

# In Conversation with **Professor Kua Ee Heok**



Professor Kua Ee Heok is the Tan Geok Yin Professor in Psychiatry and Neuroscience & Visiting Consultant Psychiatrist, Department of Psychological Medicine at the Yong Loo Lin School of Medicine in the National University of Singapore (NUS). *Economics & Society* caught up with him to find out more about his journey in studying Gerontology and the ageing landscape in Singapore.

**As a former president of the Gerontological Society of Singapore, you have played an important role in shaping gerontology in Singapore. Could you share with our readers what the study of gerontology entails and what motivates you to this field?**

Gerontology covers a wide swath of knowledge on ageing that includes science and humanities. Clinical gerontology encompasses the specialties of geriatric medicine and geriatric psychiatry, and social gerontology covers social work, sociology and anthropology. Many of these specialties overlap, for example, there is also clinical social gerontology.

I was trained in child psychiatry at Oxford and when I joined NUS in 1982 I was invited to give a lecture in Jakarta where I met an amiable Harvard Professor of geriatric psychiatry, Dr Ben Gurion. He invited me to Boston but insisted that I must take the USA examination certificate for foreign doctors – he was delighted to learn that I passed the examination in 1972 as a final medical student.

I applied for a scholarship from the Rockefeller Foundation in New York and went to Boston in 1984. Before I left Singapore, a surgeon friend told me it was a mistake to subspecialise in geriatrics



because “the government is more keen on child mental health and you will be researching alone because nobody else is interested in the ageing research.” The Harvard team was more keen on clinical research and not epidemiology. On the way back I stopped over at Cambridge University in UK where there was a well-known community study led by Professor Sir Martin Roth. There I met Professor John Copeland who invited me to join the World Health Organization team for the global study of dementia.

Being a member of the WHO team opened opportunities for knowing and working with the top talents in psychiatry around the world. We published the first paper on the epidemiology of dementia in Singapore in 1990 and the data was used by the Ministry of Health (MOH) to plan services.

### **How do you think the study of ageing and attitudes towards ageing in Singapore has evolved across time?**

Attitude towards the elderly has changed over the years. In the 1950s, when you achieved 70 years, that was considered a ripe old age – three score and ten. You would have many children caring for you.

Today, there are many in the 80s and even 90s with few children. When society perceives a person according to his productivity or economic value, then ageism creeps in.

I always tell my friends in economics, the Old Dependency Ratio is antiquated – using a cut off of 60 years. Today people in their 70s are still working full time or part time.



**We understand that you are the lead investigator of the Jurong Ageing Study, which focuses on the relationship between isolation and dementia. Could you share with us about your project and why you chose to focus on this topic?**

The Jurong Ageing Study started in 2012 and is the first dementia prevention program in Asia. It was located at the Training and Research Academy (TaRA) at Jurong Shopping Mall. The rental cost and renovation was provided by philanthropist Mr Lee Soon Teck. The research fund was from the Kwan Im Hood Cho Temple.

We identified 50 blocks of flats around the shopping mall and our nurses visited every flat and invited anyone 60 years or older for two assessments at TaRA. They had a physical and psychological examination, including blood tests. For those with probable dementia, an MRI brain would be conducted at National University Hospital.

Those with subclinical depression or preclinical dementia would be invited for weekly 30 minutes health education – 10 sessions on topics like dementia, depression, hypertension, diabetes, depression, diet, falls, etc. They were then divided into four groups for Tai-chi exercise, music-reminiscence,

art activities and mindful awareness practice.

We found that the music group improved fastest in mood and anxiety but after three months all the four groups were better.

Although we planned for 1000 seniors, only about 670 could be followed for five years. The prevalence of dementia was 3% in contrast to the MOH study of 10%. The rate of depression in the cohort was 4%.

**Looking forward, how do you think the Singapore society should embrace ageing?**

We will all grow old. Ageing is a normal physiological process. However, billions of dollars are spent on anti-ageing drugs. The late Dr Lim Chan Yong, President of the Singapore Action Group of Elders (SAGE) said in an interview with me in 1986, “Ageing or feeling old is all in the mind.” I agree with him. Physically we may not be as agile but we must always keep ourselves mentally active.

The NUS Mind Science Centre has a community programme of translational relevance from the Jurong study. This is the Age Well Everyday (AWE) programme which is now in 10 community centres around the island. It

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is for physical, mental and social health of seniors. The success of the AWE program is partly due to the many volunteers who are trained to conduct the programme. We have an online training programme which we organise with the Singapore University of Social Sciences.

We have been invited to present our research findings at world conferences

and it is heartening that there are now many dementia prevention programs in Asia and Europe.

We want to work closely with Professor Euston Quah and his team at NTU to help us evaluate the economic benefits of the AWE programme for the family and country.



# In Conversation with Associate Professor



Associate Professor Chia Ngee Choon is the Director of the Singapore Center for Applied Economics, the Co-Director of National University of Singapore (NUS) Faculty of Arts and Social Sciences' Next Age Institute, and the Deputy Head (Teaching) of NUS's Department of Economics. *Economics & Society* caught up with her to find out more about her research regarding ageing-related issues in Singapore.

**Singapore prides itself on being an inclusive society that brings together people of different race and religion. This inclusive circle is ever-expanding, as can be seen from recent public discourses on building a caring and inclusive society that respects and embraces the elderly, people with special needs, among others.**

**How important do you feel is the economic perspective when arguing for greater social inclusion? Are there any challenges faced in constructing an economic argument for a more inclusive society, since values such as empathy and social cohesion are less quantifiable?**

The challenges come about because values such as empathy and social cohesion are less quantifiable like economic indicators such as GDP or productivity. However, we can use economic factors such as retirement adequacy, healthcare costs to evaluate if there are barriers to social inclusion. Other non-economic factors are necessary to ensure social inclusion. One of the key ingredients is to have a proper mindset and attitudes towards the elderly, to value and respect elderly. Society needs to adapt to the ageing population and to tackle ageism and age discrimination, stereotyping elderly as frail and unproductive. A socially inclusive ageing society in one where elderly integrated in communities of all age and not isolated or excluded from society, and where inter-generations bond. This would require all of society and government efforts. Government needs to prioritise

# Chia Ngee Choon

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age-friendly built environment to enable elderly to live a purposeful living, to volunteer to the communities and to continue being productive, contributing to work. To build a caring and inclusive society, the Ministry of Health has announced in 2022 that Singapore will double the number of eldercare centres to 220 by 2025. These centres will be go-to points for elderly and will help tackle elderly loneliness and isolation. The centres provide active ageing and befriending programmes for elderly to engage in recreational activities, build social connections and to contribute as volunteers.

**One area of your research interest is in retirement adequacy. While CPF Life payouts help to support the elderly in their retirement, there will inevitably be workers who need to seek employment into their silver years.**

**What do you feel is the best form of support for this group of workers? While upskilling opportunities are available, do you feel it is challenging for older workers such as those engaged in manual work to tap on such schemes?**

Singapore Government has been encouraging the retention of older workers through inclusive work policies, such as a higher minimum retirement age, workplace fairness legislation and providing incentives to employers to provide part-time and flexible work arrangements for older workers through schemes such as senior employment credit, re-employment grant and other cost offset schemes.

I would think that re-employment legislation as one of the most worker-centric policies as it provides employment protection and offers flexibility to workers. The legislation mandates employers to offer re-employment to eligible workers while providing workers the option to continue to work.

Using the Retirement and Health Study data, my research team found that re-employment mandate to be largely effective in delaying retirement, with larger impact on males than females. Workers with routine and less physically demanding jobs are more likely to take advantage of re-employment opportunities. But less so for workers engaged in manual



work. It is thus necessary to create age-friendly workplaces, re-design physically demanding jobs using technology and mechanisation upgrades. For example, adaptive equipment and assistive technologies can help manual workers with physical limitations to continue to work in their current roles or transition to new ones.

**Your work involves projecting future healthcare needs, specifically the level of healthcare funding for Singapore's growing elderly population. How has the Covid pandemic affected the statistical model used? For example, would the adequacy of our healthcare infrastructure be under strain if provisions need to be made for future (unforeseen) disease outbreaks?**

In my projection model on the future healthcare needs, I not only use projections on the number of seniors, but also consider the changing health states. Our research shows that if there is no improvement in population health,

hospital demand will double by 2040 due to population ageing. We also found that a 1% increase in health state level would decrease hospitalisation rate by 1.46%. Hence improvement in population health will dampen healthcare demand and flatten the cost curve.

The projection model uses the lifetables to calibrate health state. Since Covid-19 pandemic has caused excess deaths especially among the older age groups, it will affect the lifetables and hence would affect the model. I have yet to update my model as the lifetables for 2021 published by Singapore Department of Statistics are still preliminary numbers.

The projection model focuses more on impacts of ageing on healthcare demand and may not yield projection for future (unforeseen) disease outbreaks.

The main takeaway from the research is that attention should be given to creating better conditions for health promotion and developing and investing in preventive healthcare. This can be done through public educational campaigns and health screening

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Healthcare expenditure is not only determined by the number of seniors. Underlying drivers such as health state, proximity to death, and morbidities also affect healthcare expenditure. To prepare for the potential challenges of an ageing population, the Ministry of Health has introduced the Healthier SG initiative to flatten the healthcare cost through improvement in population health state. Through measures such as partnering with family physicians and partnering with the community, Healthier SG hopes to focus efforts on

keeping individuals healthy through social and health prescriptions and preventive health and early intervention.

**Given Singaporean's low fertility rates which threatens our manpower adequacy, between raising the retirement age and boosting immigration numbers, which do you feel is the more sustainable way forward for Singapore?**

According to the Population in Brief, for 2021, 61.9% of citizens are in their labour productive age of 20 to 64 years. This has decreased from 65.1% in 2011. It is expected to decrease further to about 56.0% in 2030. This has direct impact on the labour force.

Raising retirement age could be a



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sustainable way as it would enable older workers to remain in the workforce longer. Singapore has a defined contribution system under the Central Provident Fund (CPF). As such, raising retirement age will not impact the pension payout age as it would be under a defined benefit system. Under the CPF system, raising retirement age will provide employment protection on older workers and does not affect retirement payouts eligibility. Indeed, being able to work longer will enhance the annuity payouts as workers continue to contribute to CPF. Additionally, as the CPF Board has raised the contribution rates for older workers, a median older worker who now works longer can expect to draw a higher CPF payouts, an increase of almost 22%.

Boosting immigration to complement its workforce is another potential solution to address Singapore's low fertility rate. Singapore is not alone in this. Many countries, for example

Canada and Germany are also beefing up efforts to attract skilled workers as they experience falling worker to retiree ratio. While it makes economic sense, the big question is public sentiments towards immigration and their perceptions on the impact of immigration on social integration and preservation of culture. So long as the fertility rate remains low, Singapore would need to embrace immigration, particularly skilled and professional migrants, to expand its labour force, to fill skills gap and have a more desirable population size.

**In the next 10 years, what do you feel are the main challenges for rapidly ageing countries like Singapore and Japan? Both countries have sought to plan long term and tackle the ageing challenge from a whole-of-government approach. Are there additional blind spots to watch going forward?**

In the next ten years, Singapore would have transitioned to a super-aged society

like Japan. As of now, more than 20% of the population in Japan are above 65 years of age. In 2022, the proportion of seniors was 18% and the proportion is expected to reach 24% by 2030. Both countries would face rising economic and social costs to build caring and inclusive societies and ensure adequate retirement and healthcare support for the elderly.

Japan has the co-existence of highly developed urban areas and many rural regions, which are facing depopulation. Like Switzerland, Australia and Canada, Japan implemented a time bank model to help foster community-building and promote community support. For example, the Machizukuri Time Bank was launched in Yokohama city in 2008. It has helped to revitalise local communities by promoting volunteer activities and providing opportunities for members to exchange services such as cleaning and home repair.

Besides the whole-of-government approach to ageing challenges, Singapore could also consider implementing a time bank model. Time bank model is community-based exchange system and is based on time units rather than currencies. It is based on reciprocity and services are exchanged without the use of money. It operates on the principle that time is a valuable resource that can be shared and exchanged. Young adults volunteer services and skills in exchange for time credits which can be “cashed out” when they become older

adults. Every hour of volunteer work is weighted the same regardless of the tasks performed – cleaning, home repair, caregiving or providing legal advice. The time credits or the total future value of benefits will be the same as the total present value of time volunteered (with no inflationary risks) and time banking does not accumulate interest.

Given the growing number of singles in Singapore, a time bank model may provide a way to prepare for caregiving needs when they become old in the future. They could volunteer when they are young in exchange for care when they become old. Time bank models could have other positive spill-over on the society such as inter-generational bonding, community building and individual empowerment.

Being a city-state, the young and old population live in closer proximity in Singapore, it is easier to build a network for the young to volunteer and for the elderly to receive the services. Additionally, Singapore is a smart nation and is digitally ready. A time bank model could be readily implemented by tapping on existing IT and digital infrastructure such as digital identities and storage and tapping on the e-payment infrastructure.