE LIBRARY  
VICTORIA**

What's your story?



## Walking Poles and Pedometers at Bass Coast Public Libraries

The Physical Activity Library Loan Scheme is a joint project between Bass Coast Shire Council's 'Living Healthy Bass Coast Project', West Gippsland Regional Library Corporation and Gippsland Medicare Local. Bass Coast Library patrons have free access to walking poles and pedometers.



Representatives from Bass Coast Shire Council, West Gippsland Regional Library Corporation, Gippsland Medicare Local and the community celebrated the Physical Activity Library Loan Scheme Launch in 2014

It is a great example of a library partnering with the local council and agencies to deliver outcomes that affect the health and wellbeing of its community. It is an example of an innovative health initiative that encourages people to keep physically active.



Victorian public libraries are at the heart of their communities and are well placed to promote activities that support the five elements of good brain health. Exercise is an area that libraries are not traditionally associated with, however, many libraries are branching out into this space and partnering with member councils or council departments and other agencies to provide services that promote physical activity. Non-traditional 'library collections' can support the community in engaging in physical activity.

**From the 57 responses to the brain health survey, 20 libraries loan pedometers. 8 loan items including a bike, walking sticks, table tennis equipment and a skipping rope.**



## Book Groups at Maribyrnong Library Service

Maribyrnong Library Service's first book group started in 2006 at its Footscray branch and most of its original members are still coming along to enjoy the discussion and each other's company.



One long term member of the group is Lorna who is 89 years of age. She first heard about a great book group in the western suburbs at a family function, and for years now has been travelling from Balwyn by public transport once a month to meet up with the rest of the group, firstly for lunch at a local café, and then to the library for the book discussion.

Maribyrnong libraries now run seven English speaking book groups.



Book clubs, book chats and book groups have been a beloved part of Victorian public libraries for decades. They are a wonderful way to extend the experience of reading into a social forum, and broaden the interpretations of the text for all participants. All discussions around books, films and current events have the dual benefit of social interaction and mental stimulation.

**89.71% of libraries that completed the brain health survey have library coordinated or library run book clubs and book groups**



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## APPENDICES

### Appendix 1: Brain Health Survey of Victorian Public Libraries

#### Survey:

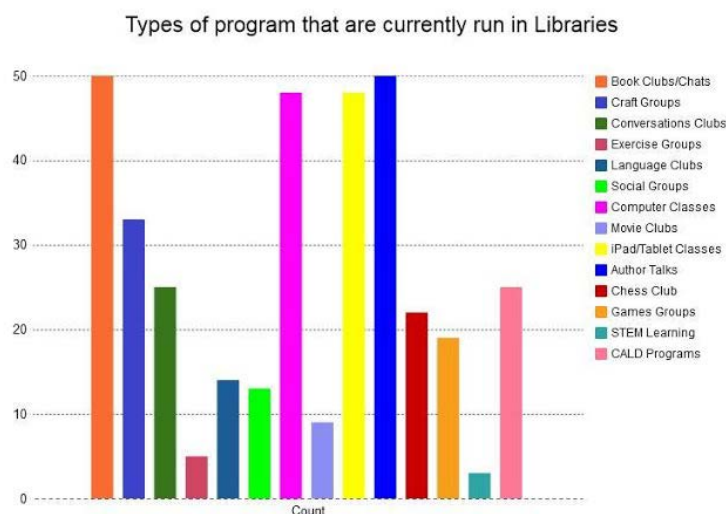
Victorian public libraries were asked to complete an online survey concerning what types of programs that provided, whether they loaned health and/or sporting equipment and whether they promoted any of their programs as “brain healthy”. There were a total of 72 responses from across the state.

#### Q1 Library name.

60 respondents answered this (12 skipped the question). There was a broad range of respondents from across the state, although there were some library services who answer the survey more than once.

#### Q2 Which programs do you currently run in your library that are targeted toward adults? - please tick all that you have and/or give information about any other programs.

All respondents answered this questions, and indicated that they already run a wide variety of programs that could be promoted as “brain healthy”.



Other programs run included Shakespeare Discussion Group, Art Workshops, Citizenship classes; Library Link (Housebound patrons brought to library for social event); Genealogy/Heritage/Local History groups; Sustainability programs; Colouring for mindfulness; Ukulele classes; Tales Out Loud (short story reading); Scrabble; Open Mind lectures; Job Hub; Adult Storytime; Cultural gatherings; Health/Wellbeing/Lifestyle classes; Small business information classes.

#### Q3 Do you provide any specific sporting/health equipment for loan? e.g. pedometers, walking sticks.

57 responses



20 loan pedometers

8 loan a variety of items including a bike, walking sticks, table tennis equipment, a skipping rope.

One library indicated they had a "Sports library" of games and equipment.

28 didn't loan anything or had in the past but discontinued.

**Q4 Do you promote any of your programs or services as "brain healthy"?**

56 responses

6 specifically promoted various programs as "brain healthy"

8 promoted programs as having benefits for social inclusion or wellbeing, without using the "brain health" term.

**Q5 Do you promote any of your collections as "brain healthy"?**

56 responses

2 libraries promoted collections as "brain healthy"

4 libraries indicated that they promoted some small collections or displays using terms such as Health & Wellness or Mindfulness.

**Q6 Do you partner with any specific groups or organisations to provide "brain healthy" programs/services?**

54 responses

20 respondents indicated that they partner with a range of groups including Seniors Day Programs, U3A; Alzheimer Group; Community Care; Council agencies; Carer's Victoria; Local health services; Mental health services.

**Q7 Do you promote any of your programs / services through your local Council's Health & Wellbeing Plan?**

56 responses

23 respondents indicated that there was links between library and Council Health & Wellbeing plans to various extents from basic mentions to active collaboration and promotion.

3 respondents indicated that they were planning to increase the promotion between the two organisations.

**Q8 Is there anything else you would like to tell us about your "brain healthy" library?**

31 responses

There's a whole lot more marketing we could be doing in this sphere



There are lots of simple and inexpensive ways to ensure your libraries are brain healthy. Community jigsaws, creative colouring, board games, a wide variety of programs and events, visiting guest speakers, interesting articles shared on social media and website, training provided.

I think it's an area that could be developed.

We offer a social afternoon tea, with a 'games' component. e.g. trivia. While we don't label it as brain healthy, or market it that way, it certainly is and that is why we offer it.

We are next to the Senior Citz community building and host some of their groups in the library - knitting, scrabble.

The Open Mind Lecture series is specifically developed to present subjects that stimulate thought and promote discussion in the community.

We do many things and are always looking at programs from a health and wellbeing perspective, but do not promote them as Brain Healthy activities or programs.

We are intending to set up a Brain Health makerspace type area at Rosanna in 2016

We have not used the "brain healthy" label in promoting our activities externally however report internally to meet organisational objectives on those activities that are conducted in libraries that contribute to brain health and community wellbeing for seniors. There is potential for marketing "brain healthy" activities available in libraries given the label has gained trendy status.




## Appendix 2: Toolkit for Brain Gyms

## Brain Health– Mental Stimulation

### Suggested non-digital activities


**NON DIGITAL  
ACTIVITIES**



**Mental Stimulation**  
-engaging  
-creativity  
-switched on

|                                 |                             |
|---------------------------------|-----------------------------|
| Reading spaces                  | Storytime's for kids/adults |
| Community jigsaws               | Community crosswords        |
| Board games                     | Poetry Talks                |
| Creative Colouring for all ages | Choirs                      |
| Chess Boards                    | Brainstorm groups           |
| Lego Clubs                      | Writing workshops           |
| Author talks & Workshops        | Art Therapy                 |
| Trivia activities               | Craft activities            |
| Sudoku and word finds           | Card games                  |
| Magic Tricks                    | Riddles                     |
| Language Classes                | Trivial Pursuit             |


*\*\*these lists are not exhaustive, but are based on survey results and suggestions\*\**



## Brain Health– Mental Stimulation

### Suggested digital activities


**DIGITAL  
ACTIVITIES**



**Mental Stimulation**  
-engaging  
-creativity  
-switched on

|                                 |                                |
|---------------------------------|--------------------------------|
| Brain Health Makerspaces        | Coding, Robotics, Raspberry Pi |
| Makerspaces                     | 3D printing / scanning         |
| Hackerspace's/Clubs             | Steam Learning Workshops       |
| Computer, iPad, iPhone, android | Gaming classes                 |
| Music Labs                      | Green Screen workshops-YouTube |
| Brain Train Apps                | Electronic Games               |
| Minecraft                       | Wii U                          |
| Wii                             | PlayStation                    |
| Gaming stations                 | eBooks, ereaders               |
| Digital Art displays            | Digital short stories          |
| Learning languages online       | Podcasts                       |

*\*\*these lists are not exhaustive, but based on survey results and suggestions \*\**





## Brain Health– Mental Stimulation

### Suggested apps to use in programs

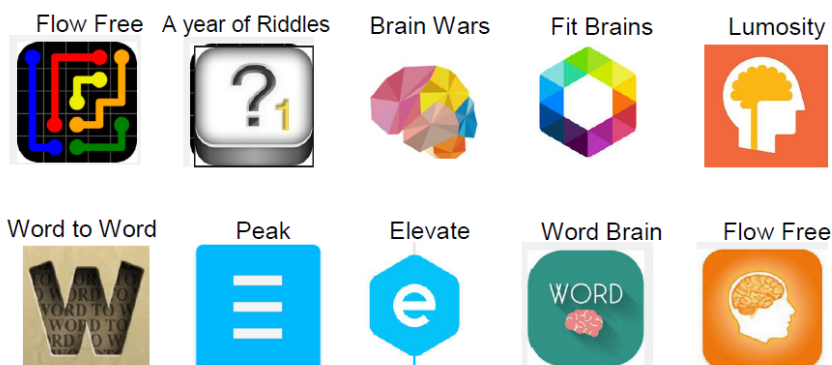
#### USEFUL APPS



#### Mental Stimulation

- engaging
- creativity
- switched on

#### Some easy to use Apps:



*Brain training apps are currently the most downloaded apps, these are the 10 most popular apps for Brain Health in 2015*



## Brain Health– Mental Stimulation

### Suggested programs

#### PROGRAMS



#### Mental Stimulation

- engaging
- creativity
- switched on

|                              |                        |
|------------------------------|------------------------|
| Conversation Cafes           | Games Clubs– Mah-jong  |
| Language Conversation groups | Maker clubs            |
| ESL language groups          | Adult Storytelling     |
| Knitting/Craft groups        | Author Talks           |
| Chess Clubs                  | Movie Clubs            |
| Brainstorm Forums            | "I" Clubs– iPad/iPhone |
| Poetry Clubs                 | Family History Groups  |
| Book groups                  | Hacker Clubs           |
| Reading programs             | Trivia clubs           |
| Writing groups               | Art Therapy Groups     |

*\*\*You might already run these programs, but with a brain health/brain gym focus you can entice new participants*



## Brain Health– Social Engagement

### Suggested non– digital activities

#### NON DIGITAL ACTIVITIES



#### Social Engagement

- engaging
- conversation
- sharing

|                                 |                             |
|---------------------------------|-----------------------------|
| Reading spaces                  | Storytime's for kids/adults |
| Community jigsaws               | Community crosswords        |
| Board games                     | Poetry Talks                |
| Creative Colouring for all ages | Choirs/Singing/Music        |
| Chess Boards                    | Brainstorm groups           |
| Memory box days                 | Scrabble                    |
| Boggle                          | Art Therapy                 |
| Trivia activities               | Majong                      |
| Sudoku and word finds           | Card games                  |
| Magic Tricks                    | Riddles                     |
| Talks/presentations             | Friends of the library      |

*\*\*these lists are not exhaustive, but based on survey results and suggestions \*\**



## Brain Health– Social Engagement

### Suggested digital activities

#### DIGITAL ACTIVITIES



#### Social Engagement

- engaging
- conversation
- sharing



*Social Engagement Apps are the second most downloaded apps, here are the top 10 socially interactive games listed for 2015, these games encourage on-line social interactions*





## Brain Health– Social Engagement

### Suggested digital resources

**DIGITAL RESOURCES**



**Social Engagement**

- engaging
- conversation
- sharing

|   |   |   |   |   |
|---|---|---|---|---|
| Facebook  | Twitter   | Tumblr  | Linkedin  | Google +  |
|  |  |  |  |  |
| Skype   | Instagram   | YouTube   | Vimeo   | Pinterest   |
|  |  |  |  |  |


*These are the top 10 socially engaging digital resources for 2015*



## Brain Health– Social Engagement

### Suggested programs

**DIGITAL RESOURCES**




**Social Engagement**

- engaging
- conversation
- sharing

|                              |                        |
|------------------------------|------------------------|
| Conversation Cafes           | Games Clubs– Mah-jong  |
| Language Conversation groups | Maker clubs            |
| ESL language groups          | Adult Storytelling     |
| Knitting/Craft groups        | Author Talks           |
| Chess Clubs                  | Movie Clubs            |
| Brainstorm Forums            | "I" Clubs– iPad/iPhone |
| Poetry Clubs                 | Family History Groups  |
| Book groups                  | Hacker Clubs           |
| Reading programs             | Trivia clubs           |
| Writing groups               | Art Therapy Groups     |

*\*\*You might already run these programs, but with a brain health/brain gym focus you can entice new participants\*\**





## Brain Health– Wellbeing & Spirituality

### Suggested non-digital activities

#### NON DIGITAL ACTIVITIES



#### Mindfulness & Spirituality

-calmness  
-refreshing  
-balance

|                                  |                                |
|----------------------------------|--------------------------------|
| Yoga workshops and talks         | Focus on Collection offerings  |
| Tai Chi workshop and talks       | Meditation workshops and talks |
| Pilates workshops and talks      | Mindfulness workshops/talks    |
| Interpretive Dance workshops     | Zen Spaces/ rooms              |
| Quiet reading areas, reading     | Egg Chairs to relax in         |
| Relation Music headphone station | Wellbeing talks                |
| Mental Health Talks              | Reiki Demonstrations           |
| Massage Demonstrations           | Naturopath Talks               |
| Adult Colouring Books            | Holistic Talks                 |
| Musical Instruments to borrow    | Choral performances            |

*You might already run these activities, but with a  
brain health/brain gym focus you can entice new participants*



## Brain Health– Wellbeing & Spirituality

### Suggested digital activities

#### DIGITAL ACTIVITIES



#### Mindfulness & Spirituality

-calmness  
-refreshing  
-balance

|                      |                          |
|----------------------|--------------------------|
| eBook workshops      | iPad with wellbeing apps |
| Digital games days   | wellbeing app workshops  |
| World games days     | Minecraft                |
| PlayStation          | Wii/ /WiiU               |
| Digital Chess        | Digital Puzzles          |
| Digital Colouring in | Digital Crosswords       |

*All digital resources, can be adapted into digital offerings  
within the library*



## Brain Health– Wellbeing & Spirituality

### Suggested digital resources

**DIGITAL RESOURCES**



**Mindfulness & Spirituality**

- calmness
- refreshing
- balance

|   |   |   |   |   |
|---|---|---|---|---|
| Smiling Minds   | Headspace   | MindBody Connect  | Calm  | Omvana  |
|  |  |  |  |  |
| The Mindfulness   | Buddhify  | Relax Melodies  | Take a Break!   | Meditation Timer  |
|  |  |  |  |  |

*These are the top 10 wellbeing and spirituality apps for 2015*



## Brain Health– Wellbeing & Spirituality

### Suggested Programs

**PROGRAMS**



**Mindfulness & Spirituality**

- calmness
- refreshing
- balance

|                             |                      |
|-----------------------------|----------------------|
| Yoga programs               | Wellbeing programs   |
| Tai Chi program             | Meditation programs  |
| Pilates programs            | Mindfulness programs |
| Interpretive Dance programs | Beamz Music programs |
| Relaxation programs         | Wellbeing programs   |
| Mental Health Clubs         | Reiki Clubs          |
| Massage Groups              | Art Therapy groups   |
| Adult Colouring Groups      | Orienteering groups  |

*You might already run these activities, but with a brain health/brain gym focus you can entice new participants*




## Brain Health– Nutrition

### Suggested non-digital activities

#### NON– DIGITAL ACTIVITIES



#### Nutrition

-health  
-growth  
-fertility

|                                 |                         |
|---------------------------------|-------------------------|
| Cooking Demonstrations          | Cookbook Author talks   |
| Collection Displays             | Dietician Talks         |
| Naturopath Talks                | Better Health Talks     |
| Nutrition Handouts              | Health Centre Talks     |
| Healthy Lunch Box presentations | MasterChef Talks        |
| Diabetes Foundation Talks       | Garden talks            |
| Herb Garden workshops           | Smoothie Demonstrations |
| Health Group talks              | Fertility Talks         |

*You might already run these activities, but with a  
brain health/brain gym focus you can entice new participants*



## Brain Health– Nutrition

### Suggested digital resources

#### DIGITAL RESOURCES



#### Nutrition

-health  
-growth  
-fertility

Better Health



Taste



Fooducate



Foodle



CarbsControl



Waterlogged



ShopWell



Nutrition Tips



Lose it



Healthy Out



*These are the top 10 wellbeing and spirituality apps for 2015*



## Brain Health– Nutrition

### Suggested programs

#### PROGRAMS



#### Nutrition

-health  
-growth  
-fertility

|                        |                       |
|------------------------|-----------------------|
| Fruit Fridays          | Healthy Eating Groups |
| Healthy Lunch Box Days | Diet Rite Groups      |
| Community Gardens      | Food Swaps            |
| Healthy Food Trucks    | Souper Movie Fridays  |
| Fruit and Films Clubs  | Cooking Clubs         |
| Nutribrains Club       | Book Bellies Club     |
| Herbrain Clubs         | Golden Smoothie Clubs |

*You might already run these types of programs, but with a brain health/brain gym focus you can entice new participants*



## Brain Health– Exercise

### Suggested non-digital activities

#### NON-DIGITAL ACTIVITIES



#### Exercise

-energy  
-happiness  
-vitality

|                        |                         |
|------------------------|-------------------------|
| Yoga                   | Orienteering            |
| Tai Chi                | Walking trails          |
| Pilates                | Dance                   |
| Interpretive Dance     | Stretching              |
| Body Balance           | Gym Demos               |
| Aerobics               | FitBit Competitions     |
| Heart Foundation Talks | Stroke Foundation Talks |
| Karate                 | Self Defence Classes    |
| BoxFit Classes         | FitBits for loan        |
| Surfboards for loan    | Walking Poles for loan  |

*\*\*these lists are not exhaustive, but based on survey results and suggestions \*\**



## Brain Health– Exercise

### Suggested digital activities

#### DIGITAL ACTIVITIES

|                         |                             |
|-------------------------|-----------------------------|
| Wii Fit                 | WiiSport                    |
| Wii Zumba               | Wii Dance                   |
| Wii Boxing              | Wii Bowling                 |
| Wii Tennis              | Wii Basketball              |
| Better Health Ipad Apps | Interactive Health Channels |
| Interactive Games Days  | Wii Relay                   |



#### Exercise

-energy  
-happiness  
-vitality

*\*\*Suggestions based on survey results and suggestions\*\**



## Brain Health– Exercise

### Suggested digital Resources

#### DIGITAL RESOURCES

Run Keeper    iFitness    FitBit    Pacer    Charity Miles



Cycle Meter

The Walk

Fitstar

My Fitness Pal

DigiFit



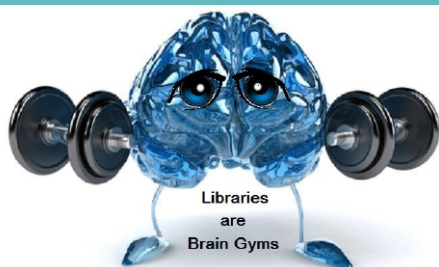
#### Exercise

-energy  
-happiness  
-vitality

*These are the top 10 Exercise apps for 2015*



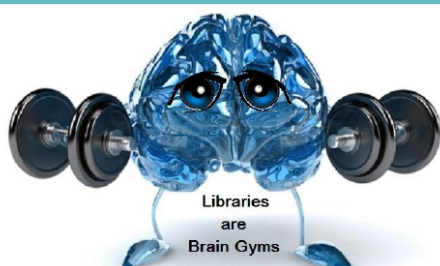




## Brain Health– Promotion

### Brain Gym Focus

- Use of Genre labels and displays with Brain Health focus
- Use of Brain Health logos/icons next to all programs, collections and displays
- Seminars, workshops with Brain Health themes
- Visual merchandising with digital and non digital collections
- Program advertising as Brain Health Focussed
- Visual Displays
- Marketing and Rebranding existing programs with a Brain Health Focus
- Word of Mouth Marketing and sharing with other Libraries



## Brain Health– Partnerships

### Potential Brain Gym Partners

|                             |                      |                        |
|-----------------------------|----------------------|------------------------|
| Local Councils              | YMCA                 | U3A groups             |
| Positive Ageing             | Men's Sheds          | Retirement Homes       |
| Carers Victoria             | Schools              | Universities           |
| Alzheimer's Victoria        | Neighbourhood Houses | Volunteer Agencies     |
| Local Government Agencies   | Yoga Groups          | Martial Art Groups     |
| Community Connection Groups | Naturopaths          | Sporting Groups        |
| Local Community Groups      | Local Health Groups  | Maternal Health Groups |
| Dieticians                  | Massuers             | Doctors                |
| Beyond Blue                 | Cancer Council       | Diabetes Australia     |
| Hearth Foundation           | Stroke Foundation    | Mission Australia      |

