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Insights on Ageing in Singapore from THE SIGNS Study: Cross-Sectional Findings from Wave 3a and Longitudinal Trends from Waves 1 to 3a

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CHAPTER 1. INTRODUCTION

1.1. Ageing landscape

Singapore's population is ageing rapidly, with estimates indicating that by 2030, around 24% of the citizen population will be aged 65 years and older.[1] Longevity has steadily increased in Singapore, with the average life expectancy at birth currently at 83 years[1]—one of the highest in the world. Over the years, the increase in life expectancy and low fertility (the total fertility rate in the country [currently at a record low of 0.97]),[1] has led to smaller family sizes and a declining old-age support ratio. These trends highlight the growing need for older adults to become more self-reliant, not just economically but also through maintaining good health and strong social connections.

1.2. THE SIGNS Study

In 2015, the Singapore Ministry of Health (MOH) commissioned the Centre for Ageing Research and Education (CARE), Duke-NUS Medical School, to conduct the first two Waves of *Transitions in Health, Employment, Social Engagement, and Intergenerational Transfers in Singapore Study* (THE SIGNS Study), a longitudinal study of older Singapore residents (i.e., Singapore citizens and permanent residents), aged 60 years and above. Developed in close partnership with the Ageing Planning Office (APO), MOH, THE SIGNS Study focuses on understanding the patterns, determinants and outcomes of healthy ageing, taking a broad perspective on health, comprising physical, social and psychological domains. Wave 1 of THE SIGNS Study, conducted in 2016-2017, had 4,549 participants.[2] Of them, 4,117 (90.5%) respondents (either the index older adult or a proxy respondent on their behalf) consented to be re-contacted for Wave 2. From this pool of potential participants, 2,887 (70.1%) individuals were re-interviewed in Wave 2 in 2019.[3]

In 2022, the Singapore MOH commissioned to conduct two more waves of THE SIGNS Study (Waves 3 and 4). Wave 3 is conducted in two phases – Wave 3a, involving re-interviewing those who participated in both Waves 1 and 2, and Wave 3b, involving interviewing a new sample of older Singapore residents, aged 60 years and above. This report pertains to Wave 3a. Of the 2,887 Wave 2 participants, 2,825 (97.9%) gave consent to be contacted for Wave 3a. Between participation in Wave 2 and the time of contact for Wave 3a, it was determined that 82 out of 2,825 survey participants had passed away (this information was ascertained when participants were contacted for a separate research study on caregiving, conducted by CARE). Therefore, 2,743 Wave 2 participants were potential participants for Wave 3a.

Data collection for Wave 3a was conducted from August 2023 to May 2024. Interviews were conducted in English, Malay, Mandarin, and Tamil. A total of 1,535 participants were interviewed in Wave 3a, comprising 97.5% Singapore Citizens and 2.5% Singapore Permanent Residents. The distribution of the participants' citizenship status, overall and by age group, gender and ethnicity, is provided in **Appendix Table B1**.

Wave 3a of THE SIGNS Study aimed to construct a comprehensive picture of how older adults in Singapore have aged since the baseline established in 2016-2017 and to provide valuable insights into the ageing process of this cohort. The survey collected information on important issues relevant to healthy ageing including demographic and socioeconomic characteristics, physical and functional health status, psychological health, cognitive ability, health behaviours, dental health, health care service utilisation and satisfaction, vaccine attitudes and uptake, lifestyle changes since the onset of the COVID-19 pandemic, advance care planning, social engagement, provision and receipt of transfers, work and retirement, lifelong learning, volunteering, technology use, neighbourhood perceptions, and experiences of discrimination and caregiving.

This report includes a description of the participants' cross-sectional data from Wave 3a conducted in 2023-2024, and the changes they experienced over time (from 2016-2017 to 2023-2024) based on longitudinal analyses. However, due to the introduction of new questions or sections in Wave 3a, not all modules are included in the longitudinal analyses. Recognising that the "young-old" may differ in outcomes compared to the "oldest-old", we stratify our descriptive analyses by age categories (age at the time of Wave 3a): 67-69 years, 70-79 years, and 80 years and above. Acknowledging that there may be important differences by gender and ethnicity, we also stratify our analyses by gender and by ethnicity.

1.3. Summary of Cross-Sectional Findings (Wave 3a)

Demographic and socioeconomic characteristics.

- The mean age of older Singaporeans in the study was 75 years, with the highest proportion (52.6%) aged 70-79 years.
- The majority were female (54.5%), Chinese (84.2%), had primary education (31.3%), and lived with a spouse (31.2%) or with both a spouse and child (30.8%).
- The proportion living alone was 10.5%, while the proportion living alone or with a migrant domestic worker was 12.5%.
- Most resided in 4-room Housing Development Board (HDB) flats (36.6%).
- Most were married (63.4%). The rest were widowed (24.1%), never married (8.1%) or separated or divorced (4.4%).
- On average, older Singaporeans had 2.4 living children. More than 1 in 10 (12.4%) had no living children.
- Nearly 3 in 10 (29.5%) reported a monthly income between $1000-$1999, while 17.7% reported income less than $500.
- While a quarter (25.7%) reported having enough money with some left over, just over half (56.2%) felt that they had just enough money to meet their needs and 15.8% experienced some or much difficulty in meeting expenses.

Physical and functional health. Self-reported data across various physical and functional health indicators was captured.

- 38.6%, 35.5% and 29.0% of older Singaporeans rated their health, vision and hearing, respectively, as fair or poor.

- Just over half (51.3%) reported that they ever had been diagnosed by a medical professional with three or more chronic diseases. This proportion increased with age and was higher for females (55.5%) and Indians (65.6%).
- The four most common diagnosed chronic diseases were hypertension (59.2%), high blood cholesterol (55.6%), joint pain, arthritis, rheumatism or nerve pain (28.0%) and diabetes (27.1%). Hospitalisations attributed to these chronic diseases in the past six months were low.
- 13.1% reported difficulty with at least one Activity of Daily Living (ADL) and 8.4% reported difficulty with three or more ADLs.
- The most common ADL difficulty was for walking (around the house) (10.4%), followed by standing up from a bed/chair or sitting down on a chair or getting in and out of bed (9.7%), and taking a bath/shower (8.9%).
- 18.0% reported health-related difficulty with at least one Instrumental ADL (IADL), and 9.3% reported health-related difficulty with three or more IADLs.
- The most common health-related IADL difficulty was taking public transport to leave home (15.4%), followed by leaving the home to purchase necessary items or medications (11.2%) and dusting, cleaning up, and doing other light housework (8.5%).
- 20.6% had had at least one fall in the past year. This proportion was higher for those at older ages, females (23.7%) and Indians (22.2%). The mean number of falls was 1.6 and half (51.7%) of those who fell saw a doctor for fall-related injuries.
- Defining frailty as Clinical Frailty Scale (CFS) level 5 or higher, 17.3% of older Singaporeans were frail while 82.7% were non-frail. The proportion who was frail increased with age, was higher for females (21.2%) and Malays (25.9%).
- When using a lower threshold of CFS level 4 or higher to define frailty – based on the Ministry of Health's National Frailty Strategy Policy report (2023)[14] – about 5 in 10 (49.0%) of older Singaporeans were frail or severely frail. This proportion again increased by age and was higher for females (52.4%) and Indian (52.5%).

Psychological health. Depressive symptoms, personal mastery, psychological resilience, and quality of life were assessed.

- Clinically significant depressive symptoms were observed among 16.5% of older Singaporeans. This proportion increased with age and was higher for females (20.0%) and Indians (24.3%).
- The mean personal mastery score was 8.7 (out of 15), where higher scores represent greater personal mastery. It decreased with age, was higher for males and Malays.
- The mean psychological resilience score was 5.6 (out of 8), where higher scores represent greater psychological resilience. It was higher for those aged 67-69 years, males and Chinese.
- The mean overall quality of life score was 25.1 (out of 33). The mean control and autonomy sub-domain score was 12.5 (out of 18) while the pleasure and self-realisation sub-domain score was 12.6 (out of 15). Higher scores indicate a higher quality of life, overall or in the sub-domain. The overall quality of life mean score declined with age, was higher for males and the lowest for Indians.

Cognitive ability. Cognitive ability was assessed using the Abbreviated Mental Test (AMT), 10-word Immediate and Delayed Recall tests, and the Animal Fluency test.

- The mean AMT score was 9.2 (out of 10). AMT scores were lower among those aged 80 years and above and slightly higher for males and Chinese.
- The mean total immediate recall score was 18.9 (out of 30). The mean delayed recall score was 6.5 (out of 10). Immediate recall declined with age, with females outperforming males. Delayed recall showed a similar age-related decline.
- The mean Animal Fluency score was 12.9. Animal Fluency scores also decreased with age, with females and Chinese participants achieving higher averages.

Health behaviours. A range of health behaviours, including smoking, physical activity, health screenings, adherence to treatment plans for chronic conditions, and sleep quality, were enquired.

- Nearly 1 in 10 (8.9%) of older Singaporeans reported being current smokers, with it being more common among those aged 67-69 years (12.7%), males (18.0%), and Malays (15.5%).
- Six in ten (61.7%) met physical activity guidelines recommended by the World Health Organisation (WHO), with the proportion declining with age and being generally higher in males (65.9%) and Indians (70.4%).
- Only 15.0% had participated in formal exercise programs in the past 12 months, with the proportion being higher for females (20.5%) and Chinese (16.3%).
- Colorectal cancer screening, within the recommended duration, had been undertaken by 41.5%, with higher participation among males (43.1%) and Chinese (43.6%). Participation in cervical and breast cancer screening within the recommended duration by older females were lower at 24.8% and 22.8%, respectively.
- In the past one year, 65.6% had been screened for obesity, 59.0% for vision, and only 27.3% for hearing, with lower participation in older age groups and Chinese.
- Chronic disease screenings were more prevalent, with 95.1% having had blood pressure checked in the past two years, 88.7% having had blood sugar tested in the past three years, and 90.6% for lipid levels in the past three years, with lower rates among Malays.
- Most older Singaporeans (82.4%) ever diagnosed with chronic disease(s) reported that they had fully adhered to their prescribed treatment plans. Among ethnicities, this proportion was the lowest among Malays (67.3%).
- Sleep quality data indicated that 51.4% rarely or never struggled to fall asleep, while 1 in 4 (25.1%) experienced trouble most of the time because of waking up during the night.

Dental health. Dental health, including self-rated oral health, retention of natural teeth or use of dentures, and frequency of dental visits was assessed.

- About 7 in 10 (67.9%) of older Singaporeans rated their oral health as “Excellent”, “Very good”, or “Good”.
- Most (76.5%) retained at least one natural tooth, though the proportion decreased with age.
- Denture use was common (62.6%).

- One-fourth (25.6%) had visited a dentist in the past 6 months, but nearly one-third (29.3%) had not visited a dentist in over five years.

Healthcare Utilisation and Advance Care Planning. Healthcare service utilisation, satisfaction, and advance care planning was assessed.

- 2 in 3 (64.7%) of older Singaporeans with chronic condition(s) regularly visited polyclinics for treatment or follow-up care for their condition(s).
- The majority (89.2%) expressed high satisfaction with healthcare services.
- Awareness and engagement in advance care planning was low. Only 38.5% were aware of advance care planning, and only 20.0% had discussed or documented their healthcare preferences.

Vaccine attitudes and uptake. Past and/or planned uptake of influenza, pneumococcal, and COVID-19 vaccines was assessed.

- About 6 in 10 (59.9%) of older Singaporeans had received the influenza vaccine in the past 12 months, and 64.6% intended to take it again in the next 12 months. Those aged 80 and above were less likely to be vaccinated (54.7%).
- For the pneumococcal vaccine, 53.4% had taken it in the past, with higher uptake among Chinese (56.1%). Among those yet to take the vaccine, only 28.4% intended to take it in the future, with lower intention among females (26.9%).
- On the contrary, the COVID-19 vaccine uptake was high, with 91.8% having received three or more doses, and only 1.6% unvaccinated.

Experience with COVID-19, and changes in lifestyle since the onset of the COVID-19 Pandemic. Lifestyle changes since the onset of the COVID-19 pandemic were explored.

- 6 in 10 (61.0%) of older Singaporeans had ever tested positive for COVID-19. The proportion decreased with age and was higher for females (63.0%) and Chinese (61.6%).
- Among those who had ever tested positive, only 1 in 10 (10.0%) had ever been admitted to a hospital or care facility for COVID-19. This proportion was higher for those 80 years and above (22.1%) and Indians (19.4%).
- Most participants maintained their pre-pandemic habits, with certain habits seeing more pandemic-resultant changes. Nonetheless, COVID-19 was not highly cited as a main reason for behavioural changes over time in older Singaporeans.

Social engagement. Living arrangements, loneliness, social networks, and participation in social activities were assessed.

- 12.5% of older Singaporeans lived alone or only with a migrant domestic worker. This proportion increased with age, was higher for females (16.0%) and Indians (15.0%). The top three reasons for doing so were that they chose to live alone (59.6%), to maintain independence (25.7%), and never had children (20.6%).
- Loneliness affected just over half (53.5%) of older Singaporeans, with 23.9% being mostly lonely. The proportion of those mostly lonely was higher in those aged 80 years and above (28.6%), slightly higher in females (24.1%), and higher for Malays (31.3%) and Indians (32.3%) among the three major ethnicities.

- Social network scores indicated that 39.4% were at risk of social isolation. This proportion was higher for those aged 80 years and above (50.3%), males (40.2%) and Indians (42.7%).
- Participation in social activities varied, with the most common social activity being "meeting with someone or a group" (66.0%) and the least common being "attending an active ageing centre or senior care centre for exercise or activities" (18.0%).

Provision and receipt of transfers. One of the ways older adults receive support is through intragenerational and intergenerational transfers—that is, transfers from the same or other generations within their family and social networks. Thus, provision and receipt of transfers among older Singaporeans, including monetary, material, housework, emotional, and informational support in the past 12 months, was examined.

- The most common forms of transfers provided by older Singaporeans in the past 12 months were emotional support (44.7%) and material support (39.4%).
- Provision generally declined with age, and males were more likely than females to provide support, especially monetary support (26.8% vs. 11.5%).
- In contrast, receipt of transfers by older Singaporeans was more prevalent in the past 12 months, with at least half of older Singaporeans receiving monetary, material, housework, or emotional support.
- Receipt of support increased with age, and females were more likely than males to receive most types of support, except housework help.

Work and retirement. Work and retirement patterns, focusing on current work status, reasons for working, early retirement, and its motivations, were assessed.

- Overall, 15.5% of older Singaporeans worked full-time and 12.6% worked part-time. The proportion currently working (full- or part-time) decreased with age and was higher for males (36.6%) and Indians (33.9%). Motivations for working included keeping the mind active (60.4%), income and to pass time (both 57.1%), and maintaining good health (52.3%).
- About 4 in 10 (39.4%) of older Singaporeans had retired early. The proportion decreased with age, was higher for females (44.7%) and Malays (40.9%). The top three reasons were to take care of a family member, relative, or friend (35.6%), their own ill health (23.3%) and to spend more time with their spouse/family (14.6%).

Lifelong learning. Lifelong learning participation, focusing on the number of courses/ education/ trainings attended in the past 12 months, reasons for non-engagement, and preferences for future learning modes, were captured.

- Nearly 9 in 10 (86.2%) of older Singaporeans did not attend any course/ education/ training in the past 12 months.
- Among the 13.8% who did attend, and 7.8% attended only one course/ education/ training.
- The top three reasons for non-participation were lack of interest (35.9%), health limitations (27.4%), and family commitments (16.9%).
- Courses/education/trainings were mostly taken for non job-related reasons (66.9%).
- A majority preferred in-person learning (71.8%) over online learning (4.9%), with the remaining having equal preference for either mode (12.8%).

Volunteering. Participation in formal and informal volunteering over the past 12 months was assessed. Formal volunteering refers to unpaid help through groups, clubs or organizations, excluding financial support and anything done as part of one's job. Informal volunteering refers to unpaid help given, as an individual (not through a group, club or organization), to friends, neighbors, or someone else (not relatives).

- Formal volunteering in the past 12 months was reported by 17.0% of older Singaporeans, with participation decreasing with age and similar proportions observed between genders. The most common formal volunteering activities included visiting people (41.5%) and organising or assisting with events (30.9%). Health limitations (34.2%), lack of interest (24.1%), and family commitments (20.3%) were the top three barriers to participation in formal volunteering.
- Informal volunteering in the past 12 months was slightly more prevalent, with 18.7% participating. The proportion decreased with age, was higher for males (20.1%) and Chinese (18.9%). Informal volunteering activities commonly involved staying in touch with individuals who faced mobility challenges (45.6%) and assisting with errands (22.0%).

Use of digital devices and internet. Digital device use and online activities, phone and app utilisation, and device and app utilisation for health purposes was ascertained.

- Digital device use was widespread, particularly for smartphones, with 3 in 4 (76.3%) of older Singaporeans using them regularly. However, this proportion declined with age, especially among those aged 80 years and above, for whom smartphone usage was only 40.9%. Pedometers (19.6%) and tablets (15.3%) were less frequently while laptops (8.9%), desktops (6.9%) and smart watches (4.9%) were least frequently used.
- In terms of online activities in the past one-year, older Singaporeans commonly engaged in sending instant messages (72.6%), watching videos (46.6%), and engaging with online social networks (45.5%). Females tended to engage more in voice or video calls (44.0% vs 34.4%) and gaming (20.9% vs 12.8%) compared to males.
- In the context of health-related use, 26.2% of older Singaporeans had *ever* used the internet to access health information, with usage being higher among those younger (40.4%) and males (30.4%). 13.8% of older Singaporeans with high blood pressure and 13.0% with diabetes used the internet to manage their conditions, while 5.9% and 5.6% respectively used apps to track blood pressure and blood sugar levels in the past one year. Additionally, 8.8% used apps to remind them to take prescription medications in the past one year.

Neighbourhood perceptions. Older Singaporeans' perceptions toward their local area (defined as a 20-minute walk or about a kilometre from their home), specifically the availability of services, their physical accessibility to such services, and whether they felt safe on public transport, was examined.

- Nearly 9 in 10 participants (87.3%) reported that they found it easy to access the destinations they needed. This proportion decreased with age, was higher in males (91.6%) and similar across ethnicities.

- Perceptions of safety on public transport were positive, with 92.6% agreeing that they felt safe.
- Overall availability and accessibility of services in neighbourhoods were rated positively. Those younger and males were more likely to rate availability and accessibility more positively. Various aspects of neighbourhood cohesiveness were also rated positively. However, lesser older Singaporeans agreed that people in their area can be trusted (64.3%) or would help them if they were in trouble (60.7%).

***Experiences of discrimination*.** Frequency of perceived discrimination experienced by older Singaporeans in different situations was assessed.

- More than 8 in 10 older Singaporeans did not report experiencing discrimination in various situations (84.5%-96.3%). However, a small proportion reported instances of any discrimination, with the most common form of discrimination being treated with less respect (15.5%).
- 7.9% reported being treated with less respect or courtesy than others at least a few times a year, 3.6% reported receiving poorer service in restaurants or shops, 5.3% felt they were perceived as less clever and only 1.4% experienced threats or harassment. This proportion tended to decrease with age.

***Experiences of informal caregiving*.** Experiences of older Singaporeans who are informal caregivers for others was captured. Participants who provided or ensured provision of care to any person residing in or outside their household because of the person's health or physical condition without being paid for it were considered as 'informal caregivers'.

- Only 7.4% of older Singaporeans were informal caregivers and this proportion decreased with age. This proportion was higher for females (8.6%) and Malays (9.3%).
- Among them, 47.0% reported feeling moderately to extremely burdened by their caregiving role.
- On the other hand, 86.3% reported feeling more useful and 85.9% reported appreciating life more because of caregiving.

1.4. Summary of Longitudinal Findings (Waves 1 to 3a)

Physical and functional health

- Self-rated health improved from Wave 1 to Wave 2 but declined from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, declines were observed across age groups, both genders, the Chinese and Indians.
- The number of diagnosed chronic diseases increased from Wave 1 through Wave 3a. Increases were observed across age groups, gender and the Chinese.
- The number of health-related ADL difficulties increased from Wave 1 through Wave 3a. From Wave 2 to Wave 3a, increases were observed across age groups, genders and all three major ethnicities.
- The number of health-related IADL difficulties increased from Wave 1 through Wave 3a. From Wave 2 to Wave 3a, increases were observed in those aged 70-79 years and 80 years and above, both genders, the Chinese and Indians.

- Body Mass Index (BMI) decreased in Wave 2 but increased in Wave 3a. From Wave 2 to Wave 3a, increases were observed in those aged 70-79 years, males and Chinese.
- Hypertension prevalence remained stable from Wave 1 to 2 but increased from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, increases were observed in those aged 67-69 years and 70-79 years, females and the Chinese.
- Hand grip strength declined from Wave 1 through Wave 3a. From Wave 2 to Wave 3a, declines were observed across age groups, genders and all three major ethnicities.
- The proportion reporting any degree of limitation in activities based on the Global Activity Limitation Indicator (GALI) due to a health problem increased from Wave 1 through Wave 3a. From Wave 2 to Wave 3a, the increase was observed across age groups, genders and all three major ethnicities.

Psychological health

- The mean depressive symptoms score remained stable from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, increases were observed in those aged 70-79 years and 80 years and above, both genders, the Chinese and Malays.
- Personal mastery declined from Wave 1 to Wave 2 but remained unchanged in Wave 3a. From Wave 2 to Wave 3a, a decline was observed only in females and the Chinese.
- The mean quality of life score improved from Wave 1 to Wave 2 but declined from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, declines were observed across age groups, genders, the Chinese and Indians.

Cognitive ability

- The mean Abbreviated Mental Test (AMT) scores declined from Wave 1 through Wave 3a. From Wave 2 to Wave 3a, decline was observed across age groups, genders and all three major ethnicities.

Health behaviours

- Physical activity remained stable from Wave 1 to Wave 2 but declined from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, declines were observed across those aged 70-79 years and 80 years and above, both genders and the Chinese.

Healthcare utilisation

- The proportion who visited a private General Practitioner (GP) in the past three months decreased from Wave 1 to Wave 2. From Wave 2 to Wave 3a, the proportion remained stable, overall and across age groups, genders, and ethnic groups.
- The proportion who visited a polyclinic doctor in the past three months remained stable from Wave 1 to Wave 2 but decreased from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, decreases were observed in those aged 70-79 years and 80 years and above, both genders and the Chinese.
- The proportion who visited a doctor in a specialist outpatient clinic in the past three months remained stable from Wave 1 through Wave 3a. However, from Wave 2 to

Wave 3a, increases were observed in those aged 70-79 years, males and the Chinese.

- The proportion who visited a private specialist doctor in the past three months remained stable from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, increases were observed for those aged 70-79 years, both genders and the Chinese.
- The proportion who visited a Traditional Chinese Medicine (TCM) doctor or a traditional healer in the past three months remained stable from Wave 1 to Wave 3a, overall and across age groups, genders, and ethnic groups.

Social engagement

- The proportion living alone increased from Wave 1 through Wave 3a. From Wave 2 to Wave 3a, increases were observed in those aged 67-69 years and 70-79 years, both genders and the Chinese.
- The proportion living alone or only with a migrant domestic worker increased from Wave 1 through Wave 3a. From Wave 2 to Wave 3a, increases were observed in those aged 70-79 years and 80 years and above, both genders, the Chinese and Malays.
- The mean loneliness score remained stable from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, increases were observed across age group, both genders, the Chinese and Malays.
- The proportion with any loneliness remained stable from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, increases were observed across age groups, both genders, the Chinese and Malays.
- The mean social network score remained stable from Wave 1 to Wave 2 but declined from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, declines were observed across age groups, both genders, and all three major ethnicities.
- The proportion attending neighbourhood social activities increased from Wave 1 to 2 but remained unchanged from Wave 2 to Wave 3a.

Provision and receipt of transfers

- The proportion providing monetary support declined from Wave 1 to Wave 2 but remained stable from Wave 2 to Wave 3a. However, from Wave 2 to Wave 3a, a decline was observed for only those aged 70-79 years.
- The proportion providing housework help increased from Wave 1 to Wave 2 but declined from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, declines were observed in those aged 70-79 years and 80 years and above, both genders, the Chinese and Indians.
- The proportion providing food, clothes and other material support increased from Wave 1 to Wave 2 but remained stable from Wave 2 to Wave 3a. However, from Wave 2 to Wave 3a, a decline was observed for Indians.
- The proportion providing emotional support increased from Wave 1 to Wave 2 but declined from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, declines were observed for those aged 80 years and above, both genders, the Chinese and Indians.
- The proportion receiving monetary support remained stable from Wave 1 through Wave 3a. However, from Wave 2 to Wave 3a, an increase was observed for males.
- The proportion receiving housework help declined from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, increases were

observed in those aged 70-79 years and 80 years and above, females, and the Chinese.

- The proportion receiving food, clothes and other material support remained stable from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, increases were observed in those aged 67-69 years and 70-79 years, males and the Chinese.
- The proportion receiving emotional support remained stable from Wave 1 through Wave 3a, overall and across age groups, genders, and ethnic groups.

Work and retirement

- The proportion currently working (full or part time) declined from Wave 1 through Wave 3a. From Wave 2 to Wave 3a, declines were observed across age groups, both genders, and all three major ethnicities.

Lifelong learning

- The proportion who attended a course/ education/ training in the past 12 months declined from Wave 1 to Wave 2 and remained stable from Wave 2 to Wave 3a.
- The proportion who attended a course/ education/ training primarily for job-related reasons in the past 12 months remained stable from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, increases were observed in those aged 67-69 years and the Chinese.

Volunteering

- The proportion who engaged in formal volunteering remained stable from Wave 1 through Wave 3a. However, from Wave 2 to Wave 3a, a decline was observed in those aged 80 years and above.
- The proportion who engaged in informal volunteering declined from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. From Wave 2 to Wave 3a, increases were observed in those aged 67-69 years and 70-79 years, females and the Chinese.

1.5. Overview of Subsequent Chapters

Chapter 2 presents policy implications and recommendations of the cross-sectional and longitudinal findings. The detailed evidence underpinning these implications and recommendations is provided in subsequent chapters. **Chapter 3** presents the cross-sectional findings from Wave 3a, providing a detailed account of the cohort at that time of data collection. **Chapter 4** then examines longitudinal trajectories, focusing on variables consistently measured across all three waves to identify patterns and changes over time. Finally, detailed methodology and supplementary tables are presented in **Appendix A** and **Appendix B** respectively.

CHAPTER 2. POLICY IMPLICATIONS AND RECOMMENDATIONS

2.1. The policy landscape

In 2023, the Singapore government launched Age Well SG,[4] a national programme led by Ministry of Health (MOH), Ministry of National Development (MND) and Ministry of Transport (MOT) with the aim of helping older adults age well in their communities through three core pillars of initiatives: active ageing; strengthening support for seniors with care needs; and improving the physical living environment. Although THE SIGNS Study 3a was conceptualised prior to Age Well SG, some sections of the study overlap with the Age Well SG aims, thereby providing valuable insights to inform its implementation. In this chapter, we discuss key findings relevant to Age Well SG's thematic pillars. Under the active ageing pillar, we examine older adults' social participation, volunteering and lifelong learning, and digital inclusion. Under the care needs pillar, attention is given to physical frailty, preventive healthcare, and family caregiving. While THE SIGNS Study Wave 3a does not directly address the living environment pillar, related findings are contextualised where appropriate.

2.2. Social participation

Longitudinal analysis of Waves 1 and 2 of THE SIGNS Study has demonstrated that social participation in neighbourhood committees, clubs, or events is associated with a reduced likelihood of loneliness among older adults. Importantly, this beneficial effect is contingent on a minimum engagement frequency of at least weekly in order to matter significantly.[5] However, findings from THE SIGNS Study Wave 3a reveal comparatively low weekly participation rates in activities organised by neighbourhood committees (10.0%) and Active Ageing Centres (AACs) or Senior Care Centres (SCCs) (9.6%), relative to more commonly attended activities such as meeting with someone or a group (32.7%) or attending places of worship (19.5%).

Given the pivotal role of AACs in the implementation of national initiatives such as Age Well SG, Healthier SG, and preventive healthcare strategies, we further investigated underlying reasons for low attendance at AACs or SCCs. Wave 3a participants' perceptions about AAC or SCC availability and accessibility in their local area (defined as a 20-minute walk or about a kilometre from their home) were strongly correlated with attendance frequency at AACs or SCCs – those who rated availability and accessibility as excellent/very good had higher participation frequency. Notably, 20.6% of older adults responded "don't know" when asked to rate the availability of AACs/SCCs in their local area, and 21.3% of older adults responded "don't know" when asked to rate the accessibility of AACs/SCCs, pointing to a lack of awareness of AACs/SCCs among 1 in 5 older adults. Additional barriers to AAC/SCC attendance were physical frailty and employment. Demographically, males and those of Malay and Indian ethnicity were less likely to participate in AAC/SCC activities.

As the government continues to expand the national network of AACs, proactive and targeted outreach within the neighbourhoods and catchment areas will be crucial to increasing visibility and encouraging participation. Strengthening senior-friendly infrastructure and transport

options could boost accessibility, especially for frail older adults and those with mobility limitations. Recognising that a substantial proportion of older adults continue to work, as well as the prevalence of frequent attendance at places of worship, outreach efforts at workplaces and places of worship presents an untapped opportunity to engage the harder to reach groups. Additionally, programme offerings at AACs should be responsive to the diverse needs and interests of different ethnic communities and both genders. It will also help to provide purposeful and productive activities such as micro-jobs and volunteering opportunities.

Finally, as Wave 3a coincided with the transition to AACs, forthcoming analyses from Wave 3b (*data collection is ongoing and expected to conclude in 2025*) and Wave 4 (*planned to commence data collection in 2027*) will provide important insights into the effectiveness of these policies and the uptake of AAC participation over time.

2.3. Volunteering and lifelong learning

The international[6,7] and local[8,9] literature suggest that volunteering enhances older adults' quality of life, fostering a sense of purpose, social connectedness, and psychological well-being. However, in Wave 3a, only 27.0% of older Singaporeans engaged in formal or informal volunteering; this was lower than the numbers reported for those aged 65 and above in some other developed countries, such as 52.5% in New Zealand and 35.1% in Switzerland.[10] Furthermore, only 17.9% engaged in formal volunteering and 18.7% in informal volunteering. When asked about reasons for not engaging in formal volunteering, Wave 3a participants reported health limitations (34.2%), lack of interest (24.1%), and lack of time due to family commitments (20.3%) as the top three reasons. Among those citing health limitations: 17.8% had difficulty in one or more ADLs, 30.4% had health-related difficulty in one or more IADLs, 79.2% had difficulty in one or more physical function tasks, and 85.6% had 2 or more chronic conditions.

Based on these challenges, it is important to increase volunteering opportunities for older adults with health and mobility limitations, and to provide inter-generational and family-friendly volunteer opportunities for older adults balancing multiple commitments and roles. Given the proven benefits of volunteering,[11] efforts should focus on enhancing accessibility, offering flexible and tailored opportunities, and addressing barriers such as health and caregiving responsibilities to improve both participation rates and frequency of engagement. It is also important to provide a clear pathway for irregular and ad-hoc volunteers to gradually transition into regular and sustained volunteers in the long run.

Analysis of data of Waves 1 and 2 of THE SIGNS Study has also provided evidence for a bi-directional relationship between lifelong learning and volunteering,[12] underscoring the need for integrated approaches to promote both productive engagement activities among older adults. Despite this, participation remains low, with only about 1 to 2 in 10 older Singaporeans engaging in lifelong learning and volunteering (formal or informal). To address this gap, it is crucial to increase the visibility and accessibility of lifelong learning opportunities that are relevant and appeal to older Singaporeans.

2.4. Digital inclusion

Findings from the digital device and internet use module, first introduced in Wave 2, continue to underscore the important role of digital connectivity in the daily lives of older adults. Around three in four older Singaporeans reported using a smartphone either daily or on most days of the week. However, health-related use of the internet remained limited, with only 26.2% indicating that they had sought information about their own health or used online resources to help manage their health conditions in the past one year.

Marked age-based cohort differences were observed. Smartphone use declined from 93.8% among those aged 67-69 years to just 40.9% among those aged 80 years and above. Similarly, device use for health-related reasons dropped from 40.4% to 6.6% across these age groups. These disparities may be attributable to differences in education attainment, as well as poorer physical and functional health commonly experienced by the oldest old i.e. those aged 80 years and above, which may limit their ability or motivation to adopt and sustain digital practices.

Nonetheless, improvements in digital inclusion have been observed since Wave 2. Notably, the Seniors Go Digital initiative[13] introduced in mid-2020 (post-Wave 2), represents a targeted policy effort by the Singapore government to bridge the digital divide. Despite such advances, the finding that only about a quarter of older adults reported engaging in online health information seeking highlights the continued need for expansion of digital inclusion initiatives. Future programmes should not only enhance access but also focus on cultivating digital health literacy, empowering older adults to recognise the benefits, alongside limitations, of using the internet for health-related reasons.

In the context of nationwide digitalisation and increasing longevity, fostering digital health literacy and encouraging information-seeking behaviours among older adults, especially those aged 80 and above, holds considerable promise. Such efforts may strengthen their capacity and confidence in self-managing chronic conditions, thereby contributing to healthier ageing and reducing the burden on healthcare systems.

2.5. Physical frailty

Building on the Singapore Ministry of Health's Frailty Strategy Policy Report (2023),[14] we used Wave 3a data to provide a more granular picture of the distribution of physical frailty among older Singaporeans. Physical frailty is a major concern in population ageing; it directly affects older adults' quality of life and is an obstacle to active ageing and impairs access to health and social services[15] [16]. Hence, preventing or delaying physical frailty confers broad protective effects that can contribute to ageing well in the community.

Wave 3a highlights the extent of physical frailty among older Singaporeans. Approximately half (49.8%) who were classified as frail (Clinical Frailty Scale [CFS] level 4–6) and severely frail (CFS 7–8). The prevalence of both frailty and severe frailty increased dramatically in older age groups, and females were more likely to have frailty than men. The Singapore Ministry of

Health's Frailty Strategy Policy Report (2023) already outlines a comprehensive evidence-based intervention for each CFS level.[14] However, two implementation challenges remain central: (i) identifying appropriate location "touchpoints" for screening community-dwelling older adults into CFS levels and (ii) ensuring their sustained participation and retention in the recommended interventions designed to prevent physical frailty or delay progression of physical frailty.

Wave 3a findings proved added value by identifying institutional touchpoints frequently accessed by older adults across different frailty groups. Among providers of chronic disease care, the most frequently visited touchpoints for both robust (CFS 1–3) and frail/severely frail (CFS 4–6, CFS 7–8) older adults were polyclinics, followed by General Practitioners. Places of worship were also notable touchpoints for older adults. These insights can inform more targeted health and social interventions anchored around where frail older adults already seek care or community connection. Strategically embedding screening protocols within these familiar touchpoints could facilitate earlier identification, while linking recommended interventions to accessible community settings may improve both uptake and adherence.

2.6. Preventive healthcare

With the growing prevalence of chronic conditions among older Singaporeans, preventive healthcare has become an essential national priority. Wave 3a data indicate that polyclinics remain the most common providers of chronic disease treatment and follow-up, highlighting their central role in ongoing management. The launch of Healthier SG in July 2023 marked a significant policy shift, aiming to delay the onset of chronic conditions and promote healthier lifestyles through strong primary care and community support. While the initiative is still in its early stages, it presents an opportunity to encourage more older adults to actively partner with their family doctor and community healthcare professionals to take charge of their health as they age. Notably, close to 90% of older adults report being satisfied or very satisfied with healthcare services in Singapore — a sentiment that increases with age — offering a solid foundation on which to expend preventive strategies.

A critical prerequisite for this shift from acute to preventive care lies in increasing screening rates, particularly for conditions that are underdiagnosed or under-reported. In Wave 3a, the prevalence of self-reported vision and hearing impairment was 30.7% and 25.6% respectively, while Project Silver Screen (PSS),[17] a community-based screening program for vision, hearing and oral health, identified much higher proportions with abnormal vision (53.6%) and hearing (64.6%). Among functional screenings, hearing had the lowest participation rate (15.4%) despite having the highest prevalence of abnormal results in PSS. These findings are especially concerning given that hearing loss is strongly linked to declines in quality of life, functional ability, and cognition.[19] The discrepancy hence suggests that many older adults underestimate the extent of their vision and hearing impairment, potentially delaying treatment and reducing treatment/intervention uptake.[18] Integrating counselling for individuals with discrepancy between self-reported and objective assessments could improve treatment acceptance. Integrating PSS into platforms like *Healthier SG* or *HealthHub* could expand accessibility and raise participation. Logistical improvements such as convenient screening

venues, simplified referral pathways, and follow-up reminders would also further strengthen screening uptake.

Dental screening

Dental screening represents another preventive gap. Only 15% of older adults reported going for a dental checkup/scaling/cleaning in the past 6 months. Better oral hygiene reduces respiratory tract infections and cardiovascular disease, and promotes diet, nutrition, and social participation.[20] Until recently, subsidy structures such as the Community Health Assist Scheme (CHAS) , prioritised higher-cost procedures (e.g., root canals) rather than preventive services (e.g., check-ups, scaling, cleaning). However, from 1 October 2025, MOH has implemented enhanced CHAS subsidies that extend support to basic and preventive dental procedures (e.g., scaling, polishing, fluoride treatment) for CHAS Orange cardholders, alongside higher subsidies for restorative care for Pioneer and Merdeka Generations and lower-income groups. In addition, dental fee benchmarks for 18 common procedures have been introduced to promote transparency and affordability, while seniors aged 60 and above will be able to use up to $400 of Flexi-MediSave annually (from mid-2026) to offset costs of root canal treatments and permanent crowns.[21]

These financing changes represent a significant step forward in aligning subsidies with prevention. Nevertheless, challenges remain. Implementing reminder systems through the aforementioned platforms like *Healthier SG* and *HealthHub* could thus help track preventive dental visits and boost participation.

Cancer screening

Despite small improvements over the past decade, cancer screening rates remain below 50%. Cancer treatment is cheaper when detected earlier, so the low cancer screening rates are an opportunity to reduce costs (to MediShield and Out-of-pocket expenses).[22] [23] A strategy is needed to reach the older age group, which had much lower screening rates, such as through AACs or *Healthier SG*. The lower rates of cancer screening uptake compared to functional screening, which are often done in polyclinics and GP clinics, suggests the possibility of increasing awareness surrounding the importance of cancer screening in older adults through these usual touchpoints.

Vaccination

In Wave 3a, 59.9% of older Singaporeans reported receiving the influenza vaccine in the past 12 months, which was slightly higher than the Organisation for Economic Co-operation and Development (OECD) average of 55% in 2021.[24] This is encouraging, however, in our cohort, pneumococcal vaccination coverage stood at 53.4%, which was below the WHO global vaccination rate of 67% in 2024. [25] Evidence demonstrates that influenza vaccination among community-dwelling older adults during ten influenza seasons was associated with substantial reductions in hospitalisations for pneumonia or influenza and death.[26] Hence, there is a need to increase influenza vaccination rates among older Singaporeans.

A step in the right direction is that, under Healthier SG, all Singapore Citizens enrolled in the scheme are now eligible to receive nationally recommended vaccinations (e.g., influenza, pneumococcal, tetanus, HPV) free of charge at their enrolled Healthier SG clinic, with the sole exception of the shingles vaccine, which remains subsidised at a capped rate.[17] However,

vaccination in Singapore has traditionally relied heavily on individual initiative which may explain the suboptimal coverage. We recommend including integrating influenza vaccinations into routine primary care for older adults under an "opt-out" system at polyclinics, GP clinics, and hospitals – like the successful COVID-19 vaccination approach. Additionally, HealthHub can be leveraged to auto-enroll eligible older adults and deliver timely personalised reminders, ensuring seamless scheduling and follow-up.

In addition, recent policy developments further signal a shift towards expanding accessible vaccination touchpoints. In October 2024, MOH launched a sandbox initiative allowing trained community pharmacists to administer influenza vaccinations at selected Guardian, Unity, and Watsons community pharmacy outlets. Under this scheme, eligible Singaporeans pay the same subsidised rates as at CHAS GP clinics.[17] By embedding vaccination within pharmacies, this initiative strengthens convenience, reduces access barriers, and normalises vaccination as part of everyday preventive care. If scaled, the initiative could complement existing efforts in Healthier SG by integrating pharmacists more fully into team-based care models, alongside GPs and polyclinics, to drive preventive healthcare adoption. Evidence demonstrates the effectiveness of this approach. For instance, in the United States, over 90% of the population lives within 5 miles of a community pharmacy, and pharmacist-administered vaccination programmes (e.g., for influenza, pneumococcal, and COVID-19) have substantially increased national coverage rates[28] [29]. Similarly, in the United Kingdom, pharmacies have been integrated into the National Health Service's seasonal influenza vaccination programme, with studies showing improved accessibility and uptake.[30]

Empowering pharmacists to administer vaccines, provide tailored counselling, and proactively incorporate vaccination reminders into pharmacy management systems may not only enhance accessibility but also ensure consistent and repeated reinforcement of public health messages. In addition, pharmacies could serve as critical partners in outreach campaigns, leveraging their trusted relationships with older adults to bridge gaps in vaccination coverage. Integrating these services with existing national health platforms (e.g., *HealthHub*, the MOHT OCP app) would enable seamless scheduling, record-keeping, and follow-up reminders, thereby embedding vaccination into the routine care pathway. Ultimately, positioning community pharmacies as active collaborators in preventive healthcare could amplify national vaccination efforts, reduce reliance on hospital- and clinic-based services, and help normalise preventive behaviours as a routine part of ageing well.

2.7. Care needs

The ageing population in Singapore has led to a growing segment of older adults with complex and overlapping care needs. Data from Wave 3a show that these needs often intersect, involving combinations of medical, functional and cognitive challenges. Nearly one in five older Singaporeans (19.8%) experienced more than one of these challenges simultaneously. Specifically, 11.8% had both two or more chronic conditions and functional limitations (i.e. difficulty with at least one or more ADLs or IADLs), 3.5% had both two or more chronic conditions alongside cognitive impairment, 0.5% had functional limitations with cognitive impairment, and 4.0% faced all three challenges together.

When looking at those who faced only one type of challenge, over half (55.0%) reported having two or more chronic conditions alone, 1.6% had only functional limitations, and 1.0% had only cognitive impairment. These findings highlight the importance of recognising care needs as multi-dimensional rather than siloed. Rather than targeting individual conditions in isolation, support systems must account for the way that functional limitations, chronic illnesses, and cognitive decline often reinforce and compound one another. Older adults with more than one type of challenge are likely to require a broader and more sustained spectrum of support from family members, community services, and the healthcare system.

A majority of older adults with care needs (i.e., two or more chronic conditions, or functional limitations or cognitive impairment) reported receiving some form of help or support from their informal networks, including family members, friends, and migrant domestic workers. The types of support provided included material assistance, emotional support, help with housework, monetary transfers, and advice to cope with challenges. These forms of support varied depending on the specific care need. Among those with functional limitations, close to four in five (78.5%) received help with housework, and substantial proportions received material (73.7%) and monetary support (69.7%). Those with cognitive impairment also reported high rates of housework help (75.7%) and emotional support (69.3%). Older adults with two or more chronic conditions received slightly lower levels of support across all categories, though still a majority received housework help (59.4%) and material support (63.7%). Although material, emotional, and practical assistance were relatively common, fewer older adults received guidance on coping with or solve their problems. Less than half of respondents with functional limitations (46.5%) or with cognitive impairment (44.6%) reported receiving such advice, while only one-third (33.5%) of those with two or more chronic conditions did so. These figures point to a gap in care support – such support should extend beyond instrumental support, to informational support.

Given the complexity of care needs among Singapore's older population, enhancing the capabilities of family caregivers is a critical policy priority. Findings from THE SIGNS Study underscore the diversity of care challenges, which range from functional limitations to chronic disease management and cognitive decline. Addressing these challenges requires a level of preparedness and skill that many caregivers currently lack. This concern is reinforced by data from the Caregiving Transitions among Family Caregivers of Elderly Singaporeans (TraCE) study. Only 37 percent of caregivers surveyed in TraCE were aware of the existence of the Caregiver Training Grant, and just 5 percent had attended caregiver training programmes.[31] Beyond the statistics, caregivers themselves expressed a desire for more formal training opportunities that could better prepare them to handle the complex and sometimes unpredictable nature of caregiving, especially when multiple health issues are involved.

Considering these findings, there is a clear need to design and implement a more comprehensive, modular caregiver training framework. Such training should be easily accessible and tailored to different caregiving situations, equipping family members with the knowledge and confidence to care for older adults with varying and intersecting conditions. This initiative would not only support better outcomes for care recipients but also reduce the physical and emotional burden on caregivers. Ultimately, improving caregiver readiness aligns

with the broader goals of national ageing policies such as Age Well SG, which aim to build more resilient support structures for ageing-in-place.

The provision and receipt of transfers from and to older adults shifted from Wave 2 to Wave 3a. Older adults provided less housework help and emotional support while provision of monetary support and material support remained stable. Conversely, they received more housework help and material support while receipts of monetary support and emotional support remained stable. Considering the decline in physical and functional health of older Singaporeans over time, they have become more likely to receive instead of providing housework help. Increasing loneliness may also have a role in limiting the amount of emotional support older Singaporeans provide. These changing needs of older adults as they age could then form the foundation of future policy goals.

2.8. Conclusion

Overall, both the cross-sectional and longitudinal findings highlight the presence of age-based cohort differences, with the oldest-old, aged 80 years and older, consistently reporting poorer status across multiple physical, social and psychological health indicators. There is thus a continued need for stakeholders to refine and sustain care tailored to this population group, which is also the fastest growing segment of the older adult population in Singapore. Concurrently, equal amounts of attention should be given to the younger cohorts of older Singaporeans, especially with the younger-old leading the upward trend of older Singaporeans living alone. Alongside age-based heterogeneity, gender and ethnic heterogeneity also exists in physical, social and psychological health of older Singaporeans, cross-sectionally and over time. This further underscores the importance of additional scholarly and policy attention to such heterogeneity as well as tailored proactive health promotion, disease prevention, and early planning to mitigate the potential declines in physical, psychological and social health.

The findings emphasise Singapore's changing ageing landscape while spotlighting applaudable progress and areas for further improvement. New sections in Wave 3a also attest to the multifaceted nature of ageing and the importance of interdisciplinary approaches to study ageing. Current areas of concern — including increased depressive symptoms, higher prevalence of loneliness, reduced social networks, low cancer screening uptake, lower digital inclusivity among the oldest-old and lower feelings of trust and camaraderie within residential neighbourhoods — would thus require prompt action as our nation continues to age.

In summary, this report, alongside findings from THE SIGNS Study Waves 1 and 2,[2,3] offers a comprehensive understanding of older Singaporeans' health and social lives, over a period of eight years. The data highlights how individuals age, revealing emerging aged-based cohort differences over time. While many older Singaporeans continue to demonstrate resilience and active participation in family and community life, the data also highlights areas where targeted interventions are necessary. Nationally representative longitudinal studies, such as THE SIGNS Study, thus play a vital role in tracking temporal changes and informing evidence-based policies that support the well-being of older Singaporeans. The longitudinal nature of the study will continue to serve as a crucial resource for informing policies that

support productive and active ageing in Singapore, ensuring that older adults can live healthier, more fulfilling lives in the years ahead!

CHAPTER 3. CROSS-SECTIONAL FINDINGS

This chapter reports cross-sectional descriptive statistics, in 2023-2024, of older Singaporeans' demographic characteristics, physical, functional and psychological health, cognition, health behaviours, dental health, healthcare service utilisation, vaccine attitudes, COVID-19 and its impact, advance care planning, social engagement, provision and receipt of transfers, work and retirement, lifelong learning, volunteering, technology use, neighbourhood perceptions and perceived age discrimination. The descriptive statistics are presented for the overall sample, and by age group, gender and ethnicity.

Comparing with the Department of Statistics' distribution of Singapore residents by age, gender, and ethnicity (at end June, 2023), weighted proportions of Wave 3a participants mirrored that of the older adult population (**Appendix Table 1.2**). The calculation of cross-sectional weights can be found in **Section A1.8.**

3.1. Demographic and Socioeconomic Characteristics

This section provides a description of the participants' age, gender, ethnicity, educational level, living arrangement, housing type, marital status, number of living children, and household income adequacy.

Table 3.1.1 Age Group by Gender and Ethnicity

		Gender		Ethnicity			
	Total	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	723	812	1192	175	157	11
Age group (weighted %)							
67-69 years	24.4	26.3	22.8	23.8	30.2	27.2	0.0
70-79 years	52.6	54.4	51.2	52.4	52.3	52.6	82.0
80 years and above	23.0	19.3	26.0	23.8	17.4	20.2	18.0

Older Singaporeans aged 70-79 years formed the highest proportion (52.6%), followed by those aged 67-69 years (24.4%) and 80 years and above (23.0%). Across ethnicities, Malays were more likely to be in the youngest age group (30.2%) and less likely to be in the oldest age group (17.4%).

Table 3.1.2 Gender, Overall and by Age Group and Ethnicity

		Age Group (years)			Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	1192	175	157	11
Gender (weighted %)								
Male	45.5	49.1	47.0	38.3	45.6	44.9	46.1	46.6
Female	54.5	50.9	53.0	61.7	54.4	55.1	53.9	53.4

Overall, there were more females (54.5%) compared to males. Among age groups, the youngest age group was the most gender-balanced (50.9% female) and the oldest age group was the most gender-skewed (61.7% female), reflecting the higher life expectancy of females in Singapore. Among the three major ethnicities, Indians were the most gender-balanced (53.9% female).

Table 3.1.3 Ethnicity by Age Group and Gender

		Age Group (years)			Gender	
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**
n	1535	234	856	445	723	812
Ethnicity (weighted %)						
Chinese	84.2	82.2	83.8	87.3	84.3	84.2
Malay	9.1	11.2	9.0	6.9	8.9	9.2
Indian	5.9	6.5	5.9	5.2	6.0	5.8
Others	0.8	0.0	1.3	0.7	0.9	0.8

Most of the older Singaporeans were of Chinese ethnicity (84.2%), followed by those of Malay (9.1%), Indian (5.9%) and Other (0.8%) ethnicities. While the proportion of those of Chinese ethnicity increased with age, the ethnic distribution was similar among males and females.

Table 3.1.4 Education Level, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
Education level (weighted %)										
No formal education	23.0	8.3	19.3	46.9	11.2	32.8	23.7	21.6	16.9	9.9
Primary	31.3	35.0	30.1	28.2	33.0	29.9	31.2	30.7	37.8	1.7
Secondary	29.6	32.7	34.5	15.0	33.8	26.1	28.6	35.3	31.5	52.6
Tertiary	16.1	24.0	15.3	9.0	22.0	11.3	16.5	12.4	13.8	35.8

Among older Singaporeans, 23.0% had no formal education, 31.3% had primary education, 29.6% had secondary education, and 16.1% had tertiary education. By age group, the younger cohorts had higher educational attainment — 56.7% of those aged 67-69 years had secondary or tertiary education, compared to 49.8% of those aged 70-79 years, and 24.0% of those aged 80 years and above. Females were more likely to have no formal education (32.8%) versus males (11.2%), and less likely to have any of the higher levels of education. Among the three major ethnicities, those of Chinese ethnicity had the highest proportion of those with no formal education (23.7%) as well as those with tertiary education (16.5%).

Table 3.1.5 Detailed Living Arrangement (living alone or with migrant domestic worker only combined into one category), Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Detailed living arrangement (weighted %)										
Alone or with migrant domestic worker only	12.5	7.0	13.7	15.5	8.3	16.0	12.5	9.8	15.0	15.0
With spouse only	31.2	37.1	34.5	17.3	38.8	24.9	31.9	26.4	26.5	43.3
With child only	20.3	11.2	14.1	44.0	8.0	30.5	20.0	24.3	19.8	3.0
With child and spouse	30.8	39.1	31.4	20.6	39.7	23.4	30.0	37.1	33.0	25.1
With others only	5.3	5.7	6.3	2.6	5.2	5.3	5.5	2.4	5.7	13.6

Overall, a similar number of older Singaporeans lived with their spouse only (31.2%) or with a child and spouse (30.8%), followed by those who lived with a child only (20.3%). The proportion of those who lived alone or only with a migrant domestic worker was the highest among those aged 80 years and above (15.5%) and the lowest among those aged 67-69 years (7.0%). A higher proportion of females (16.0%) lived alone or with a migrant domestic worker compared to males (8.3%). Across the three major ethnicities, Indians were most likely to live alone or with a migrant domestic worker (15.0%), followed by Chinese (12.5%) and Malays (9.8%).

Table 3.1.6 Detailed Living Arrangement, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Detailed living arrangement (weighted %)										
Alone	10.5	7.0	11.8	11.0	7.1	13.2	10.8	7.8	9.2	15.0
With spouse only	31.2	37.1	34.5	17.3	38.8	24.9	31.9	26.4	26.5	43.3
With child only	20.3	11.2	14.1	44.0	8.0	30.5	20.0	24.3	19.8	3.0
With child and spouse	30.8	39.1	31.4	20.6	39.7	23.4	30.0	37.1	33.0	25.1
With others only	7.3	5.7	8.2	7.0	6.4	8.0	7.2	4.5	11.5	13.6

About 1 in 10 (10.5%) older Singaporeans lived alone, with the highest proportion (11.8%) among those aged 70-79 years. The proportion was nearly double for females (13.2%) compared to males (7.1%) and the highest among those of Chinese ethnicity (10.8%).
Additionally, 7.3% of older Singaporeans lived with someone other than a spouse or child (including a migrant domestic worker), with the highest proportion (8.2%) also among those aged 70-79 years. This proportion was slightly higher for females (8.0%) than males (6.4%) and the highest among those of Indian ethnicity (11.5%).

Table 3.1.7 Housing Type, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Housing type (weighted %)										
1/2-room HDB flat	7.8	6.7	7.4	9.6	8.9	6.8	7.1	12.3	9.2	9.9
3-room HDB flat	22.6	19.2	24.4	22.3	21.5	23.6	22.9	17.9	26.1	23.1
4-room HDB flat	36.6	36.9	36.9	35.6	35.9	37.2	35.4	44.7	41.2	34.9
5-room & above HDB flat	24.0	26.2	22.8	24.4	24.3	23.7	24.7	21.1	18.2	17.2
Private housing	9.0	11.0	8.6	8.1	9.5	8.7	9.8	4.0	5.5	14.9

HDB: Housing Development Board

The largest proportion of older Singaporeans resided in 4-room Housing Development Board (HDB) flats, overall and in each age group, gender and ethnicity. A greater proportion of Malays (12.3%) resided in 1/2-room HDB flats as compared to Indians (9.2%) and Chinese (7.1%). The distribution of house ownership, overall and by age group, gender and ethnicity, is provided in Appendix Table B2.

Table 3.1.8 Marital Status, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Marital status (weighted %)										
Married	63.4	77.7	67.3	39.2	80.2	49.3	63.4	63.5	61.7	68.4
Widowed	24.1	9.0	18.7	52.4	9.4	36.4	23.4	28.2	30.5	3.0
Separated from spouse	0.1	0.0	0.2	0.1	0.2	0.0	0.1	0.0	0.0	0.0
Divorced	4.3	6.6	3.6	3.5	3.0	5.5	4.3	5.8	1.6	9.9
Never married	8.1	6.7	10.2	4.7	7.1	8.9	8.7	2.5	6.2	18.7

A majority of older Singaporeans were currently married (63.4%), while 24.1% were widowed, and 4.3% divorced. The proportion currently married declined with age, reaching 39.2% for those aged 80 years and above, and was substantially higher among males (80.2%) compared to females (49.3%). About 4 in 10 females were widowed (36.4%) compared to males (9.4%), likely due to the higher life expectancy of females and the spousal age gap. The proportion of those who had never married was 8.1% overall, and highest for those aged 70-79 years (10.2%), followed by those aged 67-69 years (6.7%) and 80 years and above (4.7%).

Table 3.1.9 Number of Living Children, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Number of living children (weighted %)										
0	12.4	13.8	14.3	6.5	12.7	12.1	13.3	3.3	11.9	18.7
1	12.4	14.0	14.2	6.7	12.2	12.6	13.1	8.7	6.7	24.9
2	32.1	36.7	35.7	18.9	34.7	29.9	33.7	20.2	25.4	48.4
3	26.6	28.1	25.0	28.5	28.3	25.1	25.2	34.3	37.2	8.1
4 or more	16.6	7.4	10.9	39.4	12.1	20.3	14.8	33.5	18.8	0.0
Number of living children (weighted mean)										
Mean	2.4	2.0	2.1	3.5	2.3	2.5	2.3	3.3	2.6	1.5
SD	1.6	1.0	1.4	2.4	1.5	1.7	1.5	2.2	1.9	0.8

On average, older Singaporeans had 2.4 living children (comprising adopted and biological children), the number being higher among those among those aged 80 years and above (3.5) compared to those aged 67-69 years (2.0) and 70-79 years (2.1). Across ethnicities, Malays had the highest average number of living children (3.3) followed by Indians (2.6) and Chinese (2.3).

Among age groups, the most common number of living children varied. For those aged 67-69 years and 70-79 years, the most common number was 2 living children (36.7% and 35.7% respectively) and the least common was 4 or more living children (7.4% and 10.9% respectively). For those aged 80 years and above, the most common number was 4 or more living children (39.4%) and the least common was no living child (6.5%).

Between genders, the most common number of living children varied. For males, the most common number was 2 living children (34.7%) and the least common was 1 living child (12.2%). For females, the most common number was 2 living children (29.9%) and the least common was no living child (12.1%).

12.4% of older Singaporeans had no living child. The proportion decreased with age, was similar between genders and lowest for Malays (3.3%) among the three major ethnicities.
The distribution of the number of persons living in the household, overall and by age group, gender and ethnicity, is provided in **Appendix Table B3.**

Table 3.1.10 Living Arrangement of Children, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1352	203	740	409	644	708	1036	168	139	9
All children live with respondent	12.0	16.6	13.6	4.0	13.2	11.0	12.8	7.1	8.5	13.5
At least one child lives elsewhere (including overseas)	88.0	83.4	86.4	96.0	86.8	89.0	87.2	92.9	91.5	86.6
Children living outside household (weighted %)										
n[2]	1204	170	646	388	569	635	913	155	129	7
At least one child lives within a 20-minute walk	33.7	31.6	31.7	39.3	32.5	34.7	33.8	38.0	25.1	28.9
No child lives within a 20-minute walk	66.3	68.4	68.3	60.8	67.6	65.3	66.2	62.0	74.9	71.1

[1]Indicates the number of participants who reported having children.
[2]Indicates the number of participants who reported that at least one child *does not live* in the same household as them

Among older Singaporeans with at least one living child, 88.0% had at least one child living outside the older adult's household. The proportion increased with age, was higher for females (89.0%) than males (86.8%), and higher for Malays (92.9%) and Indians (91.5%) among the three major ethnicities.

Among older Singaporeans with at least one child living outside the older adult's household, more than 6 in 10 (66.3%) did *not* have at least one child living within a 20-minute walk from them. The proportion decreased with age and was higher for males (67.6%) than females (65.3%). Among the three major ethnicities, the proportion was highest for Indians (74.9%).

Table 3.1.11 Total Monthly Individual Income, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Total monthly (individual) income (weighted %)										
<$500	17.7	8.8	16.3	30.1	13.6	21.0	15.2	34.8	26.8	19.5
$500-$999	27.0	24.6	27.4	28.8	26.6	27.4	27.3	30.5	20.2	12.3
$1000-$1999	29.5	38.2	29.6	19.8	31.9	27.5	29.7	24.7	33.4	28.2
$2000-$2999	9.3	12.7	9.9	4.4	11.7	7.4	10.1	2.2	8.1	17.1
$3000-$3999	3.7	5.4	3.5	2.4	4.8	2.7	3.9	1.4	3.8	9.3
$4000-$4999	2.1	2.7	2.5	0.4	2.5	1.7	2.2	1.6	0.9	0.0
≥$5000	3.3	5.0	3.6	0.8	4.1	2.7	3.6	0.8	2.1	13.6
Don't know/ Refused	7.4	2.5	7.1	13.3	4.7	9.7	8.1	3.9	4.6	0.0

Overall, the largest proportion for total monthly individual income comprised of those who reported $1000-$1999 (29.5%), followed by those who reported $500-$999 (27.0%). Nearly 1 in 5 (17.7%) older Singaporeans reported having a total monthly individual income of <$500; the proportion increased with age, reaching 30.1% for those aged 80 years and older, was higher for females (21.0%) versus males (13.6%) and the highest for Malays (34.8%) across ethnicities.

Table 3.1.12 Income Adequacy, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
Income adequacy (%)										
Enough money, with some left over	25.7	30.6	26.2	19.4	26.0	25.5	26.0	25.3	20.2	37.2
Just enough money, no difficulty	56.2	54.1	56.6	57.5	54.8	57.4	56.2	60.6	48.1	62.8
Some difficulty to meet expenses	12.8	14.5	12.1	12.7	15.0	10.9	12.8	9.7	19.2	0.0
Much difficulty to meet expenses	3.0	0.5	3.1	5.4	2.5	3.4	2.5	2.7	10.4	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Participants were asked if they had adequate income to meet their monthly expenses. Overall, about 1 in 4 (25.7%) older Singaporeans reported that they had enough money with some left over, however the proportion declined with age, from 67-69 years (30.6%) to 80 years and above (19.4%). The proportion was similar between genders. Among the three major ethnicities, the proportion was the lowest for Indians (20.2%).

The proportion with some or much difficulty in meeting expenses increased with age, being 15.0% among those aged 67-69 years and increasing to 18.1% among those aged 80 years and above. The proportion was higher for males (17.5%) than females (14.3%). Among the three major ethnicities, the proportion reporting some or much difficulty in meeting expenses was highest among Indians (29.6%), followed by Chinese (15.3%) and Malays (12.4%).

3.2. Physical and Functional Health

This section provides the distribution of self-rated health, vision and hearing, the overall number of and top five chronic diseases diagnosed, difficulty with activities of daily living (ADLs) and instrumental ADLs (IADLs), body mass index (BMI), hand grip strength, overall and by age group, gender and ethnicity.

Self-Rated Health

Table 3.2.1 Self-Rated Health, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1436	231	834	371	684	752	1121	157	147	11
Self-rated health (weighted %)										
Excellent	3.5	3.3	3.3	4.6	3.6	3.5	4.0	0.9	1.0	5.1
Very good	14.7	18.3	14.7	9.3	16.6	12.9	14.8	11.8	12.7	40.0
Good	43.0	46.7	42.4	39.2	43.1	42.8	42.1	52.9	46.0	11.7
Fair	32.4	28.2	33.0	36.6	31.8	33.7	32.3	30.6	33.9	43.3
Poor	6.2	3.6	6.3	9.4	5.3	7.0	6.5	3.9	6.4	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on self-rated health (proxy participants were not asked the question).

About 4 in 10 older Singaporeans (38.6%) reported their health to be fair or poor. The proportion increased with age, reaching 46.0% among those aged 80 years and above. It was higher for females (40.7%) compared to males (37.1%). Among the three major ethnicities, the proportion was higher for Indians (40.3%) and Chinese (38.8%) compared to Malays (34.5%).

Table 3.2.2 Self-rated Vision and Hearing, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Self-rated vision (weighted %)										
Excellent	2.3	3.1	1.8	2.6	2.5	2.1	2.2	2.6	1.7	13.6
Very good	11.6	12.4	12.2	8.7	11.4	11.8	12.1	7.7	11.9	1.3
Good	50.4	54.2	51.1	42.6	51.8	49.1	49.2	56.6	55.9	58.6
Fair	29.8	27.6	29.7	33.1	29.2	30.3	30.3	29.6	25.5	14.3
Poor	5.7	2.8	5.0	12.1	4.5	6.8	5.9	3.5	4.3	12.3
No vision in both eyes	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.7	0.0
Self-rated hearing (weighted %)										
Excellent	2.0	1.1	2.8	0.9	1.6	2.3	1.9	2.7	2.5	0.0
Very good	12.1	14.0	12.1	9.5	11.5	12.6	12.1	9.1	16.9	6.4
Good	56.2	60.9	56.3	48.8	55.1	57.1	54.7	67.4	57.7	80.0
Fair	21.9	19.9	22.0	24.5	23.5	20.5	22.8	19.6	15.9	0.0
Poor	7.1	4.1	6.0	14.9	7.2	7.0	7.8	1.3	6.3	0.0
Unable to hear in both ears	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the questions on self-rated vision and hearing (proxy participants were not asked the questions).

More than one-third of older Singaporeans (35.5%) reported fair or poor vision. The proportion increased with age and was higher for females (37.1%) than males (33.7%). Among the three major ethnicities, the Chinese (36.2%) were more likely to report fair or poor vision compared to Malays (33.1%) and Indians (29.8%).

About 3 in 10 Singaporeans (29.0%) reported fair or poor hearing. The proportion increased with age and was higher for males (30.7%) than females (27.5%). Among the three major ethnicities, the Chinese (30.6%) were more likely to report fair or poor hearing compared to Malays (20.9%) and Indians (22.2%).

Chronic Diseases

Participants were presented with a list of chronic diseases and first asked if they had ever been diagnosed with any of the diseases by a medical professional. If they had been diagnosed with one or more chronic disease(s), then they were asked if they had been hospitalised in the past six months for any of the chronic diseases that they had reported. If the response was "yes", participants were asked for the number of hospital admissions and the respective health conditions they were admitted for. Those who reported having high blood pressure or hypertension were asked if they were taking any prescribed medications for it.

Table 3.2.3 Number of Chronic Diseases, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1531	234	855	442	719	812	1188	175	157	11
Number of chronic diseases (weighted %)										
0	8.8	9.8	11.0	2.6	9.5	8.2	9.4	5.6	5.8	0.0
1	18.1	22.5	18.7	12.3	18.7	17.7	18.3	21.7	10.4	23.5
2	21.8	24.2	20.9	21.4	25.6	18.7	22.7	16.6	18.2	20.1
≥3	51.3	43.6	49.5	63.7	46.3	55.5	49.7	56.2	65.6	56.4
Number of chronic diseases (weighted mean)										
Mean	2.9	2.6	2.7	3.5	2.7	3.0	2.8	3.0	3.6	3.1
SD	2.0	1.5	2.0	2.4	1.9	2.1	1.9	2.5	3.0	1.5

[1]Question was applicable to all 1535 participants; however, 4 participants did not respond and were excluded from the analysis.

51.3% of older Singaporeans reported that they ever had been diagnosed by a medical professional with three or more chronic diseases. The proportion increased with age, reaching 63.7% among those aged 80 years and above, was greater among females (55.5%) compared to males (46.3%), and was the highest amongst Indians (65.6%). Correspondingly, the average number of chronic diseases increased with age, was higher among females, and the highest among Indians.

The weighted prevalence of all chronic diseases is provided in **Appendix Figure B1**. The top five chronic diseases were 1) high blood pressure or hypertension, 2) high blood cholesterol or lipids, 3) diabetes, 4) joint pain, arthritis, or nerve pain, and 5) heart diseases other than coronary artery disease or heart failure. Their distribution, overall and by age group, gender and ethnicity, is provided in Tables 2.2.4 to 2.2.9.

Table 3.2.4 High Blood Pressure or Hypertension, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1531	234	855	442	719	812	1188	175	157	11
Diagnosed with high blood pressure/hypertension by a medical professional (weighted %)										
Yes	59.2	53.1	55.6	73.8	58.5	59.7	58.2	65.1	63.3	62.4
n[2]	929	129	487	313	432	497	709	113	102	5
Hospitalisation related to high blood pressure/hypertension in past 6 months (weighted %)										
Yes	0.7	0.5	0.7	1.0	0.5	0.9	0.7	1.0	0.8	0.0
Adherence to prescribed medication for high blood pressure/hypertension (weighted %)										
Prescribed medication and taking regularly	95.8	95.3	96.0	95.8	95.8	95.8	95.6	97.3	95.4	100.0
Prescribed medication but taking irregularly	1.2	0.0	2.1	0.4	1.4	1.0	0.9	1.7	3.5	0.0
Prescribed medication but not taking at all	0.7	2.0	0.4	0.2	1.4	0.1	0.8	0.0	0.0	0.0
Not prescribed medication	2.3	2.7	1.5	3.5	1.4	3.1	2.6	1.0	1.1	0.0

[1]Question was applicable to all 1535 participants; however, 4 participants did not respond and were excluded from the analysis.

[2] Question was applicable to the 929 participants who had self-reported to have been diagnosed with high blood pressure or hypertension.

Nearly 6 in 10 (59.2%) older Singaporeans had been diagnosed with hypertension, with the highest proportion being for those aged 80 years and above (73.8%) across age groups and for Malays (65%) across ethnicities. Hospital admissions in the past six months related to hypertension were relatively low (0.7%).

Among those diagnosed with hypertension, adherence to prescribed medication for hypertension was notably high (95.8%) overall, and across all age groups and both genders. Among ethnicities, Malays had the highest adherence at 97.3%, followed by Chinese at 95.6% and Indians at 95.4%. Only a small proportion (1.9%) reported being prescribed medication but taking it irregularly or not at all.

Blood Pressure

Table 3.2.5 Hypertension (Based on Measured Blood Pressure or Report of Taking Prescribed Antihypertension Medication), Undiagnosed Hypertension, and Systolic and Diastolic Blood Pressure Values, Overall and by Age Group, Gender and Ethnicity

	Age Group (years)				Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1515	232	851	433	710	806	1177	172	156	11
Hypertension (i.e., systolic blood pressure ≥ 140 mm Hg or diastolic blood pressure ≥ 90 mm Hg or taking prescribed antihypertension medication) (weighted %)										
%	72.7	67.7	71.2	81.5	72.8	72.5	72.5	72.6	75.7	63.6
Undiagnosed hypertension[2] (weighted %)										
%	13.6	13.3	15.4	9.7	13.6	13.6	14.4	7.8	13.3	1.3
Systolic blood pressure (mmHg; based on mean of last two of three readings) (weighted mean)										
Mean	136	134	136	138	136	136	136	135	133	130
SD	19	16	17	23	19	18	18	22	22	14
Diastolic blood pressure (mmHg; based on mean of last two of three readings) (weighted mean)										
Mean	73	75	73	70	73	73	73	74	72	71
SD	10	9	10	12	11	10	10	13	13	10

[1]Indicates the number of participants who had their blood pressure measured.
[2]Undiagnosed hypertension refers to participants who were classified to have hypertension based on measured blood pressure or report of taking prescribed antihypertension medication, *but* reported that they had never been diagnosed with high blood pressure or hypertension by a medical professional.

Participants with blood pressure measurements were classified as having hypertension if the average value of their second and third systolic blood pressure readings was greater than 140 mm Hg, *or* the average value of their second and third diastolic blood pressure readings was greater than 90 mm Hg, *or* they reported that they were currently on antihypertension medication. Based on this classification, nearly 3 in 4 (72.7%) older Singaporeans had hypertension. The proportion increased with age, reaching 81.5% among those aged 80 years and older, was similar among males (72.8%) and females (72.5%), and the highest among Indians (75.7%) across ethnicities.

Subsequently, the proportion with undiagnosed hypertension – i.e., classified to have hypertension based on measured blood pressure or report of taking prescribed antihypertension medication, *but* had never been diagnosed with high blood pressure or hypertension by a medical professional – was ascertained. Undiagnosed hypertension was observed in 13.6% of older Singaporeans. The proportion was the highest among those aged 70-79 years (15.4%), equally high among males and females (13.6%), and the highest (14.4%) among Chinese across ethnicities.

Mean values for systolic blood pressure increased with age while those for diastolic blood pressure decreased with age. The mean systolic and diastolic blood pressure values did not differ by gender. Among the three major ethnicities, the systolic blood pressure values were highest for Chinese while diastolic blood pressure values were highest for Malays.

Table 3.2.6 High Blood Cholesterol, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1531	234	855	442	719	812	1188	175	157	11
Diagnosed with high blood cholesterol by a medical professional (weighted %)										
Yes	55.6	54.6	54.9	58.5	51.4	59.2	54.1	63.4	66.7	44.5
n[2]	880	135	477	268	393	487	659	113	104	4
Hospitalisation related to high blood cholesterol in the past 6 months (weighted %)										
Yes	0.4	0.5	0.4	0.9	0.7	0.4	0.4	2.1	0.0	0.0

[1]Question was applicable to all 1535 participants; however, 4 participants did not respond and were excluded from the analysis.
[2]Indicates the number of participants who had been diagnosed with high blood cholesterol.

Just over half (55.6%) of older Singaporeans had been diagnosed with high blood cholesterol. The proportion increased with age and was higher among females (59.2%) compared to males (51.4%). Among the three major ethnicities, the proportion was highest among Indians (66.7%) and Malays (63.4%) followed by Chinese (54.1%). Hospitalisations attributed to high blood cholesterol or lipids were low (0.4%).

Table 3.2.7 Diabetes, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1531	234	855	442	719	812	1188	175	157	11
Diagnosed with diabetes by a medical professional (weighted %)										
Yes	27.1	23.6	27.3	30.2	27.7	26.5	24.3	35.6	51.8	37.1
n[2]	448	65	248	135	218	230	298	69	78	3
Hospitalisation related to diabetes in the past 6 months (weighted %)										
Yes	1.3	0.0	2.4	1.9	2.2	1.3	1.5	5.2	0.0	0.0

[1]Question was applicable to all 1535 participants; however, 4 participants did not respond and were excluded from the analysis.
[2]Indicates the number of participants who had been diagnosed with diabetes.

Just over one in four (27.1%) of older Singaporeans had been diagnosed with diabetes. The proportion increased with age, was higher among males (27.7%) versus females (26.5%), and was the highest for Indians (51.8%) across ethnicities. Hospitalisations related to diabetes in the past six months were low (1.3%).

Table 3.2.8 Joint Pain, Arthritis, Rheumatism or Nerve Pain, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1531	234	855	442	719	812	1188	175	157	11
Diagnosed with joint pain, arthritis, rheumatism or nerve pain by a medical professional (weighted %)										
Yes	28.0	25.4	26.5	34.0	22.1	32.9	27.7	28.4	33.4	14.4
n[2]	428	64	64	140	162	266	330	425	50	3
Hospitalisation related to joint pain, arthritis, rheumatism or nerve pain in the past 6 months (weighted %)										
Yes	2.4	1.7	3.1	2.6	2.6	2.7	2.8	0.0	4.6	0.0

[1]Question was applicable to all 1535 participants; however, 4 participants did not respond and were excluded from the analysis.
[2]Indicates the number of participants who had been diagnosed with joint pain, arthritis, rheumatism or nerve pain.

Just over 1 in 4 (28.0%) older Singaporeans had been diagnosed with joint pain, arthritis, rheumatism or nerve pain. The proportion increased with age, was higher for females (32.9%) than males (22.1%), and was the highest for Indians (33.4%) across ethnicities. Hospitalisations related to joint pain, arthritis, rheumatism or nerve pain in the past six months were relatively low (2.4%).

Table 3.2.9 Heart Diseases Other Than Coronary Artery Disease or Heart Failure, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1531	234	855	442	719	812	1188	175	157	11
Diagnosed with heart diseases other than coronary artery disease or heart failure by a medical professional (weighted %)										
Yes	9.7	6.4	9.7	13.3	10.5	9.0	9.7	8.2	12.1	7.9
n[2]	156	17	82	57	82	74	125	13	17	1
Hospitalisation related to heart diseases other than coronary artery disease or heart failure in the past 6 months (weighted %)										
Yes	3.8	13.5	1.2	2.7	6.1	0.6	2.1	15.9	3.9	0.0

[1]Question was applicable to all 1535 participants; however, 4 participants did not respond and were excluded from the analysis.
[2]Indicates the number of participants who had been diagnosed with heart diseases other than coronary artery disease or heart failure.

About 1 in 10 (9.7%) of older Singaporeans had been diagnosed with heart diseases other than coronary artery disease or heart failure. The proportion increased with age to 13.3% among those aged 80 years and above, was slightly higher for males (10.5%) than females (9.0%), and was the highest for Indians (12.1%) across ethnicities.

3.8% of those diagnosed with heart diseases other than coronary artery disease or heart failure reported being hospitalised due to the condition, in the past six months, with a higher proportion among those aged 67-69 years (13.5%), males (6.1%) and Malays (15.9%).

Activities of Daily Living (ADLs)

ADL difficulty was assessed in terms of difficulty in performing a set of daily self-care activities due to a health or physical condition without the assistance of a person or assistive device. Participants were asked whether they found an activity difficult or not difficult (reported in **Table 3.2.10**). Those who reported that an activity was difficult were further asked how difficult it was for them to perform this activity by themselves (reported in Appendix Table B4).

Table 3.2.10 Activities of Daily Living (ADL) Difficulty, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
Activity of Daily Living	**Total**	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1531	234	855	442	719	812	1188	175	157	11
Reported difficulty in the activity (weighted %)										
Walking (around the house)	10.4	3.5	6.2	27.3	8.2	12.2	9.7	18.4	9.5	0.0
Standing up from a bed/chair; sitting down on a chair	9.7	3.0	5.6	26.4	7.8	11.3	8.7	18.6	11.7	0.0
Taking a bath/shower	8.9	3.1	4.8	24.5	7.6	10.0	8.2	14.8	11.1	0.0
Dressing up	8.7	3.0	5.3	22.4	7.8	9.4	7.9	15.7	10.4	0.0
Using the sitting toilet	7.1	2.6	4.4	18.2	6.4	7.7	6.3	15.0	7.9	0.0
Eating	4.5	2.3	2.5	11.4	4.9	4.2	3.8	12.2	2.5	0.0
Number of ADL difficulties (weighted %)										
None	86.9	95.9	91.6	66.2	89.5	84.6	87.6	79.7	85.3	100.0
1-2	4.8	1.0	4.0	10.6	3.6	5.8	5.1	2.0	5.6	0.0
3-4	2.4	0.7	1.0	7.2	1.2	3.3	1.9	6.6	2.6	0.0
5-6	6.0	2.4	3.4	16.0	5.8	6.3	5.4	11.8	6.6	0.0

[1]Question was applicable to all 1535 participants; however, 4 participants did not respond and were excluded from the analysis.

Overall, the most common ADL difficulties among older Singaporeans were walking around the house (10.4%) and standing up from a bed/chair or sitting down on a chair (9.7%). These were followed by taking a bath/shower (8.9%), difficulty in dressing up (8.7%), using the sitting toilet (7.1%), and lastly, eating (4.5%). This pattern was largely observed for all age groups, genders and ethnicities.

For each ADL, the proportion who reported difficulty increased with age, was higher for females versus males and the highest for Malays across ethnicities. 13.1% of older Singaporeans reported having at least one ADL difficulty, comprising 4.8% having difficulty with 1-2 ADLs 2.4% having 3-4 ADL difficulties, and 6.0% having 5-6 ADL difficulties. The proportion with any ADL difficulty increased with age, doubling from those aged 67-69 years (4.1%) to those aged 70-79 years (8.4%), and rising even more for those aged 80 years and above (33.8%). More females (15.4%) reported any ADL difficulty compared to males (10.5%). Among ethnicities, the proportion was the highest amongst Malays (20.3%).

The distribution of the requirement of human assistance for ADL by age group, gender and ethnicity is provided in **Appendix Table B5**.

Instrumental Activities of Daily Living (IADLs)

Health-related IADL difficulty was assessed in terms of difficulty in performing a set of daily activities of independent living considered more complex than ADLs, due to a health or physical condition and without the assistance of a person or assistive device. Participants were asked whether they found an activity difficult or not difficult due to health reasons (reported in **Table 3.2.11**). Those who reported that an activity was difficult were further asked how difficult it was for them to perform this activity by themselves (reported in **Appendix Table B6**). Individuals who reported that they did not perform the activity due to non-health reasons (possibly due to gender roles etc.) were considered *not* to have health-related difficulty in the activity.

Table 3.2.11 Health-related Instrument Activities of Daily Living (IADL) Difficulty, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
Instrumental Activity of Daily Living	**Total**	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1531	234	855	442	719	812	1188	175	157	11
Reported health-related difficulty in the activity (weighted %)										
Leaving the home to purchase necessary items or medications	11.2	4.9	6.9	28.1	7.6	14.3	10.3	21.2	11.0	0.0
Taking public transport to leave home	15.4	5.8	9.3	39.9	10.8	19.3	14.8	23.9	14.2	0.0
Dusting, cleaning up and other light housework	8.5	3.7	5.3	20.9	6.9	9.9	7.8	17.0	6.9	0.0

Reported health-related difficulty in the activity (weighted %)										
Preparing own meals	6.5	2.7	4.4	15.5	5.4	7.5	5.8	15.2	4.5	0.0
Taking medication as prescribed	6.9	2.3	3.3	20.4	6.0	7.7	6.6	13.1	3.4	0.0
Using the phone	6.3	2.3	2.9	18.6	6.1	6.5	6.1	12.3	2.0	0.0
Taking care of financial matters e.g. paying utilities (electricity, water)	5.3	2.9	3.7	11.5	4.8	5.7	4.4	14.8	4.0	0.0
Number of health-related IADL difficulties (weighted %)										
None	82.0	93.6	88.4	54.8	87.4	77.5	82.8	74.0	79.8	100.0
1-2	8.7	3.0	6.3	20.4	5.1	11.7	8.5	7.1	15.1	0.0
≥3	9.3	3.3	5.3	24.8	7.5	10.8	8.6	18.8	5.2	0.0

[1]Question was applicable to all 1535 participants; however, 4 participants did not respond and were excluded from the analysis.

The largest proportion for health-related IADL difficulty was for taking public transport to leave home (15.4%) followed by leaving the home to purchase necessary items or medication (11.2%). This pattern was largely observed for all age groups, genders and ethnicities. For each ADL, the proportion who reported health-related difficulty increased with age, was higher for females versus males and the highest for Malays across ethnicities.

18.0% of older Singaporeans had at least one health-related IADL difficulty, comprising an slightly lower proportion experiencing health-related difficulty with 1-2 IADLs (8.7%) compared to those with three or more IADLs (9.3%). The proportion with any health-related IADL difficulty increased with age, was higher among females (22.5%) compared to males (13.2%), and was the highest among Malays (25.9%) across ethnicities.

The distribution of the requirement of human assistance for IADL by age group, gender and ethnicity is provided in **Appendix Table B7**.

Falls

Participants were asked if they had experienced a fall in the past year, how many times they had fallen, and whether they had sustained injuries serious enough that they had to see a doctor.

Table 3.2.12 Falls in the Past One Year and Doctor Visits Attributed to Falls, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Fallen in the past one year (weighted %)										
Yes	20.6	17.1	19.1	27.7	17.0	23.7	20.6	18.1	22.2	32.4
n[1]	320	42	165	113	131	189	247	37	33	3
Number of falls (weighted mean)										
Mean	1.6	1.6	1.7	1.6	1.6	1.7	1.6	1.9	1.6	1.2
SD	1.0	0.9	1.1	1.0	1.1	1.0	0.9	2.0	1.1	0.7
Doctor visit due to an injurious fall (weighted %)										
Yes	51.7	50.6	49.6	55.7	44.1	56.2	52.4	47.9	57.2	0.0

[1]Indicates the number of participants who reported a fall.

About 2 in 10 (20.6%) of older Singaporeans had fallen in the past one year. This proportion increased with age and was higher for females (23.7%) than males (17.0%). Among the three major ethnicities, Indians (22.2%) were more likely to have experienced a fall in comparison to Chinese (20.6%) and Malays (18.1%).

The mean number of falls was 1.6. This number was higher for those aged 70-79 years, females and Malays.

Among those who fell, about half (51.7%) saw a doctor due to an injurious fall. This proportion was higher in those aged 80 years and above (55.7%), females (56.2%) and Indians (57.2%).

Physical Function

The presence of difficulty in physical function, involving the upper or lower extremities, was measured using Nagi's measures of physical function (**detailed in Appendix A1.9**).

Table 3.2.13 Physical Function Difficulty, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
Physical Function	**Total**	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1531	234	855	442	719	812	1188	175	157	11
Reported difficulty in the physical function (weighted %)										
Stand (without sitting) for 2 hours	40.2	26.0	33.6	60.3	33.7	45.6	39.4	47.4	39.5	38.2
Climb 10 steps without resting	27.5	16.9	20.6	54.4	19.7	33.9	26.1	38.5	31.4	15.0
Stoop or bend knees	26.6	17.5	22.3	45.9	21.7	30.6	25.3	34.9	29.8	39.9
Lift an object weighing approx. 5 kg	20.5	7.9	15.6	44.9	12.6	27.0	18.7	35.5	21.0	33.1
Walk 200 to 300 meters	18.6	8.6	11.5	45.4	12.5	23.6	17.1	31.5	20.6	9.9
Continue to sit for 2 hours	10.0	7.1	7.2	19.7	7.9	11.8	8.9	18.5	12.7	9.9
Raise hands above head	7.2	4.6	4.7	15.8	5.2	8.9	7.0	11.7	3.1	9.9
Grasp with fingers or move fingers easily	5.1	3.5	3.0	11.8	4.5	5.7	4.5	12.8	2.0	9.9
Extend arms out in front as if to shake hands	5.0	3.6	2.6	11.8	4.1	5.7	4.4	11.5	1.6	9.9
Number of physical function difficulties (weighted %)										
At least one	51.5	37.5	45.9	79.5	44.0	57.8	50.8	57.1	55.7	39.9

[1]Question was applicable to all 1535 participants; however, 4 participants did not respond and were excluded from the analysis.

The top three most common physical function difficulties were standing without sitting for 2 hours (40.2%), climbing 10 steps without resting (27.5%) and stooping or bending knees (26.6%). This pattern was largely observed for all age groups, genders and ethnicities. For each physical function, the proportion who reported difficulty increased with age, was higher for females versus males and the highest for Malays across the three major ethnicities.

Just over half (51.5%) of older Singaporeans reported at least one physical function difficulty. The proportion increased with age, was higher for females (57.8%) and Malays (57.1%).

Long-term overall disability

Long-term overall disability was assessed using the Global Activity Limitation Indicator (GALI), **(detailed in Appendix A1.9).**

Table 3.2.14 Global Activity Limitation Indicator (GALI), Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1531	234	855	442	719	812	1188	175	157	11
Extent of limitation in activities due to a health problem in the past 6 months (weighted %)										
Not limited at all	70.1	81.5	76.7	42.5	74.6	66.3	71.4	56.7	68.1	93.2
Limited but not severely	20.6	14.7	18.3	32.3	18.0	22.8	20.4	24.4	19.5	6.9
Severely limited	9.2	3.8	4.8	25.2	7.5	10.7	8.1	18.5	12.4	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Question was applicable to all 1535 participants; however, 4 participants did not respond and were excluded from the analysis.

9.2% of older Singaporeans reported being severely limited because of a health problem in activities people usually do. This proportion increased with age, was higher for females (10.7%) than males (7.5%), and highest for the Malays (18.5%) among the three major ethnicities.

Body Mass Index (BMI)

BMI screens for weight categories that may lead to increased risk of health problems. Standing height and weight measurements were taken and used for the BMI calculation. BMI (weight in kg/square of the height in m [kg/m^2]) was calculated and categorised as per the WHO Asian and international classifications **(detailed in Appendix A1.9).**

Table 3.2.15 Body Mass Index (BMI), Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
BMI	**Total**	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1366	221	789	356	639	727	1085	147	125	9
BMI risk categories for cardiovascular disease and diabetes – Asian classification (weighted %)										
Underweight	5.7	6.5	4.8	7.3	5.0	6.3	6.4	1.9	1.0	0.0
Low risk	32.0	27.2	32.2	37.9	32.3	31.7	33.6	19.9	25.7	27.6
Moderate risk	41.7	43.1	43.2	35.3	43.6	40.2	42.9	34.2	33.3	48.6
High risk	20.6	23.1	19.8	19.6	19.2	21.9	17.1	44.1	40.0	23.8
BMI categories – WHO classification (weighted %)										
Underweight	5.7	6.5	4.8	7.3	5.0	6.3	6.4	1.9	1.0	0.0
Normal weight	52.3	47.9	53.8	54.1	53.1	51.6	54.8	34.7	39.3	53.4
Overweight	31.4	34.0	30.5	30.4	33.7	29.4	30.5	37.0	37.0	31.7
Obesity	10.6	11.6	10.9	8.3	8.2	12.7	8.3	26.4	22.7	14.9
BMI (weighted mean)										
Mean	24.6	25.0	24.6	24.1	24.4	24.8	24.2	27.4	26.8	25.1
SD	4.4	3.6	4.5	5.3	3.9	4.8	3.9	6.9	6.4	3.5

[1]Indicates participants with measured weight and height values, allowing for the calculation of BMI.

Based on the Asian BMI risk categories for cardiovascular disease and diabetes, 2 in 10 (20.6%) older Singaporeans were at high risk while 4 in 10 (41.7%) were at moderate risk. The proportion at high risk decreased with age, was higher in females (21.9%) versus males (19.2%), and much higher for Malays (44.1%) and Indians (40.0%) across ethnicities. On the other side, the proportion who were underweight was 5.7%; the proportion was higher among those aged 80 years and above, females (6.3%) versus males (5.0%) and the highest for Chinese (6.4%) across ethnicities.

Based on the WHO classification, 1 in 10 (10.6%) older Singaporeans had obesity and 3 in 10 (31.4%) had overweight. The proportion with obesity decreased with age, was higher for females (12.7%) versus males (8.2%), and much higher for Malays (26.4%) and Indians (22.7%) across ethnicities.

The mean BMI of older Singaporeans was 24.6 kg/m^2. It decreased with age and was comparable between genders. Among the three major ethnicities, Malays (27.4 kg/m^2) and Indians (26.8 kg/m^2) had higher mean BMI than Chinese (24.2 kg/m^2).

Hand Grip Strength

Hand grip strength was measured using a spring-type dynamometer for participants who had not had surgery or experienced any injury, inflammation, pain or swelling on the hand used for measurements. Measured in kg, a *higher value* denotes *stronger hand grip strength*. We also classified participants as having 'low hand grip strength' if their dominant hand grip strength value was less than the single-year age- and gender-specific 20th percentile normative values of hand grip strength that have previously been defined for healthy older Singaporeans.

Table 3.2.16 Hand Grip Strength, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1346	220	771	355	638	708	1055	151	130	10
Hand grip strength (kg) (mean value for dominant hand from two measurements) (weighted mean)										
Mean	20.2	22.5	20.5	16.5	24.9	16.2	20.3	19.4	18.9	25.3
SD	6.6	5.4	6.4	6.8	5.9	4.1	6.8	5.9	7.9	5.7
Low hand grip strength (weighted %)										
Low hand grip strength	22.3	21.6	19.2	31.8	31.0	14.9	21.4	30.3	28.3	0.0

[1]Applicable to all 1535 participants, however, dominant hand grip strength measurement was not conducted for 189 participants, who were excluded from the analysis.

The mean hand grip strength of older Singaporeans was 20.2 kg. The mean value decreased with age and was lower among females (16.2 kg) versus males (24.9 kg). Among the three major ethnicities, Indians (18.9 kg) had the lowest hand grip strength.

About 2 in 10 (22.3%) older Singaporeans had low hand grip strength. The proportion was lowest for those aged 70-79 years (19.2%) and higher for males (31.0%) than females (14.9%). Among the three major ethnicities, Malays (30.3%) and Indians (28.3%) were more likely to have low hand grip strength compared to Chinese (21.4%).

Short Physical Performance Battery

Physical performance was assessed using the Short Physical Performance Battery (SPPB) (**detailed in Appendix A1.9**). A score of ≤9 has been identified as the cutoff to identify community-dwelling older adults at risk of physical frailty.

Table 3.2.17 Short Physical Performance Battery (SPPB) Score, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1062	200	651	211	508	554	849	106	98	9
SPPB Score (weighted mean)										
Score	8.7	9.3	8.7	7.3	8.7	8.7	8.8	7.7	8.0	10.0
SD	1.9	1.3	1.9	2.5	1.9	1.9	1.7	2.4	2.5	1.1
SPPB risk categories (weighted %)										
At risk of physical frailty (score ≤9)	59.3	42.2	62.4	84.2	59.0	59.6	57.5	75.0	71.8	30.2

[1]Indicates the number of participants with valid scores for all three SPPB tests (i.e. standing balance, gait speed, repeated chair stand)

The average SPPB score among older Singaporeans was 8.7. The score decreased with age, was identical between genders and higher for Chinese (8.8) compared to Malays (7.7) and Indians (8.0) across the three major ethnicities.

Almost 6 in 10 (59.3%) older Singaporeans were at risk for physical frailty. This proportion increased with age, was similar between genders and highest for Malays (75.0%) among the three major ethnicities.

The breakdown of each test within the SPPB (i.e. standing balance, gait speed, repeated chair stand) among age groups, genders and ethnicities is provided in **Appendix Tables B8-10**

Physical Frailty

First, the detailed CFS classification – for each of CFS 1 to CFS 9 – was derived *retrospectively* using a classification tree developed by Theou et al[32] to support consistent and routine scoring of physical frailty in clinical and research settings. In THE SIGNS Study Wave 3a, this classification tree was applied using a selected set of questions from the survey questionnaire *(the specific questions can be found in THE SIGNS Study Wave 3a Questionnaire / Codebook)*. These questions were mapped to the decision nodes outlined by Theou et al[32] – see **Appendix Figure B6.**

Table 3.2.18 presents the distribution of participants by their CFS classification, overall as well as stratified by age group, gender, and ethnicity. **Table 3.2.18, Section A** displays the full range of the nine CFS levels (CFS 1 to 9) using weighted percentages, based on a total of 1,511 participants for whom physical frailty could be classified.

The nine CFS levels were also collapsed into broader categories to align with commonly used classifications. Following the international classification, they were grouped into two categories: Non-Frail (CFS 1-4) and Frail (CFS ≥5)[33], as presented in **Table 3.2.18, Section B**. Additionally, the Singapore classification – based on the Ministry of Health's National Frailty Strategy Policy report (2023)[14] categorises individuals into four groups: Robust (CFS 1–3), Frail (CFS 4–6), Severely Frail (CFS 7–8), and Terminally Ill (CFS 9) as shown in **Table 3.2.18, Section C**.

Table 3.2.18 Clinical Frailty Scale Classification, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
Classification	**Total**	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	**1507**	**231**	**847**	**429**	**709**	**798**	**1171**	**171**	**154**	**11**
***Section A:* Clinical Frailty Scale Classification (weighted %)**										
CFS 1 (Very fit)	1.4	2.3	1.3	0.8	1.5	1.3	1.7	-	0.2	-
CFS 2 (Fit)	20.4	24.7	22.4	10.9	23.6	17.6	20.7	19.0	15.7	31.4
CFS 3 (Managing well)	29.2	33.6	30.2	22.1	29.8	28.7	28.9	31.7	31.6	16.2
CFS 4 (Living with very mild frailty)	31.8	33.5	35.0	22.3	32.5	31.1	32.6	23.4	30.2	52.5
CFS 5 (Living with mild frailty)	6.1	2.8	4.1	14.3	3.3	8.4	5.9	6.1	9.4	-
CFS 6 (Living with moderate frailty)	4.7	0.7	3.8	11.3	3.6	5.7	4.6	4.8	6.2	-
CFS 7	6.4	2.5	3.1	18.3	5.4	7.2	5.6	13.7	6.7	-

(Living with severe frailty)										
CFS 8 (Living with very severe frailty)	0.1	-	0.2	-	0.3	-	-	1.3	-	-
CFS 9[2] (Terminally ill)	-	-	-	-	-	-	-	-	-	-
***Section B:* Classification of Physical Frailty, International Classification (weighted %)**										
Non frail (CFS 0-4)	82.7	94.0	88.9	56.1	87.4	78.8	83.8	74.1	77.7	100.0
Frail (CFS ≥ 5)	17.3	6.0	11.1	43.9	12.6	21.2	16.2	25.9	22.3	-
***Section C:* Classification of Physical Frailty, Singapore Classification (weighted %)**										
Robust (CFS 1-3)	51.0	60.5	53.9	33.8	54.9	47.7	51.3	50.7	47.5	47.6
Frail (CFS 4-6)	42.5	37.0	42.8	48.0	39.4	45.2	43.1	34.3	45.8	52.5
Severely Frail (CFS 7-8)	6.5	2.5	3.3	18.3	5.7	7.2	5.6	15.0	6.7	-
Terminally Ill (CFS 9)	-	-	-	-	-	-	-	-	-	-

[1]Indicates the number of participants (unweighted sample size) whom we could classify into the respective CFS categories. All percentages (%) presented in the table are weighted estimates. Percentages may not add up to 100% due to rounding.

About 5 in 10 older Singaporeans (51.0%) were either managing well, fit, or very fit (CFS 1-3). About 3 in 10 older Singaporeans (31.8%) were classified as living with very mild frailty (CFS 4). The proportion of those living with mild (CFS 5), moderate (CFS 6), and severe (CFS 7) frailty were 6.1%, 4.7%, and 6.4% respectively. Only 0.1% was living with very severe frailty (CFS 8).

Using the international classification, about 8 in 10 older Singaporeans (82.7%) were non-frail (CFS 1-4) while about 2 in 10 older Singaporeans (17.3%) were frail. The proportion of frail older Singaporeans increased from 6.0% among those aged 67-69 years to 43.9% among those 80 years and above. This proportion was higher among females (21.2%) than males (12.6%) and highest for those of Malay ethnicity (25.9%) among the three major ethnicities.

Using the Singapore classification, about 5 in 10 (49.0%) were frail (CFS 4-6) or severely frail (CFS 7-8). This proportion increased by age and was higher for females. Among the three major ethnicities, those of Malay ethnicity reported the highest proportion of older Singaporeans who were severely frail (15%).

It is important to note that no participants in our sample were classified as CFS 9 (Terminally ill). This likely reflects the recruitment process for Wave 3a, whereby individuals who were too unwell to undergo the cognitive screening process were not enrolled in the study due to

ethical considerations (i.e., inability to provide informed consent). Consequently, the prevalence of individuals with CFS scores of 8 or 9 may be *underestimated*. Weighted percentages are used throughout to reflect the population-level estimates.

3.3. Psychological Health

In this section, we describe depressive symptoms, personal mastery, psychological resilience, quality of life and cognitive ability, overall and by age group, gender and ethnicity.

Depressive symptoms

These were assessed using the 11-item version of the Centre of Epidemiologic Studies Depression (CES-D) scale (**detailed in Appendix A1.9**), with *higher scores* indicating a *greater extent of depressive symptoms*. A score of 7 and above was considered to represent clinically relevant depressive symptoms.

Table 3.3.1 Depressive Symptoms, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1428	231	831	366	680	748	1113	157	147	11
Clinically relevant depressive symptoms (weighted %)										
Yes	16.5	12.7	16.8	21.3	12.6	20.0	15.9	16.1	24.3	31.0
Centre of Epidemiologic Studies Depression (CES-D) scale score (weighted mean)										
Mean	3.2	2.9	3.2	3.8	2.8	3.5	3.1	3.3	4.2	4.7
SD	3.5	2.4	3.7	4.5	3.3	3.6	3.3	3.8	5.4	3.9

[1]This question was not asked from proxy participants. Furthermore, among those administered the CES-D scale (n=1436), 8 participants with missing responses for 3 or more items on the scale were excluded.

Clinically relevant depressive symptoms were prevalent among 16.5% older Singaporeans. The proportion increased with age, reaching 21.3% for those aged 80 years and above, was higher for females (20.0%) compared to males (12.6%), and was the highest for Indians (24.3%) across the three major ethnicities.

The mean CES-D score was 3.2. It increased with age and was higher for females (3.5) than males (2.8). Among the three major ethnicities, Indians (4.2) had higher scores than the Chinese (3.1) and Malays (3.3).

Personal Mastery

Personal mastery was assessed using the Pearlin Mastery scale (**detailed in Appendix A1.9**). The total score can range from 0 to 15, with *higher scores* indicating *greater personal mastery*.

Table 3.3.2 Personal Mastery by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1416	229	825	362	674	742	1107	153	145	11
Pearlin Mastery scale score (weighted mean)										
Mean	8.7	8.9	8.7	8.4	8.8	8.6	8.7	8.8	8.1	8.0
SD	2.0	1.6	2.1	2.5	2.0	2.1	1.9	2.3	2.4	3.2

[1]This question was not asked from proxy participants. Among those who were administered the Pearlin Mastery scale (n=1436), 20 participants with missing responses for 1 or more items were excluded.

The mean personal mastery score decreased with age, was higher for males (8.8) versus females (8.6), and was the highest for Malays (8.8) among the three major ethnicities.

Psychological Resilience

Psychological resilience was measured using the 2-item Connor-Davidson Resilience Scale® (CD-RISC-2). The score can range from 0 to 8, with *higher scores* indicating *greater psychological resilience*.

Table 3.3.3 Psychological Resilience by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1408	227	823	358	666	742	1101	151	145	11
CD-RISC-2 scale score (weighted mean)										
Mean	5.6	5.7	5.5	5.5	5.6	5.5	5.6	5.4	5.0	5.3
SD	1.8	1.4	1.8	2.1	1.8	1.8	1.7	2.0	2.3	1.1

[1]Out of the 1436 non-proxy responses, only 1408 answered both questions (don't know and refused excluded)

The mean psychological resilience score was higher for those aged 67-69 years (5.7), males (5.6) versus females (5.5), and the Chinese (5.6).

Quality of Life

This was assessed using the Singapore-validated version of the Control, Autonomy, Self-realization and Pleasure (CASP-11-SG) quality of life scale **(detailed in Appendix A1.9)**. It provides an overall quality of life score (range: 0 to 33) as well as two sub-domain scores – for control and autonomy (range: 0 to 18), and pleasure and self-realization (range: 0 to 15). *Higher scores* indicate a *higher quality of life*, overall or in the sub-domain.

Table 3.3.4 Quality of Life, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1426	230	831	365	677	749	1113	156	146	11
Overall quality of life score (weighted mean)										
Mean	25.1	26.0	25.2	23.3	25.2	25.0	25.1	25.1	24.5	25.2
SD	5.5	4.1	5.5	7.3	5.4	5.6	5.2	6.2	7.9	5.4
Control and autonomy sub-domain score (weighted mean)										
n[2]	1424	230	830	364	676	748	1113	155	145	11
Mean	12.5	12.9	12.7	11.2	12.5	12.4	12.6	11.8	11.6	12.3
SD	3.8	3.0	3.6	5.0	3.6	3.9	3.6	4.4	5.5	3.9
Pleasure and self-realization sub-domain score (weighted mean)										
n[2]	1422	229	828	365	676	746	1108	157	146	11
Mean	12.6	13.1	12.6	12.1	12.7	12.6	12.5	13.2	13.0	12.9
SD	2.9	2.1	3.0	3.6	3.0	2.9	2.8	2.8	3.3	2.4

[1]Out of the 1436 non-proxy responses, only 1426 answered all questions or had less than three questions missing (don't know and refuses included)

[2]Refers to the number of responses who answered all questions or had only one question missing (don't know and refuses included)

The overall quality of life mean score declined with age, was lower for females (25.0) versus males (25.2) and the lowest for Indians (24.5) across the three major ethnicities. The mean scores for the control and autonomy, and pleasure and self-realisation sub-domains followed a similar pattern (the only exception being for the pleasure and self-realisation sub-domain in terms of ethnicity – its mean score was lower for Chinese).

3.4. Cognitive Ability

In this section, we describe the cognitive ability of participants, overall and by age group, gender, and ethnicity, based on three cognitive tests: the Abbreviated Mental Test (AMT) – Singapore, the 10-word Immediate and Delayed Recall tests, and the Animal Fluency test (**detailed in Appendix A1.9**).

Abbreviated Mental Test (AMT) - Singapore

The AMT – Singapore (detailed in Appendix A1.9) was used to assess cognition status prior to the informed consent process. A *higher score* indicates *better cognition*.

Table 3.4.1 Abbreviated Mental Test (AMT) Score, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1497	233	846	418	706	791	1171	162	153	11
Abbreviated Mental Test (AMT) score (weighted mean)										
Mean	9.2	9.6	9.4	8.1	9.4	9.0	9.2	9.0	9.1	9.3
SD	1.3	0.6	1.0	2.2	1.0	1.5	1.3	1.5	1.6	0.7

[1]AMT was not administered to older Singaporeans diagnosed with dementia (n=38)

Older Singaporeans aged 80 years and above (8.1) had lower mean AMT scores, compared to those in the younger age groups. The mean AMT score was higher for males (9.4) than females (9.0), and Chinese (9.2) compared to Malays (9.0) and Indians (9.1).

10-word Immediate and Delayed Recall

The 10-word Immediate and Delayed Recall (detailed in Appendix A1.9) was used to assess memory performance. A *higher score* indicates *better cognition*.

Table 3.4.2 Immediate and Delayed Recall Score, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Trial 1: Immediate recall (out of 10) (weighted mean)										
Mean	4.7	5.1	4.8	4.1	4.3	5.1	4.8	4.0	4.5	4.7
SD	1.9	1.4	1.9	2.3	1.8	1.9	1.8	1.8	2.1	1.8
Trial 2: Immediate recall (out of 10) (weighted mean)										
Mean	6.7	7.2	6.7	5.7	6.3	7.0	6.8	6.0	6.4	5.6
SD	1.9	1.4	1.9	2.5	2.0	1.9	1.8	2.2	2.4	2.1
Trial 3: Immediate recall (out of 10) (weighted mean)										
Mean	7.5	8.2	7.6	6.5	7.3	7.7	7.6	7.0	7.2	7.4
SD	1.8	1.2	1.8	2.4	1.9	1.8	1.7	2.3	2.2	1.5
Total immediate recall score (out of 30) (weighted mean)										
Mean	18.9	20.5	19.0	16.3	17.9	19.8	19.2	17.1	18.1	17.7
SD	5.0	3.5	5.0	6.4	5.0	5.0	4.8	5.5	5.9	4.9
Delayed recall (out of 10) (weighted mean)										
Mean	6.5	7.4	6.5	5.2	6.2	6.9	6.6	6.0	6.4	6.6
SD	2.4	1.6	2.4	3.1	2.5	2.3	2.3	2.8	2.8	1.7

[1]Indicates the number of participants who were asked the 10-word immediate and delayed recall questions (proxy participants were not asked the question).

The mean scores for immediate recall tests improved across the learning phase (i.e., three trials) but declined with age. Participants aged 67–69 years achieved the highest mean total immediate recall score (20.5 out of 30), while those aged 80 years and above scored the lowest (16.3). The mean total immediate recall score was higher for females (19.8) versus males (17.9), and the highest for Chinese (19.2) across the three major ethnicities.

Similar trends, by age group, gender and ethnicity, were observed for delayed recall. Mean scores were higher for those aged 67–69 years (7.4), females (6.9) and Chinese (6.6) among the three major ethnicities.

Animal Fluency Test

The Animal Fluency test (detailed in Appendix A1.9) was used to assess verbal fluency. A *higher score* indicates *better cognitive flexibility and word retrieval ability*.

Table 3.4.3 Animal Fluency Test Score, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1435	231	834	370	683	752	1120	157	147	11
Animal fluency score (weighted mean)										
Mean	12.9	13.6	13.1	11.6	12.8	13.0	13.1	12.4	11.8	13.5
SD	3.5	2.6	3.6	4.4	3.5	3.6	3.4	3.8	4.5	2.4

[1]Indicates the number of participants who were administered the Animal Fluency test (proxy participants were not asked the question).

The mean animal fluency score decreased with age and was higher for females (13.0) than males (12.8). Among the three major ethnicities, the Chinese (13.1) had a higher mean score than Malays (12.4) and Indians (11.8).

3.5. Health Behaviours

This section provides the distribution, overall and by age group, gender, and ethnicity, of smoking status, physical activity level, participation in cancer screenings (colorectal, breast and breast cancer), functional screenings (obesity, vision, and hearing) and chronic disease screenings (blood pressure, blood sugar and blood lipids). It also explores adherence to treatment plans for chronic conditions and sleep quality, overall and by age group, gender, and ethnicity.

Smoking status

Participants were first asked if they had smoked at least 100 cigarettes in their lifetime; those who had not were classified as 'never smokers'. Those who responded that they had were asked if they now smoked every day or on some days (classified as 'current smokers') or not at all (classified as 'ex-smokers').

Table 3.5.1 Smoking Status, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
Smoking status (weighted %)										
Non-smokers	77.5	76.3	78.7	76.2	54.3	97.0	78.4	71.3	76.0	65.8
Ex-smokers	13.0	10.5	13.5	14.5	26.9	1.5	13.0	12.7	12.7	18.5
Current smokers	8.9	12.7	7.3	8.4	18.0	1.3	8.0	15.5	11.3	15.7

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Just over 3 in 4 (77.5%) of older Singaporeans had never smoked. The proportion was higher among those aged 70-79 years (78.7%), females (97.0%) and Chinese (78.4%).

Just over 1 in 10 (13.0%) older Singaporeans were ex-smokers. The proportion increased with age, was higher for males (26.9%) than females (1.5%) but similar across the three major ethnicities.

Just under 1 in 10 (8.9%) of older Singaporeans were current smokers. The proportion was higher among those aged 67-69 years (12.7%), males (18.0%) and Malays (15.5%).

Physical Activity

Physical activity was measured using the Global Physical Activity Questionnaire (GPAQ) (**detailed in Appendix A1.9**), which asked participants about the time they spent in a typical week in vigorous and moderate activities at work and leisure, as well as during travel and sedentary behaviour. The data was used to calculate METs (Metabolic Equivalents), which are commonly used to express the intensity of physical activities (MET is the ratio of one's working metabolic rate relative to the resting metabolic rate; one MET is defined as the energy cost of sitting quietly and is equivalent to a caloric consumption of 1 kcal/kg/hour). Participants whose total physical activity MET minutes per week were greater or equal to 600 were classified as 'meeting the World Health Organisation (WHO) recommendation on physical activity for health' (indicated as "Yes" in the table below).

Table 3.5.2 Physical Activity, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
Met WHO recommendation on physical activity for health (weighted %)										
Yes	61.7	69.4	68.6	37.5	65.9	58.1	62.2	48.2	70.4	87.7
Physical activity minutes (MET-minutes) per week (weighted mean)										
Mean	1990	2349	2274	956	2246	1776	1918	2161	2271	5506
SD	3241	2571	3678	2204	3737	2770	2939	4277	4952	6056

About 6 in 10 older Singaporeans (61.7%) met the WHO recommendation on physical activity for health. The proportion decreased with age, was higher in males (65.9%) than females (58.1%), and was lower among Malays (48.2%) compared to Chinese (62.2%) and Indians (70.4%).

The mean physical activity minutes (MET-minutes) per week was 1990 minutes. The mean decreased with age and was higher for males (2246 minutes) and Indians (2271 minutes).

Participation In Exercise Programs

Participants were asked about their participation in exercise programs in the past 12 months. Exercise programs were defined as exercise led or guided by a trainer or volunteer (either in-person or virtually).

Table 3.5.3 Participation in Exercise Programs, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Participated in exercise programs in the past 12 months (weighted %)										
Yes	15.0	17.6	14.4	13.4	8.3	20.5	16.3	6.0	12.1	1.7

15.0% of older Singaporeans had participated in exercise programs, either in-person or virtually, in the past 12 months. The proportion declined with age, was higher in females (20.5%) versus males (8.3%), and was the highest for Chinese (16.3%) and the lowest for Malays (6.0%) across ethnicities.

The reasons for not taking part in exercise programs can be found in Appendix Figure 2.

Colorectal Cancer Screening

Recommendations from the **Screen for Life - the National Health Screening Programme** state that those aged 50 years and older one should do a Faecal Immunochemical Test (FIT) at home once a year or to go for a screening colonoscopy once every 5 to 10 years.

Table 3.5.4 Colorectal Cancer Screening, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
Undergone a FIT in the past year or colonoscopy in the past 10 years (weighted %)										
Yes	41.5	50.3	43.7	27.2	43.1	40.2	43.6	25.8	31.3	69.7

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
FIT: Faecal Immunochemical Test

Around 4 in 10 (41.5%) older Singaporeans had undergone a FIT in the past one year or a colonoscopy within the past 10 years. The proportion decreased with age and was higher for males (43.1%) than females (40.2%). Among the three major ethnicities, the proportion was lower for Malays (25.8%) compared to Chinese (43.6%) and Indians (31.3%).

Cervical Cancer Screening

Screen for Life - the National Health Screening Programme underscores the importance of regular cervical cancer screening. During screening, cells collected from the cervix are tested for high-risk strains of the Human Papillomavirus (HPV), which are a leading cause of cervical cancer. If high-risk HPV strains are detected, annual screening is recommended to monitor for any potential changes. For those without high-risk strains, screening every five years is advised.

Table 3.5.5 Cervical Cancer Screening, Overall and by Age Group and Ethnicity

		Age Group (years)			Ethnicity			
	Total	67-69	70-79	80 & above	Chinese	Malay	Indian	Others
n[1]	812	140	427	245	636	92	78	6
Last cervical cancer screening (weighted %)								
Within the past 3 to 5 years	24.8	39.9	26.8	7.4	25.9	19.5	16.8	23.0

[1]Indicates the number of female participants who were asked questions on cervical cancer screening

Only 1 in 4 (24.8%) older Singaporean females had undergone cervical cancer screening within the past 3 to 5 years. The proportion decreased with age and was lower for Indians (16.8%) and Malays (19.5%) compared to the Chinese (25.9%).

Breast Cancer Screening

Screen for Life - the National Health Screening Programme recommends that all females aged 50 years or older should undergo screening for breast cancer through mammograms once every two years (unless advised otherwise by a medical professional).

Table 3.5.6 Breast Cancer Screening, Overall and by Age Group and Ethnicity

		Age Group (years)			Ethnicity			
	Total	67-69	70-79	80 & above	Chinese	Malay	Indian	Others
n[1]	812	140	427	245	636	92	78	6
Undergone a mammogram in the past 2 years (weighted %)								
Yes	22.8	33.2	25.0	9.4	22.2	16.9	30.7	94.4

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of female participants who were asked questions on breast cancer screening

Among older Singaporean females aged 67-69 years, only 1 in 3 (33.2%) had undergone a mammogram within the past two years. On the other hand, 1 in 4 (25.0%) females aged 70-79 years and about 1 in 10 (9.4%) females aged 80 years and above reported having had a mammogram in the past two years.

Participation in Functional Screening

Participants were asked whether they had undergone screening for obesity, vision or hearing in the past one year.

For obesity screening, participants were asked if they had their height and weight measured to calculate body mass index (BMI), or if measurements of their hip and waist were taken to determine the hip-waist ratio in the past one year.

For vision screening, participants were asked whether they had their eyesight checked in the past one year. Regular eye exams are essential for detecting conditions such as glaucoma or cataract.

For hearing screening, participants were asked if they had their hearing tested in the past year. Hearing tests help identify issues such as age-related hearing loss.

Table 3.5.7 Screening for Obesity, Vision and Hearing in the Past One Year, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Screening for obesity in the past 1 year (weighted %)										
Yes	65.6	66.2	67.8	59.8	66.2	65.1	64.5	68.4	74.7	86.0
Screened for vision in the past 1 year (weighted %)										
Yes	59.0	64.7	57.2	56.8	59.1	58.9	57.6	65.0	67.3	79.0
Screened for hearing in the past 1 year (weighted %)										
Yes	27.3	28.9	26.3	27.9	27.1	27.5	25.2	40.9	37.2	19.5

About two-thirds (65.6%) of older Singaporeans had been screened for obesity in the past one year. The proportion was the lowest for those 80 years and above (59.8%) across age groups, slightly lower for females (65.1%) than males (66.2%), and the lowest for Chinese (64.5%) across ethnicities.

Nearly 6 in 10 (59.0%) older Singaporeans had their vision screened in the past one year. The proportion was lower for those aged 70-79 years (57.2%) and 80 years and above (56.8%) across age groups, similar between genders and the lowest for Chinese (57.6%) across ethnicities.

In comparison, only 27.3% older Singaporeans had their hearing screened in the past one year. The proportion was the lowest for those aged 70-79 years (26.3%) across age groups, similar between genders and the lowest for Chinese (25.2%) across ethnicities.

Participation in Chronic Disease Screening

Table 3.5.8 Blood Pressure, Blood Sugar and Blood Lipids Screening, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Blood pressure checked in the past 2 years (weighted %)										
Yes	95.1	94.8	94.5	96.7	95.0	95.1	94.8	94.2	100.0	100.0
Blood sugar level checked in the past 3 years (weighted %)										
Yes	88.7	90.2	86.5	92.2	89.4	88.1	88.7	83.0	96.2	100.0
Blood lipids level checked in the past 3 years (weighted %)										
Yes	90.6	92.0	87.7	95.7	90.9	90.3	90.6	86.2	96.6	100.0

95.1% of older Singaporeans had their blood pressure checked in the past 2 years. The proportion was higher for those aged 80 years and above (96.7%), similar between genders and highest for Indians (100.0%).

88.7% of older Singaporeans had their blood sugar levels checked in the past 3 years. The proportion was the lowest for those aged 70-79 years (86.5%) across age groups and slightly lower for females (88.1%) than males (89.4%). Among the three major ethnicities, it was the lowest for Malays (83.0%).

90.6% of older Singaporeans their blood lipid levels checked in the past 3 years. The proportion was the lowest for those aged 70-79 years (87.7%) across age groups but was similar between genders. Among the three major ethnicities, it was the lowest for Malays (86.2%).

Adherence to Treatment Plans for Chronic Diseases

Participants who had reported that they had been diagnosed with at least one chronic disease were asked to what extent they had followed their treatment plans over the past two weeks, including lifestyle changes, taking medications, self-monitoring, and other recommendations provided by their doctors and therapists. This question aims to assess the level of adherence to prescribed treatment plans, which is important for evaluating patient compliance and understanding how well individuals are managing their health conditions according to professional guidance.

Table 3.5.9 Adherence to Treatment Plans Over the Past Two Weeks, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1309	210	744	355	619	690	1012	147	139	11
Adherence to treatment plans over the past two weeks (weighted %)										
All the time	82.2	80.8	81.7	85.7	84.0	80.7	83.9	67.3	83.0	85.0
More than half the time	4.4	5.9	4.0	3.6	4.5	4.3	4.5	4.2	3.8	0.0
Half the time	1.5	1.6	1.7	1.0	1.9	1.2	1.4	1.3	4.2	0.0
Less than half the time	1.3	1.2	1.4	1.2	1.1	1.5	1.1	2.7	1.3	9.9
Never	3.7	4.7	3.3	3.6	3.2	4.2	2.1	18.2	6.3	0.0
Did not have treatment plan	6.6	5.9	7.8	4.3	5.0	8.1	7.1	6.2	1.5	5.1

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who reported ever been diagnosed by a medical professional with a chronic disease (proxy respondents not asked question).

About 8 in 10 older Singaporeans (82.4%) ever diagnosed with chronic disease(s) reported that they had adhered to their prescribed treatment plan *all the time* in the past two weeks. The proportion increased with age and was higher in males (84.3%) than females (80.8%). Among the three major ethnicities, the proportion was the lowest among Malays (67.3%).

On the other hand, 3.7% had never adhered to their prescribed treatment plans, with higher proportions among those aged 67-69 years (4.7%), females (4.2%) and Malays (18.2%). 6.7% of older Singaporeans did not report having any treatment plan for their chronic disease(s).

Sleep Quality

Table 3.5.10 Sleep Quality, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Trouble falling asleep (weighted %)										
Rarely or never	51.4	54.7	52.0	44.6	59.9	43.9	52.6	53.6	34.0	37.5
Sometimes	34.1	33.6	34.7	33.1	29.7	38.1	33.6	33.1	41.7	41.1
Most of the time	14.1	11.7	12.9	21.4	9.9	17.9	13.4	13.3	24.2	21.4
Trouble because of waking up (weighted %)										
Rarely or never	36.2	42.3	37.0	24.6	39.9	32.9	35.6	37.6	43.1	31.3
Sometimes	38.3	40.8	36.6	39.8	39.9	36.8	37.7	45.5	36.5	40.2
Most of the time	25.1	16.9	25.9	34.7	19.6	30.1	26.3	16.9	19.8	28.5
Trouble waking up and unable to fall back to sleep (weighted %)										
Rarely or never	55.9	60.0	56.4	48.7	65.8	47.3	56.4	58.6	47.0	45.4
Sometimes	31.3	33.7	29.5	33.4	25.7	36.2	30.6	30.4	39.1	54.6
Most of the time	12.5	6.3	13.9	17.1	8.0	16.5	12.7	11.1	13.2	0.0
Feel rested after waking up (weighted %)										
Rarely or never	9.3	6.8	10.3	10.1	7.4	11.1	9.6	9.4	7.4	0.0
Sometimes	29.9	30.9	28.7	32.5	27.0	32.5	28.6	32.9	41.8	50.4
Most of the time	60.4	62.4	60.7	56.4	64.9	56.4	61.7	57.3	50.8	49.6

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked questions on sleep quality (proxy participants were not asked the question).

About 5 in 10 (51.4%) of older Singaporeans reported rarely or never having trouble falling asleep. The proportion decreased with age (67–69 years: 54.7%, 80+ years: 44.6%) and was higher for males (59.9%) than females (43.9%). Across the three major ethnicities, Malays (53.6%) and Chinese (52.6%) were more likely to report rarely or never having trouble falling asleep. 14.1% of older Singaporeans reported having trouble falling asleep most of the time. The proportion increased with age and was higher for females (17.9%) and Indians (24.2%).

36.2% of older Singaporeans reported rarely or never having trouble because of waking up at night. The proportion decreased with age (67–69 years: 42.3%, 80+ years: 24.6%), was higher for males (39.9%) than females (32.9%) and the highest among Indians (43.1%) across the three major ethnicities. 25.1% of older Singaporeans reported having trouble because of waking up at night most of the time; the proportion increased with age (67–69 years: 16.9%, 80+ years: 34.7%), was higher among females (30.1%) than males (19.6%), and was the highest among Chinese (26.3%) across the three major ethnicities.

Just over 5 in 10 (55.9%) older Singaporeans reported rarely or never having trouble waking up and being unable to fall back to sleep. The proportion decreased with age (67–69 years: 60.0%, 80+ years: 48.7%), was higher for males (65.8%) than females (47.3%), and among the three major ethnicities, was higher for Malays (58.6%) and Chinese (56.4%) compared to Indians (47.0%). 12.5% of older Singaporeans reported having trouble waking up and being unable to fall back to sleep most of the time. The proportion increased with age (67–69 years: 6.3%, 80+ years: 17.1%), and was twice as high for females (16.5%) than for males (8.0%).

About 6 in 10 (60.4%) older Singaporeans reported feeling rested after waking up most of the time. The proportion decreased with age (67–69 years: 62.4%, 80+ years: 56.4%), was higher for males (64.9%) than females (56.4%), and across the three major ethnicities, it was higher for Chinese (61.7%) and Malays (57.3%) compared to Indians (50.8%). 9.3% of older Singaporeans reported rarely or never feeling rested after waking up. The proportion increased with age (67–69 years: 6.8%, 80+ years: 10.1%), was higher for females (11.1%) than for males (7.4%), and was the lowest for Indians (7.4%) across the three major ethnicities.

3.6. Dental Health

This section details the dental health of older Singaporeans, overall and by age group, gender and ethnicity.

Table 3.6.1 Self-Rated Oral Health, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
State of oral health (weighted %)										
Excellent	3.3	3.4	3.3	3.0	3.4	3.1	3.3	2.2	1.9	21.0
Very good	13.9	17.6	14.8	8.1	16.0	12.2	14.7	6.6	13.6	14.9
Good	50.7	51.4	51.3	48.5	49.7	51.5	50.7	48.6	56.7	29.3
Fair	27.3	24.1	25.8	34.0	24.8	29.3	26.8	35.0	20.9	34.8
Poor	4.5	3.4	4.5	5.8	5.3	3.9	4.1	7.6	6.8	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

About 7 in 10 (67.9%) older Singaporeans rated their oral health as "Excellent", "Very good", or "Good". The proportion decreased with age and was higher for males (69.1%) than females (66.8%). Among the three major ethnicities, the proportion was lowest for Malays (57.4%).

Table 3.6.2 Natural Teeth, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
***Any* natural teeth remaining (weighted %)**										
Yes	76.5	89.0	81.1	52.8	78.4	75.0	75.2	82.4	83.1	98.3
n[1]	1167	208	701	258	555	612	891	136	130	10
Natural teeth remaining in upper jaw among those with *any* natural teeth (weighted %)										
10 or more	42.6	54.0	41.9	24.9	43.0	42.4	42.0	40.4	53.9	45.9
5 to 9	21.9	22.3	21.1	23.9	24.1	20.0	22.4	20.5	19.4	12.5
1 to 4	17.5	13.3	18.0	23.5	16.9	18.1	17.0	22.0	15.0	31.5
None	17.1	10.5	18.2	24.9	15.3	18.6	17.7	16.8	10.9	10.1
Natural teeth remaining in lower jaw among those with *any* natural teeth (weighted %)										
10 or more	53.0	60.7	55.2	31.8	50.0	55.7	53.1	47.0	57.0	77.4
5 to 9	28.4	23.3	26.9	42.4	30.5	26.5	28.6	29.3	25.5	22.6
1 to 4	15.2	15.1	14.3	18.5	15.9	14.5	15.0	20.0	12.6	0.0
None	2.6	0.9	3.0	4.3	2.8	2.4	2.4	3.4	4.1	0.0

[1]Indicates the number of participants who reported *any* natural teeth remaining
Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Just over 3 in 4 (76.5%) older Singaporeans had any natural teeth remaining. The proportion decreased with age, going from 89.0% for those aged 67-69 years to 52.8% for those aged 80 years and above. The proportion was higher for males (78.4%) than for females (75.0%). Among the three major ethnicities, the proportion was lower for Chinese (75.2%) than Malays (82.4%) and Indians (83.1%).

Among those with any natural teeth remaining, 42.6% had 10 or more natural teeth remaining in their upper jaw. The proportion decreased with age, going from 54.0% in those aged 67-69 years to 24.9% in those aged 80 years and above, and was similar between genders. Among the three major ethnicities, the proportion was lower for Chinese (42.0%) and Malays (40.4%) compared to Indians (53.9%). 17.1% had no remaining natural teeth in the upper jaw, with the proportion increasing with age and being higher for females (18.6%) and Chinese (17.7%).

Among those with any natural teeth remaining, 53.0% had 10 or more natural teeth remaining in their lower jaw. The proportion decreased with age, going from 60.7% for those aged 67-69 years to 31.8% for those aged 80 years and above. It was higher for females (55.7%) than males (50.0%). Among the three major ethnicities, the proportion was lower for Malays (47.0%) than Chinese (53.1%) and Indians (57.0%). Compared to the upper jaw (17.1%), fewer older Singaporeans had no remaining teeth on their lower jaw (2.6%). Nonetheless, the proportion increased with age, was similar between genders but higher for Indians (4.1%) among the three major ethnicities.

Table 3.6.3 Denture Use, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Use of removable dentures (weighted %)										
Upper jaw	21.3	21.4	24.3	14.2	19.2	23.1	22.4	13.8	10.5	61.1
Lower jaw	3.0	4.8	2.4	2.7	3.2	2.9	3.2	0.5	4.7	0.0
Both	37.9	22.6	37.2	55.8	35.1	40.3	40.1	28.8	25.0	1.7
Neither	37.4	51.3	35.8	26.3	41.9	33.6	33.8	56.5	59.2	37.2

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

About 6 in 10 (62.2%) of older Singaporeans used dentures either for their upper or lower jaw or for both jaws. The proportion of those using dentures for both jaws increased with age, being more than double for those aged 80 years and above (55.8%) versus those aged 67-69 years (22.6%). The proportion was higher for females (40.3%) versus males (35.1%), and the highest for Chinese (40.1%) among the three major ethnicities. Nearly 4 in 100 (37.4%) older Singaporeans did not use dentures. The proportion decreased with age and was lower for females (33.6%) and Chinese (33.8%).

The breakdown of the hardest food group that participants were able to bite, and chew can be found in **Appendix Table B11**.

Table 3.6.4 Brushing and Flossing, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1167	208	701	258	555	612	891	136	130	10
Brushing frequency (weighted %)										
> Twice a day	16.6	15.8	17.4	15.0	12.2	20.4	16.6	18.4	12.0	22.8
Twice a day	67.4	68.4	69.2	59.2	64.9	69.6	66.9	70.0	68.2	77.3
Once a day	14.0	11.5	13.1	21.5	20.0	8.6	14.3	8.8	19.8	0.0
Not everyday	0.4	1.0	0.0	0.6	0.8	0.0	0.3	1.2	0.0	0.0
Never	1.7	3.4	0.2	3.8	2.1	1.3	1.8	1.6	0.0	0.0
Use of floss or interdental brush (weighted %)										
> Twice a day	8.0	11.0	7.2	5.5	6.5	9.4	8.6	3.8	5.8	17.5
Twice a day	9.5	10.5	9.6	7.1	7.1	11.5	9.9	6.4	5.8	21.9
Once a day	15.0	17.3	15.3	9.7	13.1	16.6	16.6	4.2	13.1	0.0
Not everyday	8.9	9.5	9.7	5.0	9.0	8.8	9.0	6.9	10.5	6.5
Never	58.6	51.7	58.2	72.5	64.2	53.7	55.8	78.8	64.9	54.1

[1] Indicates the number of participants who reported *any* natural teeth remaining
Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

About 8 in 10 (84.0%) of older Singaporeans brushed their teeth *at least* twice a day. Among age groups, the proportion was lower for those aged 80 years and above (74.2%) compared to those aged 67-69 years (84.2%) and 70-70 years (86.6%). Between genders, the proportion was lower in males (77.1%) than females (90.0%). Among the three major ethnicities, the proportion was lower in Indians (80.2%) versus Chinese (83.5%) and Malays (88.4%). Only 2.1% did not brush their teeth daily or never brushed their teeth.

Almost 6 in 10 older Singaporeans (58.6%) never used floss or an interdental brush. The proportion increased with age and higher for males (64.2%) than females (53.7%). Among the three major ethnicities, Malays (78.8%) were more likely to never use floss, or an interdental brush compared to Chinese (55.8%) and Indians (64.9%).

Table 3.6.5 Last Visit to Dentist, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Last visit to dentist (weighted %)										
Within past 6 months	25.6	31.8	26.3	17.3	22.7	28.1	25.5	19.0	31.1	68.0
6-12 months ago	15.3	19.1	16.8	7.9	15.4	15.2	15.7	12.6	15.0	8.1
1-2 years ago	11.3	9.8	12.8	9.7	11.0	11.6	11.7	9.6	10.1	0.0
2-3 years ago	10.0	12.5	9.7	7.9	10.5	9.5	9.4	11.4	15.0	14.0
3-5 years ago	8.0	5.8	7.8	10.7	9.7	6.6	8.1	8.8	6.2	0.0
>5 years ago	26.5	19.7	24.6	38.1	27.2	25.9	26.2	33.3	22.1	9.9
Never visited	2.8	1.4	1.7	7.0	2.7	3.0	2.9	3.8	0.6	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

About one quarter (25.6%) of older Singaporeans reported last visiting a dentist within the past six months. The proportion decreased with age, was higher for females (28.1%) than males (22.7%), and the highest for Indians (31.1%) across the three major ethnicities.

A similar proportion (26.5%) of older Singaporeans reported last visiting a dentist more than five years ago, with the proportion increasing with age. The proportion was slightly higher for males (27.2%) than females (25.9%), and the highest among Malays (33.3%) across the three major ethnicities.

Very few (2.8%) older Singaporeans had never visited a dentist. The proportion increased with age, was similar between genders, and was the highest for Malays (3.8%).

Table 3.6.6 Dry Mouth (Xerostomia), Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Prevalence of dry mouth (xerostomia) in the past 6 months (weighted %)										
Never	71.8	75.4	71.7	66.9	71.9	71.7	71.1	80.8	67.0	87.7
Occasionally	22.4	19.2	22.8	25.5	21.9	22.8	23.0	14.2	26.3	12.3
Frequently	3.8	4.4	3.9	2.9	3.3	4.3	4.0	2.6	3.4	0.0
Always	1.3	0.6	1.1	2.6	1.5	1.1	1.2	0.8	2.6	0.0

[1]Indicates the number of participants who were asked the question on xerostomia (proxy participants were not asked the question).

Most older Singaporeans (71.8%) had never experienced dry mouth (xerostomia) in the past six months. The proportion declined with age, was similar between genders and the lowest among Indians (67.0%) across the three major ethnicities.

3.7 Healthcare Utilisation and Advance Care Planning

This section explores older Singaporeans' healthcare utilisation and satisfaction with healthcare services in Singapore, overall and by age group, gender, and ethnicity.

Participants were asked whether they had consulted various healthcare providers in the three months prior to the survey, for any health problems they were facing, including both chronic and acute conditions.

Table 3.7.1 Healthcare Utilisation, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
Healthcare provider	**Total**	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
In the past 3 months, visited a … (weighted %)										
Doctor at a polyclinic	40.3	38.8	41.0	40.0	40.2	40.3	38.2	49.6	53.1	54.1
Doctor at a private general practitioner (GP) clinic	28.7	32.4	27.6	27.3	27.6	29.6	29.1	25.9	27.7	21.7
Doctor at a specialist outpatient clinic (public hospital)	26.7	25.5	26.8	27.6	29.5	24.3	27.7	19.5	22.8	25.4
Traditional Chinese Medicine (TCM) practitioner or traditional healer	12.4	10.6	13.8	11.0	10.2	14.2	14.3	0.0	6.0	0.0
Private specialist	4.8	4.1	6.1	2.7	5.3	4.4	5.2	2.1	4.5	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Health professionals whom older Singaporeans had visited at least once in the past 3 months were doctors at a polyclinic (40.3%), followed by private general practitioners (GPs; 28.7%), specialists at a specialist outpatient clinic in a public hospital (26.7%), Traditional Chinese Medicine (TCM) practitioners or traditional healers (12.4%) and specialists in private practice (4.8%).

The proportion with at least one visit to a *doctor at a polyclinic* in the past 3 months was higher for those aged 70 years and older (41.0%) but similar between genders. The proportion varied across the three major ethnicities, with Indians (53.1%) and Malays (49.6%) being more likely to visit doctors at a polyclinic compared to and Chinese (38.2%).

The proportion with at least one visit to a *doctor at a private general practitioner clinic* in the past 3 months decreased with age and was slightly higher for females (29.6%) than males (27.6%). Among the three major ethnicities, it was the highest among Chinese (29.1%), followed by Indians (27.7%) and Malays (25.9%).

The proportion with at least one visit to a *doctor at a specialist outpatient clinic in a public hospital* in the past 3 months increased with age and was higher for males (29.5%) than females (24.3%). Among the three major ethnicities, it was the highest among Chinese (27.7%), followed by Indians (22.8%) and Malays (19.5%).

The proportion who had consulted *Traditional Chinese Medicine (TCM) practitioners or traditional healers* in the past 3 months was highest among those aged 70-79 years compared to the other age groups (13.8%), was higher for female (14.2%) than males (10.2%), and as highest for Chinese (14.3%) among the three major ethnicities.

The proportion with at least one visit to a *specialist at a private practice* in the past 3 months was higher among those aged 70-79 years (6.1%) and the Chinese (5.2%).

Table 3.7.2 Healthcare Providers for Chronic Disease Treatment or Follow-up Among Those with at Least One Chronic Disease, Overall and Age Group, Gender, and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1406	213	765	428	658	748	1081	165	149	11
Go regularly for the treatment or follow-up of their chronic disease(s) to … (weighted %)										
Polyclinic	64.7	61.9	66.6	63.5	65.2	64.3	63.4	69.3	71.9	86.4
Specialist outpatient clinics in public hospital	30.5	28.9	30.5	31.9	35.5	26.2	30.5	28.2	33.1	34.6
Private general practitioner (GP) clinic	29.3	37.4	26.6	27.1	28.5	30.0	30.3	25.8	25.3	0.0
Traditional Chinese Medicine (TCM) or traditional healer	3.3	2.3	3.4	4.1	2.2	4.2	3.8	1.1	0.9	0.0
Private specialist	2.0	0.6	3.2	0.7	2.2	1.7	2.0	1.6	0.6	13.6
Health condition no longer needs treatment	1.9	0.5	2.2	2.4	1.0	2.6	2.0	1.4	0.9	0.0

Percentages exceed 100% as multiple responses were allowed.

[1]Indicates the number of participants ever diagnosed with a chronic disease, excluding the 4 participants who did not respond to the question on number of chronic diseases (Table 2.2.3).

Participants who reported having at least one chronic disease were asked where they went regularly for the treatment or follow-up of their chronic disease(s). The most common healthcare provider that older Singaporeans with at least one chronic disease regularly visited for treatment or follow-up of their chronic disease(s) were polyclinics (64.7%), followed by specialist outpatient clinics in public hospitals (30.5%) and GP clinics (29.3%). Very few visited TCM practitioners/traditional healers (3.3%) or specialists in private practice (2.0%).

Among age groups, the most common provider were polyclinics, though more common among those 70-79 years (66.6%). Additionally, those aged 67–69 years were more likely to visit private GP clinics (37.4%) versus those aged 70-79 years (26.6%) or 80 years and above (27.1%). However, those aged 80 years and above (31.9%) were more likely to visit specialist outpatient clinics in public hospitals than those aged 67-69 years (28.9%).

The most common provider were polyclinics for both males (65.2%) and females (64.3%). While specialist outpatient clinics in public hospitals were the second most common provider for males (35.5% vs 26.2%), it was private GP clinics for females (30.0% vs 28.5%).

Polyclinics were the most common provider among the three major ethnicities, however, the proportion was higher among Malays (69.3%) and Indians (71.9%) compared to Chinese (63.4%).

Table 3.7.3 Satisfaction with Healthcare Services in Singapore, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1436	231	834	371	684	752	1121	157	147	11
Satisfaction with healthcare services (weighted %)										
Very satisfied	20.8	21.9	21.2	17.5	22.9	18.8	19.7	21.5	30.0	49.5
Satisfied	68.4	66.1	68.1	72.5	66.8	69.8	68.6	75.1	58.9	50.3
Neither satisfied nor dissatisfied	8.8	10.6	8.3	7.7	8.2	9.4	9.6	2.2	8.7	0.0
Dissatisfied	1.6	1.4	1.8	1.0	1.2	1.9	1.6	1.3	1.8	0.0
Very dissatisfied	0.1	0.0	0.2	0.2	0.3	0.0	0.1	0.0	0.6	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on satisfaction with healthcare services (proxy participants were not asked the question).

Close to 9 out of 10 (89.2%) of older Singaporeans were *very satisfied or satisfied* with healthcare services in Singapore. The proportion was similar across age groups but slightly higher for males (89.7%) than females (88.6%). Among the three major ethnicities, Malays (96.6%) were more likely to be very satisfied or satisfied compared to Chinese (88.3%) and Indians (88.9%).

Advance Care Planning

This section examines the level of awareness and progress of Advance Care Planning (ACP) among older Singaporeans, overall and by age group, gender, and ethnicity. ACP helps an individual communicate his/her values, and how these values shape his/her healthcare preferences, to important people like family or close friends or healthcare professionals. ACP guides decision makers to act in accordance with an individual's values and preferences, if the individual is no longer able to make healthcare decisions or speak for himself/herself.

After telling the participants about ACP (the content was like that of the previous paragraph), they were first asked if they had heard or read about ACP before today. Then, they were asked to choose from a set of six statements that best described their status in the context of ACP.

Table 3.7.4 Advance Care Planning (ACP), Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1436	231	834	371	684	752	1121	157	147	11
Heard or read about ACP before today (weighted %)										
Yes	38.5	49.5	38.0	24.3	36.4	40.4	40.5	26.5	32.1	10.9
Status in the context of ACP (weighted %)										
***Not thought about talking to someone[2] about my healthcare preferences* if I am no longer able to make healthcare decisions or speak for myself**	57.1	56.6	55.9	61.8	59.7	54.9	57.2	62.9	49.1	54.8
***Thought about but not talked to someone[2] about my healthcare preferences* if I am no longer able to make healthcare decisions or speak for myself**	10.9	15.7	10.3	6.0	10.4	11.4	12.0	4.1	5.4	9.2
***Talked to someone[2] about my healthcare preferences* if I am no longer able to make healthcare decisions or speak for myself**	13.7	16.0	14.8	7.0	11.6	15.5	13.7	8.6	18.8	26.1
Chosen someone[2] to be my voice about healthcare decisions	3.0	3.0	3.3	2.0	2.8	3.2	3.1	1.1	3.9	0.0

Status in the context of ACP (weighted %)										
if I am no longer able to make healthcare decisions or speak for myself										
Documented[3] my Advance Care Plan	3.0	2.9	3.1	2.6	2.5	3.3	3.2	0.0	4.2	0.0
Reviewed and updated my previously documented[3] Advance Care Plan	0.3	0.0	0.5	0.4	0.4	0.3	0.4	0.0	0.0	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked questions on advance care planning (proxy Participants were not asked the question).
[2]Family member or close friend or healthcare professional.
[3]At a hospital, polyclinic, community care provider or community agency.

The largest proportion (57.1%) of older Singaporeans had *not* thought about talking to a family member or close friend or healthcare professional about their healthcare preferences if they are no longer able to make healthcare decisions or speak for themselves. Among age groups, the proportion was higher for those aged 80 years and above (61.8%) compared to those aged 67-69 years (56.6%) and 70-79 years (55.9%). Between genders, it was higher for males (59.7%) than females (54.9%). Among the three major ethnicities, it was higher for Malays (62.9%) than Chinese (57.2%) and Indians (49.1%).

10.9% of older Singaporeans have thought about but not talked to someone about their healthcare preferences if they were no longer able to make healthcare decisions or speak for themselves. This proportion decreased with age, was similar between genders and lower for Malays (4.1%) among the three major ethnicities.

13.7% of older Singaporeans have talked to someone about their healthcare preferences if they were no longer able to make healthcare decisions or speak for themselves. This proportion decreased with age, was lower for males (11.6%) than males (15.5%) and lower for Malays (8.6%) among the three major ethnicities.

3.0% of older Singaporeans have chosen someone to be their voice about healthcare decisions if they were no longer able to make healthcare decisions or speak for themselves. This proportion was lower for those aged 80 years and above (2.0%), males (2.8%) and Malays (1.1%).

Similarly, 3.0% of older Singaporeans have documented their ACP. This proportion was lower for those aged 80 years and above (2.6%), males (2.5%) and Malays (0.0%).

Only 0.3% of older Singaporeans have reviewed and updated their previously documented ACP.

3.8. Vaccine Attitudes and Uptake

This section describes the uptake of influenza and pneumococcal vaccinations among older Singaporeans, including their intention to receive these vaccines, overall and by age group, gender, and ethnicity.

Table 3.8.1 Influenza Vaccine Uptake and Intentions, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
Taken influenza vaccine in the past 12 months (weighted %)										
n	1535	234	856	445	723	812	1192	175	157	11
Yes	59.9	58.1	63.1	54.7	61.1	58.9	60.5	54.8	58.2	71.5
Intention to take influenza vaccine in the next 12 months (weighted %)										
n[1]	1436	231	834	371	684	752	1121	157	147	11
Yes	64.6	66.6	65.5	59.2	66.4	63.1	64.9	61.9	63.8	72.7

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

[1]Indicates the number of Participants who were asked the question on influenza vaccine intentions in the next 12 months (proxy Participants were not asked the question).

About 6 in 10 (59.9%) of older Singaporeans reported having taken the influenza vaccine in the past 12 months, and more than 6 in 10 (64.6%) of older Singaporeans reported having the intention to take the influenza vaccine in the next 12 months. The oldest age group (80 years and above), females, and the Malay ethnicities were least likely to have taken the vaccine and have the intention to take the vaccine in the next 12 months.

Table 3.8.2 Pneumococcal Vaccine Uptake and Intentions, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Ever taken the pneumococcal vaccine (weighted %)										
n	1535	234	856	445	723	812	1192	175	157	11
Yes	53.4	57.9	55.3	44.5	53.4	53.4	56.1	36.6	38.3	71.0
Intend to take the pneumococcal vaccine in future (weighted %)										
n[1]	675	94	373	208	325	350	492	94	85	4
Yes	28.4	30.3	29.0	25.2	30.1	26.9	28.9	25.0	30.1	6.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on their intention to take the pneumococcal vaccine in future (proxy participants and those who reported to have taken the vaccine in the past were not asked the question).

About 5 in 10 (53.4%) of older Singaporeans reported that they had taken the pneumococcal vaccine in the past. The proportion decreased across age groups and was identical between genders. Among the ethnicities, those of Chinese ethnicity (56.1%) were more likely to have taken the pneumococcal vaccine as compared to Malays (36.6%) and Indians (38.3%).

About 3 in 10 (28.4%) older Singaporeans had the intention to take the pneumococcal vaccine in the future. The proportion decreased across age groups and was lower among females (26.9%) and Malays (25.0%).

Table 3.8.3 COVID-19 Vaccine Uptake, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1520	234	851	435	715	805	1180	173	156	11
Number of COVID-19 vaccines taken (weighted %)										
0	1.6	0.0	1.1	4.3	0.6	2.4	1.8	0.0	1.3	0.0
1	0.7	0.7	0.0	2.1	0.9	0.4	0.4	1.6	0.8	15.0
2	5.9	5.5	5.5	7.2	5.5	6.2	5.3	7.7	12.8	0.0
3	41.7	43.8	43.3	35.6	42.7	40.8	41.4	43.0	48.7	9.6
4	40.0	41.1	39.1	40.9	37.7	41.9	40.9	37.5	29.8	44.7
5	8.6	7.9	9.4	7.4	10.8	6.8	8.5	9.3	5.6	30.7
6	0.9	0.9	1.0	0.5	0.8	0.9	1.0	0.0	0.5	0.0

[1]All participants were administered this question (n=1535); however, 15 participants provided a null response ('don't know' or 'refused') and were excluded from the overall sample size and subsequent mean calculation.

About 9 in 10 older Singaporeans (91.2%) had taken 3 or more doses of COVID-19 vaccines. 1.6% of older Singaporeans had not taken a COVID-19 vaccine. The proportion was higher among those aged 80 years and above (4.3%), females (2.4%), and those of Chinese ethnicity (1.8%).

3.9. Experience with COVID-19, and Changes in Lifestyle Since the Onset of the COVID-19 Pandemic

This section describes the experience with COVID-19, and changes in lifestyle since the onset of the COVID-19 pandemic, among older Singaporeans, overall and by age group, gender, and ethnicity.

Table 3.9.1 Experience with COVID-19, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
Ever tested positive for COVID-19 (weighted %)										
n	1535	234	856	445	723	812	1192	175	157	11
Yes	61.0	65.7	61.6	54.4	58.5	63.0	61.6	58.8	52.4	83.4
Ever admitted to a hospital or community care facility for COVID-19 (weighted %)										
n[1]	915	158	527	230	411	504	724	102	81	8
Yes	10.0	8.2	6.2	22.1	11.9	8.5	9.0	16.2	19.4	0.0
Ever admitted to an intensive care unit due to COVID-19 (weighted %)										
n[2]	84	15	34	35	46	38	57	15	12	0
Yes	18.9	21.1	13.0	22.2	34.3	2.2	18.7	33.3	0.0	-

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked if they were ever admitted to a hospital or a community care facility (those who never tested positive for COVID-19 were not asked the question).
[2]Indicates the number of participants who were asked if they were ever admitted to an intensive care unit (those who never tested positive for COVID-19 *or* those who tested positive for COVID-19 but were never admitted to a hospital or community care facility were not asked the question).

About 6 in 10 (61.0%) of older Singaporeans had ever tested positive for COVID-19. The proportion decreased with age and was higher for females (63.0%) and Chinese (61.6%).

Among those who had ever tested positive, about 1 in 10 (10.0%) had ever been admitted to a hospital or care facility for COVID-19. The proportion was higher for those aged 80 years and above (22.1%), males (11.9%) and Indians (19.4%) and Malays (16.2%).

Of those ever admitted to a hospital or care facility for COVID-19, 18.9% had been in an intensive care unit. The proportion was higher for those aged 80 years and above (22.2%), males (34.3%) and Malays (33.3%).

Changes in Lifestyle Since the Onset of the COVID-19 Pandemic

The first confirmed case of COVID-19 in Singapore was in January 2020. Participants were asked about change, if any, they may have experienced in the context of a range of lifestyle behaviours from the year before the COVID-19 pandemic (2019) to the time of the survey. Those who reported any change were asked if the main reason for the change for them was the COVID-19 pandemic.

Table 3.9.2 Change in Alcohol Consumption from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1436	231	834	371	684	752	1121	157	147	11
Change in alcohol consumption (weighted %)										
Drink more	0.2	0.0	0.3	0.3	0.4	0.1	0.3	0.0	0.0	0.0
Drink less	7.2	7.7	8.2	2.9	11.1	3.7	7.9	0.0	8.3	7.9
No change	11.2	13.0	11.9	6.4	13.7	9.0	12.2	0.0	12.5	10.4
Started drinking	0.2	0.0	0.3	0.0	0.0	0.3	0.2	0.0	0.0	0.0
Stopped drinking	6.1	5.6	5.9	7.4	10.6	2.1	6.5	1.2	8.8	0.0
Never drank	74.7	73.1	73.2	81.7	63.2	84.8	72.5	98.8	70.4	81.7
n[2]	193	26	126	41	150	43	165	2	25	1
COVID-19 pandemic as the main reason for change (weighted %)										
Yes	3.3	3.5	3.1	3.8	3.3	3.2	3.3	0.0	4.1	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who answered the question on alcohol consumption (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

Nearly 3 in 4 (74.7%) reported never drinking alcohol. Just over 1 in 10 (13.3%) older Singaporeans reported consuming less alcohol or to have stopped consuming alcohol. Around 11.2% indicated no change in their alcohol consumption, and a very small proportion, 0.4%, reported consuming more alcohol or starting to drink.

Among those who reported a change in their alcohol consumption, only 3.3% attributed the change to the COVID-19 pandemic.

Table 3.9.3 Change in Smoking Status from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Smoking status (weighted %)										
Smoke more	0.3	0.5	0.2	0.0	0.5	0.0	0.2	0.8	0.0	0.0
Smoke less	3.0	3.6	2.3	4.7	6.2	0.2	2.6	7.3	3.5	0.0
No change	6.7	9.6	5.5	6.1	12.2	1.8	6.1	10.1	9.6	7.9
Started smoking	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stopped smoking	7.6	6.3	7.8	8.8	15.1	0.9	7.3	12.4	3.8	17.2
Never smoked	81.9	79.7	83.8	79.4	65.4	96.6	83.2	69.5	83.1	74.9
n[2]	160	21	92	47	153	7	117	29	12	2
COVID-19 as the main reason for change (weighted %)										
Yes	1.7	4.5	1.1	0.0	1.8	0.0	2.2	0.0	0.0	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on smoking status (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 8 in 10 older Singaporeans (81.9%) reported never having smoked. Less than 1 in 10 (7.6%) older Singaporeans reported that they had stopped smoking. A small percentage (3.0%) reported smoking less and very few (0.3%) reported smoking more.

Very few (1.7%) of those who experienced a change in smoking status attributed it to the COVID-19 pandemic.

Table 3.9.4 Change in Consumption of Fruit and Vegetables from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Consumption of fruits and vegetables (weighted %)										
Consume more	16.9	19.0	18.2	10.0	17.9	16.1	16.6	18.5	19.6	17.4
Consume less	4.4	2.4	4.6	6.7	4.2	4.6	4.4	5.6	3.9	0.0
No change	78.0	78.6	76.7	81.0	76.8	79.0	78.3	75.2	76.6	82.6
Started consuming	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stopped consuming	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Never consumed	0.5	0.0	0.4	1.3	0.6	0.3	0.5	0.8	0.0	0.0
n[2]	319	49	202	68	154	165	239	41	37	2
COVID-19 as the main reason for change (weighted %)										
Yes	13.7	15.8	14.7	5.3	8.6	18.4	15.2	2.3	12.5	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on consumption of fruits and vegetables (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

Nearly 8 in 10 older Singaporeans (78.0%) maintained the same level of fruit and vegetable consumption. 16.9% of older Singaporeans consumed more fruits and vegetables while 4.4% consumed less.

Of those who reported a change in their fruit and vegetable consumption, 13.7% cited the COVID-19 pandemic as the main reason for it.

Table 3.9.5 Change in Consumption of Sugary Food from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Consumption of sugary food (weighted %)										
Consume more	1.1	0.8	1.3	0.9	0.5	1.6	1.2	0.8	0.2	0.0
Consume less	29.4	33.2	30.1	21.7	31.0	28.0	29.4	25.2	34.8	31.0
No change	55.6	55.5	55.2	57.3	54.0	57.1	54.8	68.3	48.6	67.3
Started consuming	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.7
Stopped consuming	0.9	0.4	1.1	1.2	0.7	1.2	1.0	0.5	0.6	0.0
Never consumed	12.5	9.7	12.1	17.9	13.3	11.8	13.2	4.8	15.8	0.0
n[2]	319	49	202	68	154	165	239	41	37	2
COVID-19 as the main reason for change (weighted %)										
Yes	2.7	0.0	4.0	3.1	1.8	3.5	2.7	0.0	6.7	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of Participants who were asked the question on consumption of sugary food (proxy Participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

Just over half (55.6%) of older Singaporeans reported no change in their consumption of sugary foods. About 3 in 10 (29.4%) of older Singaporeans consumed less sugary food, while 1.1% consumed more. Very few (0.9%) stopped consuming sugary foods and just over 1 in 10 (12.5%) reported never consuming sugary foods.

Among those who reported a change in their sugary food consumption, very few (2.7%) attributed the change to the COVID-19 pandemic.

Table 3.9.6 Change in Consumption of Sugary Drinks or Sugar-Sweetened Beverages from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Consumption of sugary drinks or sugar-sweetened beverages (weighted %)										
Consume more	0.8	1.6	0.6	0.0	0.2	1.2	0.6	1.0	2.1	0.0
Consume less	22.2	27.1	22.0	15.8	24.2	20.4	21.7	23.8	27.8	20.1
No change	51.3	53.5	50.3	50.9	48.8	53.4	50.4	61.3	46.6	64.5
Started consuming	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stopped consuming	3.2	3.8	3.4	2.0	3.5	2.9	3.5	1.2	2.9	1.7
Never consumed	22.2	14.0	23.5	30.2	22.7	21.9	23.5	11.8	20.6	13.6
n[2]	365	77	221	67	190	175	275	40	47	3
COVID-19 as the main reason for change (weighted %)										
Yes	2.9	0.0	3.9	6.6	2.4	3.5	3.0	0.0	6.2	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of Participants who were asked the question on consumption of sugary drinks or sugar-sweetened beverages (proxy Participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

Just over half (51.3%) of older Singaporeans consumed a similar amount of sugary drinks or sugar-sweetened beverages compared to before the pandemic. About 1 in 4 (25.4%) consumed less or stopped consuming sugary drinks or sugar-sweetened beverages, while very few (0.8%) consumed more. About 2 in 10 (22.2%) had never consumed sugary drinks or sugar-sweetened beverages.

Of those who reported a change in the consumption of sugary drinks or sugar-sweetened beverages, very few (2.9%) cited the COVID-19 pandemic as a main reason.

Table 3.9.7 Change in Consumption of Fried Food from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Consumption of fried food (weighted %)										
Consume more	1.0	1.4	1.0	0.8	1.2	1.0	1.2	0.8	0.0	0.0
Consume less	34.1	37.4	32.6	33.7	35.9	32.4	35.1	26.6	35.1	5.1
No change	59.5	58.0	60.4	58.7	56.7	62.0	58.2	71.8	57.6	81.3
Started consuming	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stopped consuming	1.2	1.2	1.3	0.9	1.7	0.8	1.3	0.0	2.1	0.0
Never consumed	3.9	2.0	4.5	4.8	3.9	3.9	4.0	0.8	5.2	13.6
n[2]	514	91	292	131	258	256	414	45	54	1
COVID-19 as the main reason for change (weighted %)										
Yes	4.6	2.3	5.8	4.8	5.0	4.2	4.7	2.1	5.5	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on consumption of fried food (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 6 in 10 (59.5%) older Singaporeans consumed the same amount of fried food compared to before the pandemic. Just over one-third (35.3%) consumed less or stopped consuming fried food, while only 1.0% consumed more. 3.9% had never consumed fried food.

Of those who reported a change in the consumption of fried food, only 1 in 20 (4.6%) cited the COVID-19 pandemic as a main reason.

Table 3.9.8 Change in Consumption of Health or Dietary Supplements from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Consumption of health or dietary supplements (weighted %)										
Consume more	7.8	11.4	6.6	6.2	5.7	9.6	7.8	7.6	9.8	0.0
Consume less	2.8	3.3	2.6	2.7	3.9	1.9	2.9	3.6	1.9	0.0
No change	52.4	53.2	51.7	53.4	46.5	57.6	51.3	59.7	53.4	79.9
Started consuming	0.9	0.0	1.4	0.5	1.0	0.7	0.8	1.1	1.9	0.0
Stopped consuming	2.4	2.8	2.6	1.4	3.1	1.8	2.0	3.7	6.5	0.0
Never consumed	33.4	29.4	34.8	34.7	39.2	28.2	35.0	23.9	26.5	20.1
n[2]	193	43	111	39	89	104	142	25	26	0
COVID-19 as the main reason for change (weighted %)										
Yes	14.8	21.7	13.2	4.5	7.1	21.4	15.1	3.0	24.9	-

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on consumption of health or dietary supplements (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 5 in 10 older Singaporeans (52.4%) consumed the same amount of health or dietary supplements compared to before the pandemic. While 8.7% consumed more or started consuming health or dietary supplements, 5.2% consumed less or stopped consuming them. One-third (33.4%) of older Singaporeans had never consumed health or dietary supplements.

Of those who reported a change in the consumption of health or dietary supplements, 14.8% cited the COVID-19 pandemic as the main reason.

Table 3.9.9 Change in Time Spent Doing Exercise from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Time spent doing exercise (weighted %)										
Spend more time	9.3	12.4	9.2	5.2	8.8	9.8	9.2	6.7	12.8	23.1
Spend less time	14.9	14.5	15.1	14.8	14.0	15.7	14.9	13.9	15.3	21.5
No change	59.1	57.8	60.1	57.8	63.0	55.6	59.9	54.1	55.4	50.3
Started spending time	0.9	1.0	1.1	0.0	1.1	0.7	1.0	0.0	0.8	0.0
Stopped spending time	1.5	0.9	1.3	2.7	1.1	1.8	1.5	1.2	1.6	0.0
Never spent time	14.2	13.4	13.1	18.6	11.5	16.5	13.3	24.0	14.2	5.1
n[2]	371	71	216	84	168	203	295	31	42	3
COVID-19 as the main reason for change (weighted %)										
Yes	15.3	12.2	16.2	17.6	15.6	15.0	15.9	20.2	6.7	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on time spent doing exercise (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 6 in 10 older Singaporeans (59.1%) spent the same time doing exercise compared to before the pandemic. About 1 in 10 (10.2%) spent more time or started exercising, while 16.4% spent less time and stopped exercising. The proportion who had never exercised was 14.2%.

Of those who reported a change in the time spent doing exercise, 15.3% cited the COVID-19 pandemic as the main reason.

Table 3.9.10 Change in Time Spent Sitting or Reclining from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[2]	1436	231	834	371	684	752	1121	157	147	11
Time spent sitting or reclining[1] (weighted %)										
Spend more time	12.7	11.3	13.5	12.6	11.5	13.9	12.7	9.8	15.5	23.1
Spend less time	5.4	4.3	6.7	3.2	4.3	6.4	4.9	5.4	11.5	12.3
No change	81.4	84.5	79.5	83.0	83.5	79.6	81.9	84.3	73.0	64.6
n[3]	268	39	167	62	115	153	200	23	43	2
COVID-19 as the main reason for change (weighted %)										
Yes	9.3	4.3	10.3	12.4	10.7	8.3	10.0	1.8	10.6	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Time spent sitting or reclining does not include sleeping
[2]Indicates the number of participants who were asked the question on time spent sitting or reclining (proxy participants were not asked the question).
[3]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 8 in 10 older Singaporeans (81.4%) spent the same amount of time sitting or reclining (not including sleeping) compared to before the pandemic. 12.7% spent more time sitting or reclining, while 5.4% spent less time sitting or reclining.

Of those who reported a change in the amount of time sitting or reclining (not including sleeping), nearly 1 in 10 (9.3%) cited the COVID-19 pandemic as the main reason.

Table 3.9.11 Change in Time Spent Sleeping from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Time spent sleeping (weighted %)										
Spend more time	6.0	6.8	6.1	4.6	6.1	5.9	5.3	8.5	8.3	28.2
Spend less time	7.2	5.8	8.1	6.2	6.6	7.7	6.5	7.4	14.6	20.1
No change	86.4	87.3	85.5	87.8	86.5	86.3	87,7	83.7	77.1	51.6
n[2]	196	32	123	41	90	106	133	26	33	4
COVID-19 as the main reason for change (weighted %)										
Yes	10.1	5.2	11.4	13.2	8.2	11.7	12.4	1.9	5.2	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on time spent sleeping (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

Most (86.4%) older Singaporeans had no change in the same amount of time spent sleeping compared to before the pandemic. While 6.0% spent more time sleeping, 7.2% spent less time sleeping.

Of those who reported a change in the amount of time spent sleeping, 1 in 10 (10.1%) cited the COVID-19 pandemic as the main reason.

Table 3.9.12 Change in Time Spent Online from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Time spent online (weighted %)										
Spend more time	11.4	17.7	10.7	4.5	8.7	13.7	12.0	6.0	8.8	24.4
Spend less time	4.5	6.8	4.4	1.7	5.2	4.0	3.9	9.3	7.9	0.0
No change	53.0	61.4	56.2	31.1	57.8	48.8	52.4	63.1	46.9	61.6
Started spending time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stopped spending time	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Never spent time	30.7	14.2	28.4	61.4	27.6	33.4	31.4	21.2	36.5	14.0
n[2]	215	57	129	29	94	121	163	29	39	2
COVID-19 as the main reason for change (weighted %)										
Yes	20.3	28.1	15.0	15.4	17.6	22.1	21.6	7.7	23.1	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on time spent online (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 3 in 10 older Singaporeans (30.7%) reported having never spent time online. About 5 in 10 older Singaporeans (53.0%) reported no change in the time spent online compared to before the pandemic, while just over 1 in 10 (11.4%) reported spending more time online and 1 in 20 (4.6%) reported less time or having stopped time online.

Of those who reported a change in the time spent online, about 1 in 5 (20.3%) cited the COVID-19 pandemic as the main reason.

Table 3.9.13 Change in Time Spent With or Talking to Family Members Within Household from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Time spent with or talking to family members within your household (weighted %)										
Spend more time	6.0	9.2	5.5	2.6	6.0	5.9	4.9	13.2	7.9	23.1
Spend less time	6.1	5.6	6.6	5.5	5.1	7.0	6.4	3.5	5.6	12.3
No change	83.6	82.7	83.6	84.7	85.2	82.1	84.2	79.4	83.3	64.6
Started spending time	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stopped spending time	0.6	1.0	0.5	0.2	0.3	0.8	0.6	0.0	1.6	0.0
Never spent time	3.3	1.2	3.5	5.9	2.8	3.8	3.6	2.0	1.7	0.0
n[2]	178	37	109	32	76	102	124	27	25	2
COVID-19 as the main reason for change (weighted %)										
Yes	13.7	20.2	10.1	12.8	13.5	13.9	12.5	23.6	16.1	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on time spent with or talking to family members within household (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 8 in 10 older Singaporeans (83.6%) reported no change in the time spent with or talking to family members within their household compared to before the pandemic. While 6.0% spent more time with or talking to family members within their household, a nearly similar proportion (6.7%) spent less time or stopped spending time with or talking to family members within their household. Very few (3.3%) reported never having spent time with or talking to family members within their household.

Of those who reported a change in the time spent with or talking to family members within their household, 13.7% cited the COVID-19 pandemic as the main reason.

Table 3.9.14 Change in Time Spent With or Talking to Family Members Outside Household from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Time spent with or talking to family members outside your household (weighted %)										
Spend more time	4.2	5.9	4.4	1.0	2.9	5.3	4.1	4.8	4.7	0.0
Spend less time	8.2	9.8	7.2	9.0	9.3	7.1	7.8	10.5	8.2	23.1
No change	86.1	83.6	87.2	86.7	85.7	86.5	86.4	84.1	87.0	76.9
Started spending time	0.2	0.0	0.3	0.0	0.0	0.3	0.2	0.0	0.0	0.0
Stopped spending time	0.1	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.0
Never spent time	1.0	0.8	0.7	2.3	1.4	0.7	1.2	0.0	0.0	0.0
n[2]	175	36	102	37	81	94	130	22	22	1
COVID-19 as the main reason for change (weighted %)										
Yes	18.0	20.3	16.1	19.5	17.9	18.0	18.8	11.8	22.4	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on time spent with or talking to family members outside of household (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

Most (86.1%) older Singaporeans reported no change in the time spent with or talking to family members outside their household compared to before the pandemic. While 4.4% of older Singaporeans spent more time or started spending time with or talking to family members outside their household, nearly twice as many (8.3%) spent less time or stopped spending time with or talking to family members outside their household.

Of those who reported a change in the time spent with or talking to family members outside their household, nearly 1 in 5 (18.0%) cited the COVID-19 pandemic as the main reason.

Table 3.9.15 Change in Time Spent With or Talking to Friends and Neighbours from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Time spent with or talking to friends and neighbours (weighted %)										
Spend more time	2.9	3.4	2.7	2.7	2.1	3.6	3.2	0.7	2.3	0.0
Spend less time	11.0	10.1	11.3	11.3	12.2	10.0	11.2	9.9	11.0	0.0
No change	82.5	82.3	83.2	80.8	82.0	83.0	82.2	84.8	81.9	100.0
Started spending time	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.7	0.0	0.0
Stopped spending time	0.2	0.0	0.1	0.5	0.2	0.1	0.2	0.0	0.0	0.0
Never spent time	2.9	3.4	2.4	3.5	2.6	3.1	2.8	2.5	4.8	0.0
n[2]	209	33	121	55	105	104	172	17	20	0
COVID-19 as the main reason for change (weighted %)										
Yes	23.8	19.9	27.8	16.6	21.5	25.8	25.3	13.4	12.3	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on time spent with or talking to friends and neighbours (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 8 in 10 older Singaporeans (82.5%) reported no change in the time spent with or talking to friends and neighbours compared to before the pandemic. Only 3.0% spent more time or started spending time with or talking to friends and neighbours, whereas nearly thrice as many (11.2%) spent less time or stopped spending time with or talking to friends and neighbours.

Of those who reported a change in the time spent with or talking to friends and neighbours, nearly 1 in 4 (23.8%) cited the COVID-19 pandemic as a main reason.

Table 3.9.16 Change in Quality of Relationship With Family Members Within Household from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Quality of relationship with family members within your household (weighted %)										
Better	9.1	13.2	8.7	4.4	9.4	8.8	7.9	17.2	14.0	10.4
Same as before	89.2	86.1	89.6	92.5	89.0	89.4	90.2	81.5	85.2	89.6
Worse	0.7	0.4	0.6	1.2	0.4	0.9	0.8	0.0	0.0	0.0
n[2]	145	35	85	25	71	74	93	28	22	2
COVID-19 as the main reason for change (weighted %)										
Yes	23.1	35.0	16.4	15.3	15.8	29.7	23.7	13.5	26.3	88.1

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on quality of relationship with family members within household (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

Almost 9 in 10 older Singaporeans (89.2%) reported no change in the quality of their relationship with family members within their household compared to before the pandemic. Nearly 1 in 10 (9.1%) reported that the quality of their relationship with family members within their household was better, while very few (0.7%) reported that it was worse.

Of those who reported a change in the quality of their relationship with family members within their household, nearly 1 in 4 (23.1%) cited the COVID-19 pandemic as the main reason.

Table 3.9.17 Change in Quality of Relationship With Family Members Outside Household from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Quality of relationship with family members outside your household (weighted %)										
Better	6.5	9.2	6.5	2.6	6.0	7.0	5.2	15.8	12.5	0.0
Same as before	91.7	89.0	92.1	94.6	91.8	91.6	93.0	82.0	86.0	100.0
Worse	1.1	1.3	1.1	0.5	0.9	1.2	1.1	0.0	1.4	0.0
n[2]	114	28	71	15	48	66	70	25	19	0
COVID-19 as the main reason for change (weighted %)										
Yes	21.3	35.7	12.7	17.0	19.1	22.9	22.3	12.8	28.6	-

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on quality of relationship with family members outside household (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 9 in 10 older Singaporeans (91.7%) reported no change in the quality of their relationship with family members outside their household compared to before the pandemic. While 6.5% reported that the quality of their relationship with family members outside their household was better, very few (1.1%) reported it to be worse.

Of those who reported a change in the quality of their relationship with family members outside their household, just over 1 in 5 (21.3%) cited the COVID-19 pandemic as a main reason.

Table 3.9.18 Change in Quality of Relationship With Friends and Neighbours from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Quality of relationship with friends and neighbours (weighted %)										
Better	4.0	7.2	2.9	2.8	3.2	4.6	3.4	8.4	6.5	0.0
Same as before	93.3	91.5	93.9	94.1	94.6	92.1	93.5	90.2	93.5	100.0
Worse	1.5	0.5	2.3	0.6	0.8	2.2	1.8	0.0	0.0	0.0
n[2]	81	20	45	16	31	50	59	11	11	0
COVID-19 as the main reason for change (weighted %)										
Yes	28.6	32.9	27.1	21.7	9.9	38.2	33.2	3.2	23.6	-

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on quality of relationship with friends and neighbours (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 9 in 10 older Singaporeans (93.3%) reported no change in the quality of their relationship with friends and neighbours compared to before the pandemic. While 4.0% reported that the quality of their relationship with friends and neighbours was better, very few (1.5%) reported it to be worse.

Of those who reported a change in the quality of their relationship with friends and neighbours, 28.6% cited the COVID-19 pandemic as the main reason.

Table 3.9.19 Change in Ability to Manage Health from Before the COVID-19 Pandemic to the Time of Survey, and Attribution of the Change to the COVID-19 Pandemic, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
Ability to manage your health (weighted %)										
Better	13.8	18.5	13.9	6.6	15.2	12.5	12.5	24.9	18.0	1.7
Same as before	83.1	79.8	83.1	87.9	82.2	83.9	84.2	73.2	79.7	98.3
Worse	2.7	1.7	2.7	4.0	1.8	3.5	2.9	1.4	1.6	0.0
n[2]	244	47	153	44	116	128	170	42	31	1
COVID-19 as the main reason for change (weighted %)										
Yes	22.9	23.1	22.9	22.2	21.4	24.3	24.4	16.1	19.2	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on ability to manage health (proxy participants were not asked the question).
[2]Indicates the number of participants who reported any form of change (proxy participants were not asked the question).

About 8 in 10 older Singaporeans (83.1%) reported no change in their ability to manage their health compared to before the pandemic. While 13.8% reported that their ability to manage their health was better, only 2.7% reported it to be worse.

Of those who reported a change in their ability to manage their health, 22.9% cited the COVID-19 pandemic as the main reason.

3.10. Social Engagement

This section looks at the distribution of reasons for living alone or only with a migrant domestic worker, loneliness, social network, religiosity and attendance of social activities, overall and by age group, gender and ethnicity.

Reasons for Living Alone or only with a Migrant Domestic Worker

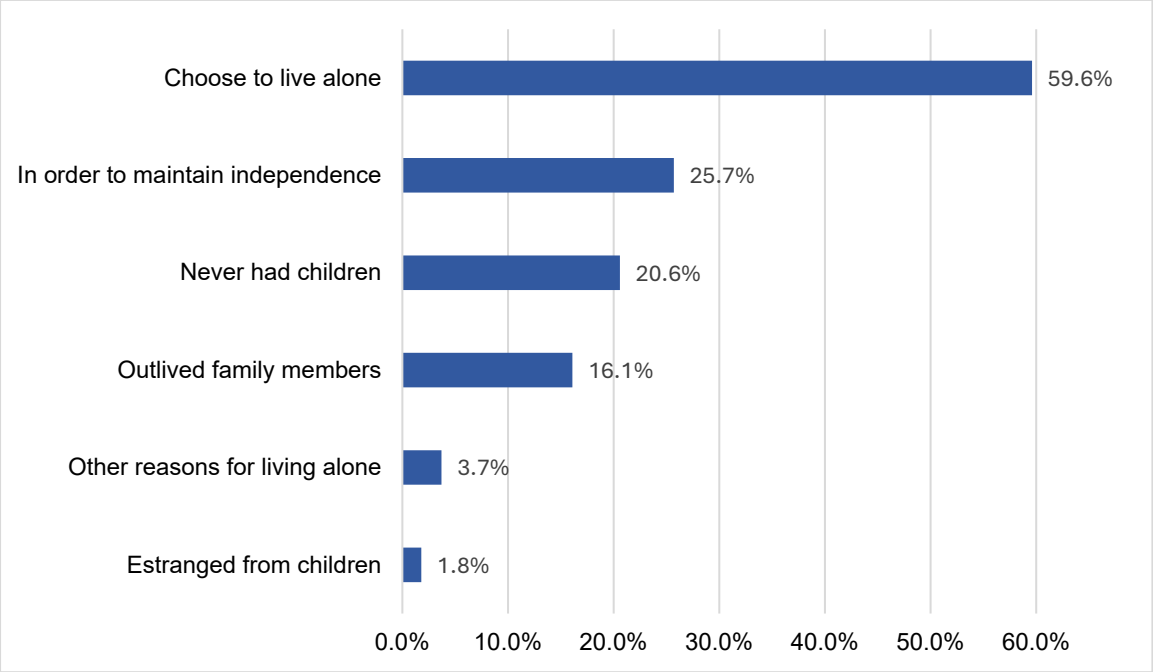

Figure 3.10.1 Reasons for Living Alone or only with a Migrant Domestic Worker (n=215)
Percentages exceed 100% as multiple responses were allowed.

Referring to **Table 3.1.5**, 12.5% of older Singapore reported living alone or only with a migrant domestic worker. The top three reasons for doing so were that they chose to live alone (59.6%), to maintain independence (25.7%), and never had children (20.6%).

Loneliness

Loneliness was assessed using the Three-Item Loneliness Scale **(detailed in Appendix A1.9)**. Those with scores of 0, 1-3, and 4 and above, were classified as not lonely, sometimes lonely and mostly lonely, respectively.

Table 3.10.1 Loneliness, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1436	231	834	371	684	752	1121	157	147	11
Three-Item Loneliness Scale (weighted %)										
Not lonely	46.5	46.3	46.7	46.1	46.6	46.3	49.0	27.1	38.9	39.0
Sometimes lonely	29.6	31.0	30.3	25.4	29.7	29.5	28.5	41.6	28.8	28.2
Mostly lonely	23.9	22.7	23.0	28.6	23.7	24.1	22.5	31.3	32.3	32.8

[1]Indicates the number of participants who were asked the questions on loneliness (proxy participants were not asked the questions).

About half (53.5%) of older Singaporeans reported being *sometimes or mostly lonely*, including nearly 1 in 4 (23.9%) being *mostly lonely*. The proportion of those *mostly lonely* increased with age and was similar for females (24.1%) and males (23.7%). Among the three major ethnicities, the proportion was the higher for Indians (32.3%) and Malays (31.3%) compared to Chinese (22.5%).

Social Network outside the household

Social network outside the household was assessed using the Lubben Social Network Scale (**detailed in Appendix A1.9**). The scale has a 12-item version (LSNS-R) with a score ranging from 0-60, and a 6-item version (LSNS-6) with a score ranging from 0-30. Higher scores indicate more social engagement outside the household. A cutoff of 12 points for the LSNS-6 was used to categorise individuals 'at risk of social isolation'.

Table 3.10.2 Lubben Social Network Scale (LSNS) Scores and 'At Risk of Social Isolation', Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1426	227	830	369	678	748	1116	154	146	10
Lubben Social Network Scale – Revised (LSNS-R) score (weighted mean)										
Mean	25.4	27.1	25.6	22.4	24.7	26.0	25.2	26.9	24.5	32.0
SD	11.1	8.3	11.4	13.6	11.5	10.8	10.6	12.3	14.4	9.3
Lubben Social Network Scale – 6 (LSNS-6) score (weighted mean)										
Mean	13.4	14.6	13.4	11.6	13.2	13.5	13.4	13.8	12.4	17.2
SD	6.3	4.8	6.5	7.6	6.7	6.0	6.0	6.8	8.5	4.9
'At risk of social isolation' (weighted %)										
Yes	39.4	32.1	39.3	50.3	40.2	38.8	39.6	38.1	42.7	8.7

[1]Indicates the number of participants who answered all questions or had only one missing answer (question not asked to proxy respondents).

The mean LSNS-R and LSNS-6 scores decreased with age, and were lower for males and Indians.

Nearly 4 in 10 (39.4%) of older Singaporeans were classified to be 'at risk of social isolation'. The proportion increased with age, reaching 50.3% for those aged 80 years and above, and was slightly higher for males (40.2%) than females (38.8%). Among the three major ethnicities, the proportion was higher among Indians (42.7%) compared to Chinese (39.6%) and Malays (38.1%).

Social Activities

Older adults' frequency of participation in four distinct types of social activities was assessed - meeting with someone or a group for social activities; attend church, mosque or other places of worship; attend neighbourhood event; and attend active ageing centre or senior care centre for exercise/activities.

Table 3.10.3 Attendance of Social Activities, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Meet with someone or a group (for meals, drinks, exercise, shopping, social activities) (weighted %)										
At least weekly	32.7	32.5	36.9	23.3	35.6	30.3	35.0	28.9	16.8	9.1
Occasionally	33.3	44.4	32.1	24.1	33.0	33.5	32.9	32.5	37.2	49.0
Not at all	34.0	23.1	31.0	52.5	31.3	36.2	32.1	43.7	46.0	41.9
Attend church, mosque or other places of worship (weighted %)										
At least weekly	19.4	21.2	21.0	14.0	17.4	21.1	15.4	41.6	36.6	59.7
Occasionally	38.4	45.6	40.1	27.1	38.2	38.6	40.4	20.8	37.2	38.5
Not at all	41.5	31.0	39.0	58.5	43.2	40.1	43.4	37.7	25.2	1.7
Attend neighbourhood event (weighted %)										
At least weekly	9.9	10.0	11.7	5.9	8.4	11.2	10.8	2.3	9.1	15.9
Occasionally	14.8	13.7	16.2	12.8	13.8	15.7	13.8	21.2	21.0	9.2
Not at all	74.9	75.3	72.0	81.2	77.3	72.9	75.2	75.7	69.8	74.9
Attend active ageing centre or senior care centre for exercise/activities (weighted %)										
At least weekly	9.5	9.9	8.3	11.9	8.0	10.7	10.3	4.1	6.8	7.9
Occasionally	8.5	8.2	9.0	7.8	7.0	9.8	9.2	4.4	5.7	0.0
Not at all	80.4	81.2	80.9	78.7	83.3	78.0	78.9	90.3	86.1	92.1

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Meeting with someone or a group for social activities (such as meals, drinks, exercise, shopping) was the most common of the four social activities among older Singaporeans, with 66.0% doing it at least weekly or occasionally. The proportion decreased with age and was higher for males (68.6%), and for Chinese (67.9%) compared to Malays (61.4%) and Indians (54.0%).

The next most common activity was attending a church, mosque or other place of worship, with 58.5% doing it at least weekly or occasionally. The proportion the decreased with age, and was higher for females (59.7%), and for Indians (73.8%) and Malays (62.4%) compared to Chinese (55.8%).

Attending neighbourhood events (including Residents' Committee, Neighbourhood Committee, Community Club, and Community Development Council) at least weekly or occasionally was the next most common social activity (25.1%). The proportion was highest among those aged 70-79 years (27.9%) across age groups, females (26.9%) between genders and Indians (30.1%) across ethnicities.

The least common social activity was attending an Active Ageing Centre or Senior Care Centre for exercise or activities, with 19.6% attending at least weekly or occasionally. The proportion was the highest among those aged 80 years and above (19.7%) across age groups, females (20.5%) between genders, and Chinese (19.5%) across ethnicities.

3.11. Provision and Receipt of Transfers

In this section, we provide descriptive statistics on the provision and receipt of transfers by older Singaporeans in the past 12 months, and their distribution overall and by age group, gender and ethnicity.

Table 3.11.1 Provision of Transfers, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Provided … to family members (including spouse), relatives, friends, or a migrant domestic worker in the past 12 months (weighted %)										
Emotional support	44.7	51.9	47.0	31.6	47.1	42.6	45.3	41.1	42.3	39.4
Material (food, clothes or others) support	39.4	48.2	41.4	25.6	41.9	37.4	41.3	25.0	34.7	39.4
Housework help	37.6	48.0	39.7	21.7	39.6	36.0	39.3	29.2	28.2	29.5
Information or suggestion to cope with or solve problems	35.9	43.2	37.9	23.6	39.8	32.7	36.2	34.0	35.8	29.5
Monetary support	18.5	29.7	17.6	8.6	26.8	11.5	18.1	20.6	22.8	0.0

Provision of emotional support (44.7%) and material support (39.4%) were the two most common type of transfers by older Singaporeans to their family members (including spouse), relatives, friends, or a migrant domestic worker in the past 12 months.

The proportion of older Singaporeans providing each type of support/transfer decreased with age. Males were more likely to provide each type of support/transfer compared to females; the greatest difference was noted for monetary support where males were more than twice as likely (26.8%) than females (11.5%) to do so. Across the three major ethnicities, provision of emotional support (45.3%), material support (41.3%) and housework help (39.3%) were more likely by Chinese, while provision of monetary support was more likely by Malays (20.6%) and Indians (22.8%).

Table 3.11.2 Receipt of Transfers, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Received … from family members (including spouse), relatives, friends, or a migrant domestic worker in the past 12 months (weighted %)										
Material (food, clothes or others) support	60.9	58.3	57.3	72.1	57.9	63.4	63.2	50.5	48.0	31.2
Emotional support	59.2	56.4	57.6	66.2	58.0	60.3	59.9	58.4	55.7	31.2
Housework help	55.2	50.2	51.2	69.5	58.1	52.8	55.7	55.4	50.1	31.2
Monetary support	55.1	50.3	51.8	67.8	48.1	61.0	54.9	66.9	43.1	40.4
Information or suggestion to cope with or solve problems	31.8	33.7	28.1	38.2	31.2	32.3	28.6	51.2	47.1	32.5

Receiving transfers was common for most older Singaporeans. For each type of support other than information support, at least half of participants had received transfers from family members (including spouse), relatives, friends, or a migrant domestic worker in the past 12 months. The most common transfers that were received were material support (60.9%) and emotional support (59.2%).

For each type of support, receipt was higher among those aged 80 years and above compared to those younger.

In the context of gender, females were more likely to receive material (63.4%), monetary (61.0%), emotional (60.3%) and information support (32.3%), whereas males were more likely to receive housework help (58.1%).

The three major ethnicities differed in the types of support received. Chinese were most likely to receive material support (63.2%), emotional support (59.9%) and housework help (55.7%), compared to the other ethnicities. On the other hand, Malays were most likely to receive monetary support (66.9%) and information support (51.2%).

3.12. Work and Retirement

This section describes Singaporean older adults' current work status, reasons to be working, early retirement, and reasons for early retirement, overall and by age group, gender and ethnicity.

Table 3.12.1 Current Work Status, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
Current work status (weighted %)										
Working full-time	15.5	29.2	14.8	2.3	22.9	9.2	15.7	11.7	19.8	0.0
Working part-time	12.6	18.2	13.9	3.7	13.7	11.7	13.2	6.3	14.1	12.3
Retired and/or not working	66.0	52.2	66.6	79.4	62.8	68.7	66.0	68.1	60.1	87.7
Never worked	5.7	0.5	4.6	13.9	0.1	10.4	4.9	13.9	6.1	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

15.5% of older Singaporeans worked full-time, while 12.6% worked part-time. Both proportions declined with age. A lower proportion of females worked full-time (9.2%) compared to males (22.9%), and a slightly lower proportion of females (11.7%) worked part-time compared to males (13.7%). Among the three major ethnicities, Chinese (28.9%) and Indians (33.9%) were more likely to work full-time and part-time compared to Malays (18.0%).

5.7% of older Singaporeans had never worked. The proportion was 13.9% among those aged 80 years and above compared to only 0.5% among those aged 67 to 69 years. Between the two genders, there was a contrast in having never worked – the proportion was 10.4% for females and 0.1% for males. Among the three major ethnicities, Malays (13.9%) were more likely to have never worked compared to Chinese (4.9%) and Indians (6.1%).

Current occupations, overall and by age group, gender and ethnicity, are reported in Appendix Table B12.

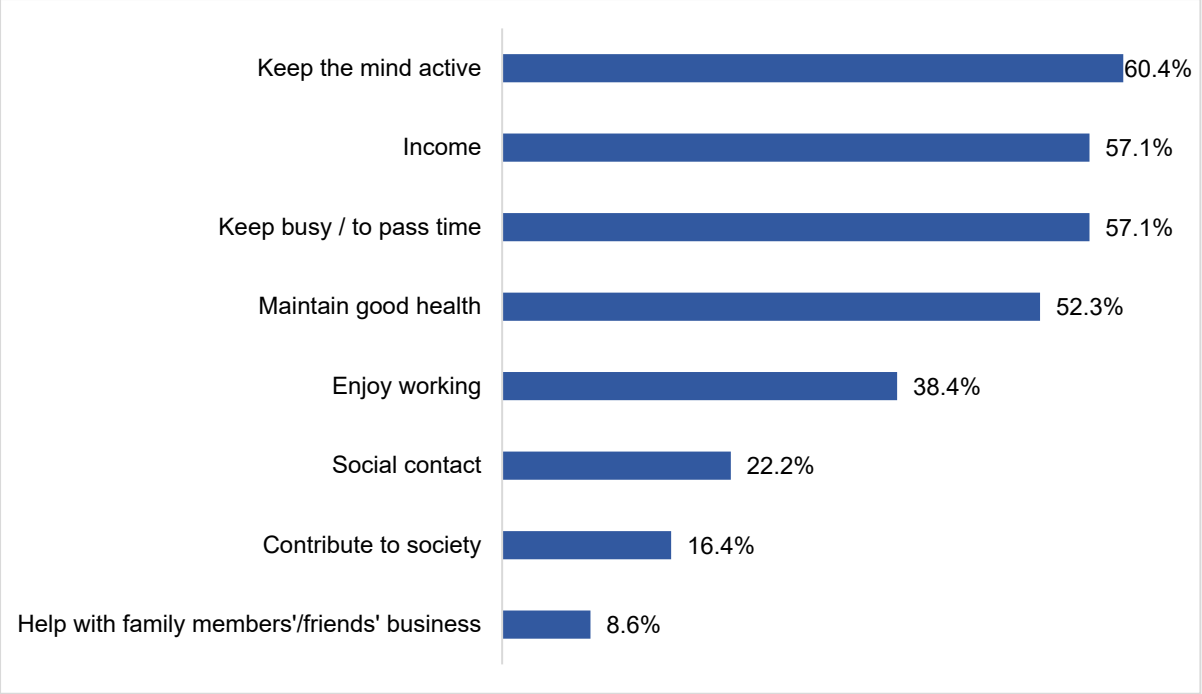

Figure 3.1.1 Reasons to be Working* (n = 398)
Percentages exceed 100% as multiple responses were allowed.
*Asked only to participants who were working full-time or part-time.

Older Singaporeans who were working full-time or part-time were asked about their reasons for working. The most common reason was to keep the mind active (60.4% of the responses), followed by income (57.1%), to keep busy / to pass time (57.1%), and to maintain good health (52.3%).

Table 3.12.2 Early Retirement Among Those Retired/Not Working, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1051	122	565	364	481	570	810	130	101	10
Early retirement (weighted %)										
Yes	39.4	44.7	40.1	34.5	32.4	44.7	39.5	40.9	37.5	30.7

[1]Indicates the number of participants who reported working in the past but currently not working.

Older Singaporeans who reported that they had retired or worked in the past but were currently not working were asked if they had an early retirement. The proportion who had an early retirement was 39.4% overall and decreased with age. Females were more likely (44.7%) to have retired early compared to males (32.4%). Among the three major ethnicities, Malays (40.9%) were most likely to have retired early.

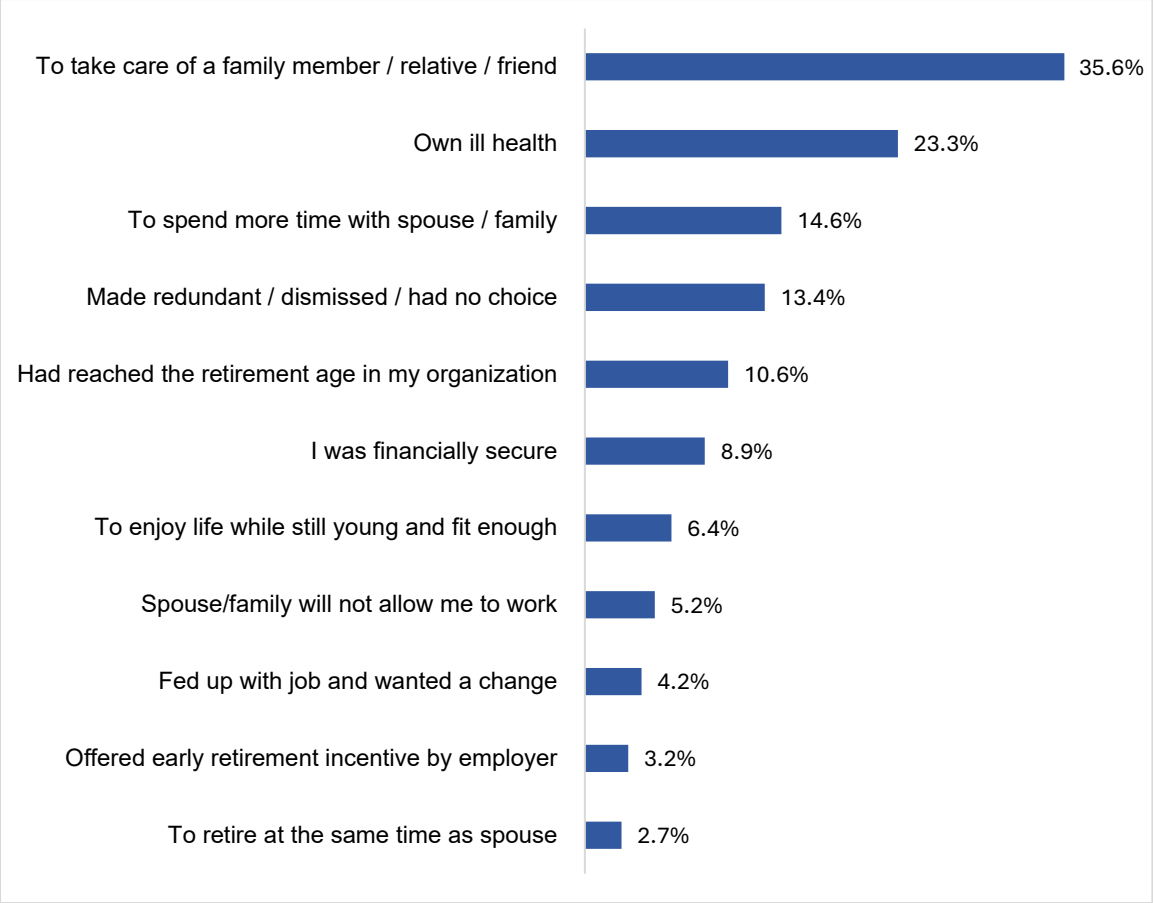

Figure 3.12.2 Reasons for Early Retirement Among Those Who Reported That They Retired Early * (n = 404)

Percentages exceed 100% as multiple responses were allowed.

*Asked only to participants who were retired and/or worked in the past and currently not working, and reported early retirement

Participants who reported that they had retired early were asked their reasons for early retirement. The top three reasons were to take care of a family member, relative, or friend (35.6%), their own ill health (23.3%) and to spend more time with their spouse/family (14.6%).

The reasons for those *seeking* employment among the retired or never worked are provided in **Appendix Figure B3**. The reasons for *not seeking* employment among those who are retired/never worked are provided in **Appendix Figure B4**.

3.13. Lifelong Learning

In this section, we provide the distribution of the number of learning programs (course/education/training) taken in the past 12 months, the primary reason (job- or nonjob-related) for engagement, and preference for mode (in-person or online), overall and by age group, gender and ethnicity. We also report the reasons for not taking any courses/trainings in the past 12 months.

Table 3.13.1 Number of Learning Programs Attended in the Past 12 Months, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
Number of learning programs attended in the past 12 months (weighted %)										
None	86.2	80.5	84.4	96.2	86.3	86.1	85.6	91.4	85.5	94.9
1	7.8	7.4	10.4	2.3	8.3	7.4	8.2	3.7	9.9	0.0
2	3.8	7.3	3.4	1.2	3.4	4.2	4.0	2.3	4.2	0.0
3 or more	2.2	4.8	1.8	0.4	2.1	2.3	2.2	2.7	0.5	5.1

Most (86.2%) older Singaporeans did not attend any learning programs in the past 12 months. Those who attended any learning programs (13.8%) comprised 7.8% with only *one* learning program, 3.8% with *two* learning programs, and 2.2% with *three or more* learning programs. The proportion who attended any learning programs declined with age, was similar between genders and was higher for Indians (14.5%) and Chinese (14.4%) compared to Malays (8.7%) across the three major ethnicities.

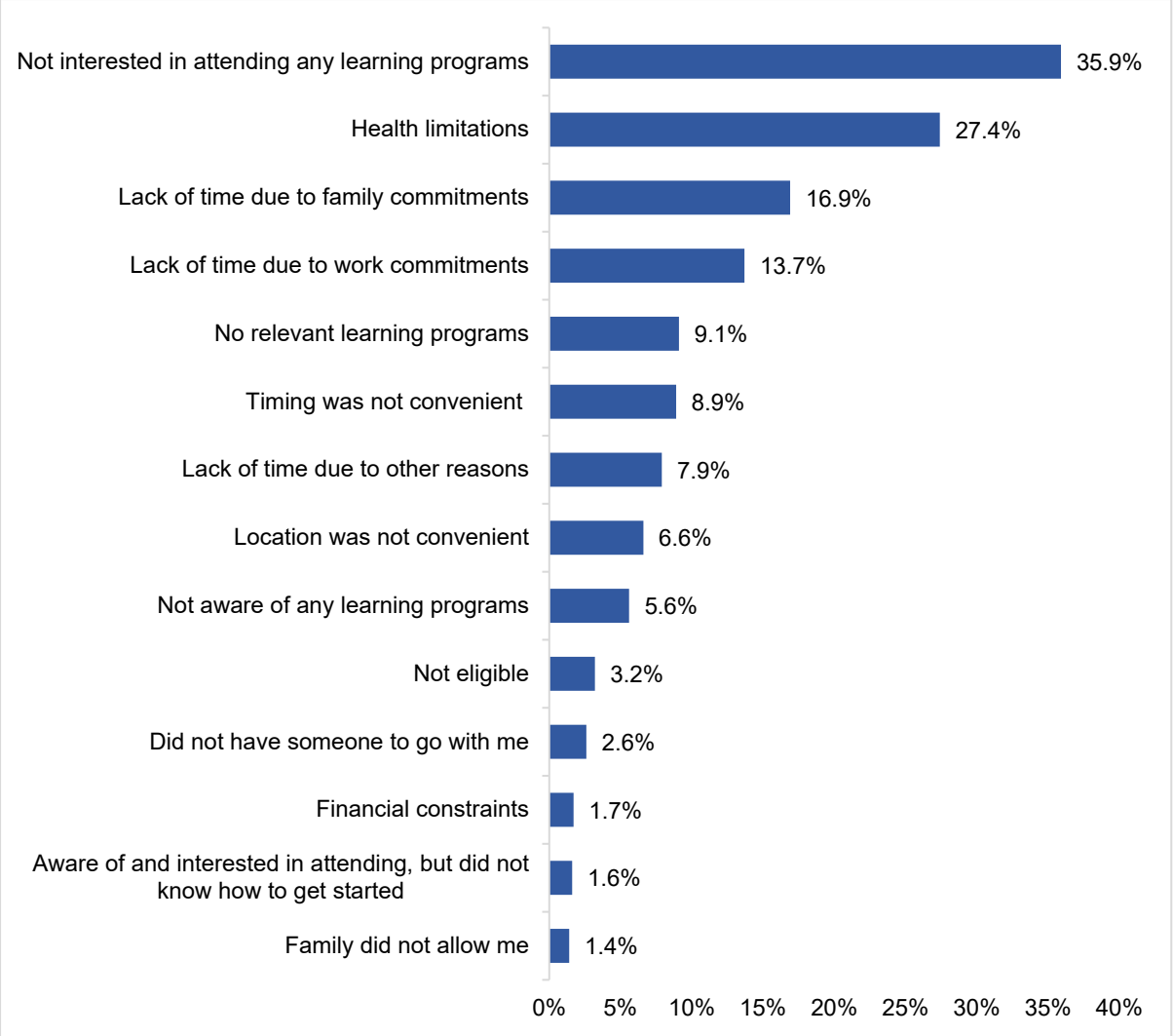

Figure 3.13.1 Reasons for Not Attending Any Learning Programs in the Past 12 Months* (n = 1221)

Percentages exceed 100% as multiple responses were allowed.

*Asked only to participants who did not attend any course/education/training in the past 12 months

Among older Singaporeans who did attending any learning programs in the past 12 months, the top three reasons were not interested in attending any learning programs (35.9%), health limitations (27.4%) and lack of time due to family commitments (16.9%).

Table 3.13.2 Primary Reason for Learning Program Engagement, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	208	47	140	21	93	115	169	15	23	1
Primary reason for attending learning programs (weighted %)										
Job-related only	29.9	38.9	25.9	18.3	44.4	17.9	29.8	20.5	40.9	0.0
Non-job-related only	66.9	54.0	72.9	81.7	49.7	81.1	67.4	79.5	46.8	100.0
Both job and nonjob-related	3.2	7.2	1.3	0.0	5.8	1.1	2.8	0.0	12.3	0.0

[1]Indicates the number of participants who attended course/education/training in the past one year.

Most older Singaporeans who attended any learning programs did so for *non-job-related reasons only* (66.9%). The proportion increased with age, reaching 81.7% among those aged 80 years and above. It was much higher among females (81.1%) compared to males (49.7%). It was also higher for Malays (79.5%) and Chinese (67.4%) versus Indians (46.8%) across the three major ethnicities.

The proportion of older Singaporeans who attended any learning programs for *job-related* reasons was 29.9%. Across age groups, the proportion was the highest among those aged 67-69 years (38.9%). The proportion was much higher among males (44.4%) than among females (17.9%) and was higher among Indians (40.9%) compared to those of Chinese ethnicity (29.8%) and Malays (20.5%) across the three major ethnicities.

Table 3.13.3 Preferred Mode for Future Learning Programs, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1436	231	834	371	684	752	1121	157	147	11
Preferred mode (weighted %)										
Online only	4.9	7.6	4.6	2.0	7.0	3.0	5.0	4.5	4.5	0.0
In-person only	71.8	72.7	73.9	63.9	69.1	74.1	71.5	73.1	72.8	81.2
Either online or in-person	12.8	15.6	12.9	8.4	14.5	11.3	13.6	8.6	7.0	17.1

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the question on preferred mode for future course/education/training (proxy participants were not asked the question).

When asked about their preferred mode of attending a learning program in the future, 84.6% older Singaporeans preferred attending *in-person* (comprising those who preferred to attend only in-person *or* either online or in-person). The proportion declined with age (88.3% for those 67-69 years to 72.3% for those aged 80 years and above) and was slightly higher for females (85.4%) versus males (83.6%). It was higher among Chinese (85.1%) compared to Malays (81.7%) and Indians (79.8%) across the three major ethnicities.

On the other hand, only 17.7% preferred attending *online* (comprising those who preferred to attend only online *or* either online or in-person). The proportion again declined with age (23.2% for those 67-69 years to 10.4% for those aged 80 years and above) and was higher for males (21.5%) versus females (14.3%). It was also higher among Chinese (18.6%) compared to Malays (13.1%) and Indians (11.5%) across the three major ethnicities.

3.14. Volunteering

This section details formal and informal volunteering, overall and by age group, gender and ethnicity.

Formal Volunteering

Table 3.14.1 Frequency of Formal Volunteering, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Formal volunteering in the past 12 months (weighted %)										
At least once a week	5.7	6.8	6.8	2.3	5.9	5.6	5.7	1.2	6.5	51.0
Less than once a week but at least once a month	3.9	6.0	3.8	1.8	3.9	3.9	4.0	3.8	3.2	0.0
Less than once a month	4.4	8.0	4.0	1.4	4.1	4.6	3.9	7.7	6.2	7.9
One-off	3.0	2.1	3.8	2.1	2.7	3.3	2.8	3.6	5.7	0.0
None	82.6	76.6	81.4	91.8	82.6	82.6	83.2	83.7	78.4	41.2

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Only 17.0% of older Singaporeans had engaged in formal volunteering in the past 12 months. The proportion decreased with age (23.4% for those 67-69 years to 8.2% for those aged 80 years and above), similar between genders and the highest for Indians (21.6%) across the three major ethnicities.

Among those who had engaged in formal volunteering in the past 12 months, the most common frequency was at least once a week (5.7%). The proportion again declined with age and was similar between genders. Across the three major ethnicities, it was higher among Indians (6.5%) and Chinese (5.7%) compared to Malays (1.2%).

Figure 3.14.1 Types of Formal Volunteering (Unpaid Help to Any Groups, Clubs or Organisations) (n = 275)

Among older Singaporeans who had engaged in formal volunteering in the past 12 months, the three most common types of volunteering were visiting people (41.5%), organising or helping to run an activity or event (30.9%), and providing other forms of practical help (25.8%).

The top 5 sources of information about formal volunteering can be found in **Appendix Figure B5**.

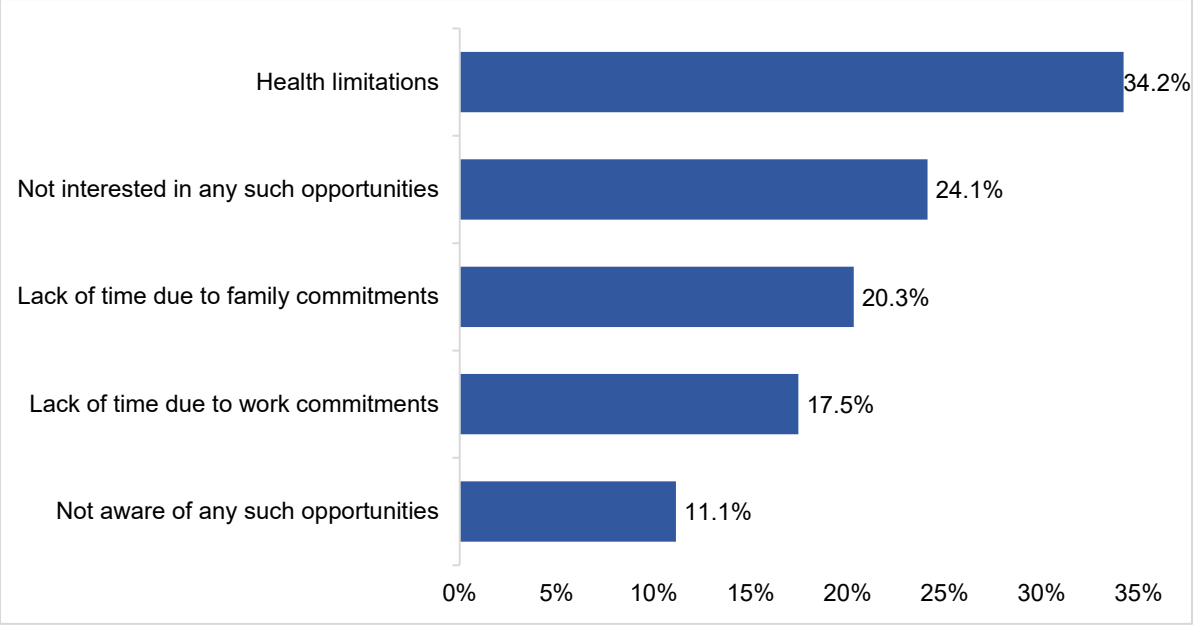

Figure 3.14.2 Top Five Reasons for Not Engaging in Formal Volunteering Among Those Who Had Not Engaged in Formal Volunteering in the Past 12 Months (n = 1157)

Among older Singaporeans who had not engaged in formal volunteering in the past 12 months, the top three reasons for not engaging were health limitations (34.2%), not interested in any such opportunities (24.1%), and lack of time due to family commitments (20.3%).

Informal Volunteering

Table 3.14.2 Frequency of Informal Volunteering, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Informal volunteering in the past 12 months (weighted %)										
Everyday	0.5	1.0	0.4	0.1	1.1	0.0	0.4	0.6	0.0	13.6
At least once a week	3.3	5.7	3.0	1.5	4.1	2.6	3.0	3.2	3.9	28.9
Less than once a week but at least once a month	3.4	5.0	3.7	1.1	3.4	3.4	3.6	2.0	3.5	0.0
Less than once a month	6.6	9.6	6.9	2.5	6.5	6.7	6.6	6.9	5.8	9.2
One-off	4.9	4.7	5.9	2.6	5.0	4.8	5.3	3.1	2.5	0.0
None	81.1	74.0	79.9	91.5	79.5	82.5	80.9	84.2	84.3	48.3

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

Only 18.9% of older Singaporeans had engaged in informal volunteering in the past 12 months. The proportion decreased with age (26.0% for those aged 67-69 years to 8.5% for those aged 80 years and above), was higher among males (20.5%) versus (17.5%), and was higher among Chinese (19.1%) compared to Malays (15.8%) and Indians (15.7%) across the three major ethnicities.

Among those who had engaged in informal volunteering in the past 12 months, the most common frequency was less than once a month (6.6%). The proportion declined with age and was similar between genders. Across the three major ethnicities, it was the lowest among Indians (5.8%).

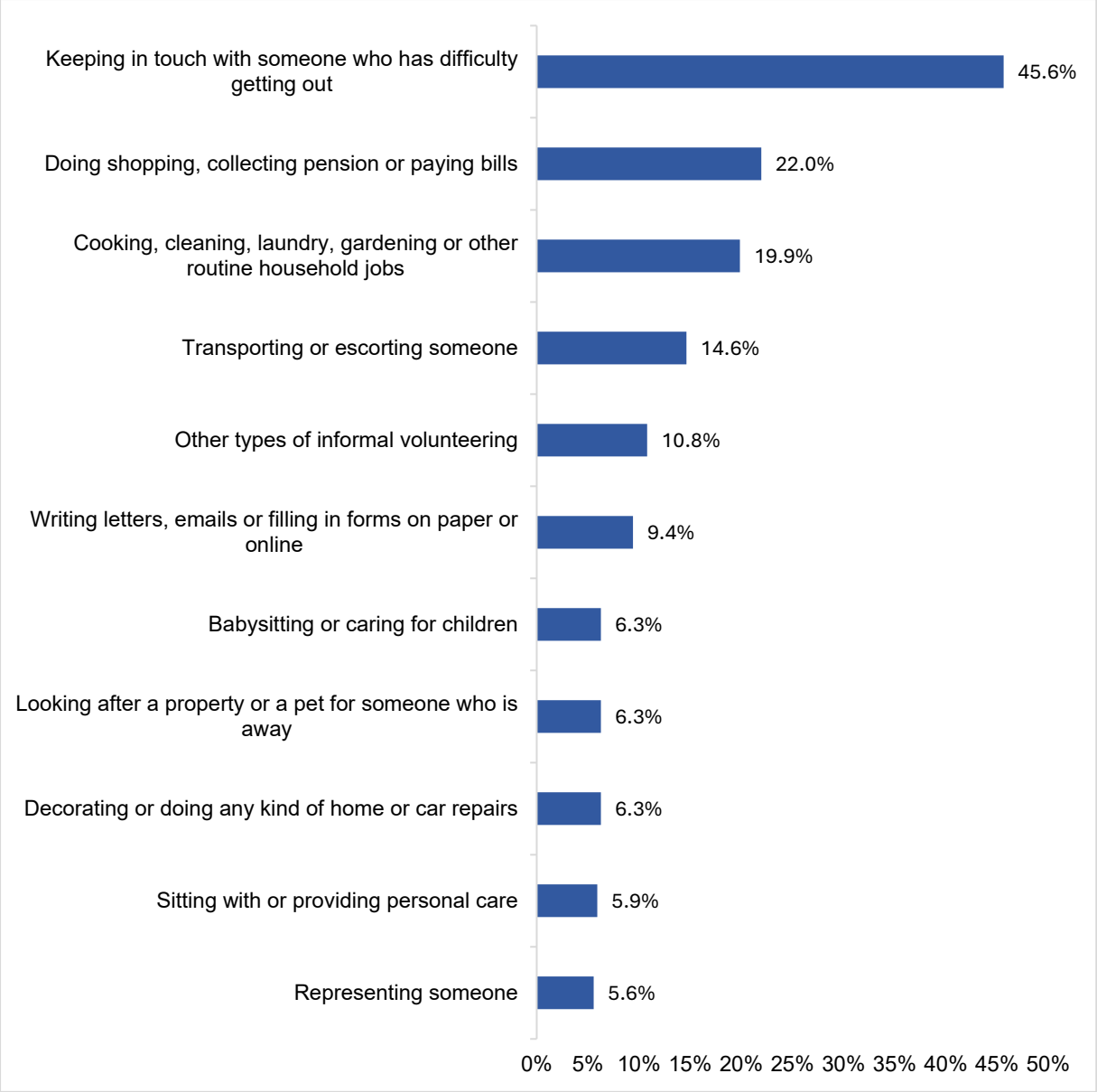

Figure 3.14.3 Types of Informal Volunteering (Provided to a Friend, Neighbour or Someone Else Who Was Not a Relative) in the past 12 months (n = 275)

Percentages exceed 100% as multiple responses were allowed.

Among older Singaporeans who had engaged in informal volunteering in the past 12 months, the three most common types of volunteering were keeping in touch with someone who has difficulty getting out and about, such as visiting in person, telephoning or emailing (45.6%), helping a person with shopping, collecting pension or paying bills (22.0%), and with cooking/cleaning/laundry/gardening or other routine household jobs (19.9%).

10.8% of older Singaporeans reported doing other forms of informal volunteering.

3.15. Use of Devices and Internet

This section details the device use and online activities, phone and app utilisation, and device and app utilisation for health reasons, overall and by age group, gender and ethnicity.

Table 3.15.1 Device Use Every Day or On Most Days of the Week, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
Every day or on most days, I use…	**Total**	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
Device (weighted %)										
Smartphone	76.3	93.8	83.6	40.9	82.1	71.3	77.5	68.7	67.1	98.3
Pedometer	19.6	26.9	22.8	4.8	20.5	18.9	21.9	3.6	11.7	24.9
Tablet	15.3	20.5	16.9	6.2	14.3	16.2	16.5	6.8	9.9	32.3
Laptop computer	8.9	14.2	9.0	3.1	13.3	5.3	9.4	2.8	7.6	30.9
Desktop computer or PC	6.9	11.0	6.9	2.5	9.7	4.5	7.3	1.8	6.5	21.5
Smart watch	4.9	7.7	5.5	0.9	7.5	2.8	5.2	2.4	2.2	22.8

Percentages exceed 100% as multiple responses were allowed.

Overall, of the six considered devices, the most common device used every day or on most days by older Singaporeans was a smartphone (76.3%). The use of for all the other considered devices every day or on most days was much lower, ranging from 19.6% for a pedometer to 4.9% for a smartwatch (least common).

The proportion of older Singaporeans who used a smartphone every day or on most days declined sharply with age (93.8% of those aged 67-69 years to 40.9% of those aged 80 years and above). It was higher among males (82.1%) versus females (71.3%), and higher for Chinese (77.5%) compared to Malays (68.7%) and Indians (67.1%) across the three major ethnicities.

The decline with age, in device use every day or on most days, was also observed for all the other considered devices. Males were also more likely to use all the other considered devices every day or on most days compared to females, except tablet use, which was slightly more common among females. Across the three major ethnicities, Chinese were more likely to use all the other considered devices every day or on most days.

Table 3.15.2 Online Activities Done Every Day or On Most Days of the Week, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
Every day or on most days a week, I …	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1317	225	790	302	654	663	1040	143	123	11
Online activity (weighted %)										
Read or send instant messages	72.6	89.7	74.0	38.3	71.2	73.9	72.3	74.6	71.9	83.2
Watch videos or movies	46.6	56.2	45.1	35.2	46.0	47.1	48.5	32.2	41.1	33.3
Use social networks	45.5	62.3	45.7	16.1	45.5	45.5	45.9	44.4	43.0	34.5
Visit or surf websites	40.2	50.4	42.2	16.2	42.3	38.3	40.1	33.8	45.8	79.2
Voice or video call	39.4	46.4	41.4	20.1	34.4	44.0	37.6	50.8	51.5	28.9
Use apps for getting information	37.9	53.9	37.1	13.4	40.4	35.5	39.4	22.4	37.8	37.4
Listen to music or podcasts	28.1	35.1	27.9	17.0	30.1	26.3	29.6	15.0	22.9	41.8
Read or send an e-mail	26.4	35.3	27.0	9.4	28.4	24.6	26.6	20.0	28.2	57.3
Play games	17.0	23.7	15.9	9.3	12.8	20.9	18.2	9.7	11.9	0.0
Bank or pay bills	5.7	9.9	4.8	1.8	7.4	4.1	6.0	1.4	5.8	13.6
Shop	2.8	5.4	2.4	0.0	3.2	2.5	3.0	2.0	1.4	0.0
Book taxis or private hire vehicles	1.8	2.6	1.8	0.4	1.6	2.0	1.7	1.6	4.4	0.0
Participate in online activities or sessions	1.8	2.6	1.5	1.5	1.1	2.5	1.7	2.6	3.4	0.0
View, make or change health appointments	1.7	3.0	1.3	0.5	1.3	2.0	2.0	0.0	0.0	0.0
Order meals	0.7	1.0	0.8	0.1	0.9	0.6	0.6	2.1	0.3	0.0

Percentages exceed 100% as multiple responses were allowed. Responses of 'Refused/Don't Know' are not shown.

[1] Indicates the number of participants who reported any form of frequency (except "never used it") to devices stated in Table 2.15.1 (besides pedometer). (i.e. 1317 participants reported some frequency of use of smartphones, laptops, desktops or PCs, tablets, smartwatch and other internet-enabled devices).

In the past one year, the top five online activities that older Singaporeans engaged in *every day or most days a week* were sending instant messages (72.6%), watching videos or movies (46.6%), using social networks to view, read, or post content (45.5%), surfing websites (40.2%), and video or voice calling (39.4%).

Participation in the top five online activities, as well as the rest of the online activities, declined with age. In the context of the top five online activities, males were more likely to surf websites (42.3% vs 38.3%) while females were more likely to read or send instant messages (73.9% vs 71.2%), watch videos or movies (47.1% vs 46.0%), and have voice or video calls (44.0% vs 34.4%). Males were also likely to engage in the rest of the online activities, except for playing games and participating in online activities or sessions, which were more common among females. In the context of the top five online activities, among the three major ethnicities, Malays were more likely to read or send instant messages (74.6%), Chinese were more likely to watch videos or movies (48.5%), and Indians were more likely to visit or surf websites (45.8%). Indians (51.5%) and Malays (50.8%) were also more likely to have voice or video calls.

Table 3.15.3 Internet Use for Health information or Resources, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
Ever used the internet for health information or resources (e.g. on diseases, health conditions, exercise, diet, vaccines, healthcare facilities) (weighted %)										
Yes	26.2	40.4	28.2	6.6	30.4	22.7	26.9	19.5	25.1	33.0
n[1]	390	95	255	40	207	183	310	34	42	4
Frequency of use in the past one year (weighted %)										
Everyday	6.8	6.9	6.1	13.0	5.0	8.9	6.8	4.1	12.3	0.0
Not every day, but at least once a week	35.9	33.2	37.6	37.5	32.0	40.4	36.4	26.4	37.4	48.3
Not every week, but at least once a month	23.7	26.0	22.5	19.7	25.8	21.2	25.2	9.5	20.9	0.0
Less than once a month	25.7	27.0	25.1	22.9	26.9	24.3	24.0	50.3	22.5	27.9
Once in the past 1 year	5.2	5.8	4.9	4.3	7.8	2.2	5.0	4.8	4.8	23.8
Not in the past 1 year	2.7	1.0	3.9	2.7	2.5	3.0	2.6	5.0	2.2	0.0

[1]Indicates the number of participants who ever used the internet for health information or resources.

Just over 1 in 4 (26.2%) older Singaporeans had *ever* used the internet on a phone, tablet or computer for health information or resources. The proportion declined with age, from 40.4% of those aged 67-69 years to only 6.6% of those aged 80 years and above. Between the genders, the proportion was higher among males (30.4%) compared to females (22.7%). Among the three major ethnicities, it was higher among Chinese (26.9%) and Indians (25.1%) compared to Malays (19.5%).

Among those who have ever used the internet on a phone, tablet or computer for health information or resources, the most common frequency was at least once a week (35.9%), followed by less than once a month (25.7%) and at least once a month (23.7%) in the past one year.

Table 3.15.4 Internet and App Use for High Blood Pressure or Hypertension Management Among Those Diagnosed with Hypertension, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	929	129	487	313	432	497	709	113	102	5
Used internet to get more information about or to help manage high blood pressure or hypertension in the past 1 year (weighted %)										
Yes	13.8	22.7	15.9	3.4	17.5	10.8	13.5	15.0	14.7	27.4
Recorded blood pressure values or readings using an app/function on a phone or a tablet in the past 1 year (weighted %)										
Yes	5.9	11.4	6.6	0.4	7.7	4.4	6.2	4.3	3.6	12.6

[1]Indicates the number of participants diagnosed with high blood pressure or hypertension.

Among older Singaporeans diagnosed with hypertension, only 13.8% of had used the internet to get more information or to help manage their condition in the past one year. The proportion declined with age, was lower for females (10.8%) and was higher for Malays (15.0%) and Indians (14.7%) among the three major ethnicities.

Furthermore, only 5.9% of older Singaporeans diagnosed with hypertension had used an app or function on a phone or a tablet to record their blood pressure values in the past one year. The proportion decreased with age, was lower for females (4.4%), and Indians (3.6%) among the three major ethnicities.

Table 3.15.5 Internet and App Use for Diabetes Management Among Those Diagnosed with Diabetes, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	448	65	248	135	218	230	298	69	78	3
Used internet to get more information about or to help manage Diabetes in the past 1 year (weighted %)										
Yes	13.0	20.7	14.2	4.0	16.2	10.1	12.5	15.6	14.5	0.0
Recorded blood sugar values or readings in the app or function on a phone or tablet in the past 1 year (weighted %)										
Yes	5.6	9.6	6.3	1.1	7.7	3.8	5.8	6.9	4.2	0.0

[1]Indicates the number of participants who had self-reported to have been diagnosed with diabetes.

Among older Singaporeans diagnosed with diabetes, 13.0% had used the internet to get more information or help them manage their condition in the past one year. The proportion declined with age, was lower for females (10.1%), and was higher for Malays (15.6%) and Indians (14.5%) among the three major ethnicities.

Only 5.6% of older Singaporeans diagnosed with diabetes used an app or function on a phone or tablet to record blood sugar values or readings in the past one year. The proportion declined with age, was lower for females (3.8%) and Indians (4.2%) among the three major ethnicities.

Table 3.15.6 App Utilisation for Prescription Medication Management Among Those Who Ever Used the Internet for Health Information or Resources, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	390	95	255	40	207	183	310	34	42	4
Used an app or function to remind when to take prescription medication(s) in the past 1 year (weighted %)										
***Used* in the past 1 year**	8.8	8.1	10.2	0.0	10.1	7.4	8.2	7.8	16.5	23.8
***Not* in the past 1 year**	64.7	69.7	60.8	71.0	63.3	66.3	64.8	66.9	63.8	51.8
Not taking any prescription medications in the past 1 year	21.4	18.8	23.0	22.3	21.8	20.9	21.8	18.3	17.6	24.4

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who ever used the internet for health information or resources.

Only 8.8% of older Singaporeans, who ever used the internet for health information or resource, had used an app or function to remind them to take their prescription medications in the past one year. Males (10.1%) were more likely than females (7.4%) to use an app or function to take prescription medication. Among the three major ethnicities, Indians (16.5%) were more likely to do so.

3.16. Neighbourhood Perceptions

Participants were asked questions about their neighbourhoods, specifically about the availability of services in their neighbourhood, their physical accessibility to such services and whether they felt safe on public transport.

Table 3.16.1 Perceptions of Accessibility and Safety, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1436	231	834	371	684	752	1121	157	147	11
Ease of access to intended destinations (weighted %)										
Agree	87.3	92.9	89.4	72.8	91.6	83.5	87.1	87.9	87.9	100.0
Neither agree nor disagree	4.4	3.8	3.7	7.7	2.6	6.1	4.4	5.9	3.5	0.0
Disagree	8.2	3.3	7.0	19.1	5.8	10.4	8.5	5.7	8.6	0.0
Perceived safety on public transport (weighted %)										
Agree	92.6	96.9	94.3	81.5	95.5	90.1	93.3	88.8	90.0	86.4
Neither agree nor disagree	2.2	1.9	1.9	3.5	1.3	3.0	2.1	2.9	3.4	0.0
Disagree	4.3	1.2	3.2	12.3	2.1	6.3	4.0	7.4	6.0	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked questions on perceptions of accessibility and safety (proxy participants were not asked the question).

Almost 9 in 10 (87.3%) older Singaporeans agreed that it was easy for them to get to the places that they needed to go to. The proportion decreased with age, was higher in males (91.6%) than females (83.5%) and was similar across ethnicities.

Similarly, just over 9 in 10 (92.6%) older Singaporeans agreed that they felt safe on public transport (e.g. buses, MRT and LRT). The proportion decreased with age and was higher in males (95.5%) than females (90.1%), and higher in Chinese (93.3%) across the three major other ethnicities.

Availability and Accessibility of Services or Facilities

Participants rated the availability and accessibility of various facilities in their local area, which was defined as a “20-minute walk or about a kilometre from their home”.

Table 3.16.2 Availability and Accessibility of General Practitioner (GP) Clinics or Polyclinics, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	1436	231	834	371	684	752	1121	157	147	11
***Availability* of general practitioner (GP) clinics or polyclinics (weighted %)**										
Excellent	16.0	17.8	17.3	9.1	19.2	13.1	16.2	9.3	20.5	30.7
Very good	37.8	37.8	37.9	37.8	39.4	36.5	37.8	34.8	41.3	49.8
Good	36.1	33.0	35.9	41.2	32.7	39.1	36.3	40.3	31.6	1.7
Fair	7.0	7.5	6.8	6.9	6.0	7.9	7.0	9.9	2.4	9.9
Poor	1.7	2.1	1.3	2.1	1.4	1.9	1.7	1.7	1.2	0.0
***Accessibility* of general practitioner (GP) clinics or polyclinics (weighted %)**										
Excellent	16.7	21.5	16.4	10.8	19.6	14.2	17.3	6.0	19.8	38.7
Very good	35.0	33.7	37.1	30.4	36.0	34.1	35.3	33.4	31.8	40.5
Good	38.9	38.2	38.5	41.4	38.2	39.6	38.2	46.5	43.9	3.0
Fair	6.9	5.7	6.5	10.0	4.9	8.6	7.0	9.6	2.2	9.9
Poor	1.5	0.9	0.9	4.5	0.6	2.4	1.8	0.7	0.0	0.0

Percentages may not add up to 100% as responses of ‘Refused/Don’t Know’ are not shown.
[1]Indicates the number of participants who were asked the questions on availability and accessibility of general practitioner clinics or polyclinics (proxy participants were not asked the question).

Availability: About 9 in 10 older Singaporeans (89.9%) rated the availability of GP clinics or polyclinics as "Excellent," "Very good," or "Good". When focusing on the proportion who rated GP availability only as “Excellent” (16.0%), the proportion decreased with age, going from 17.8% in those aged 67-69 years to 9.1% in those aged 80 years and above. Between genders, females (13.1%) were less likely than males (19.2%) to give an “Excellent” rating. Among the three major ethnicities, Malays (9.3%) were the least likely to rate availability as "Excellent" compared to Chinese (16.2%) and Indians (20.5%).

Accessibility: About 9 in 10 older Singaporeans (90.6%) rated their physical access to GP clinics or polyclinics as "Excellent," "Very good," or "Good ". When focusing on the proportion who rated GP accessibility only as “Excellent” (16.7%), the proportion decreased with age, was lower for females (14.2%) than males (19.6%). Among the three major ethnicities, Malays (6.0%) were the least likely to rate accessibility as “Excellent” compared to Chinese (17.3%) and Indians (19.8%).

Table 3.16.3 Availability and Accessibility of Active Ageing Centres (AACs) or Senior Care Centres (SCCs), Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
***Availability* of AACs or SCCs (weighted %)**										
Excellent	6.2	7.1	6.4	4.6	7.1	5.4	6.3	4.9	6.5	7.9
Very good	22.1	21.7	22.1	22.9	21.8	22.5	23.7	10.9	20.0	0.0
Good	35.3	34.4	35.2	36.9	33.8	36.7	35.6	30.9	36.0	42.5
Fair	10.3	11.8	9.5	10.9	11.2	9.6	11.0	7.2	5.4	9.9
Poor	5.4	7.5	4.7	4.4	6.2	4.6	5.8	5.0	1.1	0.0
Don't know / refused	20.6	17.6	22.2	20.3	20.0	21.2	17.6	41.2	31.2	39.7
***Accessibility* of AACs or SCCs (weighted %)**										
Excellent	6.4	9.1	6.3	2.9	6.8	6.1	6.5	3.5	8.5	15.9
Very good	23.7	22.5	23.5	25.9	25.9	21.7	24.9	16.3	19.9	9.2
Good	33.3	33.7	32.7	34.7	32.3	34.2	33.7	29.8	34.5	25.2
Fair	9.8	10.5	9.8	8.6	8.7	10.7	10.6	5.4	4.9	9.9
Poor	5.5	4.4	5.7	6.5	6.0	5.1	6.0	4.4	0.6	0.0
Don't know / refused	21.3	19.8	22.0	21.5	20.2	22.2	18.4	40.6	31.7	39.7

[1]Indicates the number of participants who were asked the questions on availability and accessibility of active ageing centres or senior care centres (proxy participants were not asked the question).

Availability: About 6 in 10 older Singaporeans (63.6%) rated the availability of Active Ageing Centres (AACs) or Senior Care Centres (SCCs) as "Excellent," "Very good," or "Good." When focusing on the proportion who rated AAC and SCC availability only as "Excellent" (6.2%), the proportion decreased with age and was higher among the males (7.1%) than females (5.4%). Among the three major ethnicities, Malays (4.9%) were slightly less likely to rate availability as "Excellent" compared to Chinese (6.3%) and Indians (6.5%).

Accessibility: About 6 in 10 older Singaporeans (63.4%) rated their physical access to AACs or SCCs as "Excellent," "Very good," or "Good". When focusing on the proportion who rated the accessibility of AACs or SCCs only as "Excellent" (6.4%), the proportion decreased with age and was similar between genders. Among the three major ethnicities, Malays (3.5%) were the least likely to rate accessibility as "Excellent" compared to Chinese (6.5%) and Indians (8.5%).

Overall, about 2 in 10 older Singaporeans (20.6%) did not know or refused to comment about the *availability* of AACs and SCCs. A similar proportion (21.3%) did not know or refused to comment about their *accessibility* to AACs and SCCs.

Table 3.16.4 Availability and Accessibility of Supermarkets or Wet Markets, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
***Availability* of supermarkets or wet markets (weighted %)**										
Excellent	13.0	17.0	13.1	6.9	14.7	11.5	13.0	7.6	17.3	30.7
Very good	37.6	33.3	39.3	38.3	36.8	38.2	38.4	29.5	34.8	48.6
Good	42.3	41.9	41.7	44.3	41.6	42.8	42.2	44.7	43.2	20.8
Fair	5.4	5.0	4.7	8.3	5.3	5.5	5.3	10.0	1.5	0.0
Poor	1.1	1.8	0.8	1.2	1.0	1.2	0.9	2.9	1.2	0.0
***Accessibility* of supermarkets or wet markets (weighted %)**										
Excellent	12.6	16.2	12.7	7.4	15.6	10.0	12.8	5.3	16.6	38.7
Very good	38.8	35.0	41.3	36.5	39.5	38.1	39.3	36.5	34.9	35.4
Good	40.1	41.9	38.7	42.2	39.5	40.6	39.6	43.8	44.6	25.9
Fair	6.3	4.8	6.1	9.2	4.2	8.2	6.8	5.3	1.3	0.0
Poor	1.6	1.3	1.0	3.6	0.7	2.3	1.4	3.8	0.5	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the questions on availability and accessibility of supermarkets or wet markets (proxy participants were not asked the question).

Availability: About 9 in 10 older Singaporeans (92.9%) rated the availability of supermarkets or wet markets as "Excellent," "Very good," or "Good". When focusing on the proportion who rated the availability of supermarkets or wet markets only as "Excellent" (13.0%), the proportion decreased with age, going from 17.0% in those aged 67-69 years to 6.9% in those aged 80 years and above. Between genders, females (11.5%) were less likely than males (14.7%) to give an "Excellent" rating. Among the three major ethnicities, Malays (7.6%) were least likely to rate availability as "Excellent" compared to Chinese (13.0%) and Indians (17.3%).

Accessibility: About 9 in 10 older Singaporeans (91.5%) rated their physical access to supermarkets or wet markets as "Excellent," "Very good," or "Good ". When focusing on the proportion who rated the accessibility of supermarkets or wet markets only as "Excellent" (12.6%), the proportion decreased with age and was higher in males (15.6%) than females (10.0%). Among the three major ethnicities, Malays (5.3%) were the least likely to rate accessibility as "Excellent" compared to Chinese (12.8%) and Indians (16.6%).

Table 3.16.5 Availability and Accessibility of Coffeeshops, Hawker Centres, or Restaurants, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
***Availability* of coffeeshops, hawker centres, or restaurants (weighted %)**										
Excellent	12.2	17.2	12.2	5.2	15.9	9.0	12.3	8.3	14.6	30.7
Very good	37.7	35.9	37.6	40.3	36.3	38.8	38.9	28.3	32.1	48.6
Good	42.4	38.4	43.2	45.8	40.9	43.8	42.0	48.2	44.0	20.8
Fair	5.9	6.4	5.6	6.1	6.0	5.9	6.0	6.3	5.3	0.0
Poor	1.0	1.2	0.9	1.1	0.4	1.5	0.8	3.3	1.2	0.0
***Accessibility* of coffeeshops, hawker centres, or restaurants (weighted %)**										
Excellent	12.5	16.7	12.2	7.1	14.8	10.4	12.7	5.8	14.7	38.7
Very good	38.2	32.8	40.8	38.2	39.8	36.9	39.6	29.6	31.7	36.6
Good	41.6	42.6	40.6	43.0	40.9	42.1	40.1	52.5	48.6	24.6
Fair	5.5	5.7	4.8	7.2	3.5	7.3	6.0	3.1	2.5	0.0
Poor	1.5	1.0	1.1	3.3	0.5	2.3	1.5	2.5	0.5	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the questions on availability and accessibility of coffeeshops, hawker centres, or restaurants (proxy participants were not asked the question).

Availability: About 9 in 10 older Singaporeans (92.3%) rated the availability of coffeeshops, hawker centres, or restaurants as "Excellent," "Very good," or "Good". When focusing on the proportion who rated the availability of coffeeshops, hawker centres, or restaurants only as "Excellent" (12.2%), the proportion decreased with age, going from 17.2% in those aged 67-69 years to 5.2% in those aged 80 years and above. Between genders, females (9.0%) were less likely than males (15.9%) to give an "Excellent" rating. Among the three major ethnicities, Malays (8.3%) were least likely to rate availability as "Excellent" compared to Chinese (12.3%) and Indians (14.6%).

Accessibility: About 9 in 10 older Singaporeans (92.3%) rated their physical access to coffeeshops, hawker centres, or restaurants as "Excellent," "Very good," or "Good ". When focusing on the proportion who rated the accessibility of coffeeshops, hawker centres, or restaurants only as "Excellent" (12.5%), the proportion decreased with age and was higher in males (14.8%) than females (10.4%). Among the three major ethnicities, Malays (5.8%) were the least likely to rate accessibility as "Excellent" compared to Chinese (12.7%) and Indians (14.7%).

Table 3.16.6 Availability and Accessibility of Bus stops, or MRT or LRT stations, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
***Availability* of bus stops, or MRT or LRT stations (weighted %)**										
Excellent	14.9	20.8	14.7	6.8	17.7	12.4	15.2	8.3	19.3	17.1
Very good	38.1	36.4	38.7	38.6	37.5	38.6	38.3	32.2	40.1	58.5
Good	42.2	38.4	42.3	47.3	40.9	43.4	42.3	49.1	35.4	10.9
Fair	3.3	3.2	3.0	4.8	2.6	4.0	3.1	6.7	2.0	0.0
Poor	0.5	0.0	0.4	1.6	0.3	0.7	0.6	0.0	0.5	0.0
***Accessibility* of bus stops, or MRT or LRT stations (weighted %)**										
Excellent	14.1	18.0	14.5	7.2	16.2	12.2	14.4	4.5	18.7	48.3
Very good	40.1	36.7	41.9	39.7	41.6	38.8	41.0	36.1	36.9	22.2
Good	39.9	41.5	38.5	41.8	38.3	41.3	39.3	47.9	41.3	16.0
Fair	3.9	3.1	3.6	6.2	2.6	5.2	3.9	6.9	0.7	0.0
Poor	1.1	0.0	0.8	3.9	0.4	1.7	1.3	0.0	0.5	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

[1]Indicates the number of participants who were asked the questions on availability and accessibility of bus stops, or MRT or LRT stations (proxy participants were not asked the question).

Availability: Over 9 in 10 older Singaporeans (95.2%) rated the availability of bus stops, or MRT or LRT stations as "Excellent," "Very good," or "Good". When focusing on the proportion who rated the availability of bus stops, or MRT or LRT stations as only "Excellent" (14.9%), the proportion decreased with age, going from 20.8% in those aged 67-69 years to 6.8% in those aged 80 years and above. Between genders, females (12.4%) were less likely than males (17.7%) to give an "Excellent" rating. Among the three major ethnicities, Malays (8.3%) were least likely to rate availability as "Excellent" compared to Chinese (15.2%) and Indians (19.3%).

Accessibility: Over 9 in 10 older Singaporeans (94.1%) rated their physical access to bus stops, or MRT or LRT stations as "Excellent," "Very good," or "Good ". When focusing on the proportion who rated the accessibility of bus stops, or MRT or LRT stations only as "Excellent" (14.1%), the proportion decreased with age and was higher in males (16.2%) than females (12.2%). Among the three major ethnicities, Malays (4.5%) were the least likely to rate accessibility as "Excellent" compared to Chinese (14.4%) and Indians (18.7%).

Table 3.16.7 Neighbourhood Cohesion, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1436	231	834	371	684	752	1121	157	147	11
I do not mind living in this area (weighted %)										
Agree	98.3	97.8	98.6	98.0	98.2	98.4	98.1	99.7	99.5	100.0
Neither agree nor disagree	1.2	1.9	1.0	1.1	1.2	1.2	1.4	0.3	0.5	0.0
Disagree	0.5	0.4	0.5	0.7	0.6	0.4	0.6	0.0	0.0	0.0
I feel safe in this area (weighted %)										
Agree	97.2	97.1	97.0	98.0	97.7	96.7	97.2	98.6	95.2	100.0
Neither agree nor disagree	2.0	2.4	2.1	1.1	1.5	2.4	2.0	0.6	4.8	0.0
Disagree	0.7	0.6	0.9	0.6	0.6	0.9	0.8	0.8	0.0	0.0
I really feel part of this area (weighted %)										
Agree	95.4	96.4	94.8	95.7	92.5	97.9	95.5	93.7	94.9	100.0
Neither agree nor disagree	3.2	1.8	4.3	1.8	5.4	1.3	3.3	3.3	1.8	0.0
Disagree	1.1	1.2	0.8	1.9	1.5	0.7	0.9	2.0	2.8	0.0
Most people in this area are friendly (weighted %)										
Agree	83.4	83.2	83.8	82.6	85.6	81.6	82.5	88.1	88.0	100.0
Neither agree nor disagree	12.7	13.5	12.3	12.9	10.5	14.7	13.5	8.7	8.9	0.0
Disagree	3.6	2.8	3.9	3.8	3.8	3.4	3.8	3.2	2.6	0.0
Most people in this area can be trusted (weighted %)										
Agree	64.3	58.2	65.7	68.9	65.2	63.6	62.6	74.3	75.4	54.2
Neither agree nor disagree	26.3	32.0	24.6	23.3	26.3	26.3	27.8	19.1	12.4	44.6
Disagree	6.3	6.4	6.6	5.2	6.5	6.1	6.8	3.5	3.5	1.3
If you were in trouble, there are lots of people in this area who would help you (weighted %)										
Agree	60.7	57.2	62.2	61.1	58.3	62.8	59.5	64.5	72.9	57.8
Neither agree nor disagree	27.0	31.5	24.9	27.1	29.3	25.0	29.0	14.2	17.0	32.3
Disagree	7.7	7.3	7.9	7.8	7.9	7.6	8.6	2.9	4.1	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants who were asked the questions on neighbour cohesion (proxy participants were not asked the question).

Nearly all (98.3%) older Singaporeans did not mind living in their current local area. The proportion was similar across age groups and genders. Among the three major ethnicities, the Chinese (98.1%) were slightly less likely than Malays (99.7%) and Indians (99.5%) to agree.

Nearly all (97.2%) older Singaporeans felt safe in their local area. The proportion was similar across age groups and genders. Among the three major ethnicities, Indians (95.2%) were less likely than Chinese (97.2%) and Malays (98.6%) to agree.

Most (95.4%) older Singaporeans agreed that they feel part of their local area. The proportion was higher for those aged 67-69 years (96.4%) across age groups. It was higher for females (97.9%) versus males (92.5%), and higher for the Chinese (95.5%) across the three major ethnicities.

About 8 in 10 Singaporeans (83.4%) agreed that most people in their area are friendly. The proportion was similar across age groups. Between genders, females (81.6%) were less likely to agree than males (85.6%). Among the three major ethnicities, Chinese (82.5%) were less likely to agree compared to Malays (88.1%) and Indians (88.0%).

About 6 in 10 Singaporeans (64.3%) agreed that most people in their area could be trusted. The proportion increased with age and was slightly higher for males (65.2%) than females (63.6%). Among the three major ethnicities, Chinese (62.6%) were less likely to agree to this statement compared to the Malays (74.3%) and Indians (75.4%).

About 6 in 10 Singaporeans (60.7%) agreed there would be lots of people in their area who would help them if they were in trouble. Among age groups, the proportion was lower for those aged 67-69 years (57.2%) compared to those aged 70-79 years (62.2%) and 80 years and above (61.1%). Between genders, the proportion was lower in males (58.3%) than females (62.8%). Among the three major ethnicities, Chinese (59.5%) were less likely to agree compared to the Malays (64.5%) and Indians (72.9%).

3.17. Experiences of Discrimination

The following section highlights the frequency of perceived discrimination experienced by older Singaporeans in different situations.

Table 3.17.1 Treated with Less Respect or Courtesy than Other People, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Treated with less respect or courtesy (weighted %)										
Almost everyday	0.2	0.0	0.3	0.2	0.3	0.2	0.2	0.7	0.0	0.0
At least once a week	1.4	2.6	1.4	0.0	1.9	0.9	1.2	0.6	5.7	0.0
A few times a month	0.9	1.3	1.0	0.1	1.3	0.5	0.9	0.5	1.3	0.0
A few times a year	5.4	7.8	5.7	2.3	5.8	5.1	5.8	3.3	3.8	0.0
Less than once a year	5.1	7.7	5.1	2.1	5.6	4.7	5.1	4.7	5.4	0.0
Never	84.5	79.1	84.4	90.8	81.7	86.9	84.5	86.0	80.9	100.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

7.9% of older Singaporeans reported being treated with less respect or courtesy than other people *at least a few times a year*. The proportion decreased with age, going from 11.7% in those aged 67-69 years to 2.6% in those aged 80 years and above. Between genders, males (9.3%) were more likely than females (6.7%) to report such experiences. Among the three major ethnicities, Indians (10.8%) were more likely than Chinese (8.1%) and Malays (5.1%) to report such experiences.

Table 3.17.2 Receive Poorer Service than Other People in Restaurants or Shops, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Receive poorer service (weighted %)										
Almost everyday	0.1	0.3	0.0	0.0	0.2	0.0	0.0	0.0	1.3	0.0
At least once a week	0.3	0.0	0.3	0.5	0.2	0.3	0.3	0.0	0.5	0.0
A few times a month	0.5	0.5	0.5	0.3	0.8	0.2	0.4	1.0	0.0	0.0
A few times a year	2.7	4.7	2.6	0.9	2.5	3.0	2.9	1.4	3.0	0.0
Less than once a year	4.4	5.4	5.3	1.2	4.5	4.2	4.2	4.7	6.7	0.0
Never	89.8	88.1	89.5	92.3	88.9	90.6	90.1	88.4	86.0	100.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

3.6% of older Singaporeans reported receiving poorer service than other people in restaurants or shops at least a few times a year. The proportion decreased with age and was similar between genders. Among the three major ethnicities, Indians (4.8%) were more likely than Chinese (3.6%) and Malays (2.4%) to report such experiences.

Table 3.17.3 Treated as if Less Clever, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
People act as if they think you are not clever (subject is) not clever (weighted %)										
Almost everyday	0.2	0.0	0.3	0.0	0.3	0.0	0.1	0.7	0.5	0.0
At least once a week	0.3	0.7	0.2	0.0	0.5	0.1	0.3	0.0	0.7	0.0
A few times a month	0.9	1.4	0.9	0.3	0.9	0.9	0.9	0.2	2.3	0.0
A few times a year	3.9	5.1	4.1	2.2	4.5	3.5	3.8	3.3	4.4	23.1
Less than once a year	3.5	3.6	4.4	1.5	3.9	3.1	3.2	5.3	5.2	0.0
Never	86.8	86.3	85.8	89.7	85.7	87.8	87.5	85.7	79.8	76.9

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

5.3% of older Singaporeans reported people acting as if they thought the older adult was not clever at least a few times a year. The proportion decreased with age and was slightly higher for males (6.2%) than females (4.5%). Among the three major ethnicities, Indians (7.9%) were more likely than Chinese (5.1%) and Malays (4.2%) to report such experiences.

Table 3.17.4 Threatened or Harassed, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Threatened or harassed (weighted %)										
Almost everyday	0.1	0.0	0.1	0.2	0.0	0.2	0.1	0.0	0.0	0.0
At least once a week	0.1	0.0	0.1	0.2	0.0	0.2	0.1	0.0	0.0	0.0
A few times a month	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.0	1.3	0.0
A few times a year	0.9	1.7	0.9	0.1	0.7	1.0	1.0	0.0	1.4	0.0
Less than once a year	1.2	1.5	1.4	0.3	1.5	0.9	1.1	0.9	2.4	0.0
Never	96.3	95.9	96.3	96.6	95.4	97.0	96.6	94.9	93.2	100.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

1.4% of older Singaporeans reported being threatened or harassed at least a few times a year. The proportion decreased with age and was similar between genders. Among the three major ethnicities, Indians (2.7%) were more likely than Chinese (1.4%) and Malays (0.0%) to report such experiences.

3.18. Experiences of Informal Caregiving

The following section highlights the experiences of older Singaporeans who are informal caregivers. Participants who provided or ensured provision of care to any person residing in or outside their household because of the persons' health or physical condition without being paid for it were considered as 'informal caregivers'.

Table 3.18.1 Proportion of Informal Caregivers, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n	1535	234	856	445	723	812	1192	175	157	11
Proportion of caregivers (weighted %)										
Yes	7.4	10.9	7.6	3.3	6.0	8.6	6.9	9.3	7.5	41.1

Only 7.4% of older Singaporeans met the criteria of being an informal caregiver. The proportion decreased with age and was higher for females (8.6%) than males (6.0%). Among the three major ethnicities, the proportion was the highest in Malays (9.3%) compared to Chinese (6.9%) and Indians (7.5%).

Table 3.18.2 Experiences of Informal Caregiving Among Caregivers, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	112	27	67	18	42	70	82	15	12	3
How burdened do you feel in providing or ensuring provision of care? (weighted %)										
Not at all	32.8	43.5	27.8	21.4	52.4	21.3	30.9	56.1	22.9	19.6
A little	20.4	19.5	21.5	17.1	10.8	26.0	16.5	18.8	46.9	56.3
Moderately	22.4	20.1	19.0	48.9	19.6	24.0	26.2	9.9	13.6	0.0
Quite a bit	22.0	13.4	29.4	12.6	16.3	25.3	23.7	15.3	10.3	24.1
Extremely	2.6	3.6	2.4	0.0	1.0	3.5	2.8	0.0	6.3	0.0
Providing or ensuring provision of care has made me feel more useful (weighted %)										
Agree a lot	50.9	58.4	49.7	31.3	47.7	52.8	46.8	66.7	55.6	75.9
Agree a little	35.4	28.6	37.8	46.6	40.1	32.7	36.4	33.3	36.2	24.1
Neither agree nor disagree	9.4	13.0	7.6	6.2	8.8	9.7	11.4	0.0	8.2	0.0
Disagree a little	1.8	0.0	1.7	9.0	1.2	2.2	2.3	0.0	0.0	0.0
Disagree a lot	2.5	0.0	3.2	6.9	2.2	2.6	3.1	0.0	0.0	0.0
Providing or ensuring provision of care has enabled me to appreciate life more (weighted %)										
Agree a lot	52.6	55.8	55.3	26.6	49.7	54.3	48.8	64.0	62.0	75.9
Agree a little	33.3	22.0	36.6	55.4	41.1	28.7	34.4	36.0	20.4	24.1
Neither agree nor disagree	8.4	17.0	3.1	6.2	7.0	9.3	10.2	0.0	8.2	0.0
Disagree a little	2.7	3.6	1.7	4.8	0.0	4.3	3.4	0.0	0.0	0.0
Disagree a lot	3.1	1.6	3.3	6.9	2.2	3.6	3.2	0.0	9.4	0.0

[1]Indicates the number of participants who reported providing or ensuring provision of care.

Among older Singaporeans who were informal caregivers, nearly 1 in 3 (32.8%) reported not feeling burdened at all in providing or ensuring provision of care. The proportion decreased with age, was higher for males (52.4%) than females (21.3%), and highest for Malays (56.1%) among the three major ethnicities. *Conversely,* 24.6% reported feeling quite a bit or extremely burdened. The proportion was higher among those aged 70-79 years (31.8%) relative to the other two age groups (67-69 years: 17.0%; 80 years and above: 12.6%), for females (28.8%) versus males (17.3%) and for Chinese (26.5%) compared to Malays (15.3%) and Indians (16.6%).

When asked if providing or ensuring provision of care had made them feel more useful, about half (50.9%) agreed a lot with the statement. The proportion decreased with age, was higher for females (52.8%) than males (47.7%), and higher for Malays (66.7%) among the three major ethnicities. Conversely, 4.3% disagreed (either a little or a lot) with the statement. The proportion increased with age and was higher for females (4.8%) and Chinese (5.4%).

When asked if providing or ensuring provision of care had enabled them to appreciate life more, just over half (52.6%) agreed a lot with the statement. The proportion decreased with age, was higher for females (54.3%) than males (49.7%), and higher for Malays (64.0%) and Indians (62.0%) compared to Chinese (48.8%). Conversely, 5.8% disagreed (either a little or a lot) with the statement. The proportion was higher among those aged 80 years and above (11.7%), females (7.9%) and Indians (9.4%).

CHAPTER 4. LONGITUDINAL FINDINGS (Wave 1 to Wave 3a of THE SIGNS STUDY)

This chapter summarises key findings from the comparison of data of older Singaporeans who participated in all the three Waves of THE SIGNS Study, i.e., in Wave 1 in 2016-2017, Wave 2 in 2019, and Wave 3aa in 2023-2024. We present values for each Wave, and assess the statistical significance of the change between Waves 1 and 2, and Waves 2 and 3. The data is presented for the overall sample, and by age cohort, gender, and ethnicity. Where a change is *not statistically significant*, it is described as "no change" or "stable" across Waves.

4.1. Physical and Functional Health

Table 4.1.1 Change Over Time in Self-Rated Health, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Self-rated health (1-5)[a]		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1415	2.8	3.0	2.8	Wave 2 > Wave 1***	Wave 3a < Wave 2***
Age (years) at Wave 3a						
67-69	230	2.8	3.1	2.9	Wave 2 > Wave 1***	Wave 3a < Wave 2***
70-79	828	2.9	3.0	2.8	Wave 2 > Wave 1***	Wave 3a < Wave 2***
80 & above	357	2.7	2.8	2.7	Wave 2 = Wave 1	Wave 3a < Wave 2*
Gender						
Male	674	2.8	3.0	2.8	Wave 2 > Wave 1***	Wave 3a < Wave 2***
Female	741	2.8	2.9	2.7	Wave 2 > Wave 1**	Wave 3a < Wave 2***
Ethnicity						
Chinese	1108	2.8	3.0	2.8	Wave 2 > Wave 1***	Wave 3a < Wave 2***
Malay	154	2.9	2.9	2.8	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	142	2.8	2.9	2.7	Wave 2 = Wave 1	Wave 3a < Wave 2**
Others	11	3.1	3.3	3.4	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.

[a] Self-rated health was measured by a single question “In general, would you describe your state of health as excellent, very good, good, fair or poor? We assign 1 to “poor,” 2 to “fair,” 3 to “good,” 4 to “very good,” and 5 to “excellent,” so that a *higher score* indicates *better self-rated health*.

Older Singaporeans who participated in all three Waves of THE SIGNS Study generally assessed their health as ‘fair’ or ‘good’ in all three Waves.

Overall, self-rated health of older Singaporeans improved from Wave 1 to Wave 2, with the mean score increasing from 2.8 to 3.0. However, this improvement was not sustained, as the mean score declined to 2.8 in Wave 3a.

Those aged 67-69 and 70-79 years showed an improvement in self-rated health from Wave 1 to Wave 2, but a decline from Wave 2 to Wave 3a. For those aged 80 years and above, there was no significant change between Wave 1 and Wave 2, but a slight decline was observed from Wave 2 to Wave 3a.

For males, self-rated health improved from Wave 1 to Wave 2 but declined in Wave 3a. Similarly, females reported better self-rated health in Wave 2 compared to Wave 1, followed by a decline in Wave 3a.

In the context of the three major ethnicities, Chinese showed an improvement in self-rated health from Wave 1 to Wave 2, followed by a decline in Wave 3a. For Malays and Indians, self-rated health was stable from Wave 1 to Wave 2, however it declined from Wave 2 to Wave 3a for Indians.

Table 4.1.2 Change Over Time in Number of Chronic Diseases, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Number of chronic diseases[a]		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1530	2.1	2.5	3.0	Wave 2 > Wave 1***	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	234	1.7	2.0	2.6	Wave 2 > Wave 1**	Wave 3a > Wave 2***
70-79	854	1.9	2.3	2.8	Wave 2 > Wave 1***	Wave 3a > Wave 2***
80 & above	442	2.6	3.1	3.6	Wave 2 > Wave 1***	Wave 3a > Wave 2**
Gender						
Male	719	2.0	2.3	2.8	Wave 2 > Wave 1***	Wave 3a > Wave 2***
Female	811	2.2	2.7	3.2	Wave 2 > Wave 1***	Wave 3a > Wave 2***
Ethnicity						
Chinese	1187	2.0	2.4	2.9	Wave 2 > Wave 1***	Wave 3a > Wave 2***
Malay	175	2.5	2.9	3.5	Wave 2 > Wave 1*	Wave 3a = Wave 2
Indian	157	2.7	3.4	3.7	Wave 2 > Wave 1**	Wave 3a = Wave 2
Others	11	1.6	2.8	2.8	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] The number of chronic diseases was tabulated based on older Singaporeans' self-reporting if they have 'ever been diagnosed' of a condition/disease by a health professional, using a list of common conditions/diseases as a guide.

Overall, the number of chronic diseases reported by older Singaporeans increased from 2.1 in Wave 1 to 2.5 in Wave 2, and further to 3.0 in Wave 3a. The increase over time was also observed for all age groups and both genders. In the context of the three major ethnicities, the increase over time in the number of chronic diseases was seen for Chinese. Malays and Indians had an increase from Wave 1 to Wave 2, but no change from Wave 2 to Wave 3a.

Table 4.1.3 Change Over Time in Number of Activity of Daily Living (ADL) Difficulties, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Number of ADL difficulties[a]		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1530	0.3	0.4	0.7	Wave 2 > Wave 1**	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	234	0.2	0.1	0.2	Wave 2 < Wave 1*	Wave 3a > Wave 2*
70-79	854	0.1	0.2	0.3	Wave 2 = Wave 1	Wave 3a > Wave 2***
80 & above	442	0.6	0.9	1.5	Wave 2 > Wave 1**	Wave 3a > Wave 2***
Gender						
Male	719	0.2	0.3	0.5	Wave 2 > Wave 1*	Wave 3a > Wave 2***
Female	811	0.4	0.6	0.9	Wave 2 > Wave 1*	Wave 3a > Wave 2***
Ethnicity						
Chinese	1187	0.2	0.3	0.6	Wave 2 > Wave 1*	Wave 3a > Wave 2***
Malay	175	0.9	1.4	1.9	Wave 2 > Wave 1*	Wave 3a > Wave 2*
Indian	157	0.3	0.4	0.9	Wave 2 = Wave 1	Wave 3a > Wave 2**
Others	11	0.0	0.0	0.0	Wave 2 = Wave 1	Wave 3a = Wave 2

* p < .05, ** p < .01, *** p < .001, = indicates that the change was not statistically significant.
[a] Considered ADLs included “Take a bath/shower”, “Dress up”, “Eat”, “Stand up from a bed/chair; sitting down on a chair”, “Walk (around the house)” and “Use the sitting toilet”.

Overall, the number of ADL difficulties reported by older Singaporeans increased from 0.3 in Wave 1 to 0.4 in Wave 2, and further to 0.7 in Wave 3a.

For those aged 67-69 years, the number of ADL difficulties decreased from Wave 1 to Wave 2, but then increased from Wave 2 to Wave 3a. Older adults aged 70-79 years showed no change from Wave 1 to Wave 2, but an increase from Wave 2 to Wave 3a. Those aged 80 years and above reported an increase in ADL difficulties from Wave 1 to Wave 2, and a further increase from Wave 2 to Wave 3a.

Among both males and females, a higher number of ADL difficulties was reported in Wave 2 compared Wave 1, with a further increase observed in Wave 3a.

In the context of the three major ethnicities, both Chinese and Malays reported an increase in the number of ADL difficulties from Wave 1 to Wave 2, with the number increasing further in Wave 3a. Indians experienced an increase only from Wave 2 to Wave 3a.

Table 4.1.4 Change Over Time in Number of Instrumental Activity of Daily Living (IADL) Difficulties, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3	Change across Waves	
Number of IADL difficulties[a]		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1530	0.4	0.6	0.8	Wave 2 > Wave 1**	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	234	0.2	0.1	0.2	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	854	0.1	0.2	0.4	Wave 2 > Wave 1*	Wave 3a > Wave 2**
80 & above	442	0.9	1.2	1.8	Wave 2 > Wave 1*	Wave 3a > Wave 2***
Gender						
Male	719	0.2	0.2	0.6	Wave 2 = Wave 1	Wave 3a > Wave 2***
Female	811	0.6	0.8	1.1	Wave 2 > Wave 1*	Wave 3a > Wave 2*
Ethnicity						
Chinese	1187	0.3	0.4	0.7	Wave 2 > Wave 1**	Wave 3a > Wave 2***
Malay	175	1.2	1.7	2.1	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	157	0.5	0.3	0.7	Wave 2 = Wave 1	Wave 3a > Wave 2**
Others	11	0.0	0.3	0.0	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Considered IADLs included “Prepare own meals”, “Leave the home to purchase necessary items or medication”, “Take care of financial matters e.g. paying utilities (electricity, water)”, “Use the phone”, “Dust, clean-up and other light housework”, “Take public transport to leave home” and “Take medication as prescribed”.

Overall, the number of IADL difficulties reported by older Singaporeans increased from 0.4 in Wave 1 to 0.6 in Wave 2, and further to 0.8 in Wave 3a.

For those aged 67-69 years, the number of IADL difficulties remained stable over time. For those aged 70-79 years and 80 years and above, the number of IADL difficulties increased from Wave 1 to Wave 2 and from Wave 2 to Wave 3a.

For males, the number of IADL difficulties remained stable from Wave 1 to Wave 2, however, they experienced an increase from Wave 2 to Wave 3a. Females showed an increase in the number of IADL difficulties from Wave 1 to Wave 2, and from Wave 2 to Wave 3a.

In the context of the three major ethnicities, Chinese reported an increase in the number of IADL difficulties from Wave 1 to Wave 2, and further to Wave 3a, while Indians experienced an increase only from Wave 2 to Wave 3a. The number of IADL difficulties were stable over time for Malays.

Table 4.1.5 Change Over Time in Body Mass Index (BMI), Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Body Mass Index (BMI)[a]		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1222	24.6	24.4	24.5	Wave 2 < Wave 1**	Wave 3a > Wave 2*
Age (years) at Wave 3a						
67-69	201	24.5	24.5	24.6	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	714	24.7	24.5	24.7	Wave 2 = Wave 1	Wave 3a > Wave 2*
80 & above	307	24.5	24.1	24.1	Wave 2 < Wave 1*	Wave 3a = Wave 2
Gender						
Male	524	24.3	24.1	24.2	Wave 2 < Wave 1**	Wave 3a > Wave 2*
Female	698	24.8	24.7	24.7	Wave 2 = Wave 1	Wave 3a = Wave 2
Ethnicity						
Chinese	978	24.1	24.0	24.1	Wave 2 < Wave 1*	Wave 3a > Wave 2*
Malay	130	28.0	27.1	26.9	Wave 2 < Wave 1*	Wave 3a = Wave 2
Indian	106	26.9	26.7	26.8	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	8	26.9	25.5	26.9	Wave 2 = Wave 1	Wave 3a > Wave 2*

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] BMI (weight in kilograms divided by height in meters squared) was calculated using measured weight and height of the survey participants.

Overall, the Body Mass Index (BMI) of older Singaporeans decreased from 24.6 in Wave 1 to 24.4 in Wave 2, but then increased slightly to 24.5 in Wave 3a.

For those aged 67-69 years, BMI remained stable from Wave 1 to Wave 3a. For those aged 70-79 years, BMI remained stable from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. Those aged 80 years and above experienced a decrease in BMI from Wave 1 to Wave 2.

For males, BMI declined from Wave 1 to Wave 2, but increased at Wave 3a. For females, BMI remained stable across all three Waves.

In the context of the three major ethnicities, Chinese had a decrease in BMI from Wave 1 to Wave 2, followed by an increase from Wave 2 to Wave 3a, and Malays had a decrease in BMI from Wave 1 to Wave 2. Indians had a stable BMI over time.

Table 4.1.6 Change Over Time in Hypertension Prevalence, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Hypertension[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1515	72.0	70.0	74.0	Wave 2 = Wave 1	Wave 3a > Wave 2**
Age (years) at Wave 3a						
67-69	232	58.9	57.2	67.7	Wave 2 = Wave 1	Wave 3a > Wave 2***
70-79	850	67.4	66.0	71.3	Wave 2 = Wave 1	Wave 3a > Wave 2**
80 & above	433	83.9	81.0	80.4	Wave 2 = Wave 1	Wave 2 = Wave 1
Gender						
Male	709	73.4	70.2	73.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Female	806	70.7	69.9	74.4	Wave 2 = Wave 1	Wave 3a > Wave 2**
Ethnicity						
Chinese	1177	71.2	69.0	74.3	Wave 2 = Wave 1	Wave 3a > Wave 2***
Malay	171	78.8	77.6	73.8	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	156	74.4	76.7	74.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	11	39.6	39.6	50.1	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Participants were classified as having *hypertension* if the average value of the second and third systolic readings was greater than 140 mm Hg, *or* if the average value of the second and third diastolic readings was greater than 90 mm Hg, *or* if participants with blood pressure measurements reported that they were currently on antihypertension medication.

Overall, the proportion of older Singaporeans with hypertension remained stable from 72.0% in Wave 1 to 70.0% in Wave 2 but increased significantly to 74.0% in Wave 3a.

For those aged 67-69 years, the proportion with hypertension remained stable from Wave 1 to Wave 2 but increased significantly from Wave 2 to Wave 3a. A similar pattern was observed for those aged 70-79 years. For those aged 80 years and above, the proportion with hypertension remained stable over time.

For males, the proportion with hypertension remained stable remained stable across all three Waves. For females, the proportion was similar in Waves 1 and 2, but increased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, while Chinese had an increase in the proportion with hypertension only from Wave 2 to Wave 3a, there was no change across Waves for Malays and Indians.

Table 4.1.7 Change Over Time in Hand Grip Strength, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Hand grip strength[a]		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1283	22.5	22.0	19.9	Wave 2 < Wave 1***	Wave 3a < Wave 2***
Age (years) at Wave 3a						
67-69	213	23.7	23.3	22.1	Wave 2 = Wave 1	Wave 3a < Wave 2***
70-79	741	23.7	23.2	21.0	Wave 2 < Wave 1**	Wave 3a < Wave 2***
80 & above	329	19.5	18.7	16.5	Wave 2 < Wave 1**	Wave 3a < Wave 2***
Gender						
Male	620	28.2	26.9	24.3	Wave 2 < Wave 1***	Wave 3a < Wave 2***
Female	663	17.0	17.2	15.7	Wave 2 = Wave 1	Wave 3a < Wave 2***
Ethnicity						
Chinese	1007	22.6	22.1	20.0	Wave 2 < Wave 1**	Wave 3a < Wave 2***
Malay	144	21.3	20.5	18.6	Wave 2 < Wave 1*	Wave 3a < Wave 2***
Indian	122	21.5	20.4	18.7	Wave 2 < Wave 1**	Wave 3a < Wave 2***
Others	10	26.5	25.4	24.0	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Hand grip strength was calculated based on the mean value for dominant hand from two measurements.

Overall, the hand grip strength of older Singaporeans decreased from 22.5 kg in Wave 1 to 22.0 kg in Wave 2, and further to 19.9 kg in Wave 3a.

For those aged 67-69 years, while hand grip strength remained stable from Wave 1 to Wave 2, it declined from Wave 2 to Wave 3a. For those aged 70-79 years, hand grip strength decreased from Wave 1 to Wave 2, and continued to decline from Wave 2 to Wave 3a. A similar pattern was observed for those aged 80 years and above.

A decline in hand grip strength, from Wave 1 to 2, and from Wave 2 to 3, was observed among males. For females, hand grip strength remained stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, all experienced a decrease in hand grip strength from Wave 1 to Wave 2, and further to Wave 3a.

Table 4.1.8 Change Over Time in the Global Activity Limitation Indicator (GALI), Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Limitations in activity due to health problem[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1526	18.8	23.9	36.1	Wave 2 > Wave 1**	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	233	9.9	12.1	18.9	Wave 2 = Wave 1	Wave 3a > Wave 2*
70-79	852	11.1	14.1	24.1	Wave 2 > Wave 1*	Wave 3a > Wave 2***
80 & above	441	33.9	43.1	60.6	Wave 2 > Wave 1*	Wave 3a > Wave 2***
Gender						
Male	717	14.5	19.4	30.1	Wave 2 > Wave 1**	Wave 3a > Wave 2***
Female	809	22.5	27.7	41.2	Wave 2 > Wave 1*	Wave 3a > Wave 2***
Ethnicity						
Chinese	1185	15.7	21.0	33.0	Wave 2 > Wave 1***	Wave 3a > Wave 2***
Malay	174	38.7	44.4	57.5	Wave 2 = Wave 1	Wave 3a > Wave 2***
Indian	156	22.6	24.9	40.7	Wave 2 = Wave 1	Wave 3a > Wave 2**
Others	11	21.4	20.8	19.8	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Respondents who reported any limitation (limited but not severely or severely limited) to the question *"For at least the past six months, to what extent have you (subject) been limited because of a health problem in activities people usually do? Would you say that you (subject) have been…"*

Overall, the proportion of older Singaporeans who reported any degree of limitation in activities due to a health problem increased from 18.8% in Wave 1 to 23.9% in Wave 2, and increased further to 36.1% in Wave 3a.

For those aged 67-69 years, the proportion reporting limitations remained stable from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. For those aged 70-79 years and 80 years and above, the proportion increased across all three Waves.

For both males and females, the proportion reporting limitations increased across all three Waves.

In the context of the three major ethnicities, the proportion of each ethnicity reporting limitations increased across all three Waves.

4.2. Psychological Health

Table 4.2.1 Change Over Time in Depressive Symptoms, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Depressive symptoms (Center of Epidemiologic Studies Depression (CES-D) score[a])		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	695	2.8	2.6	3.2	Wave 2 = Wave 1	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	109	2.9	2.6	2.8	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	404	2.8	2.5	3.0	Wave 2 < Wave 1*	Wave 3a > Wave 2**
80 & above	182	2.9	2.9	3.8	Wave 2 = Wave 1	Wave 3a > Wave 2*
Gender						
Male	320	2.7	2.3	3.0	Wave 2 < Wave 1*	Wave 3a > Wave 2***
Female	375	2.9	2.8	3.4	Wave 2 = Wave 1	Wave 3a > Wave 2*
Ethnicity						
Chinese	538	2.7	2.5	3.1	Wave 2 = Wave 1	Wave 3a > Wave 2***
Malay	83	2.8	2.6	3.5	Wave 2 = Wave 1	Wave 3a > Wave 2*
Indian	70	3.9	4.2	4.2	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	4	3.8	3.5	2.9	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] A higher score indicates a higher level of depressive symptoms.

Overall, the mean depressive symptoms score of older Singaporeans decreased from 2.8 in Wave 1 to 2.6 in Wave 2, but increased to 3.2 in Wave 3a.

The depressive symptoms score of those aged 67-69 years remained stable across Waves. Those aged 70-79 years had a decrease in the score from Wave 1 to Wave 2, but an increase from Wave 2 to Wave 3a. Those aged 80 years and above had a stable score from Wave 1 to Wave 2, but an increase from Wave 2 to Wave 3a.

For males, the depressive symptoms score decreased from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For females, the score was stable from Wave 1 to Wave 2, however it increased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, all had a stable depressive symptoms score from Wave 1 to Wave 2. An increase from Wave 2 to Wave 3a was observed for Chinese and Malays.

Table 4.2.2 Change Over Time in Personal Mastery, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Personal mastery (Pearlin Mastery Scale score[a])		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	676	9.5	8.9	8.7	Wave 2 < Wave 1***	Wave 3a = Wave 2
Age (years) at Wave 3a						
67-69	106	9.2	9.1	8.7	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	399	9.5	9.0	8.8	Wave 2 < Wave 1***	Wave 3a = Wave 2
80 & above	171	9.4	8.7	8.7	Wave 2 < Wave 1***	Wave 3a = Wave 2
Gender						
Male	313	9.6	8.7	8.7	Wave 2 < Wave 1***	Wave 3a = Wave 2
Female	363	9.3	9.1	8.8	Wave 2 = Wave 1	Wave 3a < Wave 2**
Ethnicity						
Chinese	526	9.5	9.0	8.8	Wave 2 < Wave 1***	Wave 3a < Wave 2*
Malay	78	9.4	8.8	8.9	Wave 2 < Wave 1*	Wave 3a = Wave 2
Indian	68	9.2	7.8	8.1	Wave 2 < Wave 1*	Wave 3a = Wave 2
Others	4	10.1	9.8	10.1	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] A higher score indicates greater personal mastery.

Overall, the mean personal mastery score of older Singaporeans decreased from 9.5 in Wave 1 to 8.9 in Wave 2 but remained stable from Wave 2 to Wave 3a.

The personal mastery score of those aged 67-69 years remained stable from Wave 1 to Wave 3a Those aged 70-79 years and 80 years and above had a decrease in their personal mastery score from Wave 1 to Wave 2 but their scores remained stable from Wave 2 to Wave 3a.

For males, the personal mastery score decreased from Wave 1 to Wave 2 but remained stable from Wave 2 to Wave 3a. For females, the personal mastery score remained stable from Wave 1 to Wave 2 but decreased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, all had a decrease in the personal mastery score from Wave 1 to Wave 2. A further decrease from Wave 2 to Wave 3a was observed only for the Chinese.

Table 4.2.3 Change Over Time in Quality of Life, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Quality of life (CASP score[a])		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1400	25.7	26.5	25.0	Wave 2 > Wave 1***	Wave 3a < Wave 2***
Age (years) at Wave 3a						
67-69	229	26.6	26.9	25.9	Wave 2 = Wave 1	Wave 3a < Wave 2*
70-79	825	25.8	26.8	25.3	Wave 2 > Wave 1***	Wave 3a < Wave 2***
80 & above	346	25.1	25.5	23.8	Wave 2 = Wave 1	Wave 3a < Wave 2***
Gender						
Male	671	24.4	26.4	25.0	Wave 2 > Wave 1***	Wave 3a < Wave 2***
Female	729	27.0	26.5	25.0	Wave 2 < Wave 1*	Wave 3a < Wave 2***
Ethnicity						
Chinese	1092	25.9	26.7	25.0	Wave 2 > Wave 1***	Wave 3a < Wave 2***
Malay	154	25.1	25.5	25.2	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	143	23.6	25.3	24.3	Wave 2 > Wave 1*	Wave 3a < Wave 2*
Others	11	29.3	27.7	26.3	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] A higher score indicates a higher quality of life, based on the 11-item Control, Autonomy, Self-realization and Pleasure (CASP) scale.

Overall, the mean quality of life score of older Singaporeans improved from 25.7 in Wave 1 to 26.5 in Wave 2, but declined to 25.0 in Wave 3a.

The quality of life score of those aged 67-69 years and 80 years and above remained stable from Wave 1 to Wave 2, but declined from Wave 2 to Wave 3a. The score of those aged 70-79 years improved from Wave 1 to Wave 2, but declined from Wave 2 to Wave 3a.

For males, the quality of life score improved from Wave 1 to Wave 2, but declined from Wave 2 to Wave 3a. For females, the score declined over time.

In the context of the three major ethnicities, only Chinese and Indians had an improvement in quality of life score from Wave 1 to Wave 2. However, they also experienced a decline in the score from Wave 2 to Wave 3a. Malays had a stable quality of life score over time.

4.3. Cognitive Ability

Table 4.3.1 Change Over Time in AMT Score, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Cognitive status (Abbreviated Mental Test (AMT) Score[a])		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1481	9.4	9.4	9.1	Wave 2 < Wave 1*	Wave 3a < Wave 2***
Age (years) at Wave 3a						
67-69	233	9.7	9.8	9.6	Wave 2 = Wave 1	Wave 3a < Wave 2*
70-79	845	9.6	9.7	9.4	Wave 2 = Wave 1	Wave 3a < Wave 2***
80 & above	403	8.8	8.9	8.3	Wave 2 = Wave 1	Wave 3a < Wave 2***
Gender						
Male	700	9.7	9.7	9.3	Wave 2 = Wave 1	Wave 3a < Wave 2***
Female	781	9.0	9.2	8.9	Wave 2 > Wave 1***	Wave 3a < Wave 2***
Ethnicity						
Chinese	1158	9.4	9.5	9.1	Wave 2 > Wave 1*	Wave 3a < Wave 2***
Malay	162	9.2	9.2	8.7	Wave 2 = Wave 1	Wave 3a < Wave 2***
Indian	150	9.3	9.3	9.0	Wave 2 = Wave 1	Wave 3a < Wave 2**
Others	11	9.9	9.8	9.5	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] A higher score indicates better cognition.

Overall, the mean AMT score of older Singaporeans remained stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

This pattern, of stability in AMT score from Wave 1 to Wave 2, and a decline from Wave 2 to Wave 3a, was observed for all the three age groups.

For males, the AMT score remained stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a. For females, the AMT score increased from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, only Chinese had an increase in AMT score from Wave 1 to Wave 2. From Wave 2 to Wave 3a, the AMT score decreased for all the three major ethnicities.

4.4. Health Behaviours

Table 4.4.1 Change Over Time in Physical Activity Status, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Physical activity - Meets WHO recommendations[a]		Yes (%)			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	772	69.1	66.9	57.4	Wave 2 = Wave 1	Wave 3a < Wave 2***
Age (years) at Wave 3a						
67-69	119	77.5	70.3	71.5	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	435	78.8	76.9	69.0	Wave 2 = Wave 1	Wave 3a < Wave 2**
80 & above	218	51.3	50.2	34.5	Wave 2 = Wave 1	Wave 3a < Wave 2**
Gender						
Male	380	73.8	70.7	62.8	Wave 2 = Wave 1	Wave 3a < Wave 2*
Female	392	64.7	63.3	52.2	Wave 2 = Wave 1	Wave 3a < Wave 2**
Ethnicity						
Chinese	607	70.6	70.0	58.7	Wave 2 = Wave 1	Wave 3a < Wave 2***
Malay	80	56.9	38.2	44.4	Wave 2 < Wave 1*	Wave 3a = Wave 2
Indian	78	65.5	68.9	54.0	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	7	83.9	85.6	85.6	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Physical activity was measured using the Global Physical Activity Questionnaire (GPAQ) which asked Participants about the time they spend in a typical week doing vigorous and moderate activities at work and leisure, as well as the time spent during travel and sedentary behaviour. Participants whose total physical activity Metabolic Equivalent (MET) minutes per week were greater or equal to 600 were classified as meeting the World Health Organisation (WHO) recommendation on physical activity for health.

Overall, the proportion of older Singaporeans who met the WHO recommendations for physical activity was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

The proportion who met the WHO recommendations for physical activity was stable across all age groups from Wave 1 to Wave 2. However, it decreased from Wave 2 to Wave 3a for those aged 70-79 years and 80 years and above.

For both males and females, the proportion who met the WHO recommendations for physical activity remained stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, only Malays had a decrease in the proportion who met the WHO recommendations for physical activity from Wave 1 to Wave 2. From Wave 2 to Wave 3a, only Chinese had a decrease in the proportion.

4.5. Healthcare Utilisation

Table 4.5.1 Change Over Time in at Least One Private General Practitioner (GP) Visit in the Past Three Months, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
≥1 private GP visit in the past 3 months[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1514	32.1	27.7	27.7	Wave 2 < Wave 1*	Wave 3a = Wave 2
Age (years) at Wave 3a						
67-69	234	32.3	30.0	32.4	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	846	30.7	26.5	27.2	Wave 2 < Wave 1*	Wave 3a = Wave 2
80 & above	434	34.2	28.7	27.0	Wave 2 = Wave 1	Wave 3a = Wave 2
Gender						
Male	714	33.1	27.2	26.1	Wave 2 < Wave 1*	Wave 3a = Wave 2
Female	800	31.1	28.1	29.1	Wave 2 = Wave 1	Wave 3a = Wave 2
Ethnicity						
Chinese	1173	31.3	28.1	28.4	Wave 2 = Wave 1	Wave 3a = Wave 2
Malay	175	37.1	26.2	25.4	Wave 2 < Wave 1*	Wave 3a = Wave 2
Indian	155	36.1	26.0	25.3	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	11	13.8	18.4	18.2	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.

The proportion of older Singaporeans with at least one general practitioner (GP) visit in the past 3 months decreased from Wave 1 to Wave 2, with no change from Wave 2 and Wave 3a.

For those aged 67-69 years and 80 years and above, the proportion with at least one GP visit in the past 3 months was stable over time. For those aged 70-79 years, it decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a.

For males, the proportion with at least one GP visit in the past 3 months decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a. For females, the proportion remained stable over time.

In the context of the three major ethnicities, the proportion with at least one GP visit in the past 3 months of older Singaporeans was stable over time for Chinese and Indians. For Malays, the proportion decreased from Wave 1 to Wave 2 but was stable from Wave 2 to Wave 3a.

Table 4.5.2 Change Over Time in at Least One Polyclinic Doctor Visit in the Past Three Months, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
≥1 polyclinic doctor visit in the past 3 months[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1512	46.3	48.5	40.9	Wave 2 = Wave 1	Wave 3a < Wave 2***
Age (years) at Wave 3a						
67-69	234	36.7	38.4	39.1	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	843	43.4	48.5	42.1	Wave 2 > Wave 1*	Wave 3a < Wave 2**
80 & above	435	54.0	52.0	39.7	Wave 2 = Wave 1	Wave 3a < Wave 2***
Gender						
Male	709	46.3	48.2	41.5	Wave 2 = Wave 1	Wave 3a < Wave 2*
Female	803	46.2	48.7	40.4	Wave 2 = Wave 1	Wave 3a < Wave 2***
Ethnicity						
Chinese	1170	45.1	48.2	39.3	Wave 2 = Wave 1	Wave 3a < Wave 2***
Malay	175	51.1	44.5	45.7	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	156	51.1	61.0	52.2	Wave 2 > Wave 1*	Wave 3a = Wave 2
Others	11	56.1	43.4	50.0	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.

Overall, the proportion of older Singaporeans with at least one polyclinic doctor visit in the past 3 months was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

The proportion with at least one polyclinic doctor visit in the past 3 months was stable over time for those aged 67-69 years. For those aged 70-79 years, it increased from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a. For those aged 80 years and above, it was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

For both males and females, the proportion with at least one polyclinic doctor visit in the past 3 months was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, only Indians had an increase in the proportion with at least one polyclinic doctor visit in the past 3 months from Wave 1 to Wave 2, and only Chinese had a decrease in the proportion from Wave 2 to Wave 3a.

Table 4.5.3 Change Over Time in at Least One Specialist Outpatient Clinic Doctor Visit in the Past Three Months, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
≥1 specialist outpatient clinic doctor visit in the past 3 months[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1509	23.2	24.6	27.4	Wave 2 = Wave 1	Wave 3a = Wave 2
Age (years) at Wave 3a						
67-69	233	21.8	18.2	25.4	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	843	23.2	22.7	27.5	Wave 2 = Wave 1	Wave 3a > Wave 2*
80 & above	433	23.6	29.8	27.9	Wave 2 = Wave 1	Wave 3a = Wave 2
Gender						
Male	711	23.2	22.1	30.3	Wave 2 = Wave 1	Wave 3a > Wave 2**
Female	798	23.2	26.7	24.9	Wave 2 = Wave 1	Wave 3a = Wave 2
Ethnicity						
Chinese	1170	23.2	23.5	28.1	Wave 2 = Wave 1	Wave 3a > Wave 2*
Malay	174	19.9	32.8	23.1	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	155	26.4	23.5	24.2	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	10	37.9	28.1	33.2	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.

Overall, the proportion of older Singaporeans with at least one specialist outpatient clinic (SOC) doctor visit in the past 3 months was stable over time.

The stable pattern over time for the proportion with at least one SOC doctor visit in the past 3 months was also observed for those aged 67-69 years and those aged 80 years and above. For those aged 70-79 years, while the proportion was stable from Wave 1 to Wave 2, it increased from Wave 2 to Wave 3a.

For both males and females, the proportion with at least one SOC doctor visit in the past 3 months was stable from Wave 1 to Wave 2, however it increased from Wave 2 to Wave 3a for males.

In the context of the three major ethnicities, the proportion with at least one SOC doctor visit in the past 3 months was stable for all from Wave 1 to Wave 2, however it increased from Wave 2 to Wave 3a for Chinese.

Table 4.5.4 Change Over Time in at Least One Private Specialist Doctor Visit in the Past Three Months, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
≥1 private specialist doctor visit in the past 3 months[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1508	4.0	2.2	4.7	Wave 2 = Wave 1	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	234	3.1	2.4	4.1	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	840	3.5	2.5	6.1	Wave 2 = Wave 1	Wave 3a > Wave 2***
80 & above	434	5.2	1.6	2.7	Wave 2 = Wave 1	Wave 3a = Wave 2
Gender						
Male	711	3.2	2.0	5.3	Wave 2 = Wave 1	Wave 3a > Wave 2**
Female	797	4.7	2.4	4.2	Wave 2 = Wave 1	Wave 3a > Wave 2*
Ethnicity						
Chinese	1169	3.6	2.4	5.1	Wave 2 < Wave 1*	Wave 3a > Wave 2**
Malay	174	8.3	0.9	2.0	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	155	1.5	2.4	5.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	10	0.0	0.0	0.0	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.

Overall, the proportion of older Singaporeans with at least one private specialist doctor visit in the past 3 months was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a.

The proportion with at least one private specialist doctor visit in the past 3 months was stable for all age groups from Wave 1 to Wave 2. However, it increased from Wave 2 to Wave 3a for those aged 70-79 years.

For both males and females, the proportion at least one private specialist doctor visit in the past 3 months was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, only Chinese had a decrease in the proportion at least one private specialist doctor visit in the past 3 months from Wave 1 to Wave 2 and an increase from Wave 2 to Wave 3a. The proportion was stable over time for Malays and Indians.

Table 4.5.5 Change Over Time in at Least One Traditional Chinese Medicine (TCM) Practitioner or Traditional Healer Visit in the Past Three Months, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
≥1 TCM practitioner or traditional healer visit in the past 3 months[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1514	12.1	12.5	11.9	Wave 2 = Wave 1	Wave 3a = Wave 2
Age (years) at Wave 3a						
67-69	234	13.3	11.4	10.9	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	843	12.2	14.3	13.3	Wave 2 = Wave 1	Wave 3a = Wave 2
80 & above	437	11.5	10.1	10.0	Wave 2 = Wave 1	Wave 3a = Wave 2
Gender						
Male	714	10.3	11.5	10.2	Wave 2 = Wave 1	Wave 3a = Wave 2
Female	800	13.6	13.4	13.3	Wave 2 = Wave 1	Wave 3a = Wave 2
Ethnicity						
Chinese	1174	14.3	14.9	14.3	Wave 2 = Wave 1	Wave 3a = Wave 2
Malay	175	1.4	0.7	0.0	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	155	2.5	1.5	4.6	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	10	15.8	16.5	0.0	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.

Overall, the proportion of older Singaporeans with at least one visit to a Traditional Chinese Medicine (TCM) Practitioner or Traditional Healer in the past 3 months was stable over time. The proportion was also stable across over time for all age groups, both genders, and the three major ethnicities.

4.6. Social Engagement

Table 4.6.1 Change Over Time in Living Alone, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Living alone[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1533	7.3	8.8	10.6	Wave 2 > Wave 1**	Wave 3a > Wave 2**
Age (years) at Wave 3a						
67-69	234	3.8	4.5	7.5	Wave 2 = Wave 1	Wave 3a > Wave 2*
70-79	855	7.5	9.1	11.3	Wave 2 > Wave 1**	Wave 3a > Wave 2**
80 & above	444	8.3	9.7	10.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Gender						
Male	721	5.8	6.3	8.1	Wave 2 = Wave 1	Wave 3a > Wave 2**
Female	812	8.7	10.9	12.7	Wave 2 > Wave 1***	Wave 3a > Wave 2*
Ethnicity						
Chinese	1190	8.1	9.2	11.2	Wave 2 > Wave 1*	Wave 3a > Wave 2**
Malay	175	3.5	4.3	6.1	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	157	3.1	7.4	8.3	Wave 2 > Wave 1**	Wave 3a = Wave 2
Others	11	14.8	24.4	20.8	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Living alone (excludes those who live only with a migrant domestic worker).

Overall, the proportion of older Singaporeans living alone increased from 7.3% in Wave 1 to 8.8% Wave 2, and further to 10.6% in Wave 3a.

For those aged 67-69 years, the proportion living alone was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. It increased over time for those aged 70-79 years, however was stable over time for those aged 80 and above.

For males, the proportion living alone was stable from Wave 1 to Wave 2 but increased from Wave 2 to Wave 3a. For females, it increased over time.

In the context of the three major ethnicities, Chinese had an increase in the proportion living alone over time. Indians had an increase in the proportion from Wave 1 to Wave 2, but the proportion was stable from Wave 2 to Wave 3a. For Malays, the proportion was stable over time.

Table 4.6.2 Change Over Time in Living Alone or Only with a Migrant Domestic Worker, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Living alone or only with a migrant domestic worker		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1533	8.1	10.1	13.1	Wave 2 > Wave 1***	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	234	3.8	5.0	7.5	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	855	7.8	9.6	13.2	Wave 2 > Wave 1**	Wave 3a > Wave 2***
80 & above	444	10.0	12.6	14.8	Wave 2 > Wave 1**	Wave 3a > Wave 2*
Gender						
Male	721	6.3	7.6	9.8	Wave 2 > Wave 1*	Wave 3a > Wave 2**
Female	812	9.6	12.1	15.9	Wave 2 > Wave 1***	Wave 3a > Wave 2***
Ethnicity						
Chinese	1190	8.5	10.4	13.5	Wave 2 > Wave 1***	Wave 3a > Wave 2***
Malay	175	4.2	4.6	8.5	Wave 2 = Wave 1	Wave 3a > Wave 2*
Indian	157	5.6	10.6	14.7	Wave 2 > Wave 1**	Wave 3a = Wave 2
Others	11	26.2	35.9	20.8	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.

Overall, the overall of older Singaporeans living alone or only with a migrant domestic worker (MDW) increased from 8.1% in Wave 1 to 10.1% Wave 2, and further to 13.1% in Wave 3a.

While the proportion living alone or only with a MDW was stable over time for those aged 67-69 years, it increased over time for those aged 70-79 years and 80 years and above.

For both males and females, the proportion living alone or only with a MDW increased over time.

In the context of the three major ethnicities, Chinese had an increase in the proportion living alone or only with a MDW over time. For Malays, the proportion was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For Indians, it increased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a.

Table 4.6.3 Change Over Time in Loneliness Score, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Loneliness (Three-item Loneliness Scale score [a])		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	691	1.1	1.0	1.9	Wave 2 = Wave 1	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	110	1.1	0.8	1.8	Wave 2 = Wave 1	Wave 3a > Wave 2***
70-79	400	1.0	1.1	1.8	Wave 2 = Wave 1	Wave 3a > Wave 2***
80 & above	181	1.2	0.8	2.2	Wave 2 = Wave 1	Wave 3a > Wave 2***
Gender						
Male	317	1.1	0.8	2.0	Wave 2 = Wave 1	Wave 3a > Wave 2***
Female	374	1.1	1.1	1.9	Wave 2 = Wave 1	Wave 3a > Wave 2***
Ethnicity						
Chinese	537	1.0	0.9	1.8	Wave 2 = Wave 1	Wave 3a > Wave 2***
Malay	81	1.6	1.2	2.8	Wave 2 = Wave 1	Wave 3a > Wave 2***
Indian	69	1.7	2.0	2.3	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	4	0.5	1.4	1.5	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] A higher score indicates a greater extent of loneliness.

Overall, the mean loneliness score of older Singaporeans was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a.

This pattern, of stability from Wave 1 to Wave 2 and increase from Wave 2 to Wave 3a, in the mean loneliness score was observed for all age groups and both genders.

In the context of the three major ethnicities, the mean loneliness score was stable from Wave 1 to Wave 2 for all. However, it increased from Wave 2 to Wave 3a for Chinese and Malays.

Table 4.6.4 Change Over Time in Any Loneliness, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Any Loneliness (Three-item Loneliness Scale score ≥1[a])		Yes (%)[b]			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	691	32.7	28.8	51.5	Wave 2 = Wave 1	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	110	33.2	23.0	54.0	Wave 2 = Wave 1	Wave 3a > Wave 2***
70-79	400	32.4	32.7	49.8	Wave 2 = Wave 1	Wave 3a > Wave 2***
80 & above	181	33.0	23.0	53.9	Wave 2 < Wave 1*	Wave 3a > Wave 2**
Gender						
Male	317	33.7	26.6	51.6	Wave 2 = Wave 1	Wave 3a > Wave 2***
Female	374	31.7	30.8	51.5	Wave 2 = Wave 1	Wave 3a > Wave 2***
Ethnicity						
Chinese	537	30.5	25.8	48.2	Wave 2 = Wave 1	Wave 3a > Wave 2***
Malay	81	42.6	42.4	72.4	Wave 2 = Wave 1	Wave 3a > Wave 2***
Indian	69	49.3	46.8	61.4	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	4	17.6	34.4	66.7	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Score of ≥1 indicates any loneliness, while score of 0 indicates no loneliness.
[b] Proportion of older Singaporeans with any loneliness, i.e. score of ≥1.

Overall, the proportion of older Singaporeans reporting any loneliness was stable from Wave 1 to Wave 2, but increased from 29% in Wave 2 to 52% in Wave 3a.

For those aged 67-69 years and 70-79 years, the proportion reporting any loneliness was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For those aged 80 years and above, it decreased from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a.

For both males and females, the proportion reporting any loneliness was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, the proportion reporting any loneliness was stable from Wave 1 to Wave 2 for all. From Wave 2 to Wave 3a, the proportion increased for Chinese and Malays, and remained stable for Indians.

Table 4.6.5 Change Over Time in Social Network Score, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Social network Score (Lubben Social Network Scale Revised (LSNS-R) score[a])		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1396	28.3	28.0	25.1	Wave 2 = Wave 1	Wave 3a < Wave 2***
Age (years) at Wave 3a						
67-69	223	28.6	29.0	27.1	Wave 2 = Wave 1	Wave 3a < Wave 2**
70-79	818	28.9	28.5	25.7	Wave 2 = Wave 1	Wave 3a < Wave 2***
80 & above	355	27.0	26.3	22.7	Wave 2 = Wave 1	Wave 3a < Wave 2***
Gender						
Male	664	28.4	28.3	24.2	Wave 2 = Wave 1	Wave 3a < Wave 2***
Female	732	28.3	27.6	25.9	Wave 2 = Wave 1	Wave 3a < Wave 2***
Ethnicity						
Chinese	1094	28.0	27.6	24.8	Wave 2 = Wave 1	Wave 3a < Wave 2***
Malay	151	30.7	30.3	26.6	Wave 2 = Wave 1	Wave 3a < Wave 2***
Indian	141	28.3	28.3	25.0	Wave 2 = Wave 1	Wave 3a < Wave 2**
Others	10	36.2	32.7	31.6	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] A lower score indicates a higher risk of social isolation.

Overall, the mean social network score of older Singaporeans was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

This pattern, of stability from Wave 1 to Wave 2 and decrease from Wave 2 to Wave 3a, in the mean social network score was observed for all age groups, both genders and the three major ethnicities.

Table 4.6.6 Change Over Time in Attendance Frequency of Social Activities – Attend Residents' Committee (RC) / Neighbourhood Committee (NC) / Community Club (CC) / Community Development Council (CDC) / Neighbourhood Event, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Attend RC/ NC/ CC/ CDC/ neighbourhood event[a]		**Mean**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	747	0.4	0.5	0.5	Wave 2 > Wave 1***	Wave 3 = Wave 2
Age (years) at Wave 3a						
67-69	112	0.3	0.5	0.5	Wave 2 = Wave 1	Wave 3 = Wave 2
70-79	412	0.4	0.5	0.5	Wave 2 > Wave 1**	Wave 3 = Wave 2
80 & above	223	0.4	0.5	0.4	Wave 2 = Wave 1	Wave 3 = Wave 2
Gender						
Male	337	0.3	0.4	0.4	Wave 2 = Wave 1	Wave 3 = Wave 2
Female	410	0.5	0.6	0.6	Wave 2 > Wave 1**	Wave 3 = Wave 2
Ethnicity						
Chinese	575	0.4	0.5	0.5	Wave 2 > Wave 1**	Wave 3 = Wave 2
Malay	92	0.3	0.3	0.3	Wave 2 = Wave 1	Wave 3 = Wave 2
Indian	76	0.3	0.6	0.5	Wave 2 > Wave 1*	Wave 3 = Wave 2
Others	4	0.7	1.4	0.9	Wave 2 = Wave 1	Wave 3 = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Measured by a single question "How often do you do attend Residents' Committee (RC) / Neighbourhood Committee (NC) / Community Club (CC) / Community Development Council (CDC) / Neighbourhood event?" We assign 0 to "Not at all", 1 to "Less than once a month", 2 to "Every month", 3 to "Every week", 4 to "Every day", so that a *higher score* indicates a *higher frequency of attendance*.

Overall, older Singaporeans reported an increase in the attendance frequency of RC/ NC/ CC/ CDC/ neighbourhood events from wave 1 to wave 2, but remained constant from wave 2 to wave 3.

For those aged 67-69 years and 80 years and above, attendance frequency was stable across wave 1 to wave 3. For those aged 70-79 years, it increased from wave 1 to wave 2, but remained constant from wave 2 to wave 3.

For males, attendance frequency was stable across wave 1 to wave 3. For females, it increased from wave 1 to wave 2, but decreased from wave 2 to wave 3.

In the context of the three major ethnicities, attendance frequency increased from wave 1 to wave 2, but remained constant from wave 2 to wave for Chinese and Indians. For Malays, it was stable across wave 1 to wave 3.

4.7. Provision and Receipt of Transfers

Table 4.7.1 Change Over Time in Provision of Monetary Support in the Past 12 Months by the Older Adult, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Provision of monetary support[a]		Yes (%)			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	745	26.7	18.2	15.7	Wave 2 < Wave 1***	Wave 3a = Wave 2
Age (years) at Wave 3a						
67-69	113	35.7	30.1	32.4	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	413	32.9	22.7	17.4	Wave 2 < Wave 1***	Wave 3a < Wave 2*
80 & above	219	13.8	6.8	7.0	Wave 2 < Wave 1**	Wave 3a = Wave 2
Gender						
Male	335	40.6	28.0	24.5	Wave 2 < Wave 1***	Wave 3a = Wave 2
Female	410	15.9	10.5	8.8	Wave 2 < Wave 1**	Wave 3a = Wave 2
Ethnicity						
Chinese	572	26.0	17.2	15.4	Wave 2 < Wave 1***	Wave 3a = Wave 2
Malay	93	29.0	21.6	16.3	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	76	36.3	27.5	21.2	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	4	0.0	0.0	0.0	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Provision by the older adult to family members (including spouse), relatives, friends or a migrant domestic worker in the past 12 months.

Overall, the proportion of older Singaporeans who provided monetary support decreased from Wave 1 to Wave 2, and was stable from Wave 2 to Wave 3a.

The proportion who provided monetary support was stable over time for those aged 67-69 years, decreased over time for those aged 70-79 years. For those aged 80 years and above, it decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a.

For both males and females, the proportion who provided monetary support decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a.

In the context of the three major ethnicities, the proportion who provided monetary support was stable from Wave 1 to Wave 2 for all, except Chinese, for whom it decreased. From Wave 2 to Wave 3a, the proportion was stable for all.

Table 4.7.2 Change Over Time in Provision of Housework Help in the Past 12 Months by the Older Adult, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Provision of housework help[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	748	40.7	46.1	34.7	Wave 2 > Wave 1*	Wave 3a < Wave 2***
Age (years) at Wave 3a						
67-69	113	48.7	57.9	55.6	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	415	45.7	54.0	39.4	Wave 2 > Wave 1*	Wave 3a < Wave 2***
80 & above	220	30.1	29.4	20.0	Wave 2 = Wave 1	Wave 3a < Wave 2**
Gender						
Male	336	54.5	55.3	38.9	Wave 2 = Wave 1	Wave 3a < Wave 2***
Female	412	30.0	38.8	31.5	Wave 2 > Wave 1**	Wave 3a < Wave 2**
Ethnicity						
Chinese	575	41.8	50.0	38.5	Wave 2 > Wave 1**	Wave 3a < Wave 2***
Malay	93	39.2	27.7	20.8	Wave 2 < Wave 1*	Wave 3a = Wave 2
Indian	76	35.3	37.8	17.9	Wave 2 = Wave 1	Wave 3a < Wave 2**
Others	4	0.0	0.0	0.0	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Provision by the older adult to family members (including spouse), relatives, friends or a migrant domestic worker in the past 12 months.

Overall, the proportion of older Singaporeans who provided housework help increased from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

For those aged 67-69 years, the proportion who provided housework help was stable over time. For those aged 70-79 years, it increased from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a. For those aged 80 years and above, it was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

For males, the proportion who reported provided housework help was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a. For females, it increased from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, the proportion of Chinese who provided housework help increased from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a. For Malays, it decreased from Wave 1 to Wave 2, and was stable from Wave 2 to Wave 3a. For Indians, it was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

Table 4.7.3 Change Over Time in Provision of Food, Clothes, and Other Material Support in the Past 12 Months by the Older Adult, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Provision of material support in the past 12 months[a]		Yes (%)			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	747	32.9	40.2	36.8	Wave 2 > Wave 1**	Wave 3a = Wave 2
Age (years) at Wave 3a						
67-69	113	38.3	52.7	54.2	Wave 2 > Wave 1*	Wave 3a = Wave 2
70-79	414	37.8	46.0	40.7	Wave 2 > Wave 1*	Wave 3a = Wave 2
80 & above	220	23.4	26.7	24.3	Wave 2 = Wave 1	Wave 3a = Wave 2
Gender						
Male	335	44.0	42.8	41.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Female	412	24.2	38.2	33.1	Wave 2 > Wave 1***	Wave 3a = Wave 2
Ethnicity						
Chinese	574	33.6	43.6	41.1	Wave 2 > Wave 1***	Wave 3a = Wave 2
Malay	93	31.1	21.5	16.8	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	76	32.0	38.6	21.6	Wave 2 = Wave 1	Wave 3a < Wave 2**
Others	4	0.0	0.0	17.6	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Provision by the older adult to family members (including spouse), relatives, friends or a migrant domestic worker in the past 12 months.

Overall, the proportion of older Singaporeans who provided food, clothes or other material support increased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a. For those aged 67-69 years and 70-79 years, the proportion who provided food, clothes or other material support increased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a. For those aged 80 years and above, the proportion was stable over time.

For males, the proportion who provided food, clothes or other material support was stable over time. For females, it increased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a.

In the context of the three major ethnicities, the proportion of Chinese who provided food, clothes or other material support increased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a. For Indians, the proportion was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a. For Malays, the proportion was stable over time.

Table 4.7.4 Change Over Time in Provision of Emotional Support in the Past 12 Months by the Older Adult, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Provision of emotional support[a]		Yes (%)			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	748	43.5	48.8	41.9	Wave 2 > Wave 1*	Wave 3a < Wave 2**
Age (years) at Wave 3a						
67-69	113	50.3	57.4	58.8	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	415	47.7	52.1	46.8	Wave 2 = Wave 1	Wave 3a = Wave 2
80 & above	220	34.4	40.5	28.1	Wave 2 = Wave 1	Wave 3a < Wave 2**
Gender						
Male	336	59.9	53.4	46.4	Wave 2 = Wave 1	Wave 3a < Wave 2*
Female	412	30.6	45.2	38.3	Wave 2 > Wave 1***	Wave 3a < Wave 2*
Ethnicity						
Chinese	575	43.6	51.2	43.6	Wave 2 > Wave 1*	Wave 3a < Wave 2**
Malay	93	41.2	30.8	36.4	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	76	50.6	60.8	33.0	Wave 2 = Wave 1	Wave 3a < Wave 2***
Others	4	17.6	0.0	17.6	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Provision by the older adult to family members (including spouse), relatives, friends or a migrant domestic worker in the past 12 months.

Overall, the proportion of older Singaporeans who provided emotional support increased from Wave 1 to Wave 2, but decreased in Wave 3a.

For those aged 67-69 years and 70-79 years, the proportion who provided emotional support was stable over time. For those aged 80 years and above, it was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

For males, the proportion who provided emotional support was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a. For females, it increased from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, the proportion of Chinese who provided emotional support increased from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a. For Indians, it was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a. For Malays, it was stable over time.

Table 4.7.5 Change Over Time in Receipt of Monetary Support in the Past 12 Months by the Older Adult, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Receipt of monetary support[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	748	59.5	57.2	60.3	Wave 2 = Wave 1	Wave 3a = Wave 2
Age (years) at Wave 3a						
67-69	113	52.1	45.0	53.5	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	415	57.1	51.2	54.2	Wave 2 = Wave 1	Wave 3a = Wave 2
80 & above	220	65.9	70.9	72.3	Wave 2 = Wave 1	Wave 3a = Wave 2
Gender						
Male	336	51.2	44.3	51.5	Wave 2 < Wave 1*	Wave 3a > Wave 2*
Female	412	66.0	67.3	67.2	Wave 2 = Wave 1	Wave 3a = Wave 2
Ethnicity						
Chinese	575	60.4	58.2	60.1	Wave 2 = Wave 1	Wave 3a = Wave 2
Malay	93	55.6	57.9	71.9	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	76	61.5	45.7	45.1	Wave 2 < Wave 1**	Wave 3a = Wave 2
Others	4	14.7	32.3	14.7	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Receipt by the older adult from family members (including spouse), relatives, friends or a migrant domestic worker in the past 12 months.

Overall, and for all age groups, the proportion of older Singaporeans who received monetary support was stable over time.

For males, the proportion who received monetary support decreased from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For females, it was stable over time.

In the context of the three major ethnicities, the proportion of Indians who received monetary support decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a. For Chinese and Malays, the proportion was stable over time.

Table 4.7.6 Change Over Time in Receipt of Housework Help in the Past 12 Months by the Older Adult, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Receipt of housework help[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	748	57.1	51.8	60.3	Wave 2 < Wave 1*	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	113	52.3	40.8	51.8	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	415	53.4	48.6	55.0	Wave 2 = Wave 1	Wave 3a > Wave 2*
80 & above	220	64.7	60.9	71.8	Wave 2 = Wave 1	Wave 3a > Wave 2**
Gender						
Male	336	64.8	57.4	60.8	Wave 2 < Wave 1*	Wave 3a = Wave 2
Female	412	51.2	47.5	60.0	Wave 2 = Wave 1	Wave 3a > Wave 2***
Ethnicity						
Chinese	575	56.3	50.8	60.7	Wave 2 < Wave 1*	Wave 3a > Wave 2***
Malay	93	61.9	58.1	65.0	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	76	65.4	53.0	51.8	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	4	14.7	48.0	14.7	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Receipt by the older adult from family members (including spouse), relatives, friends or a migrant domestic worker in the past 12 months.

Overall, the proportion of older Singaporeans who received housework help decreased from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a.

For those aged 67-69 years, the proportion who received housework help was stable over time. For those aged 70-79 years and 80 years and above, it was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a.

For males, the proportion who received housework help decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a. For females, the proportion was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, the proportion of Chinese who received housework help decreased from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For Malays and Indians, the proportion was stable over time.

Table 4.7.7 Change Over Time in Receipt of Food, Clothes and Other Material Support in the Past 12 Months by the Older Adult, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Receipt of material support[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	748	57.2	53.9	65.0	Wave 2 = Wave 1	Wave 3a > Wave 2***
Age (years) at Wave 3a						
67-69	113	53.4	40.9	65.8	Wave 2 = Wave 1	Wave 3a > Wave 2***
70-79	415	51.6	49.1	60.1	Wave 2 = Wave 1	Wave 3a > Wave 2**
80 & above	220	67.5	66.3	72.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Gender						
Male	336	55.5	41.6	61.5	Wave 2 < Wave 1***	Wave 3a > Wave 2***
Female	412	58.6	63.6	67.8	Wave 2 = Wave 1	Wave 3a = Wave 2
Ethnicity						
Chinese	575	57.4	54.7	68.3	Wave 2 = Wave 1	Wave 3a > Wave 2***
Malay	93	60.3	51.3	54.7	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	76	55.3	54.6	48.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	4	14.7	14.7	14.7	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Receipt by the older adult from family members (including spouse), relatives, friends or a migrant domestic worker in the past 12 months.

Overall, the proportion of older Singaporeans who received food, clothes or other material support was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a.

For those aged 67-69 years and 70-79 years, the proportion who received food, clothes or other material support was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For those aged 80 years and above, the proportion was stable over time.

For males, the proportion who received food, clothes or other material support decreased from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For females, the proportion was stable over time.

In the context of the three major ethnicities, the proportion of Chinese who received food, clothes or other material support was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For Malays and Indians, the proportion was stable over time.

Table 4.7.8 Change Over Time in Receipt of Emotional Support in the Past 12 Months by the Older Adult, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Receipt of emotional support[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	748	60.6	60.2	60.1	Wave 2 = Wave 1	Wave 3a = Wave 2
Age (years) at Wave 3a						
67-69	113	62.4	50.2	58.1	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	415	56.6	55.8	58.2	Wave 2 = Wave 1	Wave 3a = Wave 2
80 & above	220	66.2	70.6	63.7	Wave 2 = Wave 1	Wave 3a = Wave 2
Gender						
Male	336	52.5	52.0	57.0	Wave 2 = Wave 1	Wave 3a = Wave 2
Female	412	66.9	66.6	62.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Ethnicity						
Chinese	575	59.8	61.4	59.4	Wave 2 = Wave 1	Wave 3a = Wave 2
Malay	93	69.8	55.7	69.1	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	76	58.4	59.4	57.2	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	4	14.7	14.7	14.7	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Receipt by the older adult from family members (including spouse), relatives, friends or a migrant domestic worker in the past 12 months.

Overall, the proportion of older Singaporeans who received emotional support was stable over time. This pattern, of stability in the proportion, was observed for all age groups, both genders and the three major ethnicities.

4.8. Work and Retirement

Table 4.8.1 Change Over Time in Current Work Status (Working Full- or Part-Time), Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Working full-time or part-time[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1530	37.5	32.9	22.7	Wave 2 < Wave 1***	Wave 3a < Wave 2***
Age (years) at Wave 3a						
67-69	234	57.6	56.5	46.2	Wave 2 = Wave 1	Wave 3a < Wave 2***
70-79	854	47.1	40.5	28.5	Wave 2 < Wave 1***	Wave 3a < Wave 2***
80 & above	442	15.7	13.0	5.5	Wave 2 = Wave 1	Wave 3a < Wave 2***
Gender						
Male	719	49.8	44.0	30.3	Wave 2 < Wave 1**	Wave 3a < Wave 2***
Female	811	27.0	23.4	16.1	Wave 2 < Wave 1**	Wave 3a < Wave 2***
Ethnicity						
Chinese	1187	39.6	34.7	24.4	Wave 2 < Wave 1***	Wave 3a < Wave 2***
Malay	175	21.8	16.4	10.1	Wave 2 < Wave 1**	Wave 3a < Wave 2**
Indian	157	37.3	33.9	25.1	Wave 2 = Wave 1	Wave 3a < Wave 2**
Others	11	45.8	66.5	9.4	Wave 2 = Wave 1	Wave 3a < Wave 2***

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] The comparison category “not working” includes “worked in the past and currently not working” or “never worked”.

Overall, the proportion of older Singaporeans working full or part-time decreased from 37.5% in Wave 1 to 32.9% Wave 2, and further to 22.7% in Wave 3a.

For those aged 67-69 years and 80 years and above, the proportion working full or part-time was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a. For those aged 70-79 years, it decreased from Wave 1 to Wave 2 and further in Wave 3a.

For both genders, the proportion working full or part-time decreased from Wave 1 to Wave 2 and further in Wave 3a.

In the context of the three major ethnicities, the proportion of Chinese and Malays working full or part-time decreased from Wave 1 to Wave 2 and further in Wave 3a. For Indians, the proportion was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

4.9. Lifelong Learning

Table 4.9.1 Change Over Time in Attendance of at Least One Course/Training in the Past 12 Months, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Attended at least one course/ training in the past 12 months[a]		Yes (%)			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1529	16.0	13.4	11.8	Wave 2 < Wave 1*	Wave 3a = Wave 2
Age (years) at Wave 3a						
67-69	234	22.1	18.5	19.7	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	853	18.8	17.0	15.2	Wave 2 = Wave 1	Wave 3a = Wave 2
80 & above	442	9.6	6.0	3.8	Wave 2 < Wave 1*	Wave 3a = Wave 2
Gender						
Male	719	17.6	13.9	11.8	Wave 2 < Wave 1*	Wave 3a = Wave 2
Female	810	14.7	12.9	11.8	Wave 2 = Wave 1	Wave 3a = Wave 2
Ethnicity						
Chinese	1186	16.3	13.4	12.5	Wave 2 < Wave 1*	Wave 3a = Wave 2
Malay	175	12.4	10.5	5.9	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	157	16.7	16.0	12.1	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	11	32.0	23.3	14.8	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.

Overall, the proportion of older Singaporeans who attended at least one course/training in the past 12 months decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a.

For those aged 67-69 years and 70-79 years, the proportion who attended at least one course/training in the past 12 months was stable over time. For those aged 80 years and above, it decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a.

For males, the proportion who attended at least one course/training in the past 12 months decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a. For females, the proportion was stable over time.

In the context of the three major ethnicities, the proportion of Chinese who attended at least one course/training in the past 12 months decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a. For Malays and Indians, the proportion was stable over time.

Table 4.9.2 Change Over Time in Primary Reason for Course/Training Engagement being 'Job-Related', Overall and by Age Group, Gender and Ethnicity

Variable	n[d]	Wave 1	Wave 2	Wave 3	Change across Waves	
Primary reason for course/ training engagement is job-related[a]		**Yes (%)**	**Yes (%)**	**Yes (%)**	**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	208	7.3	5.9	12.4	Wave 2 = Wave 1	Wave 3a > Wave 2*
Age (years) at Wave 3a						
67-69	47	4.6	6.9	22.5	Wave 2 = Wave 1	Wave 3a > Wave 2**
70-79	140	6.2	6.5	9.6	Wave 2 = Wave 1	Wave 3a = Wave 2
80 & above	21	19.0	0.0	11.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Gender						
Male	93	3.5	8.4	17.2	Wave 2 = Wave 1	Wave 3a = Wave 2
Female	115	10.5	3.7	8.2	Wave 2 = Wave 1	Wave 3a = Wave 2
Ethnicity						
Chinese	169	5.0	5.7	12.8	Wave 2 = Wave 1	Wave 3a > Wave 2*
Malay	15	6.6	0.0	7.4	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	23	17.3	15.3	13.9	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	1	100.0	0.0	0.0	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] The comparison category is "primary reason for attending course/ training engagement is non-job related". In Waves 1 and 2, reasons were asked for 3 courses. If 2 or more courses were attributed to mainly job-related, it was counted as the 'primary' reason. For Wave 3a, reasons were asked for 2 courses. If both courses were attributed to mainly job-related reasons, it was counted as the 'primary' reason.

Overall, the proportion of older Singaporeans who attended courses/trainings in the past 12 months primarily for job-related reasons was stable from Wave 1 to Wave 2, but increased from 5.9% in Wave 2 to 12.4% in Wave 3a.

For those aged 67-69 years, the proportion was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For those aged 70-79 years and 80 years and above, it was stable over time.

Similarly, the proportion was stable over time for both males and females.

In the context of the three major ethnicities, the proportion of Chinese who attended courses/trainings in the past 12 months primarily for job-related reasons was stable from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For Malays and Indians, it was stable over time.

4.10. Volunteering

Table 4.10.1 Change Over Time in Formal Volunteering, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Volunteered formally in the past 12 months[a]		**Yes (%)**			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1530	15.8	15.8	15.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Age (years) at Wave 3a						
67-69	234	22.9	22.9	23.8	Wave 2 = Wave 1	Wave 3a = Wave 2
70-79	854	17.3	17.3	18.8	Wave 2 = Wave 1	Wave 3a = Wave 2
80 & above	442	11.1	11.1	7.3	Wave 2 = Wave 1	Wave 3a < Wave 2*
Gender						
Male	719	16.5	16.5	16.3	Wave 2 = Wave 1	Wave 3a = Wave 2
Female	811	15.2	15.2	14.8	Wave 2 = Wave 1	Wave 3a = Wave 2
Ethnicity						
Chinese	1187	15.3	15.3	14.8	Wave 2 = Wave 1	Wave 3a = Wave 2
Malay	175	15.3	15.3	12.9	Wave 2 = Wave 1	Wave 3a = Wave 2
Indian	157	18.3	18.3	20.5	Wave 2 = Wave 1	Wave 3a = Wave 2
Others	11	41.6	41.6	60.0	Wave 2 = Wave 1	Wave 3a = Wave 2

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Measured by a single question "In the past 12 months, have you given any unpaid help to any groups, clubs or organisations in any of the following ways *(a list of possible volunteering activities was shown)*?"

Overall, the overall of older Singaporeans who had volunteered formally in the past 12 months was stable over time.

For those aged 67-69 years and 70-79 years, the proportion who had volunteered formally in the past 12 months was stable over time. For those aged 80 years and above, it was stable from Wave 1 to Wave 2, but decreased from Wave 2 to Wave 3a.

For both males and females, and for the three major ethnicities, the proportion who had volunteered formally in the past 12 months was stable over time.

Table 4.10.2 Change Over Time in Informal Volunteering, Overall and by Age Group, Gender and Ethnicity

Variable	n	Wave 1	Wave 2	Wave 3a	Change across Waves	
Volunteered informally in the past 12 months[a]		Yes (%)			**Wave 2 vs Wave 1**	**Wave 3a vs Wave 2**
Overall	1530	22.2	13.1	16.8	Wave 2 < Wave 1***	Wave 3a > Wave 2**
Age (years) at Wave 3a						
67-69	234	28.8	17.1	26.2	Wave 2 < Wave 1**	Wave 3a > Wave 2**
70-79	854	26.9	16.9	20.3	Wave 2 < Wave 1***	Wave 3a > Wave 2*
80 & above	442	12.7	5.7	8.0	Wave 2 < Wave 1***	Wave 3a = Wave 2
Gender						
Male	719	26.2	17.3	18.9	Wave 2 < Wave 1***	Wave 3a = Wave 2
Female	811	18.9	9.4	14.9	Wave 2 < Wave 1***	Wave 3a > Wave 2***
Ethnicity						
Chinese	1187	22.4	13.2	16.9	Wave 2 < Wave 1***	Wave 3a > Wave 2**
Malay	175	16.7	8.8	12.1	Wave 2 < Wave 1**	Wave 3a = Wave 2
Indian	157	25.2	16.3	13.4	Wave 2 < Wave 1*	Wave 3a = Wave 2
Others	11	50.8	27.2	65.3	Wave 2 = Wave 1	Wave 3a > Wave 2*

*p-value <0.05, **p-value <0.01, ***p-value <0.001; = indicates that the change was not statistically significant.
[a] Measured by a single question "In the past 12 months, have you done any of these *(a list of possible volunteering activities was shown)*, unpaid, for someone who was NOT a relative?"

Overall, the proportion of older Singaporeans who had volunteered informally in the past 12 months declined from 22.2% in Wave 1 to 13.1% in Wave 2, but increased to 16.8% in Wave 3a.

For those aged 67-69 years and 70-79 years, the proportion who had volunteered informally in the past 12 months decreased from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For those aged 80 years and above, it decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a.

For males, the proportion who had volunteered informally in the past 12 months decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a. For females, it decreased from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a.

In the context of the three major ethnicities, the proportion of Chinese who had volunteered informally in the past 12 months decreased from Wave 1 to Wave 2, but increased from Wave 2 to Wave 3a. For Malays and Indians, the proportion decreased from Wave 1 to Wave 2, but was stable from Wave 2 to Wave 3a.

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APPENDIX A - Methodology

A1.1. Ethical Considerations

THE SIGNS Study Waves 1 and 2 were approved by the Institutional Review Board (IRB) at the National University of Singapore (Reference Code: NUS-IRB-B-15-152). At the time of approval, the study was classified as Social, Behavioural, and Economic Research (SBER). However, prior to conducting Wave 3a, a new ethics application was submitted to the IRB to update the study methodology and instruments. During this process, the study was re-classified by IRB as Human Biomedical Research (HBR). This reclassification had significant implications, particularly for the consent process.

In Waves 1 and 2, if an older adult was unable to participate in the study due to physical or psychological issues (such as hearing or speaking difficulties, memory loss, dementia, or current illness) either reported by a household member or determined by the interviewer, or if the individual correctly answered fewer than five questions on the Abbreviated Mental Test (AMT) **(****detailed in Appendix A1.9****)**, the interviewer could ask to speak to a proxy respondent to provide consent and participate on behalf of the older adult. The proxy respondent needed to be a family member or friend, aged 21 years and older, and familiar with the older adult's health and social situation.

However, the HBR classification of THE SIGNS Study at Wave 3a required that the mental capacity of an older adult be ascertained, irrespective of his/her physical health status. Only the older adult or his/her legal representative/next-of-kin/legal guardian (for brevity: legal representative) could provide consent for the study to collect data about the older adult, i.e., for the older adult to be a participant in the study, and subsequent a proxy respondent be selected to answer questions about the older adult. The process of informed consent mandated by the HBR status of Wave 3a of the study is **detailed in Section A1.2**.

Approval for Wave 3a was granted by the NUS-IRB on 7 July 2023 (Reference Code: NUS-IRB-2022-62).

A1.2. Informed Consent Process

The documented informed consent process was administered by trained interviewers. The interviewer explained the purpose of the study and what participation in the study entailed. The interviewer explained the salient points of each clause of the Participant Information Sheet and subsequently read out and if required, explained, each clause of the Consent Form, before an individual was enrolled in the study.

Translated documents were provided in Mandarin, Malay, or Tamil for non-English literate or non-English speaking participants. Interviewers were bilingual, proficient in English as well as either Mandarin, Malay, Tamil or a Chinese dialect, to ensure effective communication with participants who were more comfortable in these languages.

There were 3 overall scenarios in the informed consent process and subsequently in who responded to the study questionnaire:

Older adult participants who passed the screener, provided consent and responded to the study questionnaire themselves: Older adults who passed the AMT (i.e., obtained a score of 5 and above) provided documented informed consent for themselves and responded to the study questionnaire themselves.

Older adult participants who failed the screener or had been diagnosed with dementia, and required a legal representative to provide informed consent and a proxy respondent to respond to the study questionnaire: If the older adult failed the AMT (i.e., obtained a score of 4 or below) or a household member reported that the older adult has been diagnosed with dementia by a medical professional, then the older adult was considered as not having the mental capacity to provide informed consent. In these cases, the interviewer followed the "legal representative and proxy selection" process.

The interviewer first determined the availability of a potential proxy respondent, i.e., a relative or friend of the older adult, aged 21 or older, familiar with the older adult's health and social situation, and willing and able to complete the study questionnaire on behalf of the participant.

If a potential proxy respondent existed, the field interviewer proceeded to identify a legal representative to obtain informed consent, following the HBR Act procedure. First, the interviewer asked whether the older adult had a donee appointed through a Lasting Power of Attorney (LPA) or a deputy appointed by the court who could provide consent on their behalf, and if so, whether the donee or deputy was authorised to consent to biomedical research. The interviewer sought their consent only if the donee or deputy was authorised. If not, the process ended, and the interviewer did not proceed with the interview. On the other hand, if the older adult did not have a donee or deputy, consent could be sought from any of the following but in order of priority: spouse, adult son or daughter, either parent or a guardian, adult brother or sister, or any other person the individual had named to be consulted on such matters.

Once informed consent was obtained from the legal representative, the interviewer sought informed consent from the proxy respondent to respond to the study questionnaire. The legal representative could also serve as the proxy respondent if they met the proxy criteria. If the same individual served as both the legal representative and the proxy respondent, they had to provide written consent on both the legal representative and proxy respondent PIS & CFs.

Older adult participants who passed the screener but had a chronic physical or mental illness or disability that could interfere with their ability to respond to the study questionnaire and opted for a proxy respondent: In some cases, prior to AMT administration, the older adult or a household member reported that the older adult had a chronic physical or mental illness or disability that could interfere with their ability to respond to the study questionnaire. If the older adult was willing, the interviewer first administered the AMT. If the older adult passed the AMT, they were offered the option of either responding to the study questionnaire themselves or nominating a proxy respondent to answer the questions on their behalf. If the

older adult scored less than 5 on the AMT, the interviewer followed the “legal representative and proxy selection” process described above.

A1.3. Training of Field Interviewers

The survey fieldwork for THE SIGNS Study Wave 3a was conducted between 10 August 2023 and 26 May 2024 by interviewers from a research company that was contracted by Duke-NUS. A three-day training session was held for all potential interviewers, during which they received an overview of the study and a detailed walkthrough of all fieldwork procedures.

The intent of various survey questions and response options thereof were discussed, along with a detailed explanation of interviewer instructions in the survey. In addition to the didactic component, role plays were incorporated into the training process to help interviewers practice real-world scenarios. Each interviewer conducted complete role plays, i.e., from the point at which he/she approached a household until the end of the survey administration, in two scenarios: in which he/she sought consent from an older adult and interviewed an older adult and in which he/she was required to follow the legal representative and proxy selection and consent-taking process, following by interviewing a proxy respondent. This hands-on experience played a crucial role in ensuring that interviewers understood the survey's standards and protocols, were familiar with the content of all survey material, and could administer the survey and conduct anthropometric and performance measurements. Interviewers also received extensive training on using the Qualtrics offline app, which was used for survey administration.

A1.4. Participant Recruitment

Among the 2,825 Wave 2 participants who consented in 2019 to be re-contacted for Wave 3a, it was determined during a separate research study on caregiving during 2019-2022 that 82 had passed away. Therefore, 2,743 Wave 2 participants were potential participants for Wave 3a. They were first sent letters of invitation by post for THE SIGNS Study Wave 3a, reminding them that they had participated in THE SIGNS Study Wave 2 in 2019, that they had consented to being re-contacted for Wave 3a, and that they could contact the study team if they wished to opt out of being re-contacted by interviewers for Wave 3a. They were also sent a one-page flyer highlighting a few descriptive findings from THE SIGNS Study Wave 2, on social networks, living arrangements, physical activity, employment, participation in volunteering and lifelong learning among older adults in Singapore. All material was sent in the four official languages of Singapore: English, Mandarin Chinese, Malay, and Tamil.

Interviewers were required to make a first attempt to contact the potential Wave 3a participant at their home 2-6 weeks after the letter and flyer were mailed out. If a potential participant could not be contacted after 4 home visits, a phone call was made to the older adult or his/her proxy respondent using the contact information provided during Wave 2, to inform them about the study and asking for an appointment to visit the household.

A1.5. Quality Control

The team monitored the data collection rigorously. Interviewers' progress was regularly reviewed, with specific attention given to interview duration, the number of questions asked, and the frequency of "don't know" and "refused" responses. For example, interviewers who frequently completed their interviews faster than other interviewers were flagged for review and potentially re-conducting some of their interviews. The review included checking their interviews for consistency of responses within the survey, straight lining, similarity of responses across interviews, etc.

Additionally, 10.0% of completed surveys by each interviewer were selected at random for quality control checks, which involved follow-up telephone interviews with respondents. These calls were designed to confirm key details, such as the interview's date/time, duration, location, and verify some selected survey question responses. Participants were also asked if they had recalled going through the documented informed consent process and whether they received the incentive.

All informed consent forms were reviewed for completeness and accuracy. This involved checking names and signatures, verifying the consistency of responses, and identifying any data entry errors within the datasets.

After the survey responses were recorded in the Qualtrics offline app, the data was uploaded to the Qualtrics database. The dataset was periodically downloaded and reviewed by both Duke-NUS and the research company.

Participants' personal information such as their name and contact information were recorded electronically in a form that was separate from the questionnaire used to record survey responses.

A1.6. Survey Data Collection Instruments

THE SIGNS Study Wave 3a comprised three types of data collection instruments: (1) **screener**, including the Abbreviated Mental Test – Singapore,[34] to ascertain if the index older adult would answer the main questionnaire, or a proxy respondent would do so on his/her behalf, (2) **main questionnaire** to be answered by the index older adult or a proxy respondent on his/her behalf, and (3) **anthropometry and performance measurement module** for the index older adult. The English, Mandarin, Malay and Tamil versions of the data collection instruments were programmed in Qualtrics. Our programming in Qualtrics allowed interviewers to start administering the survey in one of the four languages and then see translations for specific questions or modules by choosing a different language from a drop-down menu.

A significant portion of the questions from Wave 2 were carried over to Wave 3a to facilitate the analysis of changes over time in key variables of interest. In addition, the research team introduced several new modules in Wave 3a, including topics such as dental health, advance care planning, vaccine attitudes and updates, experiences with COVID-19, changes in lifestyle since the onset of the pandemic, perceptions of the neighbourhood, and experiences with discrimination. These additions allowed for a more comprehensive understanding of the evolving health and social dynamics in the study population.

Older adults had the option of consenting to responding only to the main questionnaire but not the anthropometry and performance measurement module. Even when the main questionnaire was answered by a proxy, the index older adult remained eligible to participate in the anthropometry and performance measurements. For older adults determined to lack mental capacity, a legal representative or proxy was required to be present during the measurements.

The anthropometry and performance measurements included blood pressure, height, weight, hand grip strength, standing balance tests, gait speed and repeated chair-stand tests. Blood pressure was measured using Omron digital blood pressure monitors (Model No. HEM-762), weight using Omron digital weight scales (Model No. HN-286), and hand grip strength using Tanita spring-type dynamometers (Model No. 6103). Before each measurement, interviewers asked questions specifically related to factors which would preclude the measurement (for example, if the index older adult had a rash, swelling, wound, or bruise on the arm). Interviewers also demonstrated and/or told participants what they had to do during the blood pressure, hand grip strength, gait speed, standing balance and chair-stand measurements. Measurements were taken when index older adults confirmed that they understood the instructions and felt it was safe to do the test. Blood pressure was measured on the left arm, unless the index older adult had a health condition that prevented it, in which case it was conducted on the right arm. Measurements were taken thrice at about a 1-minute interval between readings. Wherever used in this report, the blood pressure data pertains to the average of the second and third readings. Hand grip strength data used in this report pertains to the average of two measurements taken on the dominant hand, or in case of participants reporting that both hands were equally dominant, the higher of the left or right averages.

Participants were given tokens of appreciation for their participation in the study in the form of S$40 grocery voucher(s) if they answered the main questionnaire only, and S$50 grocery voucher(s) if they answered the main questionnaire and participated in the anthropometry and performance measurements.

A1.7. Attrition of Panel Respondents

Of the 2,743 potential respondents, a total of 1,208 individuals did not participate in Wave 3a. Among these, 494 (18.0%) refused to participate, while 284 (10.4%) could not be contacted despite multiple attempts, including four visits to their last known address and up to three phone calls at their last known phone number(s). A further 243 (8.9%) were reported as having passed away. Additionally, 125 (4.6%) potential participants could not be interviewed because the potential participant no longer lived at the address that he/she had during Wave 2 and a new address was not available, or because interviewers being unable to access their gated residences. When contacted, 34 (1.2%) individuals were unable to provide informed consent because of hearing or speech impairment. Twenty-four (0.9%) respondents were admitted to a nursing home, three (0.1%) were hospitalised, and one (0.04%) was in a hospice for long-term care, making them unavailable for participation.

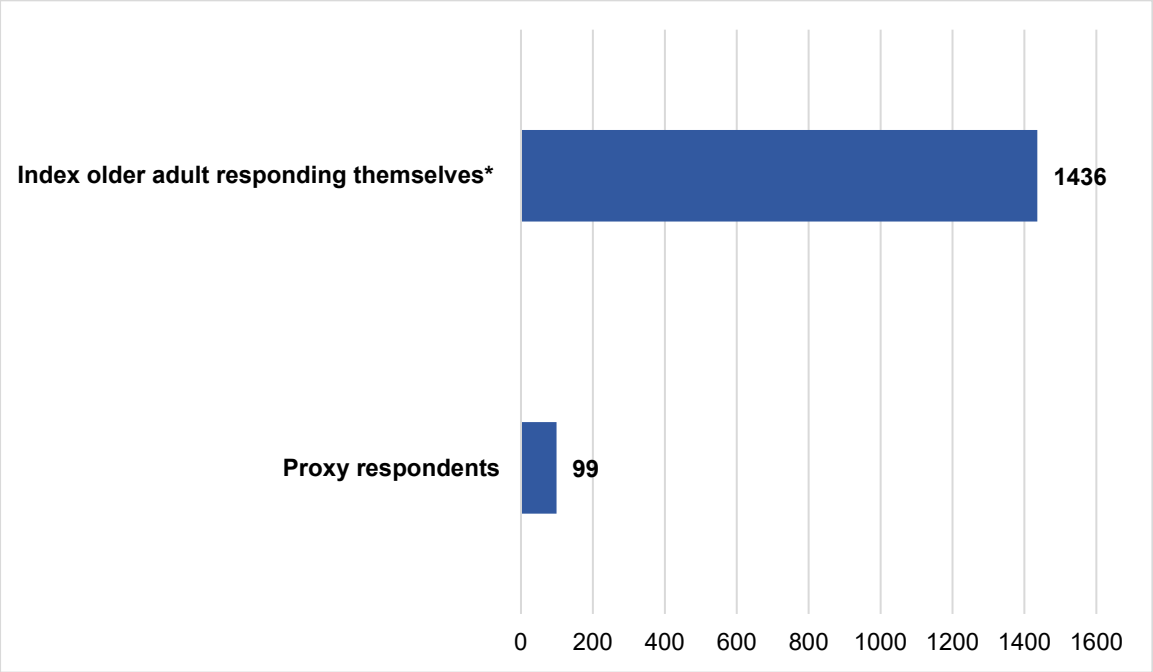
By the end of data collection for Wave 3a, a total of 1,535 participants had completed the main questionnaire **(Appendix Table 1.1)**.

Appendix Table 1.1 Calculation of the Survey Response Rate for Wave 3a

A	Wave 2 participants	2887
B	Wave 2 participants who consented to be re-contacted for Wave 3a, i.e. potential participants	2825
C	Potential participants who were reported prior to Wave 3a fieldwork as deceased	82
D	Potential participants who were sent letters of invitation	2743
E	Potential participants who were uncontactable after 4 home visits and via phone	409
F	Potential participants who were reported during Wave 3a fieldwork as deceased	243
G	Potential participants who were not reported as deceased and where the potential participant and/or a family member was contacted (D *minus* E *minus* F)	2091
H	Refused to participate	494
I	Ineligible to participate (i.e., admitted to a hospital/nursing home/hospice during the study period, unable to proceed with screening due to hearing/speaking impairment, or chronic physical/mental illness/disability)	62
J	Successful interviews	1535
K	Response rate: Wave 3a participants as a % of Wave 2 participants (J/A*100)	53.2%
L	Response rate: Wave 3a successful interviews as a % of potential participants who could be contacted (J/G*100)	73.4%

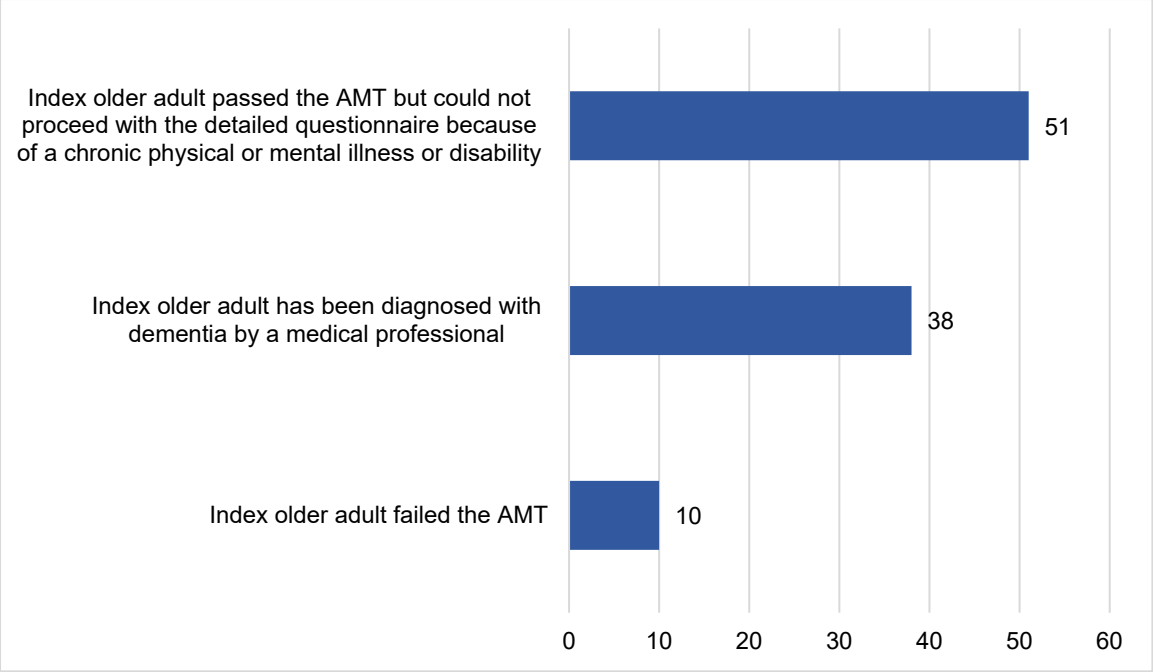
Of the 1535 recruited participants, 99 participants (6.4%) were proxy respondents, while the remaining 1,436 participants (93.6%) were older adults who responded to the main questionnaire themselves **(Appendix Figure 1.1)**. Four older adults started but did not complete the main questionnaire.

One older adult and five proxy respondents consented to responding to the main questionnaire but not to the older adult's anthropometry and performance measurements. The four older adults who did not complete the main questionnaire did not proceed to the measurements. For older adults determined to lack mental capacity, a legal representative or proxy was required to be present during the measurements. In total, five index older adults (including the four incomplete index older adult cases) and five cases involving proxy participants opted out of the anthropometry and performance measurements. Consequently, 1,525 participants (99.3%) participated in these measurements.



Appendix Figure 1.1 Distribution of participants at Wave 3a
*Includes four incomplete responses

As seen in **Appendix Figure 1.2**, among the proxy cases, the most common reason for having a proxy respondent, accounting for 51 cases (51.5% of 99), was that the index older adult passed the AMT but could not proceed with the detailed questionnaire due to a chronic physical or mental illness or disability. The second most frequent reason was that the index older adult had been diagnosed with dementia by a medical professional, accounting for 38 cases (38.4%). A smaller proportion, 10 cases (10.1%), involved the index older adult failing the AMT, which led to the need for a proxy participant **(Appendix Figure 1.2)**.



Appendix Figure 1.2 Reasons for proxy responses

A1.8. Statistical Analyses

Data for this report was analysed using Stata 18.0.

Cross-sectional analyses

The cross-sectional analyses, detailed in Chapter 3, were conducted to provide a snapshot of the data, with results reported across key demographic categories: age groups (67-69 years, 70-79 years, 80 years and above), gender (male, female), and ethnicity (Chinese, Malay, Indian, Others). These analyses allowed for the exploration of patterns and differences within each sub-group.

Longitudinal analyses

Longitudinal analyses, detailed in Chapter 4, were conducted to examine changes in survey responses across different waves. Differences between waves were tested for statistical significance using multilevel (mixed-effects) regression models. These models were suitable for our data because they account for repeated observations of the same individuals over time. Specifically, multilevel models incorporate repeated measures (Level 1) nested within individuals (Level 2), thereby adjusting for the inherent dependencies in the data and ensuring that the results account for within-person correlations. For each outcome, we explored both the overall change in score and the variations in scores across different key demographic subgroups (age category, gender, and ethnicity).

All analyses were conducted with statistical significance determined at an alpha level of 0.05, using uncorrected two-tailed tests to assess the robustness of findings. Each table presents the raw mean score for each Wave, reflecting the initial data at each time point, and the direction and significance of the change in scores across Waves.

Cross-sectional and Attrition-adjusted Weights

The longitudinal analysis is weighted using Wave 3a attrition-adjusted weights. To calculate these, we first fit an unweighted logistic regression model where the dependent variable was continued participation (no/yes) from Wave 2 to Wave 3a. The independent variables in this model were Wave 1 and Wave 2 characteristics of participants. Wave 1 characteristics were resident type (Singapore citizen/ permanent resident); sex (male/ female); ethnicity (Chinese/ Malay/ Indian/ Other); and educational attainment (no formal education/ primary/ secondary or vocational/ tertiary). Wave 2 characteristics included respondent to the main questionnaire (older adult himself or herself/ proxy respondent), number of home visits it took interviewers to conduct the interview, housing type (1-2 room Housing and Development Board [HDB]-built apartments/ 3-room HDB/ 4-5 room HDB/ private housing), living arrangement (living alone/ with a spouse/ with a child/ with a spouse and child/ with others), employment status (working/ currently not working/ never worked), number of chronic physical ailments, number of ADL limitations and number of IADL limitations (each coded as none/ 1/ 2/ 3 or more; please refer to the relevant chapters in this report for the activities considered), and self-rated health (excellent/ very good/ good/ fair/ poor). Wave 3a attrition-adjusted weights were calculated among Wave 3a participants as the inverse of the probability of continuation from Wave 2 to Wave 3a participants derived from the logistic regression model, multiplied with the baseline (or Wave 1) sampling weights in THE SIGNS Study, and further multiplied with the inverse of the probability of continuation from Wave 1 to Wave 2. The Wave 3a attrition-adjusted weights thus account for the baseline sampling design and the probability of attrition at both Waves 2 and 3.

The cross-sectional analysis is weighted using Wave 3a cross-sectional weights. This ensures that the sample is cross-sectionally representative of the resident population (citizens and permanent residents) of Singapore aged 67 years and older in 2023. The weights were calculated using a multi-step process. We first organised the Department of Statistics-published table on 'Singapore Residents by Single Year of Age, Ethnic Group and Sex, At End June 2023', into cross-classified age-group (67-69, 70-74, 75-79, 80-84, and 85+ years), sex (male and female), and ethnic group (Chinese, Malay, Indian and Other) cells. We then calculated the reference population proportions, i.e., the proportion of the total resident population aged 67 years and older in each of the cross-classified cells. We also calculated the weighted sample proportion (using the Wave 3a attrition-adjusted weights, described above) in each of the cross-classified cells. Thereafter, the post-stratification adjustment factor for each participant at Wave 3a was calculated as the ratio of the reference population proportion to the weighted sample proportion in the cross-classified cell that the participant was in. This ratio was then multiplied by each participant's Wave 3a attrition-adjusted weight, calculated above, to yield each participant's Wave 3a cross-sectional weight. This approach adjusts for the baseline sampling design of THE SIGNS Study in 2016-2017, accounts for attrition over time, and aligns the sample distribution of the Wave 3a data with the known age-, sex-, and ethnicity distribution of the reference population in 2023. The comparison between the Department of Statistic's records and Wave 3a participants is presented below in **Appendix Table 1.2**.

Furthermore, all tables presented in the chapters—both cross-sectional and longitudinal (including appendices)—report column percentages. These percentages are derived from the

weighted data, with the attrition-adjusted weights applied exclusively to the longitudinal analyses.

Appendix Table 1.2 Participant Characteristics of Wave 3a Compared to the Department of Statistics Published Tables at end June 2023

Participant Characteristics	Department of Statistics (%)	Wave 3a (%)
Age group		
67-69 years	24.6	24.4
70-79 years	52.4	52.6
80 years and above	23.0	23.0
Gender		
Male	45.6	45.5
Female	54.4	54.5
Ethnicity		
Chinese	83.8	84.2
Malay	9.0	9.1
Indian	5.8	5.9
Others	1.3	0.8

A1.9. Study Instruments Used in Wave 3a

This section provides an overview of the study instruments utilised during Wave 3a. Permission was obtained from the authors for any proprietary instruments, and publicly available tools were employed in accordance with established guidelines. Where necessary, translations of study instruments were obtained directly from the original authors. In cases where translations were not available, instruments were translated into the local language(s) with permission from the authors, using a rigorous forward-backward translation process to ensure cultural and contextual relevance while preserving the validity and reliability of the original scale.[35] All instruments will be appropriately cited in any publications resulting from this study.

Physical function was assessed based on Nagi's measures of physical function, a set of 9 questions about difficulty in performing tasks involving the upper or lower extremities.[36] These included walking a distance of 200 to 300 metres, climbing 10 steps without resting, standing without sitting for 2 hours, continuous sitting for 2 hours, stooping or bending knees, raising arms above one's head, extending arms out in front as if to shake hands, grasping with fingers or moving fingers easily, and lifting an object weighing approximately 5 kilograms.

Long-term overall disability was measured using the Global Activity Limitation Indicator (GALI).[37] GALI is a single-item measure of functional status where individuals are asked to rate their long-term limitations in usual activities due to a health problem. The GALI consists

of the following question: *"For at least the past 6 months, to what extent have you been limited because of a health problem in activities people usually do?"* There are three response options: a) severely limited, b) limited but not severely, c) not limited at all.

Body Mass Index (kg/m^2) was calculated using measured weight (in kilograms, kg) and height (in centimetres, cm). According to THE World Health Organization (WHO), the international BMI categories are underweight (≤18.5 kg/ m^2), normal weight (18.5–24.9 kg/ m^2), overweight (25.0–29.9 kg/m^2), and obesity (≥30.0 kg/m^2). Also, WHO has revised the BMI risk categories for cardiovascular disease and diabetes in Asian populations into low-risk (18.5–22.9 kg/m^2), moderate-risk (23.0–27.4 kg/m^2) and high-risk (≥ 27.5kg/m^2).[38]

Physical performance was assessed using the Short Physical Performance Battery (SPPB), which evaluates three components of lower extremity function: standing balance, gait speed, and the repeated chair stand test. Scores range from 0 (worst performance) to 12 (best performance). The SPPB is a predictive tool for disability and monitoring functional changes in older adults. In Singapore, an SPPB score of ≤9 has been identified as the cutoff for clinically meaningful outcomes, including social activity and functional ability, to identify community-dwelling older adults at risk of physical frailty.[39]

Frailty was assessed using the Clinical Frailty Scale (CFS), derived retrospectively by mapping selected questions from the questionnaire to an established classification tree.[32] There are nine CFS categories, with scores of 1-4 categorised as non-frail and scores 5-9 categorised as frail. The Ministry of Health has also provided categories of robust (CFS 1-3), frail (CFS 4-6), severely frail (CFS 7-8), and terminally ill (CFS 9).[14]

Depressive symptoms were assessed using the 11-item Centre for Epidemiologic Studies-Depression (CES-D) scale.[40] Participants were asked to what extent in the past week had the eleven statements pertaining to appetite, sleep, sadness, energy, effort, loneliness, etc. been true for them. Response options included none/rarely (corresponding to a score of 0), sometimes (1) and often (2). The total score can range from 0 to 22, higher scores indicating a greater extent of depressive symptoms. A score of 7 and above indicates clinically relevant depressive symptoms.[41]

Personal mastery, the extent to which individuals feel in control of their lives, was assessed using the 5-item Pearlin Mastery Scale.[42] Participants were asked how strongly they agreed or disagreed with statements that related to control over things, resolution of problems, changing important things in their lives, feeling helpless in dealing with problems, and the feeling of being pushed around. Response choices included strongly agree (scored as 0), agree (1), disagree (2), and strongly disagree (3). The total score can range from 0 to 15, higher scores indicating greater personal mastery.

Psychological resilience was assessed using the 2-item Connor-Davidson Resilience Scale (CD-RISC-2)®.[43] [44] This scale provides a brief indication of a person's ability to bounce back and adapt in response to setbacks. The statements pertain to adapting to changes and recovering from illness or injury Participants were presented with two statements about coping with adversity and asked to respond how much they agree with the statements as they apply to them *over the last month* prior to the survey. Participants could choose from one of five answers: not true at all, rarely true, sometimes true, often true, and true nearly all the time, corresponding to scores of 0, 1, 2, 3, or 4 respectively. The 2 statements thus received a score between 0 and 4, and a total CD-RISC-2 score for each respondent ranged between 0 and 8. Higher scores indicate greater psychological resilience.

Quality of Life (QOL) was measured using the CASP-11-SG scale, which comprises of 11 questions assessing four domains: Control, Autonomy, Self-realization, and Pleasure.[45] Participants were presented with statements pertaining to each of these domains and asked to respond how often they felt that way. Response choices included often (corresponding to a score of 3), sometimes (2), not often (1), never (corresponding to a score of 0). The total score can range from 0 to 33, higher score indicating a higher quality of life.

Cognitive ability was assessed using the (a) Abbreviated Mental Test (AMT) – Singapore (*only applicable for index older adults who responded to the screener*), (b) the 10-word Immediate and Delayed Recall and (c) The Animal Fluency Test.

(a) **The AMT** is a 10-item cognitive screening instrument designed to identified cognitive impairment. This instrument has been validated locally with adjusted cut-offs established for age and education.[34]

(b) **The 10-word Immediate and Delayed Recall** was assessed using the modified Consortium to Establish a Registry of Alzheimer's Disease (CERAD) ten-word list learning task. Participants were presented with a list of ten words (i.e., butter, arm, letter, queen, ticket, grass, corner, stone, book and stick). In the learning phase, the list is read out to the participant, who is immediately asked to recall the words. This process is repeated *three* times, giving a total learning score out of 30. After 5 minutes,

the participant is asked to recall the ten words, giving a delayed recall score out of 10.[46] [47]

(c) **The Animal Fluency Test**, a measure of verbal fluency, was measured by asking participants to name as many animals as possible within one minute.[48] Participants were instructed with the prompt: *"Now I am going to ask you to think of animals and name as many as you can. I am going to give you one minute, and I want to see how many animals you can name. Please start naming the animals now."* A stopwatch embedded within Qualtrics was used to ensure accurate timing, and all responses were recorded verbatim on a paper. If participants stopped before the end of the allotted time, they were encouraged to continue, and if a silence of 15 seconds occurred, they were prompted with: "Please think of animals and name as many as you can." Responses were scored based on established criteria: mythological, fictional, and cartoon animals (e.g., "dragon," "Pokémon") were marked incorrect, while general terms (e.g., "insect"), specific terms (e.g., "ant"), gender variants (e.g., "hen," "rooster"), different breeds (e.g., "beagle," "poodle"), and developmental stages (e.g., "dog," "puppy") were all scored as correct. At the end of the test, the total number of correct responses was recorded.

Physical activity was measured using the WHO Global Physical Activity Questionnaire (GPAQ).[49] The GPAQ asks participants about the time they spent in a typical week in vigorous and moderate activities at work and leisure, as well as during travel and sedentary behaviour. Participants whose total physical activity Metabolic Equivalent (MET) minutes per week were greater or equal to 600 were classified as meeting the WHO recommendation on physical activity for health.

Loneliness was assessed using The Three-item Loneliness Scale.[50] It asks participants how often they (i) felt they lack companionship; (ii) felt left out; and (iii) felt isolated from others. Participants answered on a 5-point scale: never (scored as 0), rarely (1), occasionally (2), fairly often (3), or always (scored as 4). The total scores can range from 0 to 12, higher scores indicating a greater extent of loneliness.

Social networks outside the household were measured using the 12-item Lubben Social Network Scale – Revised (LSNS-R).[51] LSNS-R asks participants about the number of and frequency of contact with relatives and friends outside the household. It asks six questions about the network size: (i) how many relatives/friends did the participants see or hear from at least once a month; (ii) how many they felt at ease with to talk about private matters; and (iii) how many they felt close to such that they could call on them for help. Participants answered on a 6-point scale corresponding to the responses of none, 1, 2, 3 to 4, 5 to 8, and 9 or more. The score for each item can range from 0 for none, to 5 for the response of 9 or more. The scale also asks participants about the frequency of contact: (i) how often did the respondent see or hear from relatives/friends with whom they had the most contact; (ii) how often would one of their relatives/friends talk to the respondent when the relative/friend had an important decision to make; and (iii) how often was one the respondent's relatives/friends available when the respondent had an important decision to make. Responses are on a 6-point scale – never, seldom, sometimes, often, very often, and always. The score for each item can range from 0 for never to 5 for always. LSNS-R thus has scores from 0 to 60, higher scores indicating a lesser extent of social isolation.

The Lubben Social Network Scale-6 (LSNS-6), an abbreviated version of the LSNS-R, was also used in this analysis due to its established clinical cut-off points.[52] The LSNS-6 is based on six items drawn from the LSNS-R, focusing on both family and friend networks. A clinical cut-off score of less than 12 categorises participants as being “at risk of social isolation,” while scores of 12 or higher indicate individuals who are “not at risk of social isolation.” Reporting LSNS-6 scores allows for the identification of individuals who may benefit from further assessment and targeted interventions aimed at reducing social isolation.

APPENDIX B

Appendix Table B1 Citizenship Status, Overall and by Age Group, Gender and Ethnicity

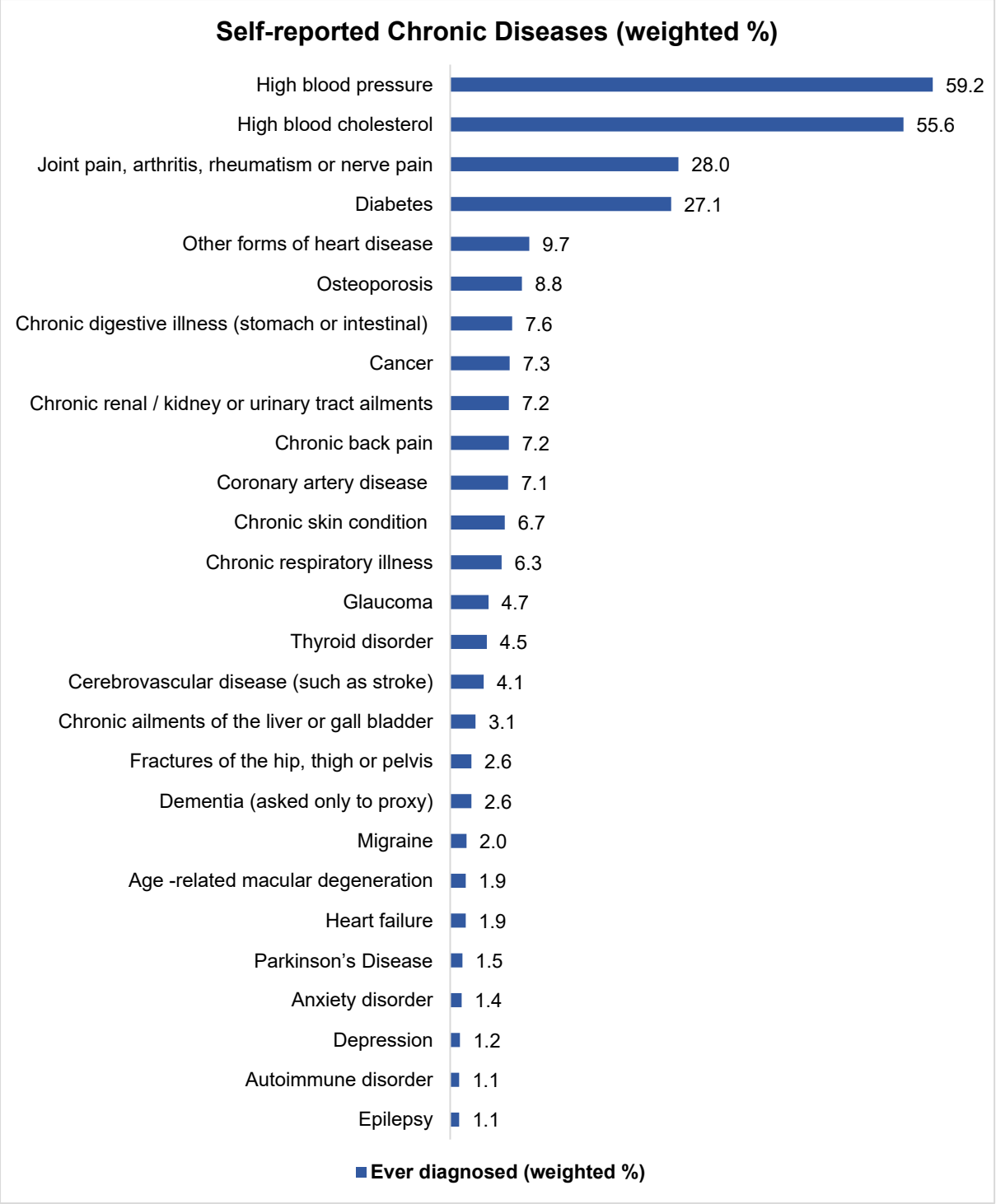
		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Citizenship status (weighted %)										
Singapore Citizen	97.5	97.5	96.8	98.9	98.0	97.1	97.6	97.0	98.8	77.2
Singapore Permanent Resident	2.5	2.5	3.2	1.1	2.1	2.9	2.4	3.0	1.2	22.8

Appendix Table B2 Property Ownership, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	124	15	61	48	64	60	90	20	13	1
Property ownership (weighted %)										
Owned solely by older adult or joint ownership with family members	46.2	51.1	44.9	44.8	44.5	48.0	49.8	37.5	31.0	0.0
Owned by other household member(s)	3.3	9.6	2.5	0.0	1.5	5.3	0.0	19.4	7.2	0.0
Rented from the government or HDB	49.8	39.3	52.6	52.6	52.7	46.8	49.3	43.1	61.9	100.0
Rented from others	0.7	0.0	0.0	2.6	1.40	0.0	1.0	0.0	0.0	0.0

HDB: Housing Development Board

[1]Indicates the number of participants who were asked the question on property ownership (n=124). Only those who reported living in a HDB 1/2-room were asked this question.



Appendix Figure B1 Prevalence of Self-Reported Chronic Diseases, Overall and by Age Group, Gender, and Ethnicity (n = 1531)

Appendix Table B3 Number of Persons Living in the Household, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70- 79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Number of persons living in the household (weighted mean)										
Mean	3.0	3.1	2.8	3.1	3.0	2.9	2.9	3.3	3.1	2.4
SD	1.5	1.5	1.4	1.5	1.4	1.5	1.4	1.6	1.6	1.0

Appendix Table B4 Extent of Difficulty in Performing Each Activity of Daily Living (ADL) Among Those Who Reported Difficulty in Performing The ADL, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
How difficult do you find it to perform this activity by yourself? (weighted %)										
Take a bath / shower										
n[1]	92	4	26	62	39	53	63	14	15	-
Somewhat difficult	25.4	16.3	26.4	26.2	19.8	28.9	27.3	15.6	24.8	-
Very difficult	32.3	83.7	26.7	27.8	26.7	35.8	28.6	57.2	19.2	-
Unable to perform	42.4	0.0	46.9	46.1	53.5	35.3	44.0	27.2	56.0	-
Dress up										
n	86	3	30	53	37	49	58	15	13	-
Somewhat difficult	43.5	17.2	29.7	49.2	29.0	53.5	43.0	47.9	37.5	-
Very difficult	28.6	82.8	32.5	18.9	34.8	24.4	26.8	36.6	29.8	-
Unable to perform	27.9	0.0	27.8	31.9	36.3	22.2	30.2	15.5	32.5	-
Eat										
n	34	1	9	24	17	17	19	11	4	-
Somewhat difficult	49.7	100.0	42.8	42.4	58.8	40.8	47.8	52.3	70.6	-
Very difficult	19.8	0.0	43.5	12.1	12.7	26.6	13.4	36.9	29.4	-
Unable to perform	30.6	0.0	13.7	45.5	28.5	32.6	38.8	10.8	0.0	-
Stand up from a bed / chair; sitting down on a chair										
n	102	4	33	65	41	61	67	19	16	-
Somewhat difficult	44.7	18.0	49.3	45.6	32.3	51.7	46.6	28.4	63.5	-
Very difficult	32.7	82.1	27.3	29.4	34.4	31.8	26.8	59.3	30.7	-
Unable to perform	22.6	0.0	23.4	25.0	33.3	16.6	26.6	12.4	5.8	-
Walk (around the house)										
n	110	5	36	69	45	65	76	20	14	-

Somewhat difficult	44.7	30.9	45.7	46.0	31.0	52.2	46.0	36.1	50.4	-
Very difficult	29.7	69.1	28.2	25.0	33.6	27.5	25.3	49.9	33.3	-
Unable to perform	26.7	0.0	26.2	28.9	35.4	20.2	28.7	14.0	16.3	-
Use the sitting toilet										
n	69	3	23	43	30	39	42	16	11	-
Somewhat difficult	30.8	5.9	35.0	32.3	19.2	38.8	30.4	26.8	46.9	-
Very difficult	38.9	94.1	33.3	33.5	38.8	38.9	34.3	58.0	34.6	-
Unable to perform	30.3	0.0	31.7	34.2	42.0	22.3	35.3	15.3	18.5	-

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]The n within each category indicates the number who said it was *difficult* to carry out the respective action.

Appendix Table B5 Requirement of Human Assistance for Activities of Daily Living (ADLs) Among Those Who Reported Difficulty With At Least One ADL, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	155	7	54	94	64	91	111	23	21	-
Receive human assistance (weighted %)										
Yes	71.3	59.8	62.2	78.0	78.0	67.5	69.9	85.4	58.2	-

[1]Indicates the number who reported difficulty with at least one ADL.

Appendix Table B6 Extent of Difficulty in Performing Each Instrumental Activity of Daily Living (IADL) Among Those Who Reported Health-Related Difficulty in Performing The IADL, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
How difficult do you find it to perform this activity by yourself? (weighted %)										
Prepare own meals										
n[1]	68	2	23	43	30	38	45	14	9	-
Somewhat difficult	18.3	0.0	20.3	20.4	5.7	25.9	15.2	26.1	36.2	-
Very difficult	30.7	15.9	27.5	35.6	22.3	35.9	25.2	51.1	28.2	-
Unable to perform	51.0	84.1	52.2	44.0	72.0	38.2	59.7	22.8	35.7	-
Leave the home to purchase necessary items or medication										
n	130	8	42	80	42	88	89	21	20	-
Somewhat difficult	32.8	18.4	38.8	32.1	25.1	36.3	31.3	31.4	58.0	-
Very difficult	29.4	22.1	27.9	31.6	17.1	34.8	23.6	60.2	15.1	-
Unable to perform	37.2	59.5	31.5	36.3	55.9	28.9	44.4	8.5	26.9	-
Take care of financial matters such as paying utilities (electricity, water)										
n	49	2	18	29	25	24	29	12	8	-
Somewhat difficult	21.2	22.2	19.1	22.5	12.3	27.4	14.4	33.1	58.7	-
Very difficult	25.1	0.0	35.3	24.3	20.1	28.5	14.5	52.4	35.1	-
Unable to perform	53.8	77.8	45.7	53.2	67.7	44.1	71.1	14.5	6.2	-
Use the phone										
n	57	1	13	43	29	28	39	13	5	-
Somewhat difficult	21.4	0.0	27.7	21.9	7.3	32.4	16.3	44.6	18.6	-
Very difficult	28.4	0.0	33.4	30.3	25.4	30.8	25.1	39.4	69.2	-
Unable to perform	50.2	100.0	38.9	47.8	67.32	36.9	58.6	16.0	12.2	-
Dust, clean up and other light housework										
n	91	4	31	56	36	55	63	17	11	-
Somewhat difficult	25.6	10.5	36.7	21.9	13.3	32.7	22.9	28.1	59.3	-
Very difficult	26.5	17.3	30.0	26.3	18.3	31.3	19.1	58.3	25.7	-
Unable to perform	47.9	72.2	33.3	51.8	68.4	36.0	58.0	13.6	15.0	-
Take public transport to leave home										
n	201	10	63	128	70	131	146	29	26	-
Somewhat difficult	29.7	20.1	39.2	26.1	28.0	30.5	29.3	33.0	27.1	-

Very difficult	34.5	21.9	29.1	39.3	22.4	40.1	31.2	49.2	45.0	-
Unable to perform	35.4	58.0	30.4	34.6	48.3	29.5	39.0	17.8	28.0	-
Take medication as prescribed										
n	68	1	16	51	28	40	45	15	8	-
Somewhat difficult	34.5	0.0	35.9	38.0	20.9	43.3	31.9	48.1	22.3	-
Very difficult	20.6	0.0	16.4	24.5	16.2	23.4	17.1	31.2	52.8	-
Unable to perform	45.0	100.0	47.7	37.5	63.0	33.3	50.9	20.7	24.9	-

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown

[1]The n within each category indicates the number who said it was *difficult* to carry out the respective action.

Appendix Table B7 Requirement of Human or Device Assistance for Instrumental Activities of Daily Living (IADLs) Among Those Who Reported Difficulty With At Least One IADL, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	**67-69**	**70-79**	**80 & above**	**Male**	**Female**	**Chinese**	**Malay**	**Indian**	**Others**
n[1]	243	12	80	151	86	157	176	32	35	-
Receive human assistance (weighted %)										
Yes	86.0	87.8	79.3	89.8	87.5	85.3	87.3	91.4	60.5	-

[1]Indicates the number who reported difficulty with at least one IADL.

Appendix Table B8 Time Taken to Perform the Standing Balance Test, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Held side-by-side position for 10 seconds (weighted %)										
n[1]	1367	226	801	340	646	721	1079	146	132	10
Yes	95.8	98.1	96.9	88.9	97.2	94.7	96.6	89.0	94.5	100.0
Held semi-tandem position for 10 seconds (weighted %)										
n[2]	1353	225	793	335	640	713	1071	143	129	10
Yes	85.0	94.2	86.9	64.6	87.5	82.9	85.0	82.5	85.7	100.0
Held tandem position for 10 seconds (weighted %)										
n[3]	1219	216	725	278	580	639	961	129	119	10
Yes	72.7	86.6	74.1	42.8	76.8	69.1	72.7	72.6	70.1	84.7

[1]Indicates the number of participants who attempted the side-by-side position for 10 seconds. 14 participants were unable to maintain this position for the full duration and had to end the standing balance test.
[2]Indicates the number of participants who attempted the semi-tandem position for 10 seconds (i.e. successfully held side-by-side position for 10s). 134 participants were unable to maintain this position for the full duration and had to end the standing balance test.
[3]Indicates the number of participants who attempted the tandem position for 10 seconds (i.e. successfully held semi-tandem position for 10s).

Appendix Table B9 Time Taken to Perform the Gait Speed Test, Overall and by Age Group, Gender and Ethnicity

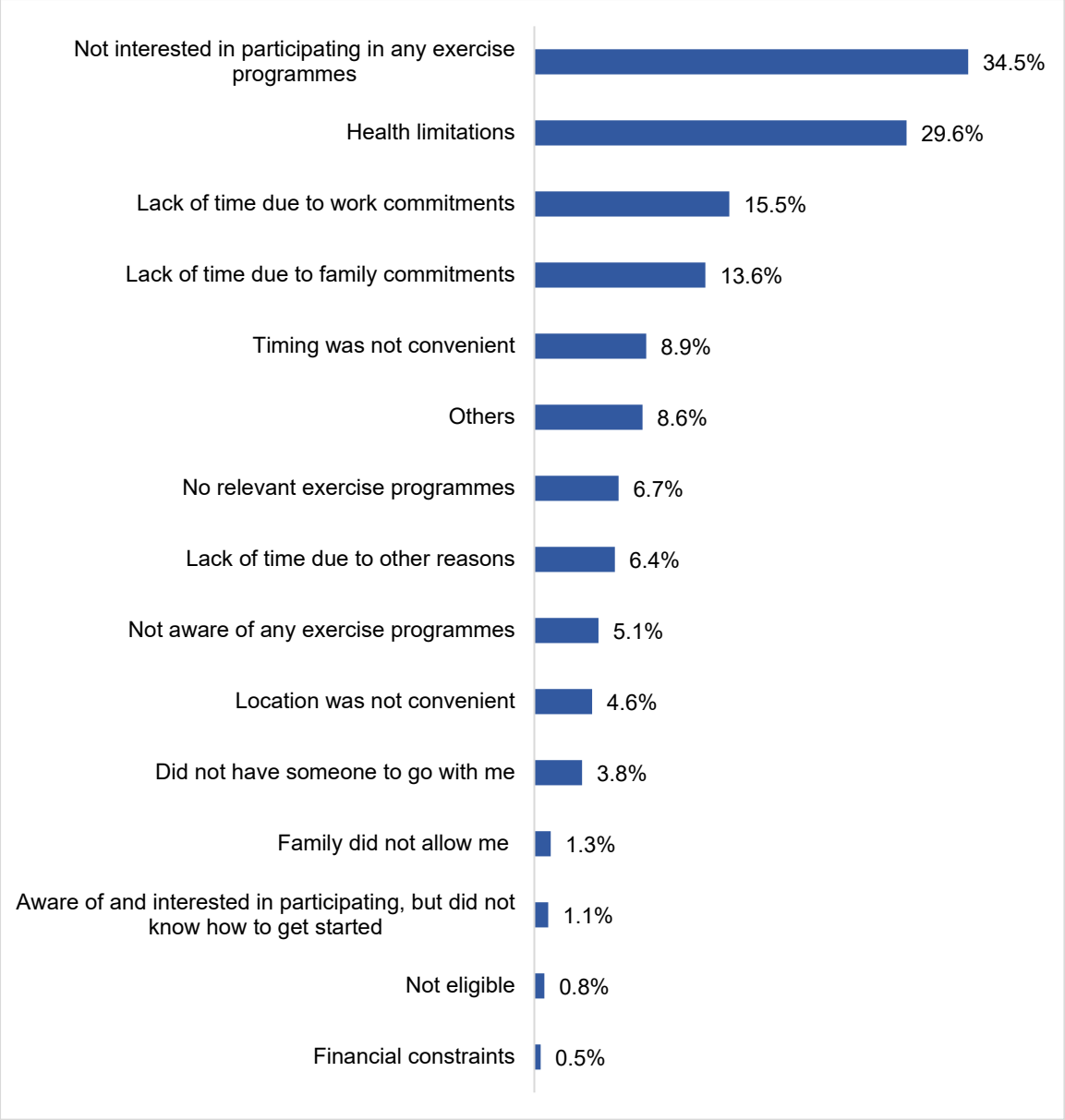
		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1309	218	760	322	612	697	1042	135	123	9
Time taken in seconds (weighted mean)										
Mean	5.4	4.3	5.2	8.0	5.1	5.7	5.4	6.0	6.1	3.7
SD	3.3	1.2	2.4	6.9	2.3	4.9	3.2	3.2	4.2	0.8

[1]Indicates the number of participants who attempted the gait speed test. Participants walked 2.5 meters twice, and the lower timing of the two attempts was used. Additionally, the results were extrapolated from 2.5 meters to 3 meters to calculate the Short Physical Performance Battery (SPPB) score.

Appendix Table B10 Time Taken to Perform the Repeated Chair Stand Result, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n[1]	1176	209	717	250	569	607	940	121	106	9
Time taken in seconds (weighted mean)										
Mean	12.3	11.1	12.4	14.3	12.4	12.2	12.0	14.6	13.8	9.0
SD	4.1	2.7	4.1	5.9	3.8	4.3	3.8	4.9	5.0	2.7

[1]Indicates the number of participants who attempted the repeated chair stand test.



Appendix Figure B2 Reasons for Not Participating in Exercise Programs in the Past 12 Months (n = 1221)

Percentages exceed 100% as multiple responses were allowed.

Appendix Table B11 Hardest Food Group Able to Bite and Chew, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
n	1535	234	856	445	723	812	1192	175	157	11
Hardest food group[a] able to bite and chew (weighted %)										
Ikan bilis in nasi lemak or shredded dry squid	66.1	69.5	71.0	51.2	67.2	65.2	67.7	55.3	59.0	68.8
Mutton curry, dry mango, or fresh carrots	13.6	17.8	12.1	12.7	14.4	12.9	11.3	21.4	31.7	31.3
Bak-kwa, bread with crust not toasted, or kang kong steam boiled, chicken satay, or raw cucumber	9.7	6.9	10.1	11.7	7.6	11.5	10.7	6.1	3.2	0.0
Thai rice, fried fish ball, or Wanton noodle	6.2	2.9	4.1	14.7	4.9	7.3	5.8	13.2	3.0	0.0
Bananas, ripe papaya, hard-boiled egg	2.1	0.7	1.5	5.1	2.3	1.9	2.0	3.4	1.9	0.0
Unable to chew the foods listed above	1.8	2.3	0.7	3.8	2.9	0.9	2.0	0.8	0.7	0.0

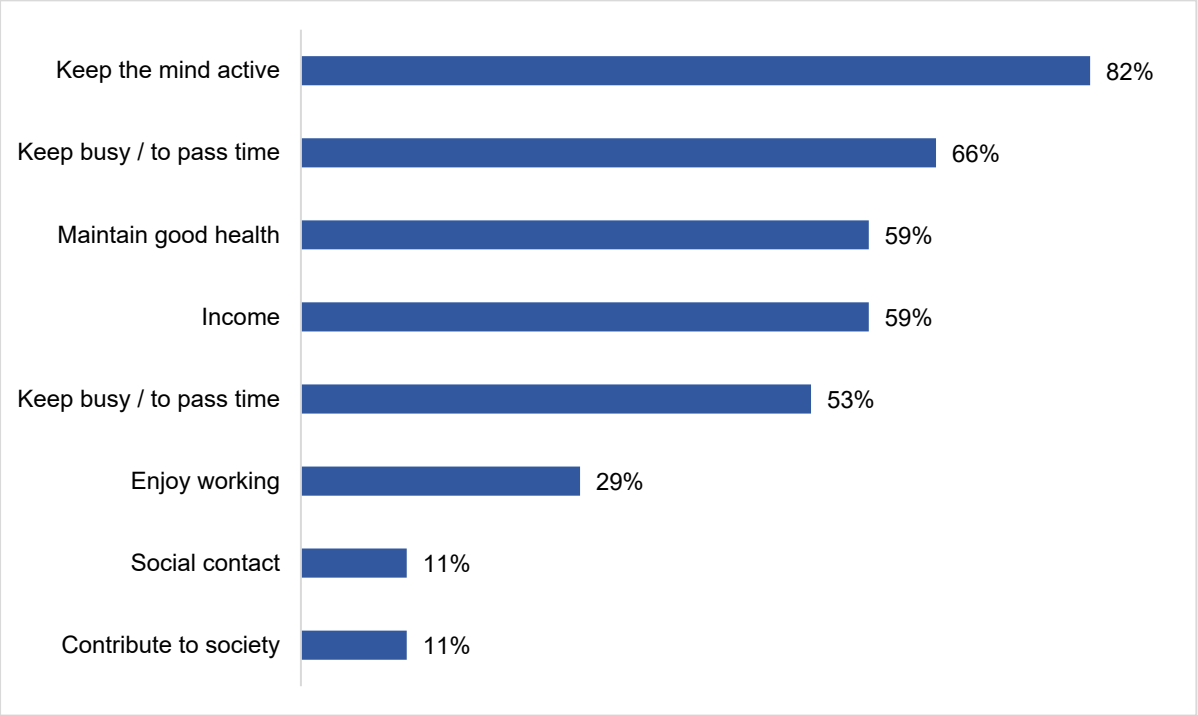
Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.

[a] Food groups are arranged from the hardest (i.e. ikan bilis in nasi lemak or shredded dry squid) to the softest (i.e. bananas, ripe papaya, hard-boiled egg) to the hardest

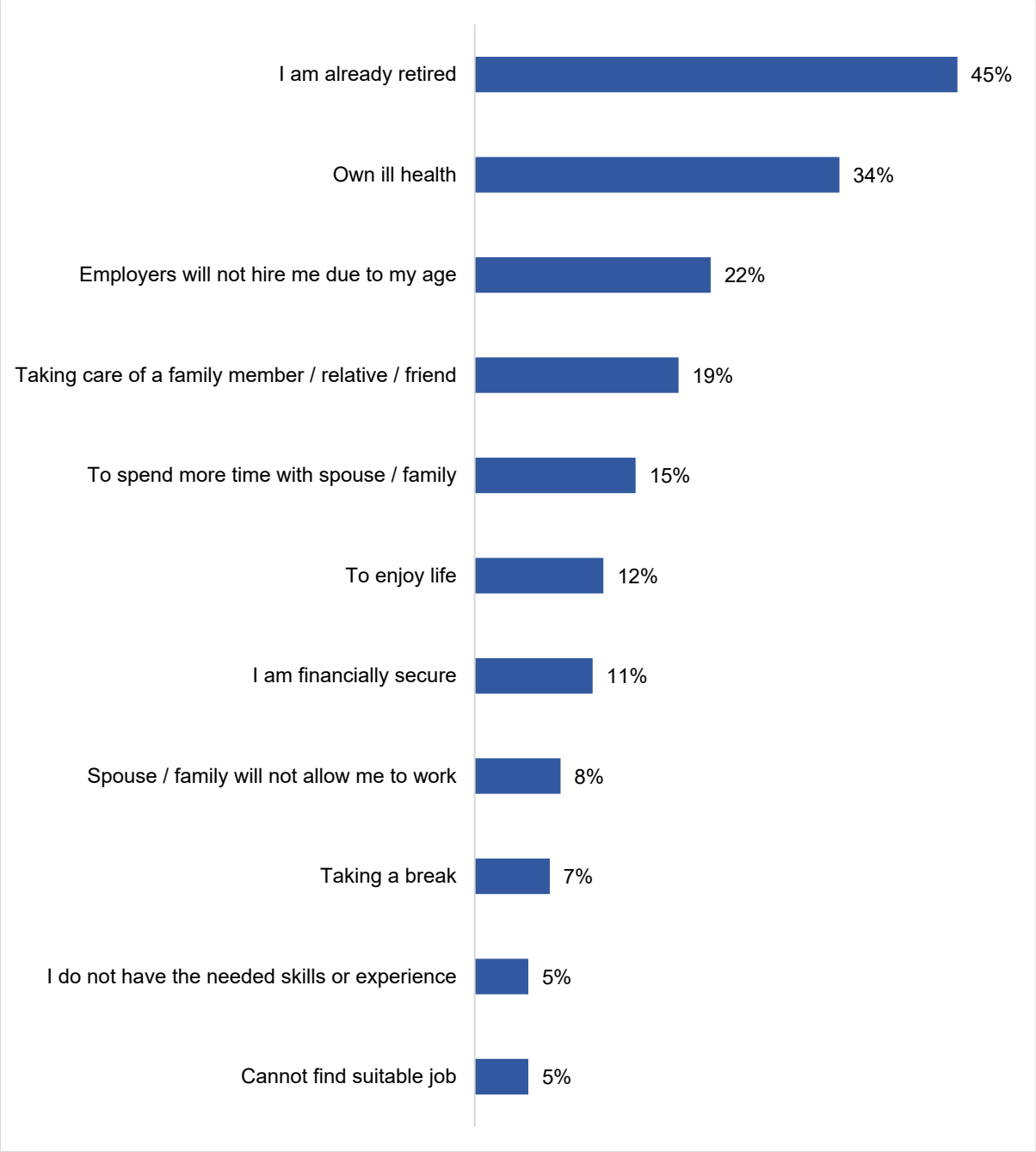
Appendix Table B12 Occupation Currently Engaged In, Overall and by Age Group, Gender and Ethnicity

		Age Group (years)			Gender		Ethnicity			
	Total	67-69	70-79	80 & above	Male	Female	Chinese	Malay	Indian	Others
Occupation currently engaged in (weighted %)										
n[1]	398	110	255	33	236	162	324	27	46	1
Professional	6.1	7.0	4.1	20.1	7.5	4.0	5.5	5.9	13.8	0.0
Administrative & managerial	8.3	11.0	6.6	3.8	7.4	9.6	8.5	5.6	7.8	0.0
Associate professional & technician	6.1	10.3	3.6	0.0	8.3	3.0	6.6	3.5	3.3	0.0
Clerical worker	5.1	4.5	4.9	13.1	3.3	7.8	4.8	0.0	9.2	100.0
Sales & service	29.1	28.6	29.5	28.7	30.1	27.6	27.1	49.3	38.3	0.0
Production & related	10.5	8.1	13.3	0.0	12.8	7.2	11.8	4.7	0.0	0.0
Cleaner & labourer	34.8	30,5	38.1	34.4	30.6	40.9	35.8	31.0	27.6	0.0

Percentages may not add up to 100% as responses of 'Refused/Don't Know' are not shown.
[1]Indicates the number of participants currently working (full-time and part-time).



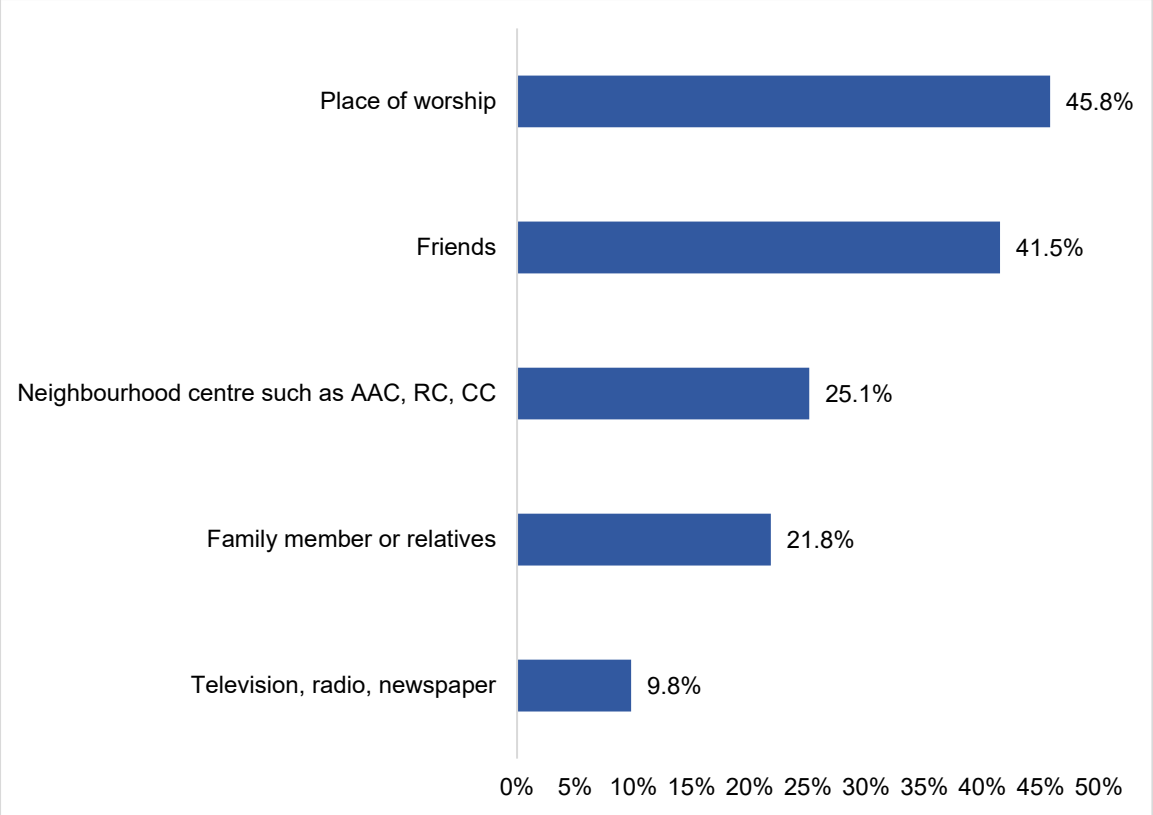
Appendix Figure B3 Reasons for Seeking Employment among Those Retired/Never Worked (n = 17)



Appendix Figure B4 Reasons for Not Seeking Employment among Those Retired/Never Worked (n^1 = 1019)

Percentages exceed 100% as multiple responses were allowed.

[1]Indicates the number of retired or never-worked participants who were asked about the reasons for not seeking employment. Proxy participants (n=97) were not asked the question.



Appendix Figure B5 Top 5 Sources of Information About Formal Volunteering Opportunities Among Those Who Volunteered Formally in the Past 12 Months (n^1= 275)

Percentages exceed 100% as multiple responses were allowed.

[1]Indicates the number of participants who reported engaging in some form of formal volunteering and were asked about their sources of information regarding formal volunteering opportunities.

Appendix Figure B6 Clinical Frailty Scale (CFS) Classification Tree Mapped to THE SIGNS Study

N=1531

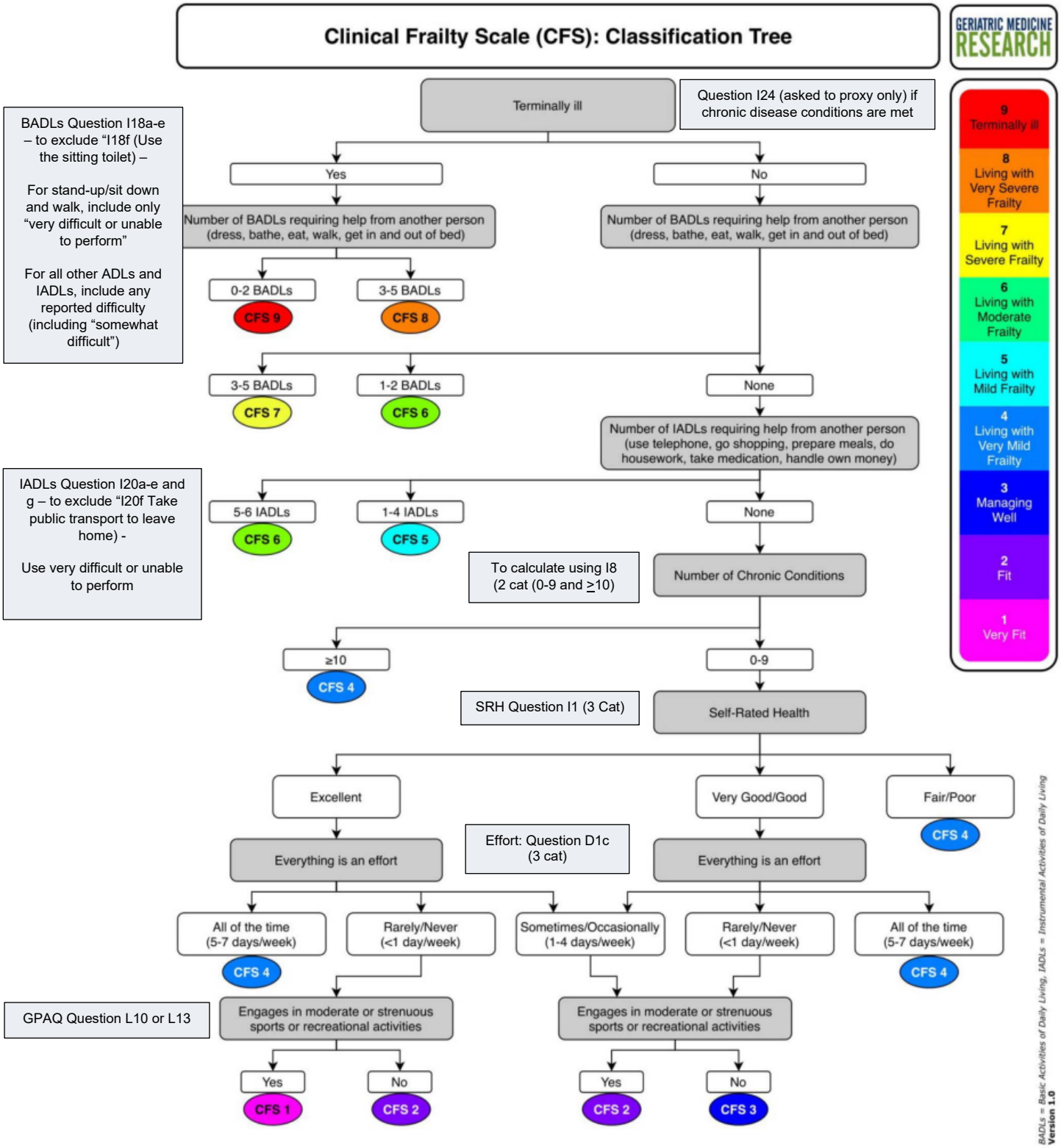


Figure 1. The Clinical Frailty Scale classification tree.

Publisher

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