NETWORK U3A QUEENSLAND

U3A NETWORK QUEENSLAND INC.

Incorporation No: IA37380 ABN: 13517501874
Web: www.u3aqld.org.au
PO Box 1271, Stafford Qld 4053

"Connecting Seniors to Lifelong Learning"

Submission to Committee of Inquiry into Social Isolation and Loneliness in Queensland

General Position

The position of U3A Network Queensland is that Universities of the Third Age (U3As) and their programs are excellent antidotes to loneliness and social isolation. U3As are community based, volunteer run associations that provide older retired and semi-retired persons with a new place to belong, new friendship groups and an opportunity to contribute or participate in an area where they feel valued. U3A offers age appropriate, intellectually stimulating programs; improvement and maintenance of physical skills; social activities and friendship.

It is recognised that social isolation and loneliness can be harmful to both the mental and physical health of individuals. While social isolation and/or loneliness can affect people at any age, at U3A we recognise that many of the factors, including cessation of employment, the trauma of serious illness, loss of a loved one or dislocation are particularly relevant to the older cohort of Queenslanders for whom U3A caters.

The majority of members come to U3A with the encouragement of family, friends and neighbours. This "word of mouth" form of advertising works well in terms of encouragement of those who might otherwise be reluctant to join. Those doing the encouraging are generally persons who know a member of a U3A or who are members themselves and who understand the benefits that U3A can offer the emotionally wounded, lonely or socially disengaged. Interestingly, those doing the encouraging may themselves live in another part of the country or the world.

The typical programs and the level of social engagement offered in a U3A offer the opportunity for all individuals to increase physical health and well-being and to become intellectually stimulated within a social setting.

In a paper titled *The Impact of Universities of the Third Age upon the Health and Welfare of their Membership,* a copy of which is attached to this submission, Dr Martin Bridgstock concluded that: *the activities promoted by Universities of the Third Age are strongly beneficial to the physical health and the cognitive health and wellbeing of their members.*

Dr Helen Bartlett, Vice Chancellor of the University of the Sunshine Coast and expert in the field of gerontology, made the following remarks when recently addressing the Annual General Meeting of the U3A Sunshine Coast:

"The research is still evolving but what we do know that learning does help older adults acquire psycho-social resources; it helps to build so many things related to self-esteem, hope, communication, social integration and the like. These resources help us manage some of the less positive aspects of health decline associated with ageing."

And:

"We know from the research that formal higher education courses such as those at university aren't necessarily associated with wellbeing. Where the benefits have really been shown to be effective is with informal learning, such as people experience in U3A classes, learning activity that doesn't result in formal qualifications but appeals in increasing knowledge in an area of interest or helping to create hobbies, etc. These informal learning activities are definitely linked with improved social and psychological wellbeing."

The position of U3A Network Queensland is further underscored by the belief that volunteering is another important factor in mitigating social isolation and loneliness. According to the Mayo Clinic Health System, volunteering has health benefits which include factors known to mitigate loneliness and social isolation:

- Decreased risk of depression
- Sense of purpose and new skills
- Staying physically and mentally active
- May reduce stress levels
- Helps in meeting others and developing new relationships.

U3A is a volunteer run organisation. Every aspect of the management and operation of a U3A association is carried out by volunteers.

An on-paper calculation in 2020 of the value of the volunteer effort in U3A associations in Queensland put the number of volunteers conservatively at 2 400 donating 300 000 hours per annum which when costed at $25 per hour amounted to a volunteer contribution of $7.5 m+ per annum.

Background

U3A Network Queensland Inc. is the peak body for Universities of the Third Age (U3A) in Queensland. There are 34 U3As in Queensland (nearly 35, as a new association awaits notification of its incorporation) with around 23 000 members.

In Australia (as at November 2020) U3A associations numbered 240 with close to 105 000 members. There are U3As in all states and territories of Australia.

U3A is an international organisation. It was formed in France at the University of Toulouse in 1973 and spread to the United Kingdom where the model was modified and the Cambridge Model, which we follow in Australia, was devised.

The major changes to the original concept of U3A were that the organisation became community based as opposed to being tied to universities, volunteer run, and low fee paying and with programs devised by individual associations which utilised the knowledge and skills of association members.

U3A came to Australia in 1984 when COTA Victoria was instrumental in establishing associations in Melbourne. It spread to other states soon after and in Queensland the first U3As were established at the Sunshine Coast and in Brisbane. COTA Queensland was instrumental in the foundation of U3A in Queensland.

U3A Network Queensland has formed strategic partnerships with COTAQ, LGAQ and the Heart Foundation in an endeavour to promote the physical and mental health and well-being to older Queenslanders.

U3A Network Queensland is a member of the University of the Third Age Australian Alliance (U3AAA). At the most recent meeting of the U3AAA, alliance members were introduced to and received an address from Andrew Giles MP – Co-Chair of the *Parliamentary Friends for Ending Loneliness*. Following the briefing from Andrew Giles, each of the delegates provided him with an overview of the experience of their U3A Network and association members, with particular reference to the manner in which U3A offers its members programs that encourage ongoing physical and mental health, cognitive stimulation, connectivity and social engagement.

U3AAA has lodged an application to be a member of the *Ending Loneliness Together Association*.

General Response to The terms of Reference

Key findings of the State of the (Older) Nation (2021) included reports that *the vast majority of older Australians have had contact with someone they know in the last week, although half feel at least a bit lonely.* The finding goes on to say that the contact was most likely family (83%) friend (71%) or neighbour (48%). *Of concern is the 4% that have no contact with anyone in the past week. This was significantly higher among those aged under 65, lived in metropolitan areas or had a disability.*

Further: *within this study, more than half (53%) stated that they had not felt lonely in the past few weeks. However, 47% felt lonely at least some of the time. For 7% of the respondents they reported that they were lonely, most or all of the time.*

In addition: *More than one in two Australians aged 50+ are vulnerable. Analysis of the data was conducted by level of vulnerability using indicators such as: low personal annual income, living with disability, non-English speaking at home, recent bereavement, ATSI, domestic violence and homelessness.*

The higher vulnerability group was more likely to be female, be aged 70 or over, live in Queensland and live outside capital cities. These results highlight a group of older, vulnerable people whose needs deserve particular attention, especially as the proportion of those with higher vulnerability has increased since the 2018 study.

While the findings of the State of the (Older) Nation (2021) report referred to data pertinent to Australians across the nation, the findings are as relevant to Queenslanders as to those in other states. Of particular importance is the reference to higher level of vulnerability felt by older Queenslanders.

University of the Third Age (U3A) members in Queensland were subject to the state wide lockdown from March and even after the lockdown was eased they were (and in some respects still are) subject to restrictions impacting on their lives. The 34 U3A associations in Queensland reported a variety of mechanisms and practices which they implemented to ensure that their members felt connected and engaged throughout the lockdown. Members without access to technology were given special attention via phone trees, hard copy newsletters, puzzles, quizzes, jokes and other stimulatory material, sent via the post.

Presidents of the various Queensland U3A associations were able to communicate through an email network established for the purposes of information exchange about strategies to keep members feeling connected during the shutdown, management of risk for reopening and the development of COVID safe practices and plans.

Social isolation and loneliness are felt subjectively and seem to be exacerbated by issues such as severe trauma (loss of a significant other/chronic illness of self or partner/recent relocation, etc.); lack of available transport; decreased mobility; financial hardship; lack of English or English as a second language; cultural inhibitions, mental illness, etc.

In Queensland such feelings may also be augmented by physical isolation due to distance and the cost of travel to bridge the physical distance from loved ones, neighbours, shops and/or social facilities.

Lack of communication and connectivity are recognised problems in some areas of Queensland. Among the older generation, even where there are no connectivity problems, there may be limited knowledge and capacity to utilise communication devices.

Having a social network, a sense of belonging and feeling supported by one's peer group are highly protective factors in mitigating social isolation and loneliness.

At U3A in Queensland but also reported by other U3As across Australia, there is a common refrain: *U3A saved my life.* This phrase has been said many times by U3A members across the country and indeed across the world.

The comment is made usually after the member has suffered severe trauma such as the death or illness of a significant other; severe illness themselves; being forced to move house or locality, etc. Traumas of this nature can often

lead to people feeling very isolated and lonely, particularly after a period where friends and family have withdrawn their daily caregiving and/or support role.

Being able to keep in touch with family members and friends is also an important factor in mitigating social isolation and loneliness. U3As teach their members to get the best use from their media devices, how to engage in social media and be active with computers in the digital space.

This age of globalised employment can leave grandparents feeling very isolated from their children and grandchildren and being adept in the use of social media and interactive media platforms can reinforce relationships and allow shared experience.

Conclusion

In conclusion, attention is drawn to the fact that since 1986 when U3A was first established in Queensland in two locations, the number of U3A associations has increased to 34 and overall membership has grown to as high as 24 000 state-wide. In addition, there are 3 locations in which the community is in the process of working towards the establishment of their own U3A.

Further, the U3A Network Strategic Plan has the objective of establishing six (6) new U3As within the scope of the Plan 2021 – 2025. All locations are outside the range of their nearest U3A.

Demographic data from the Australian Bureau of Statistics (ABS) points to a steadily increasing growth of the 60+ population across Australia. Our concern is the proportion of the overall population that will be aged 60+ and the projections of the ABS are that by 2030, this demographic will form 20% of the population in Queensland. As the largest single provider of informal lifelong learning, health and well-being programs within Queensland, there is evidently a need for U3As to be established throughout the state.

Increasingly the role of local government has included the development of strategies to increase the health and well-being of the members of their communities. Many local governments already assist U3A associations within their boundaries to deliver their programs. The projected demographic trends are such that local and state governments would be well placed to consider partnerships with U3A Network Queensland to establish outlying associations in communities where currently there are none.

Of course, many clubs offer member benefits around social engagement and volunteering but few are devoted to the cognitive, physical and social health of the individual in the way that U3A is.

Submission by the U3A Queensland Network Management Committee

The Impact of Universities of the Third Age upon the Health and Welfare of their Membership

Martin Bridgstock*

Executive Summary

- This paper sets out to examine whether Universities of the Third Age (U3As) benefit the health and welfare of their members.
- There are many research papers which examine U3A members: in general they record a high level of satisfaction, and also find that members compare well to non-members in terms of cognitive skills and general health.
- However, these studies do not show that U3A membership causes these attributes. It is possible that intelligent, healthy people join U3A and thereby make the statistics look good.
- The logical step is to find studies of older people which involve experiences similar to those offered by U3As: where these use experimental methods, we can examine them as evidence bearing upon the benefits of U3A membership.
- U3As appear to offer their membership three kinds of valuable experience: they offer a huge range of courses, the possibility for some form of physical exercise, and the possibility of social links and interactions.
- About 60 research papers were located relevant to these three types of experience. The most startling result was that all three had direct bearing upon cognitive functions. Studying courses helped stave off mental decline and promoted wellbeing. Even people undertaking physical activity, after testing, turned out to be appreciably better on cognitive measures than those who took no such exercise.
- In addition, it is clear that social linkages play a substantial part in promoting health in older people. One study estimates the value of social linkages as being roughly equal to the benefits of stopping smoking.
- The conclusion is that the activities promoted by Universities of the Third Age are strongly beneficial to the physical health and the cognitive health and wellbeing of their members.

*Dr Martin Bridgstock is a retired academic. He has published four books and more than a hundred papers and articles during his career.

The Impact of Universities of the Third Age upon the Health and Welfare of their Membership

Martin Bridgstock

This short paper is designed to answer one question: is there convincing evidence to support the view that University of the Third Age activities are beneficial for its membership, in terms of physical and mental wellbeing? To investigate this question, a search was done of hundreds of books and research papers. Only those bearing directly upon the question are mentioned here. The conclusions emerge very clearly from the evidence.

We need to understand what Universities of the Third Age (U3As) actually do. As their name suggests, they are concerned with offering educational courses and activities to older people. Two points should be noted. First, these courses do not involve offering any qualification: they are taken because of the interests of the students. Second, in Australia, there is an extremely strong volunteer ethos in U3As. There are no paid positions of any kind, and the course tutors do not receive any remuneration.

Certain activities are common to all U3A organisations, though details may vary from one to another. Most of the membership will be involved in study. There will be a substantial number of volunteer tutors. In addition, there must be some kind of management and administrative structure, again run by unpaid volunteers.

The courses themselves vary widely. Some may be indistinguishable from social activities, such as lunch and cinema groups. Others are intellectually demanding, such as Mandarin Chinese and computer coding. In addition, some courses have a substantial physical component, such as bushwalking, aqua aerobics, Tai Chi and Israeli folk dancing. In addition, the classes are often the focus of fairly intense social activities. U3A members talk a great deal both before and after classes. In the two city suites occupied by Brisbane U3A, tea and coffee is provided and there are areas to sit and talk. For other venues, members often use nearby coffee houses.

Some personal impressions.

Some of the author's own experiences might illustrate how social activities permeate the teaching framework of U3A. I remember joining Brisbane U3A by going to one of their city suites. As I went through the process of joining, I noticed a group of members sitting nearby. They were talking animatedly. It struck me that although their average age seemed about 70, their talk sounded as if they were perhaps twenty years younger. It was a striking introduction. After joining Brisbane U3A, my first class was in the suburban town of Beenleigh. The first session seemed to go well, and I headed back to my car. I passed a coffee shop, and noticed two women from the group talking intensely over coffee. I exchanged waves and went to my car, but a few weeks later I found myself talking in that coffee bar. At other times, the group has completed its activities and, noting that some time was left, simply began socialising and talking. It is a common pattern among members.

In sum, U3A organisations offer their members a range of stimulating courses, though the level of intellectual rigour varies markedly. In addition, there is a more limited range of physical activities, and socialization permeates the entire structure.

The U3As themselves seem to be perfectly aware of these different types of activity. For example the recent history of Brisbane U3A (U3A Brisbane Inc 2016) has special sections on physical activity (pages 95-105) and social ties (pages 83-94) as well as a good deal of discussion of courses offered. Can it be shown that these activities benefit the health and welfare of the membership, using strong and convincing evidence?

Studies of U3A in action.

If U3A has these three main functions – providing opportunities for stimulating learning, for physical activity and for social contact – have there been any studies which show that these activities are beneficial, especially for older people? Now we might say that acquisition of knowledge is beneficial. In this case, by definition, U3A classes must be beneficial. However, we want to go further than that. The question is whether it can be shown that U3A participants live longer, are healthier and retain mental functions better precisely because of the effects of U3A. This is a much more demanding – and much more important – question.

There have been a good many studies of U3As from a variety of countries. Many suggest that U3A membership offers benefits but none demonstrate this rigorously. For example, Maniecka-Bryla and her colleagues (2013) surveyed 250 U3A members and also gave them medical examinations. The results indicated that the members were generally symptom-free and happy with their circumstances.

The problem with this sort of study, of course, is that it does not show that U3A membership has brought about these desirable results. It might be that happy people in better health are more likely to join U3A. This would yield results suggesting that U3A benefits its members, but the impression would be illusory. We simply do not know which way the causal effects run.

It turns out that all the studies of U3A suffer from this basic problem. Often, they demonstrate that U3A members have a high level of satisfaction with their organisation (eg Hebestreit 2008) and regard it as beneficial for various aspects of their lives. For example, of Hebestreit's sample, 90% thought that U3A had benefitted their intellectual development and 88% thought it had helped their memory. In addition, Formosa's study of U3A in Malta showed that membership appeared to confer a whole set of advantages to members:

> The fieldwork data indicated that the U3E fulfils various positive social and individual functions for older persons and society as a whole. . . . It provides opportunities, stimulation, patterns, and content for the use and structure of the older persons' free time which would otherwise be characterised by inactivity. At the same time it makes older persons more visible in society, enhances members' ability to understand the objective world by aiding them to better grasp world development and social progress. It helps them to keep healthy by enabling them to master medical care knowledge and prevention of disease.
>
> (Formosa 2000: 325)

These results are impressive, but not conclusive. It is perfectly possible that healthy, active people might join U3A and, precisely because of their personal characteristics, get a great deal out of it. The causal role of U3A in benefitting its members has not been established. As Formosa (2014: 49) concedes in his survey of U3A research:

> Admittedly, at present there is no rigorous research programme investigating the relationship between U3A membership, on one hand, and improvement in physical and cognitive wellbeing, on the other.

Formosa then points out that a number of studies already exist which indicates that the sort of activities which U3As foster are beneficial. He summarises it in these terms:

> It remains, however, that there are many valid and reliable studies showing how continued mental stimulation in later life aids learners to, at least, maintain their physical and cognitive health status.
>
> (Formosa 2014: 49)

He then goes on to list some studies. This gives us a useful starting-point. Now that we know what U3As offer is there compelling evidence that they foster health and welfare benefits among older people?

Evidence for the beneficial effect of U3A activities – the evidence used

What counts as compelling evidence? What evidence would show beyond reasonable doubt that U3As and their activities are beneficial to their membership? As we have seen, the objection to studies carried out upon U3A members are that self-selection may invalidate the results. That is, the people who choose to join U3As may be different in some ways from those who do not, and research simply reflects these differences. The fact that U3A members themselves regard U3A as benefiting them makes no difference: psychologists often tell us that we have little insight into our own minds.

It follows that the kind of evidence needs to be different. Ideally, it should be evidence from a controlled trial (Jadad et al 2008). In general, these involve comparing a group of people who have had some experience with a group who have not. Ideally, measurements of relevant characteristics are made before and after the experience and the groups compared. These can eliminate the self-selection effects outlined above, and indicate strongly whether U3As are influencing the health and welfare of their members. An acceptable substitute can be a before-and after trial. Measurements are carried out on a group of suitable people. Then they receive the experience, and similar measurements are carried out at the end. Although not perfect, these approaches do give some confidence that the results are real. Further, these studies, if they exist, should focus upon the kinds of activities which U3A members do. That is, they should investigate the effects of education and training, physical activity and socialisation upon the health and welfare of older people. Strong evidence of this kind would go far to making a convincing case.

With this in mind, I asked a number of veteran U3A members whether they knew of evidence of this kind. I also did a search of the *Web of Science* (ISI Web of Science 2018), a large academic database which permits keyword searching. Then I checked through the list of books and papers, eliminating any which did not bear upon the issue at hand, or did not present worthwhile evidence. After this, I found myself looking at about 80 relevant pieces of research. I draw upon this research as evidence in the rest of the paper.

The impact of study upon the older mind

We need to know, using strong evidence, whether the three types of activity offered by U3A are demonstrably beneficial to older people and, by inference, to U3A members. If education, physical activity and socialisation benefit older people, we can reasonably conclude that U3A benefits its members. It is clear that U3A is explicitly focused upon providing stimulating courses to its members, so the impact of education and training will be examined first.

We might note that one work, *The Mature Mind*, by G. D. Cohen (2005) addresses all three points. Cohen's key point is that the later years of life should not be regarded as years of decline. In some ways the older person's mind functions better than that of younger people, and with proper support can accomplish almost anything. Cohen argues that older people should exercise both mentally and physically, and also retain strong social links. He cites research supporting each of these points (Cohen 2005: 23-28). Similar arguments are made by Rowe and Kahn (1998) in their book.

In addition to the work of Cohen and Rowe and Kahn, several dozen experiments have been done, examining whether education and training during the later years impacts the mental state of older people. A fairly typical study is that of Noice, Noice and Staines (2004). These researchers took three groups of older people living in the community. One group, for a month, took a theatre course, another took an arts course and the third – called a control – did nothing. Pre and post activity testing showed that the theatre group had improved the most on cognitive and personal welfare

measures. The arts course people showed some improvements, the control group none. It is quite startling that only a month's participation could produce measurable improvements.

About 20 studies verify the findings of Noice, Noice and Staines (2004). For example Noice and Noice (2009) performed a similar, later study, and found similar results. Marsillas and her colleagues (Marsillas et al 2017) found that active older people had a much higher level of satisfaction. Other studies were more focused. These include the work of Schaie and Willis (1986), Tranter and Koutstaal (2008), Baltes (1993) and Rindermann and Baumeister (2013). In all the papers surveyed, only the one by Slegers and her colleagues indicated that the effects were small (Slegers et al 2012).

Boron and her colleagues (Boron et al 2007) compared the impact of training upon older people with and without dementia. All benefited, but the results show that people without dementia benefited more. This suggests that mental stimulation will be most beneficial if people begin before signs of dementia are evident, that is, as soon as possible.

Willis and Caskie (2013) went a little further. They trained randomly-selected groups of older people in memory, reasoning and speed of mental processing, comparing these groups to one which received nothing. Their conclusions were that training produced measurable gains, and that the gains were roughly equal to the losses caused by five years' aging.

The conclusion that stimulating study benefits older minds is strongly supported by the evidence. Not only have repeated studies made the same point, the type of evidence is important: the studies cited are either controlled experiments, or else they are of the 'before and after' kind. Both kinds of study use evidence to maximum advantage in showing that study benefits the older mind and person. The *British Medical Journal* surveyed a number of these studies before coming to the conclusion that '. . . there may be some truth in the saying "use it or lose it." '(*BMJ* 1995: 952).

We should add two qualifications to this conclusion, and they are important. The first point is that, apparently, there are two mental consequences of aging which cannot be alleviated. Rowe and Kahn (1998) summarise results from the McArthur Study on Aging, an enormous group of research projects connected with the aging process. These researchers have found that as the mind ages it does tend to slow down. The lightning flashes of thought which younger people experience have to be replaced with steady, systematic thinking. The second consequence of aging is that people are more likely to have to 'grope' for a name or a word which they cannot remember. (Rowe and Kahn 1998: 129-131). This second effect can be embarrassing and a nuisance, but it does not, apparently, presage the onset of senility. Apart from these two effects, no other sort of mental decline is necessarily associated with aging.

The second qualification is also important. According to a number of research studies, the beneficial effects of study can be disconcertingly narrow. For example Jansen and Dahmen-Zimmer (2012) in a controlled experiment, found that courses in karate improved people's self-esteem, but nothing else. Clarkson-Smith and Hartley (1990) compared bridge-players to non bridge-players. The only differences they found were that the bridge-players had improved memory and reasoning. Dustman and his colleagues (Dustman et al 1992) found that playing video games improved only reaction time, nothing else. Ackerman and her colleagues (Ackerman, Kanfer & Calderwood 2010) found that skills in playing Wii games did not transfer to other areas. Other mental attributes were not improved. Thompson and Foth reviewed the effectiveness of a number of cognitive training programmes. Their conclusions were that although the programmes appeared to work, their effects were somewhat narrow (Thompson & Foth 2005). Dittman-Kohli and her colleagues (1991) found that intellectual improvements were confined to those specifically addressed in training. Kramer and Willis (2002) summarise many pieces of research in these terms.

> Research on cognitive training and expertise has suggested that age-related cognitive sparing is often quite narrow, being observed only on tasks and skills similar to those on

> which individuals have been trained. Furthermore, training and expertise benefits are often realized only after extensive practice with specific training strategies.
>
> Kramer and Willis (2002: 173)

Baltes (1993) is not quite so pessimistic. Although there is strong evidence for the existence of intellectual decline among older people, he suggests, specific learning activities can help. It is implicit in Baltes' paper, and in the other research, that older people should seek broadly interesting and engaging activities, which foster intellectual and personal growth across a whole range of abilities.

It is interesting to examine the study of Cheng, Chan and Yu (2006). This assessed the effects of paying mah-jong on the mental faculties of people with dementia. The research period was only 16 weeks, but the researchers reported improvement on a whole range of cognitive measures. This may seem to contradict the research above. One wonders whether the subjects in this study, perhaps, enjoyed a good deal of social contact as a consequence of playing the game, and so benefited from both the game-playing and social interaction.

The National Seniors Productive Aging Centre (2012) addresses this possibility as well. For example, they point out that seniors who undertake learning do not benefit only from mental stimulation. They may also be alerted to other beneficial activity, such as physical exercise and also to networks of friendships, which can also benefit wellbeing. It seems clear, therefore, that studying at more advanced ages can greatly benefit people.

Physical activities

The second activity encouraged by U3A organisations consists of physical activities. These vary from explicitly physical activities, such as aqua aerobics, through to offerings which intrinsically involve activity, but where the activity is incidental to some other goal. Examples of this include Israeli Folk Dancing, a popular course in the Logan district.

There is no dispute – and massive evidence – that physical activity of some regular kind is beneficial to people's health. However, a surprising finding emerges from the literature. Not only does activity lead to physical advantages, it also benefits the mental functions. Loprinzi, et al (2018) in a recent nationwide study, found that physical activity benefited the cognitive status of older people. Christensen and Mackinnon, in a small study, found that these benefits appear to apply to older people far more than younger ones (Christensen and Mackinnon, 1993)

It is reasonable to ask why this association exists. Why does exercise benefit older people's minds? Rowe and Kahn (1998) discuss findings from the MacArthur study at some length. They confess at one point:

> We knew that exercise helped maintain physical functions but why did it also help maintain cognitive function? One possible answer came from a MacArthur laboratory experiment which measured the effects of exercise on the brains of adult rats. Increasing exercise caused corresponding increases in a chemical substance (nerve growth factor) which promotes growth of new brain cells. This finding suggests that exercise enhances the function of the central nervous system, especially its memory function. (Rowe and Kahn 1998: 133-4).

Cohen (2005: 25) also points out that that serviceable lungs and hearts may ensure a better flow of oxygen and nutrients to the brain, and also possibly the formation of new small blood vessels within the brain. In addition, Loprinzi (2016) found that older people with multiple chronic diseases were likely to suffer cognitively. However, this link disappeared when regular exercise was taken: apparently the physical exercise helped fend off cognitive decline.

The finding reported by Rowe and Kahn is supported by a number of research studies. For example Richards, Hardy and Wadsworth (2003) drew upon data from the British Medical Research Council study of development, and found that physical activity was positively associated with mental activity. An earlier American study by Wagner et al (1992) used a sophisticated analysis to show that physical activity benefits psychomotor functions and can also help with depression. Consistent with this, when Maillot et al (2012) examined the impact of video games, they found that the most beneficial were games which had a significant component of exercise associated with them.

Consistent with these findings, two studies – Mitchell at al (1997) and Krzepota et al (2015) – looked directly at U3A members. In both cases the researchers found that physical activity was associated with mental wellbeing. As we saw above, studies of this kind cannot show that physical activity actually leads to mental wellbeing, but they are at least consistent with the other studies.

Lustig and her colleagues (2009) examined the effects of exercise upon older adults, and found that it is beneficial across a whole range of cognitive functions. Finally, Hogan (2005) carried out a large review of relevant effects, and came to the following conclusions:

> Research reviewed thus far suggests that both cognitive and physical activities are central to the maintenance of CNS, cardiovascular, and musculoskeletal functioning.
>
> Hogan (2005)

The evidence overwhelmingly suggests that physical activity, directly or indirectly, is beneficial to the psychological wellbeing of older people as well as physically helpful. By making such activities available to its members, U3A is not only supporting their health, it is also supporting their mental functioning into the future.

Social Interaction

The third type of activity involved with U3A is social interaction. Anyone involved in these organisations can testify to the remarkable networks of friendship and social activity which appear. Some are formally part of the schedule, with groups such as lunch and cinema groups meeting regularly. Others are completely informal. However, since social activity permeates the organisation, we should ask whether it can be regarded as beneficial to participants. Certainly, the U3A membership thinks so. As we saw earlier, the study by Hebestreit (2008) showed that fully 90% of members attributed their current good situation to the social links formed within their U3A.

A sizeable number of studies have been carried out on the effects of social links upon old people's welfare. They can be broadly split into those which examine whether social links affect health and lifespan, and those which study the impact of social integration upon mental functions. In both cases, the results are positive. The impact of social integration upon mortality has been shown by two different studies. The larger one was by Holt-Lunstad et al (2010) who examined the results from research upon 308,000 people, and found that social ties reduced mortality by about 50%, roughly the same as stopping smoking. A study by Yang et al (2014) verified this. House and colleagues (1988) found that health was better among people with better social links: the most dramatic change was between people with moderate and low links. Those with the former were dramatically better off than the latter. Complementing this, Seeman et al (1987) found that isolated older people had much higher mortality rates. A recent study by Steptoe and his colleagues (2013) verified that social isolation causes higher mortality among older people. More generally, a review of the research by Dow and Gaffy (2015) associated social ties with a generally higher level of wellbeing. In short, there is strong evidence that having social ties and resources is beneficial for older people, both in terms of mental function and in terms of health and wellbeing.

It is clear, then, that social linkages improve the lifespan and health of older people. What about their mental functioning? One of the most dramatic studies was carried out by Ertel et al (2008) who

found that social integration halves the loss of memory function upon older people. In Japan, a country with an aging population, Tomioka and colleagues (2017a, 2017b) found that participating in social activities benefited older people mentally. The first study was not a controlled experiment, but the second was a before and after study, examining effects over three years. A Korean study by Lee and Kim (2016) used a longitudinal method to show that cognitive decline (CD) was reduced, years after social contact. The authors concluded that:

> Encouraging older adults to participate in senior citizen clubs or to have frequent contacts with adult children by phone or letters may help reduce CD in later life among older adults. Participation in a variety of formal social activities may also have a beneficial effect on preventing CD in older adults.

Griep and colleagues (2017) in Sweden did carry out an experiment to assess the impact of volunteering upon older people. They found that volunteering actually reduced reported cognitive problems over time, and also reduced the need for anti-dementia medications by 2.4 times. These are powerful results.

Summary of the key findings

This short survey has come to three conclusions regarding the benefits of membership and activity in Universities of the Third Age (U3As). From an examination of U3A documents it is clear that these organisations offer their members three main activities. One, as we would expect from the U3A name, is learning via courses. A second, less heavily stressed, is the opportunity to undertake physical activity. The third, less publicised again, is an intense level of social activity, ranging from casual chats over coffee to lifelong friendships. It is the impact of these three activities which were examined, to see if they benefit the health and welfare of the membership.

Now, although a good many papers have been written about universities of the third age, they all fall short of direct evidence of their beneficial effects. It seems to be well established that U3A members, all of reasonably advanced age, compare well in terms of physical and mental health to similar population. Further, U3A members attribute their wellbeing to their U3a membership. However, this does not conclusively prove that they are correct. It could be that U3A members are a self-selected group, healthier and in better mental shape than average, and that they are simply mistaken about why this is.

How can strong evidence be produced? One way is to examine the effects of learning, physical activity and social activity upon older people. If there is strong evidence that the effects are positive, then we can reasonably conclude that U3As have the same effect.

A large number of pieces of research all point in the same direction. The three types of activity offered by Universities of the Third Age – learning, physical activity and social ties – all have marked benefits for participants. They all have measurable positive impacts upon cognitive and other mental functions, and help to stave off the degeneration often associated with advancing years. The main qualification is that mentally stimulating learning may be somewhat narrow in its effects. Although all types of learning have benefits, it is probably best to pursue a range of learning activities which stimulate different abilities. In addition, physical and social activities are also beneficial. Both promote physical wellbeing, reducing illness and mortality, and both also help further mental functioning. The conclusions are therefore overwhelming, that membership and activity in U3A have marked benefits and should be pursued by as many senior people as possible.

The strength of the evidence also leads to another conclusion. There is much concern in developed countries as the large ‘boomer’ generation reaches retirement age. It threatens to be an enormous drain upon health services, social support and governmental budgets. However, if older people can

become more self-reliant, more capable of handling their own affairs, and more capable of contributing to the community, it follows that nations as a whole can benefit. For this reason, U3A movements are not only desirable for older people, but for society as a whole.

References

Ackerman, P. L., Kanfer, R., & Calderwood, C. (2010). Use it or lose it? Wii brain exercise practice and reading for domain knowledge. *Psychology and Aging*, 25(4), 753-766.

Baltes , Paul B. (1993) The Aging Mind: Potential and Limits. *The Gerontologist.* vol. 33, No. 5, 580-594

BMJ (1995) Education and Dementia (Editorial) *British Medical Journal* v 310, April 15 pp. 951-952

Boron, Julie Blaskewicz, Sherry L. Willis, and K. Warner Schaie (2007) Cognitive Training Gain as a Predictor of Mental Status *Journal of Gerontology: Psychological Sciences*. Vol. 62B, No. 1, pp. 45–P52.

Cheng, Sheung-Tak, Alfred C. M. Chan and Edwin C. S. Yu (2006) An exploratory study of the effect of mahjong on the cognitive functioning of persons with dementia. *Int J Geriatr Psychiatry* 2006; 21: 611–617.

Clarkson-Smith, Louise and Alan A. Hartley (1990) The Game of Bridge as an Exercise in Working Memory and Reasoning *Journal of Gerontology* Vol. 45. No. 6. P233-238

Dittmann-Kohli, Freya, Margie E. Lachman, Reinhold Kliegl, and Paul B. Baltes (1991) Effects of Cognitive Training and Testing on Intellectual Efficacy Beliefs in Elderly Adults. *Journal of Gerontology: Psychological Sciences* 1991. Vol. 46, No. 4. P162-164.

Christensen H. and A. Mackinnon (1993) The association between mental, social and physical activity and cognitive performance in young and old subjects. *Age and Ageing.* 22.3 (May 1993): p175.

Cohen, G. D. (2005) *The Mature Mind*. New York, Basic Books

Dow, Briony and Ellen Gaffy (2015) Mental health and well-being in older people*. Australasian Journal on Ageing*, Vol 34 No 4 December 2015, 220–223

Dustman, Robert E., Rita Y. Emmerson, Laurel A. Steinhaus, Donald E. Shearer, and Theodore J. Dustman (1992) The Effects of Videogame Playing on Neuropsychological Performance of Elderly Individuals. *Journal of Gerontology*: *Psychological Sciences* Vol. 47, No. 3. P168-171

Ertel, M. Maria Glymour, and Lisa F. Berkman (2008) Effects of Social Integration on Preserving Memory Function in a Nationally Representative US Elderly Population. *American Journal of Public Health* vol 98, no. 7 1215-1220

Formosa, Marvin (2000). Older adult education in a Maltese University of the Third Age: acritical perspective. *Education and Ageing*, 15, 3, 315–339.

Formosa, Marvin (2014) Four decades of Universities of the University of the Third Age: past, present, future. *Ageing & Society* 34, 42-66.

Griep, Yannick, Linda Magnusson Hanson, Tim Vantilborgh, Laurens Janssens, Samantha K. Jones and Martin Hyde (2017) Can volunteering in later life reduce the risk of dementia? A 5-year longitudinal study among volunteering and non-volunteering retired seniors. *PLos One.* March 16, 2017, 2017

Hebestreit, Lydia (2008) The role of the University of the Third Age in meeting needs of adult learners in Victoria, *Australia Australian Journal of Adult Learning*; Nov 2008; 48, 3; pg. 547-565

Hogan, Michael (2005) Physical and Cognitive Activity and Exercise for Older Adults: A Review *Int'l. J. Aging And Human Development* 60(2) 95-126

Holt-Lunstad J, Smith TB, Layton JB (2010) Social Relationships and Mortality Risk: A Meta-analytic Review. *PLoS Med* 7(7) e1000316

House, James S., Karl R. Landis and Debra Umberson (1988) Social relationships and health *Science.* 241.4865 (July 29): p540+.

ISI Web of Science (2018) *Web of Science*. Chicago: Institute for Scientific Information.

Jadad, Alehandro R. , Murray Enkin, , Alejandro R. Jadad, , and Murray W. Enkin (2008) *Randomized Controlled Trials : Questions, Answers and Musings*. New York: John Wiley & Sons, Incorporated.

Jansen, Petra and Katharina Dahmen-Zimmer (2012) Effects of cognitive, motor, and karate training on cognitive functioning and emotional well-being of elderly people. *Frontiers in Psychology* 3, February 20, 1-7

Kramer, Arthur F. and Sherry L. Willis (2002) Enhancing the Cognitive Vitality of Older Adults *Current Directions In Psychological Science*, 11, 5, October 2002 173-177

Krzepota, Justyna, Elżbieta Biernat, Beata Florkiewicz (2015) The Relationship Between Levels Of Physical Activity And Quality Of Life Among Students Of The University Of The Third Age. *Cent Eur J Public Health* 23 (4): 335–339

Lee S.H. and Y. B. Kim (2016) Which type of social activities may reduce cognitive decline in the elderly? A longitudinal population-based study *BMC Geriatrics* 16:165 DOI 10.1186/s12877-016-0343-x

Loprinzi, Paul D., Meghan K. Edwards, Elizabeth Crush, Toshikazu Ikuta, and Alberto Del Arco (2018) Dose–Response Association Between Physical Activity and Cognitive Function in a National Sample of Older Adults *American Journal of Health Promotion* Vol. 32(3) 554-560

Loprinzi, Paul D. (2016) Multimorbidity, cognitive function, and physical activity *Age* 38: 8 DOI 10.1007/s11357-016-9874-5

Lustig, Cindy, Shah, Priti, Seidler, Rachael and Reuter-Lorenz, Patricia A. (2009) Aging, Training and the Brain: a Review and Future Directions. *Neuropsychological Review* 19: 504-522.

Marsillas, Sara, Liesbeth De Donder, Tinie Kardol, Sofie van Regenmortel, Sarah Dury, Dorien Brosens, An-Sofie Smetcoren, Teresa Brana1, Jesus Varela (2017) Does active ageing contribute to life satisfaction for older people? Testing a new model of active ageing. *European Journal of Aging,* 14:295–310.

Mitchell, R. A., V. Legge and G. Sinclair-Legge (1997) Membership of the University of the Third Age (U3A) and perceived well-being. *Disability and Rehabilitation*, 19, 6, 244-248

Maillot, Pauline , Alexandra Perrot, Alan Hartley (2012) Effets de la pratique des jeux video sur le vieillissement cognitif The effects of video games on cognitive aging *Geriatr Psychol Neuropsychiatr Vieil* 2012 ; 10 (1) : 83-94

Maniecka-Bryła, Irena, Olga Gajewska, Monika Burzynska, Marek Bryła (2013) Factors associated with self-rated health (SRH) of a University of the Third Age (U3A) class participants. *Archives of Gerontology and Geriatrics* 57, 156–161.

National Seniors Productive Ageing Centre (2010*) Later Life Learning: Unlocking the Potential for Productive Ageing.* Brisbane: NSPAC

Noice, Helga, Tony Noice and Graham Staines (2004) A Short-Term Intervention to Enhance Cognitive and Affective Functioning in Older Adults *Journal Of Aging And Health*, Vol. 16 No. 4, August 2004 562-585

Noice, Helga and Tony Noice (2009) An Arts Intervention for Older Adults Living in Subsidized Retirement Homes. *Aging, Neuropsychology, and Cognition*, 16: 56–79

Richards, Marcus, Rebecca Hardy, Michael E.J. Wadsworth (2003) Does active leisure protect cognition? Evidence from a national birth cohort. *Social Science & Medicine* 56, 785–792

Rindermann, Heiner; Baumeister, Antonia E. E. (2013) Effectiveness of Klauer's Cognitive Training with Immigrant Students, Special-Needs Students and Elderly *PeoplePsychologie In Erziehung Und Unterricht* Volume: 60 Issue: 2 Pages: 121-132R. L.

Rowe, J. W. and Kahn, R. L. (1998) *Successful Aging.* New York: Pantheon Books.

Schaie, K. Warner and Sherry L. Willis (1986) Can Decline in Adult Intellectual Functioning be Reversed? *Developmental Psychology* Vol. 22, No. 2, 223-232

Seeman, Teresa E., George A. Kaplan, Lisa Knudsen, Richard Cohen, And Jack Guralnik (1987) Social Network Ties And Mortality Among The Elderly In The Alameda County Study. *American Journal of Epidemiology* Vol. 126, No. 4 714-723.

Slegers, Karin, Martin P.J. van Boxtel, Jelle Jolles (2012) Computer use in older adults: Determinants and the relationship with cognitive change over a 6 year episode. *Computers in Human Behavior* 28 1–10.

Steptoe, Andrew, Aparna Shankar, Panayotes Demakakos, and Jane Wardle (2013) Social isolation, loneliness, and all-cause mortality in older men and women *Proceedings of the National Academy of Science* April 9, 2013 vol. 110 no. 15 5797–5801.

Thompson, Gordon & Dennis Foth (2005) Cognitive-Training Programs for Older Adults: What Are they and Can they Enhance Mental Fitness? *Educational Gerontology*, 31:8, 603-626

Tomioka, Kimiko, Norio Kurumatani and Hiroshi Hosoi (2017a) Positive and negative influences of social participation on physical and mental health among community-dwelling elderly aged 65–70 years: a cross-sectional study in Japan. *BMC Geriatrics* (2017) 17:111 DOI 10.1186/s12877-017-0502-8

Tomioka, Kimiko, Norio Kurumatani and Hiroshi Hosoi (2017b) Association Between Social Participation and 3-Year Change in Instrumental Activities of Daily Living in Community-Dwelling Elderly Adults. *Journal of the American Geriatric Society* 65:107–113

Tranter, Lesley J. and Wilma Koutstaal (2008) Age and Flexible Thinking: An Experimental Demonstration of the Beneficial Effects of Increased Cognitively Stimulating Activity on Fluid Intelligence in Healthy Older Adults Aging, *Neuropsychology, and Cognition*, 15: 184–207, 2008

U3A Brisbane Inc (2016) *Forever Learning Celebrating thirty years of U3A Brisbane*. Brisbane: U3A Brisbane Inc.

Wagner, Edward H., Andrea Z. LaCroix, David M. Buchner and Eric B. Larson (1992) Effects Of Physical Activity on Health Status in Older Adults I: Observational Studies. *Annu. Rev. Publ. Health*. 13: 451-468

Willis, Sherry L. and Grace I. L. Caskie (2013) Reasoning Training in the ACTIVE Study: How Much Is Needed and Who Benefits? *Journal of Aging and Health* 25(8S) 43S–64S

Yang Claire Yang, Kristen Schorpp, Kathleen Mullan Harris (2014) Social support, social strain and inflammation: Evidence from a national longitudinal study of U.S. adults *Social Science & Medicine* 107 124-135