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Staying connected: The importance of social integration on the well-being of older adults

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Staying Connected- The Importance of Social Integration on the Well-being of Older Adults

RESEARCH BRIEF SERIES: 2
DECEMBER 2020

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December 2020

Staying Connected- The Importance of Social Integration on the Well-being of Older Adults

Coping in the time of COVID-19: Transitioning from the onset of COVID-19, the 'Circuit Breaker', Phase 1, and Phase 2.

INTRODUCTION

It has been about a year since COVID-19 first emerged and reshaped the daily lives of people around the globe, including Singaporeans. Since moving past the circuit breaker in June, Singapore has gradually re-opened and relaxed its restrictions in different phases. As Singapore prepares for Phase 3- the final and least restrictive phase, it is important to examine how Singaporeans have coped and responded with the circuit breaker (7 April 2020) and its gradual easing of restriction in Phase 1 (2nd June 2020) and Phase 2 (19 June 2020), and identify the groups which have fallen through the gaps in Singapore's recovery. Using data from the Singapore Life Panel (SLP), this research brief outlines the general trends of how older Singaporeans have been coping in the past year- with reference the perceptions towards COVID-19, COVID-19 support grants, employment, social engagements and technology use. The SLP is a population

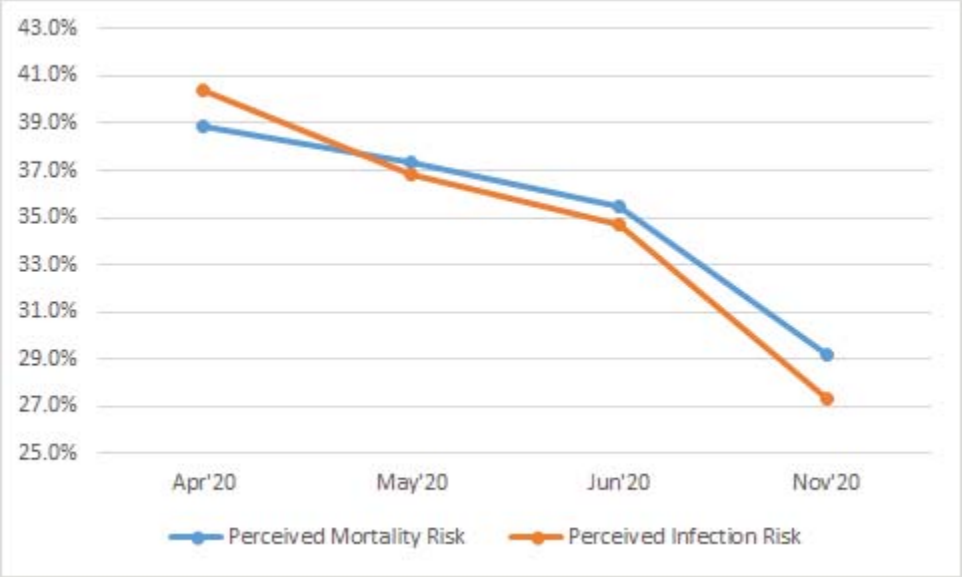
representative monthly survey that tracks the lives of Singaporeans aged 55 to 75 to better understand the factors that shape the well-being of older adults in Singapore, with a monthly response rate of about 7,500 respondents.

PERCEPTIONS TOWARDS COVID-19

While Singapore earned high praise from the WHO for its early COVID-19 response, it soon grappled with surging COVID-19 cases in April, with daily new cases ranging from 500 to more than 1,000 being the norm. Daily cases began to fall in May, and paved the way for its reopening in June. During this period, from April to June, older Singaporeans' perceived COVID infection risk decreased from 40.4% to 34.7% (see Fig. 1). By November 2020, older Singaporeans' perceived risk of a COVID-19 infection fell to 27.3%. Women, and those of a lower education perceived the infection risk to be higher than other groups. This gender disparity in fears of infection has been established in various studies across the world (Gerhold, 2020; Yıldırım & Güler, 2020), and has been alluded to women's predominant role as caregivers within the family and frontline health care workers (Wenham, Smith & Morgan, 2020).

Figure 1.

Perceived Mortality and Infection Risk from April 2020 to June 2020



Regarding COVID-19's mortality rate, research has established age to be the strongest predictor of COVID, with COVID-19 fatality risk doubling for every eight years of ageing (Baguelin, Bhatt, Ghani, Ferguson & Okell, 2020). This heightened fatality rate amongst seniors has been well publicized in the media, and the Singapore government has also specifically appealed to Singaporeans to play their part and protect seniors from COVID-19 (Singapore Government Agency, 2020). Findings from the SLP suggest that older Singaporeans were well aware of their vulnerability. The average perceived fatality risk from COVID-19 was 38.9% in April, but has since decreased to 29.2% in November (see Fig. 1). Older age groups, and those with lower levels of education perceived the fatality risks to be significantly higher. Additionally, despite men being at a greater risk of dying from a COVID-19 infection, we found that Singaporean women perceived COVID-19 to be more fatal than men. While the overall perceived fatality risk decreased from May to June, this gender disparity in perceived fatality risk from

COVID-19 increased. Gender differences in the perception of COVID-19's severity has also been found in samples across various countries and is hypothesized to be due to women's inclination to be more risk averse (Galasso, Pons, Profeta, Becher, Brouard & Foucault, 2020). Higher rates of perceived mortality risk were also associated with lower health satisfaction, suggesting that those in poor health were aware of their increased susceptibility to COVID-19's complications and death.

Our findings also suggest that those who rely on only traditional forms of communication tend to perceive the risks to be higher than those who use non-traditional forms of communication (e.g. WhatsApp and social media platforms) and those who use both. This could possibly be due to the fact that those who use non-traditional forms of communication technology are able to receive daily updates on the evolving COVID-19 situation disseminated by the government on platforms such as WhatsApp and Facebook, for example, which would keep them regularly informed and enable them to moderate their risk perceptions based on present conditions. Generally, keeping informed on COVID-19 through various sources of information (e.g. newspapers (print and digital), social media, internet research and government sources) was associated with lower perceived mortality risks. However, those who used the TV/ Radio for information on COVID-19 tend to perceive the fatality risks associated with a COVID-19 to be higher than those who do not. This could possibly be due to the frequent broadcast of COVID-19 information programs on local TV specifically targeted towards seniors (Ministry of Communications and Information, 2020), which may reinforce seniors' increased susceptibility to death from COVID-19 in their messaging.

Aside from the physical impairments of a COVID-19 infection, our findings suggest that fears about the disease have also been particularly stressful on older Singaporeans, debilitating

their mental well-being and affecting their daily lives. Those who perceived the COVID-19 mortality and infection risks to be higher found it harder to cope with their daily activities, maintain a positive mindset in the COVID-19 outbreak, and were less satisfied with life. While a sensible amount of anxiety surrounding COVID-19 is warranted (and also necessary so that people continue to adhere to the preventive measures (Harper, Satchell, Fido & Latzman, 2020)), efforts by the government need to address and allay the heightened fears when it impairs that mental well-being of seniors.

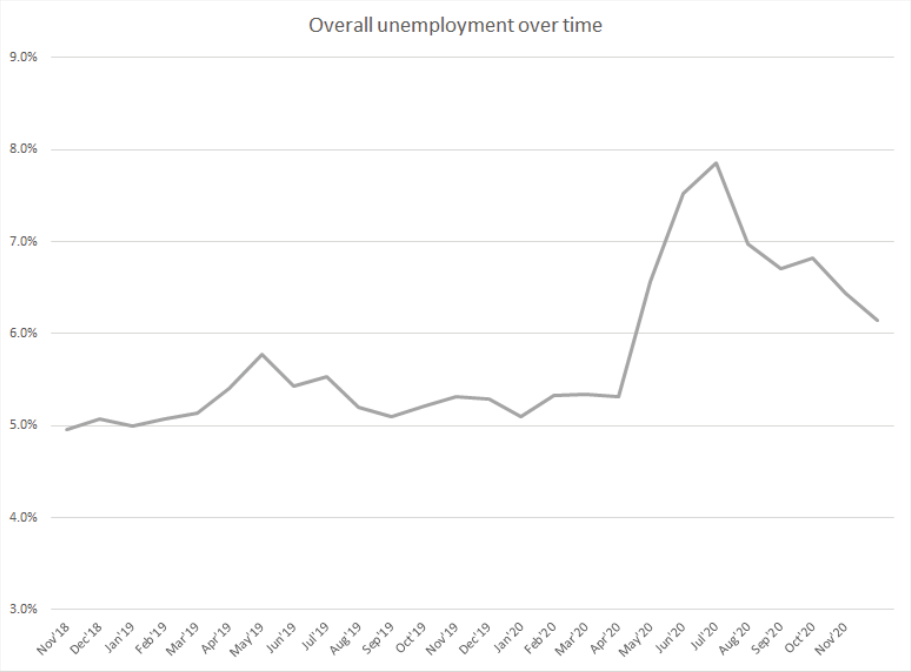
COVID-19'S IMPACT ON JOBS AND FINANCES

COVID-19 brought an abrupt halt to many sectors in Singapore's economy, and many businesses were impacted due to the disruptions in the global economy (Ministry of Trade and Industry, 2020). Employment among older adults fell to an all-time low of 51.49% and the unemployment rate was at its peak at 7.86% in June 2020 (see Fig. 2). While the job market has since improved in November, with the employment rate at 53.33% and unemployment rate at 6.14%, the rates remain to be poorer than the previous year's. Additionally, a small but increasing proportion of respondents have been laid off due to the COVID-19, with the proportion rising from 0.66% in May to 0.92% in November 2020.

Older Singaporeans have adapted to the changes in work arrangements, following the shifts in Singapore's COVID-19 restriction measures. 11.15% of respondents reported working from home some of the time in November, up from 6.91% in May. The number of respondents working from home all the time, however, decreased from 12.49% in May to 5.09% in November.

Figure 2.

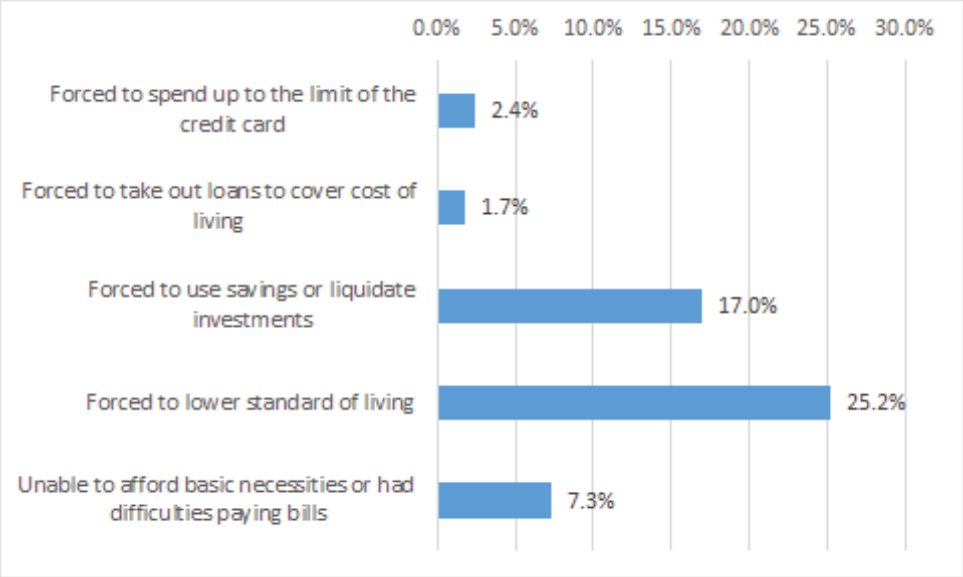
Percentage of unemployed respondents from November 2018 to October 2020



Fortunately, a majority (67.1%) of older Singaporeans did not experience any financial difficulties due to the pandemic. However, 33.9% experienced one or more of the following difficulties (see Fig. 3): being unable to afford basic necessities or had difficulties paying their bills, being forced to lower their standard of living, forced to use their savings or liquidate their investment, forced to take out loans to cover their standard of living, and forced to spend up to the limit of their credit card. Generally, those who lived in smaller housing types experienced more financial difficulties. Most commonly, older Singaporeans were forced to lower their standard of living, with 25.17% having to do so, following which, 16.98% of respondents were forced to use their savings or liquidate their investments due to the COVID-19 outbreak.

Figure 3.

Share of respondents experiencing this financial difficulty due to COVID-19

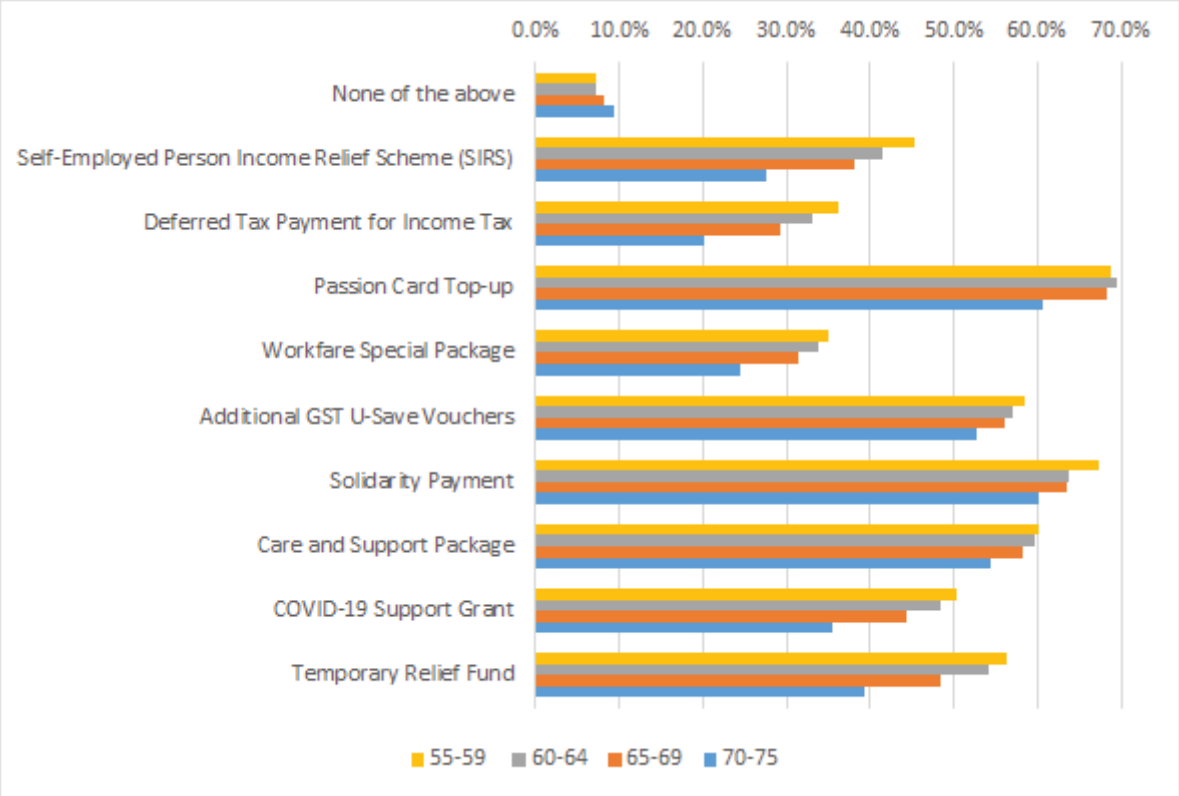


COVID-19 SUPPORT GRANTS

The Singapore government has given out several support grants to help Singaporeans facing financial difficulties during the pandemic. This includes several policies given out to all adult Singaporeans without restrictions on eligibility or the need for application, such as the solidarity payment and care and support package. Respondents knew an average of 4.43 grants out of 9 grants identified for the study. Older age groups (see Fig. 4), those who relied on traditional forms of communication, those who used fewer sources of information and those with a primary education knew of fewer policies.

Figure 4.

Share of respondents who are aware of this COVID-19 support grant, by age group



Worryingly, a small minority (8.44%) of respondents were unaware of any of the 9 grants asked. Primary educated, traditional communication tech users, and respondents who use fewer sources of information on COVID-19 were more likely to be unaware of any grants. Additionally, when asked about the Solidarity Payment, which was distributed to all Singaporeans 21 and above in April, only 45.8% reported receiving it. Respondents who used both traditional and nontraditional forms of communication were more likely to report receiving the solidarity payment, with 51.3% doing so. Comparatively, 58.5% of traditional communication users, and 57.1% of non-traditional tech users reported not receiving the solidarity payment. Respondents

who were unaware that they received the Solidarity Payment were also more likely to use fewer sources of information on COVID-19.

Our findings suggest that the government's support grants have generally improved the psychological and financial well-being of older Singaporeans. Respondents who knew of more grants, and those were aware that they received the Solidarity Payment were better able to cope with their daily activities and maintain a positive mindset amid the pandemic. These trends were most apparent among those living in 1-3room HDBs and 4-5room HDBs. Possibly, the knowledge that financial support is being provided and available should they require additional support during this pandemic assures older Singaporeans that help is available and bolsters their mental well-being during this trying time.

COMMUNICATIONS TECHNOLOGY USAGE

The use of communication technology to maintain social contact has been particularly important during the pandemic, with physical social interactions and group activities being highly restricted and cautioned against, especially with regards to seniors.

The forms of communication technology used was found to be associated with education and age. Generally, respondents with higher levels of education were more likely to use non-traditional forms of technology (such as calls and messages on mobile applications, and social media) or both. Older respondents being more likely to use traditional forms of communication technology (such as phone calls, SMS and email).

Additionally, those who are better able to utilize non-traditional forms of communication found it easier to keep in touch, were less likely to feel socially isolated, and were more satisfied

with their social life. Further, those more familiar with modern forms of communication technology tend to feel less stressed from COVID-19, possibly from the ease at which they are able to receive the necessary social support from their friends and family. The ease at which one is able to keep in touch with friends and family was also correlated with higher life satisfaction, higher social satisfaction and lower feelings of social isolation. This is supported by existing literature which contends that social contact improves subjective well-being (Zhang & Zhang, 2015). Hence, improving seniors' familiarity with modern forms communication could play an important role to facilitate the ease at which one communicates with friends and family, and consequently, improve the well-being of older Singaporeans.

SOCIAL ENGAGEMENTS

Engaging in social activities have been well studied to improve one's subjective well-being (Zhang & Zhang, 2015; Rowe & Kahn, 1997). Through greater community participation, seniors feel a greater sense of social connectedness, belonging and integration with the community (Zhang & Zhang, 2015). Such feelings are positively associated with life satisfaction, psychological well-being and social well-being (Zhang & Zhang, 2015). However, while social connections are particularly important during this time of stress and uncertainty, due to the Circuit Breaker, all social activities were halted in April and May 2020. This was reflected in our sample, whereby the proportion of respondents who frequently participated in a range of social activities (such as visiting their friends and family, group activities, physical activities, and hobbies) and simply leaving the home hit all-time lows in the months of May and June 2020.

Friends and family are pillars of social support for many older Singaporeans, with around 20% visiting their friends and family several times a week or more prior to the onset of COVID-19. In June, only 2.5% of respondents frequently visited their friends and family, however, this has since picked up with Singapore's gradual reopening, with 18.5% of respondents doing so in November (see Annex A- Fig. 5).

Frequent participation in physical activities dipped from more than 40% in January to 29.7% in May. Hearteningly, older Singaporeans have since resumed their regular exercise regimes, and have even started exercising on frequent basis which is similar to that of pre-COVID-19 levels. This was observed by across all age groups (see Annex A- Fig. 6).

Similar to the trends in physical activity participation, the proportion of seniors who participated in hobbies on a frequent basis dipped from 22.8% to 12.1% in May. However, since July 2020, the proportion of respondents participating in hobbies on a frequent basis has increased steadily, and reached 24.6% in November 2020. This trend was observed for all age groups (see Annex A- Fig. 7).

With regards to leaving the house, about 80% of older Singaporeans stepped out of their home several times a week or more prior to COVID-19. Due to the Circuit Breaker, this fell to 58.2% in May, but has since increased to 84.1% in November 2020. While most age groups have resumed their pre-COVID-19 routine, the oldest age group has been slower to do so (see Annex A- Fig. 8).

CONCLUSION

The findings of our study suggest that COVID-19 has most certainly had an impact on the lives of older Singaporeans in the past year. Generally, older Singaporeans have been adapting to living life amidst a pandemic and their well-being has been improving since the end of the circuit breaker. However, there are groups of older Singaporeans who are lagging behind in their recovery. Particularly, the older group of senior Singaporeans, the less educated, those who rely on traditional forms of communication, and those who do not keep informed through various sources of information have been more vulnerable to the negative impact that COVID-19 has had on seniors' social and mental well-being.

To safeguard the well-being of older Singaporeans, keeping seniors informed on COVID-19 by leveraging on current networks and existing infrastructure would be a viable means to do so. Firstly, setting up grassroots initiatives to keep older Singaporeans updated on the latest COVID-19 developments in Singapore could be a possible way to keep seniors, particularly those who do not use modern forms of communication technology and those who use limited sources for COVID-19 information, informed. This could also be a means to create groups of senior citizens who are invested in the developments of COVID-19 in Singapore and encourage the developments of communities of seniors who share and discussion information on the topic with their peers. Such groups could, for instance, be organized to reach out to other older adults in community spaces such as wet markets, hawker centres, and coffee shops, so as to be able to target older adults who find it a great challenge to adopt digital technologies.

Secondly, more channels with updated information on COVID-19 could be created to keep seniors informed. For example, given the successful subscribership to the Gov.sg WhatsApp channel, daily updates on COVID-19 could also be sent out through SMS to seniors with mobile

phones but do not use mobile applications. Further, the digital display panels at HDB estates could also provide daily updates on Singapore's evolving COVID-19 situation in addition to the existing information campaigns.

Thirdly, improving seniors' technology communication skills and encouraging them to develop a vested interest in keeping up to date on COVID-19 through various sources would also be important. Given that the COVID-19 situation rapidly evolves daily, it is important that older Singaporeans do not feel apathetic towards the pandemic and dissociate themselves from it. Improving their abilities to research on the topic and empowering them with the skills to be informed could motivate seniors to be well-informed.

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ANNEX A – Additional Figures

Figure 5.

Percentage of respondents visiting friends and family several times a week or more, by age group

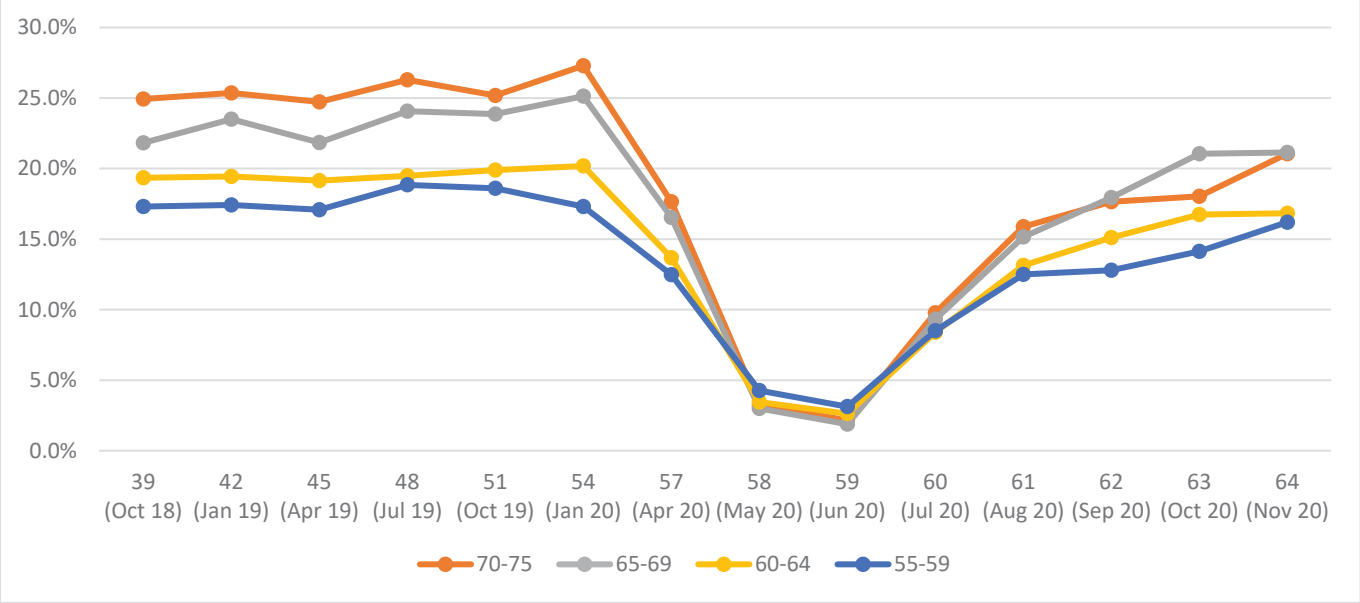


Figure 6.

Percentage of respondents participating in physical activities several times a week or more, by age group

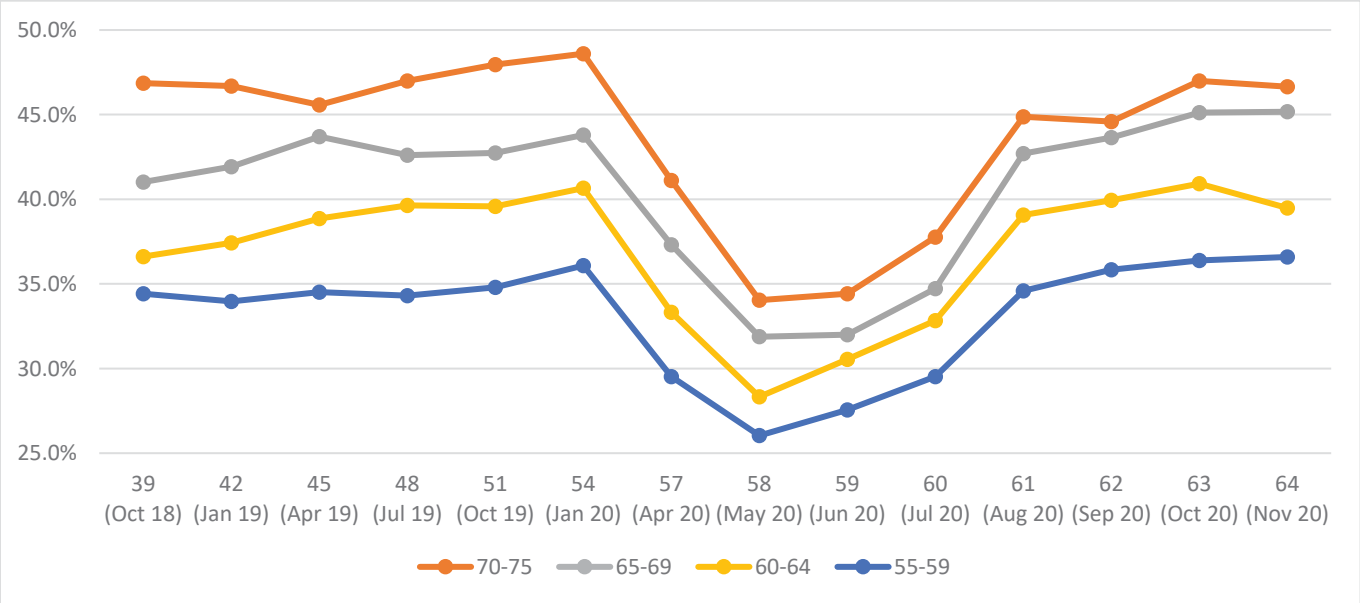


Figure 7.

Percentage of respondents participating in hobbies several times a week or more, by age group

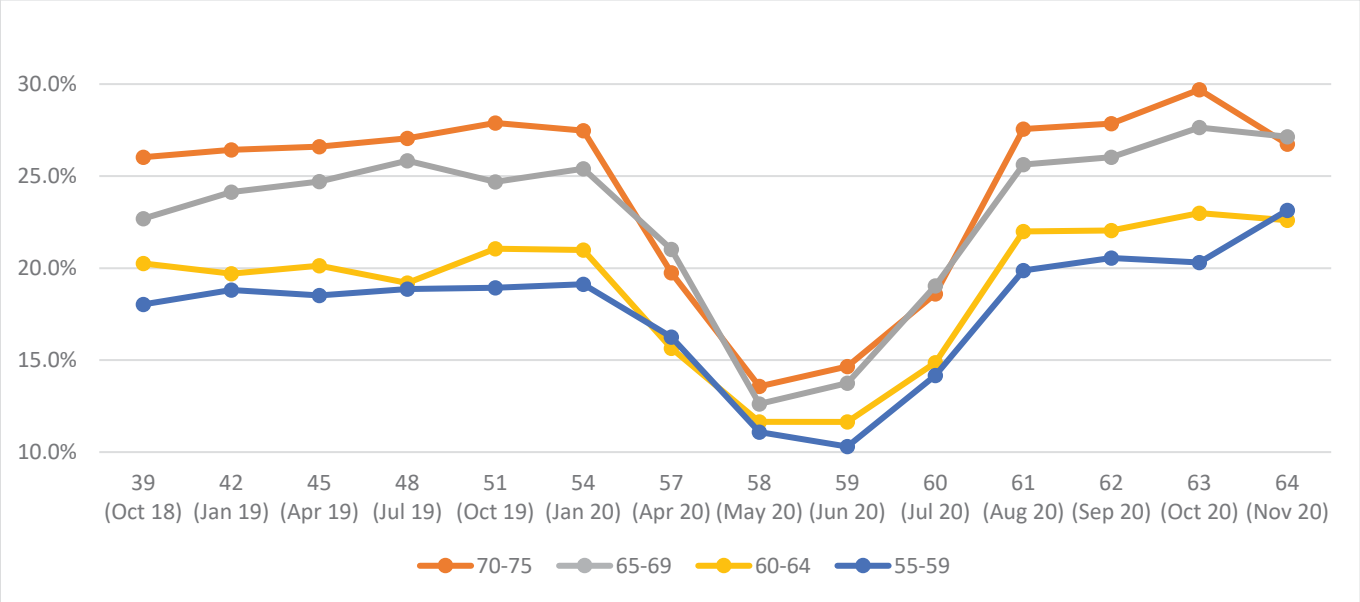
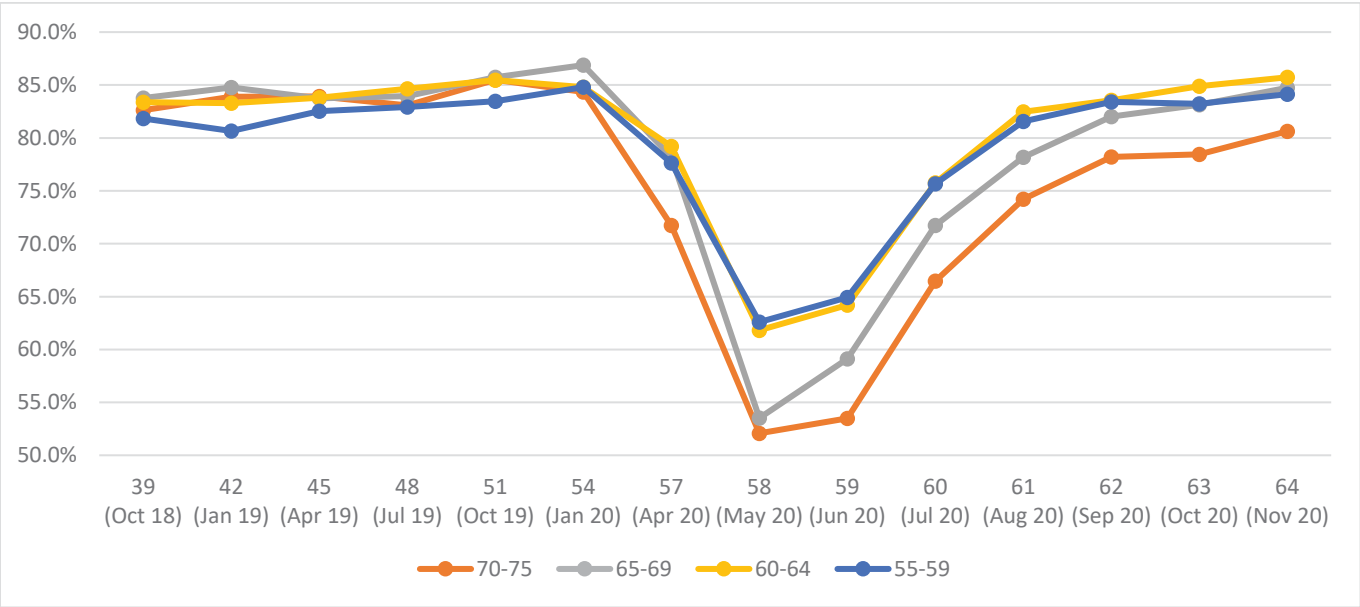


Figure 8.

Percentage of respondents leaving their home several times a week or more, by age group



ANNEX B- Profile of respondents

Table 1. Profile of respondents (Nov 2020)

Sample Characteristics	Proportion (%)
Age	
Median age = 63, Mean age = 63.74, Std. Dev. = 5.45	
55 - 59	26.35
60 - 64	30.78
65 - 69	23.18
70 - 75	19.7
Gender	
Male	47.41
Female	52.59
Marital status	
Married	77.39
Single (never married)	9.14
Separated	0.53
Divorced	5.42
Widowed	7.53
Ethnicity	
Chinese	87.4
Malay	5.63
Indian	5.05
Other	1.92
Housing Type	
1 and 2 Room Flat	3.32
3 Room Flat	16.25
4 Room Flat	30.56
5 Room and Executive Flats	32.22
Condominium and Apartments	10.9
Landed	6.76

Sample Characteristics	Proportion (%)
Household size (including respondent and spouse)	
Median size = 3, Mean size = 3.29, Std. Dev. = 1.46	
1	7.89
2	25.91
3	24.39
4	23.21
5	11.69
6	4.28
7	1.75
8	0.53
9	0.19
10	0.11
11	0.04
Educational attainment	
Primary/None	22.93
Secondary	41.45
Post-Secondary without University	20.44
Post-Secondary with University	14.98
Others	0.19
Work status	
Working Full-time	30.62
Working Part-time/Flexible	14.85
Self-Employed	8.02
Unemployed/Laid off/On sick leave	6.52
Retired/Homemaker	37.31
Disabled/Student/Other	2.67

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Research Brief Series: 2B
December 2020

Staying Connected- The Importance of Social Integration on the Well-being of Older Adults

Voter Efficacy, Political Engagement, and Well-Being Among Older Adults in GE2020

INTRODUCTION

The 2020 General Election (GE2020) in Singapore was held on the 10th of July 2020 to elect the 14th Parliament of Singapore. All 93 seats were contested for and among the 192 candidates across 11 parties, the PAP managed to secure 61.23% of the popular vote, winning 83 seats. GE2020 was monumental for many reasons, but most significantly due to the COVID-19 pandemic. It was the first election where physical rallies were not allowed and parties had to resort to alternative mediums to garner support, including the use of social media. This raises the question of how well older adults in Singapore were able to adapt to such changes, and what effects this may have had on feelings of political engagement and voter efficacy among these older adults. This is an important issue given that feelings of voter efficacy and political engagement have been shown to be associated with improved life satisfaction and subjective well-being (Pacheco & Lange, 2010). This research brief hence examines the trends in feelings of political engagement and voter efficacy among older adults and how well-being among that demographic was impacted by such changes.

This brief utilizes data collected from the Singapore Life Panel (SLP), a population representative monthly survey with a monthly response rate of about 7,500 respondents, tracking the lives of Singaporeans aged 55 to 75 to understand the factors that shape the well-being of older adults (see Annex B for a profile of respondents). Additional questions were fielded in August 2020 to understand respondents' views on GE2020. This brief will thus overview the relationships between voter efficacy, political engagement, and well-being.

VOTER EFFICACY AND POLITICAL ENGAGEMENT

In terms of feelings of voter efficacy, a large majority of respondents (85.21%) agreed (slightly agreed, moderately agreed, or strongly agreed) that by voting they would be able to elect a politician or political party whose views they shared (see Figure 1). Similarly, 89.44% of respondents agreed that their vote made a difference in GE2020 (see Figure 2). These findings illustrate that among older adults, a large majority report feeling that their vote mattered. However, of note is that respondents' education level was found to be correlated with the level of voter efficacy respondents felt. More specifically, respondents who were more educated were more likely to agree that their vote mattered than respondents who were less educated.

Figure 1.

Share of respondents who agreed that they would be able to elect a politician/political party whose views they shared

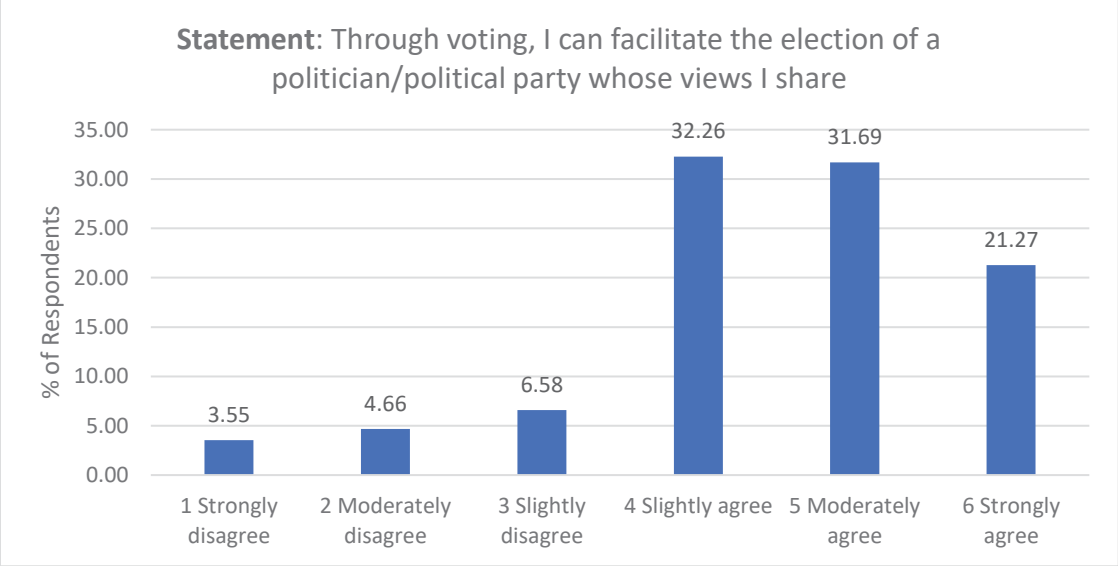
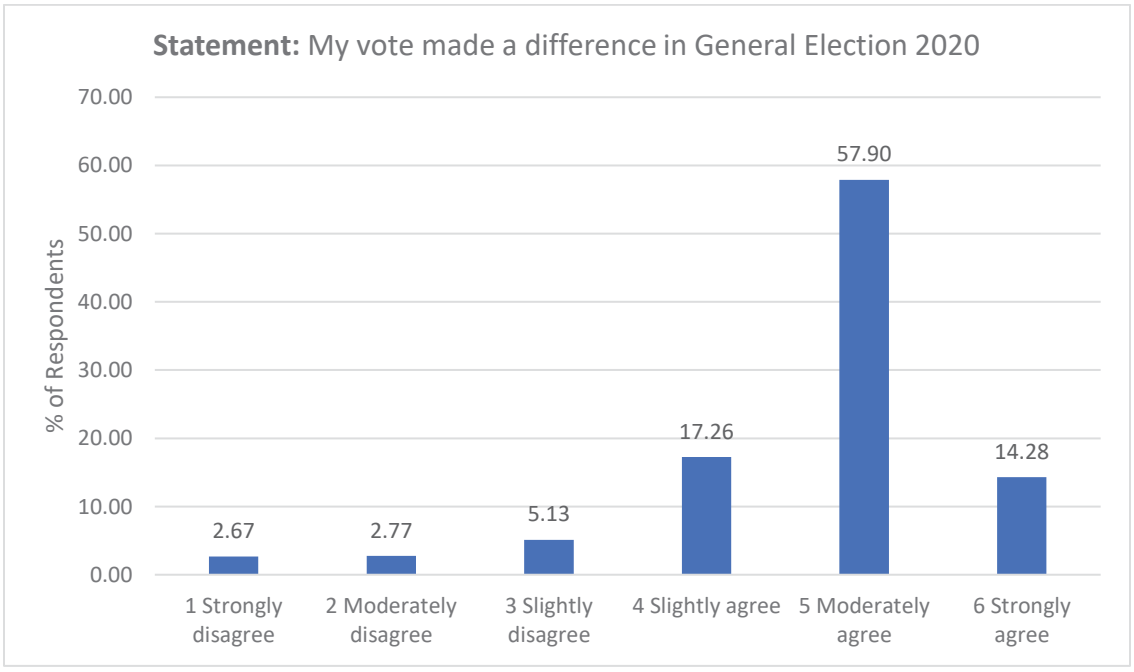


Figure 2.

Share of respondents who agreed that their vote made a difference in GE2020



Similar findings were made for feelings of political engagement. Most respondents (83.17%) agreed that they were able to keep up with the key issues that were raised during GE2020 (see Figure 3). The use of the internet may have contributed to most respondents feeling this way as 78.93% of respondents agreed that the internet had allowed them to better understand what the different political parties have done for Singapore (see Figure 4). However, as was similarly found with feelings of voter efficacy, those of a higher education level were more likely to feel that they could keep up with important issues of GE2020.

Figure 3.

Share of respondents who agreed that they were able to keep up with key issues

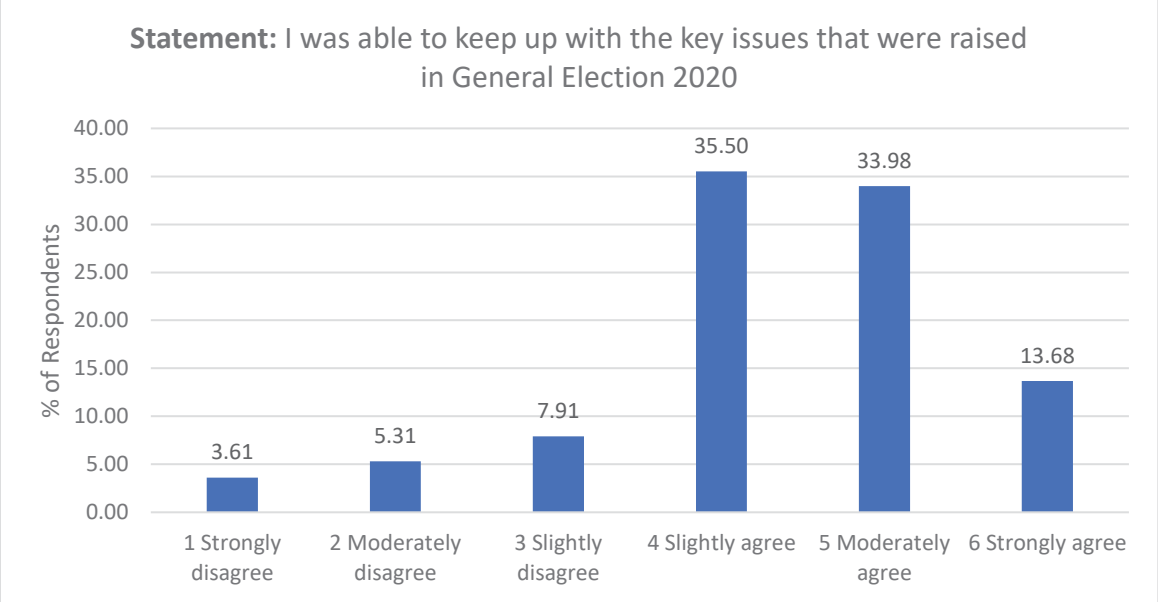
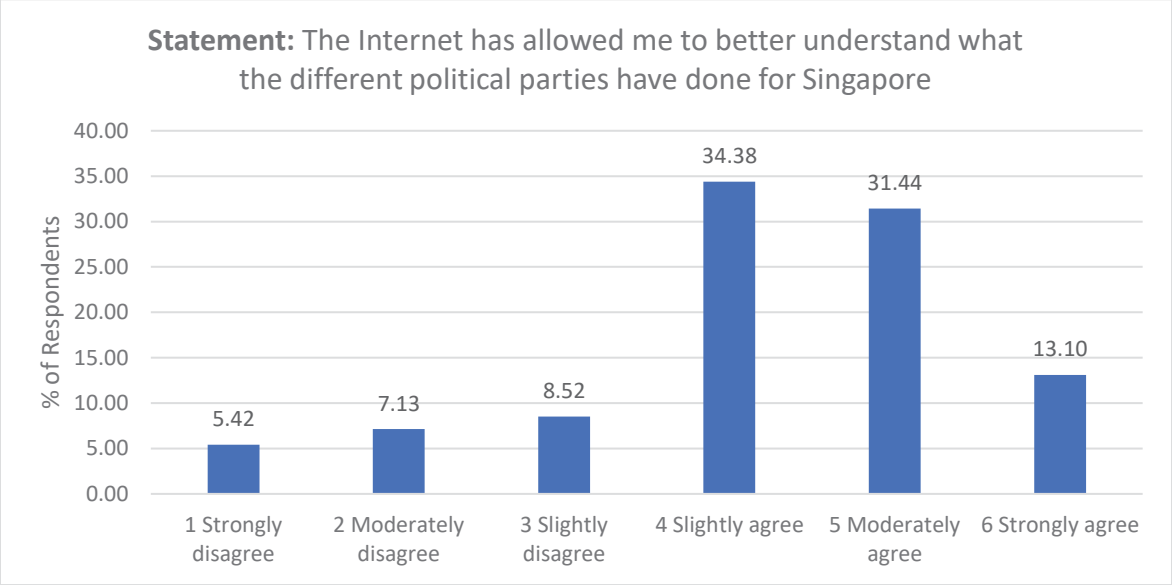


Figure 4.

Share of respondents who agreed that the internet allowed them to better understand what the different political parties have done for Singapore.



A large majority of respondents thus felt that their votes mattered and that they were politically engaged in terms of being able to keep up with the issues relevant to GE2020. Respondents' levels of education, however, was significantly correlated with such feelings. This could possibly be explained by studies that have shown that those with a higher education level often develop greater language and civic skills which are consequently influential in shaping political participation. participation (Hillygus, 2005). Alternatively, as education level is closely correlated with socio-economic status (SES) in Singapore, socio-economic factors may also play a role in determining political participation. For instance, Hillygus (2005) also illustrated that individuals of a lower SES may not have the time or privilege to engage with politics while they are still concerned about providing for themselves or their loved ones.

GE2020 AND WELL-BEING

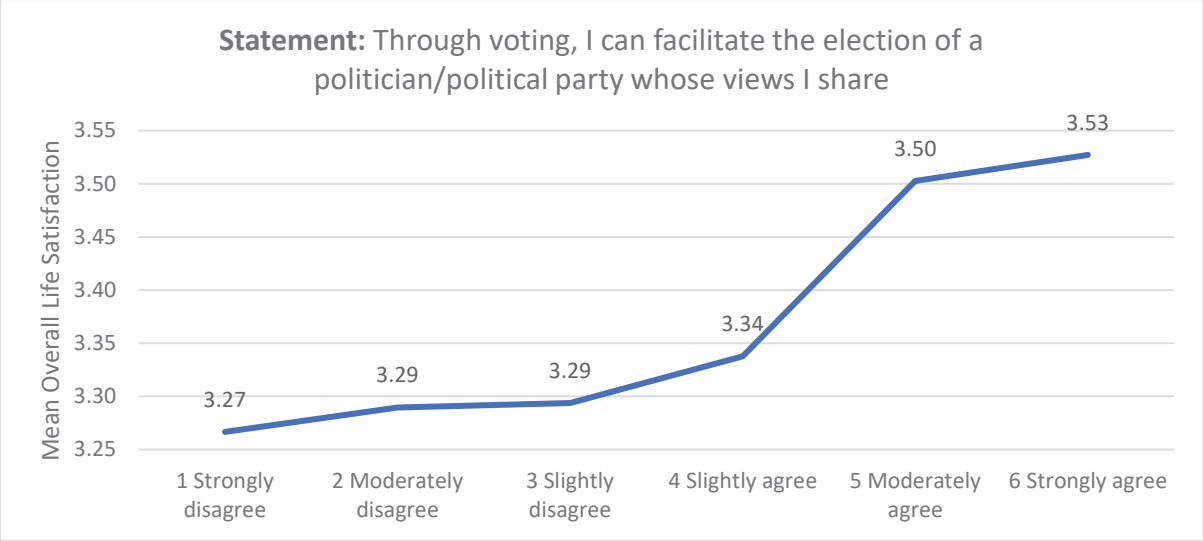
As mentioned, feelings of voter efficacy and political engagement have been shown to be associated with higher levels of well-being among individuals (Pacheco & Lange, 2010). Political engagement, a component of 'Active Citizenship', has also been argued to be an important aspect of encouraging "Active Aging" in societies (Del Barrio et al., 2018). Data from the SLP supports such arguments by illustrating that feelings of voter efficacy and political engagement were associated with higher levels of subjective well-being among older adults during GE2020.

In particular, respondents who felt greater levels of voter efficacy and political engagement were more likely to have higher levels of both general life satisfaction, as well as satisfaction within specific domains. For instance, as can be seen in Figure 5, respondents who both moderately and strongly agreed with the statement had a much higher mean overall life satisfaction score[1]. This trend was similarly observed for both statements and across several domains of life satisfaction including satisfaction with social contacts and family life, satisfaction with one's job, satisfaction if one's total household income, satisfaction with one's economic situation, and satisfaction with one's health, although the correlation was strongest with overall life satisfaction (Kendall's Tau-B value of .1142) and weakest with total household income satisfaction (Kendall's Tau-B value of .0806).

[1] Overall Life Satisfaction is measured on a five-point scale with 1 being Very Dissatisfied and 5 being Very Satisfied

Figure 5.

Correlation between Life Satisfaction and Political Engagement



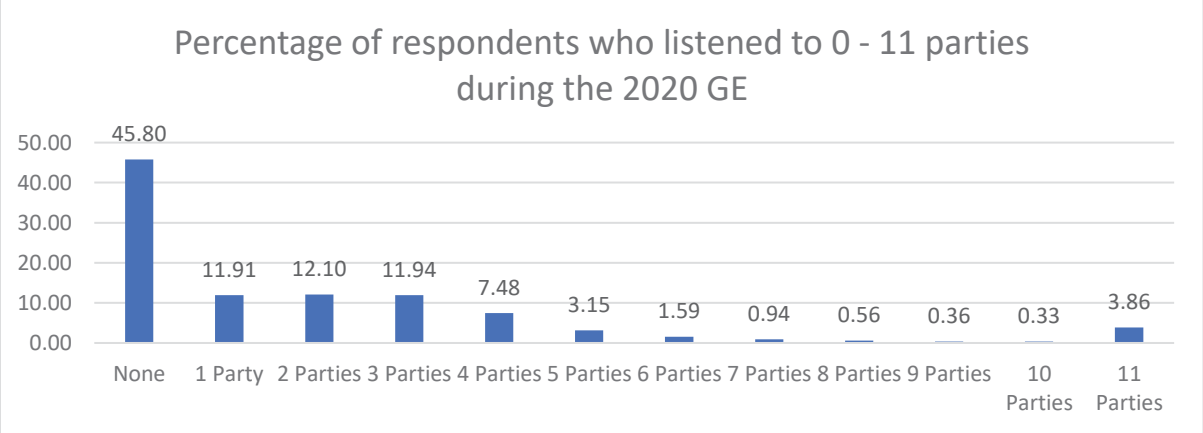
While such findings could imply that feelings of voter efficacy and political engagement bring about higher levels of subjective well-being, it is important to note that the direction of the causality of the relationship cannot be determined due to the cross-sectional nature of this particular analysis (questions on voter efficacy and political engagement were only fielded once). In other words, it is also possible that respondents felt greater voter efficacy and political engagement because they experienced higher levels of well-being. However, other studies have found that voter efficacy and political engagement does positively impact subjective well-being among individuals. Stanley et al. (2011), for instance, found that higher levels of political engagement (seen as a component of a larger construct of social inclusion/exclusion) resulted in higher levels of subjective well-being among individuals. Regardless of the direction of causality, voter efficacy and political engagement are significantly correlated with well-being and thus offer a possible means by which well-being can be supported among older adults.

POLITICAL PARTICIPATION

While most respondents reported feeling politically engaged in the form of being able to keep up with key issues during GE2020, the findings reflected on the other hand that a large proportion of respondents did not listen to online or in person, or talk to a representative of any political party during the general election. Respondents were asked to select parties from which they had done so, and 45.80% reported having not listened to or interacted with representatives from any political party either online or in person throughout the election, while a majority (81.74%) had done so for 3 parties or less, despite there being a total of 11 political parties contesting for the GE2020 (see Figure 6).

Figure 6.

Share of respondents who listened to political parties



Respondents' level of education and housing type were observed to be correlated with the number of parties that respondents listened to during GE2020. Those of a higher education and those living in private properties such as condominiums and landed properties listened to more parties as compared to those with lower education or those living in smaller HDB flats respectively (see Figures 7 & 8). Given that education and housing type are often used as measures of SES in

Singapore, these findings thus imply a correlation between respondents' SES and the extent to which they engaged in political participation.

Figure 7.

Mean number of parties listened to by respondents during GE 2020

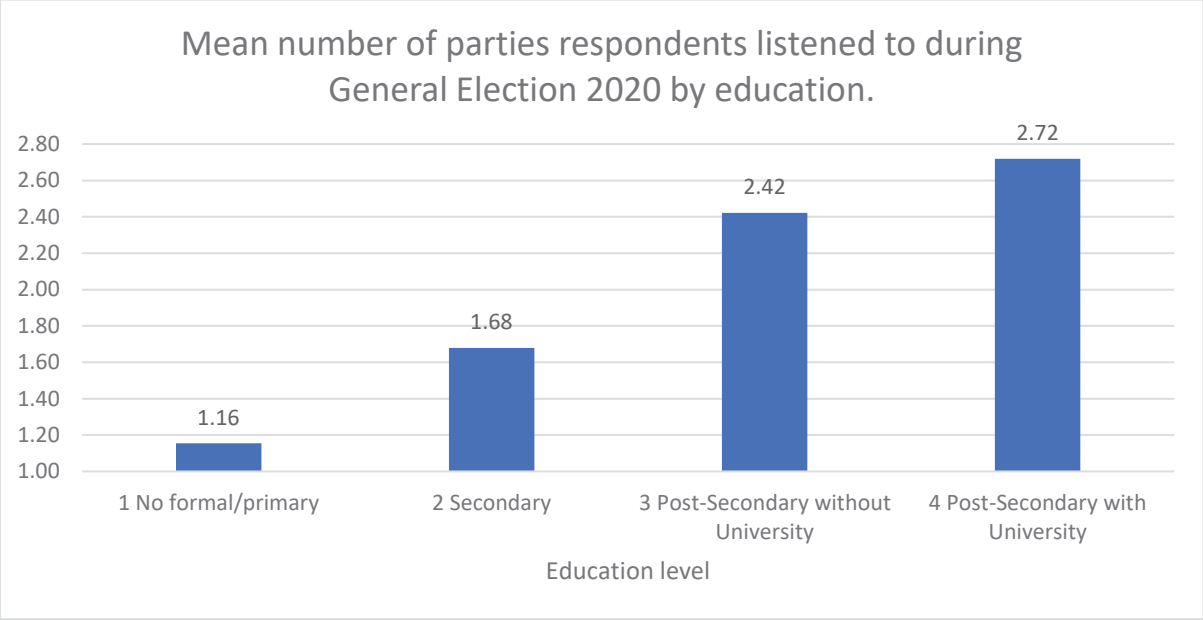
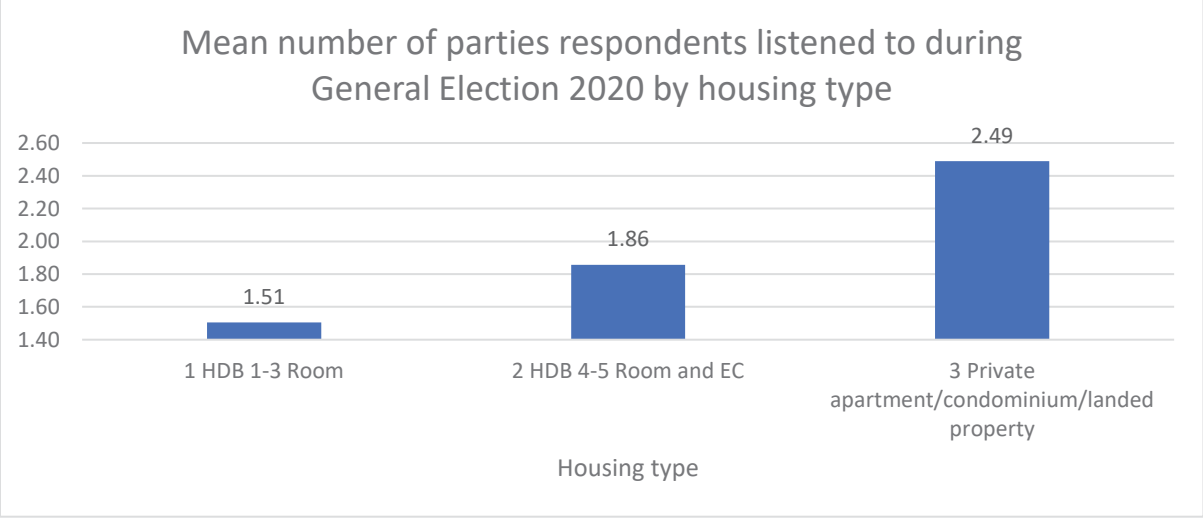


Figure 8.

Mean number of parties listened to by respondents during GE 2020, by housing type



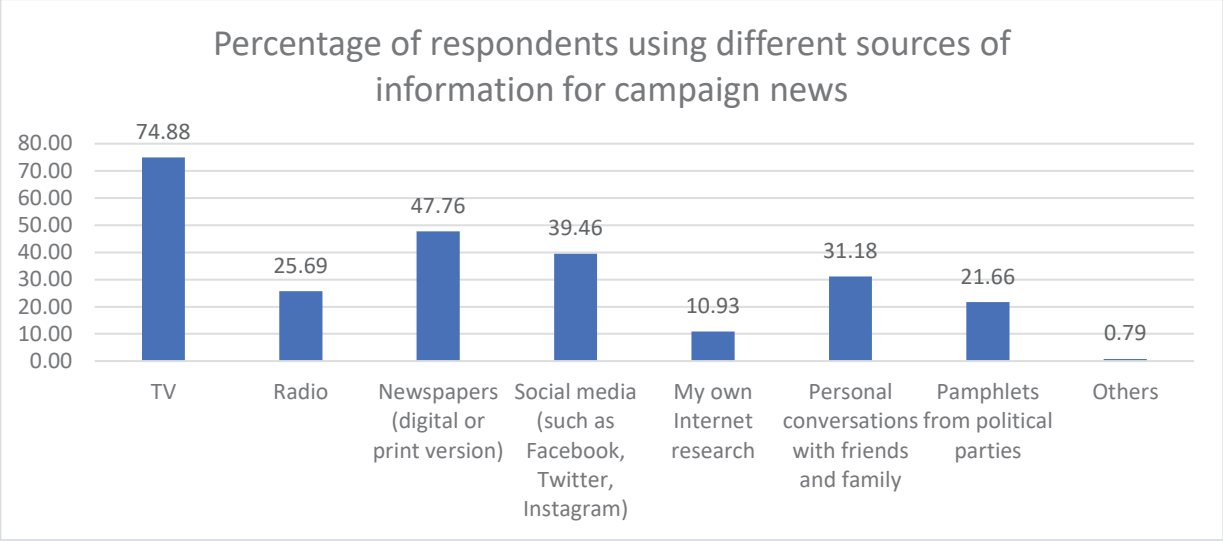
While further research is needed in order to precisely determine why such a large proportion of respondents did not listen to or interact with any parties, one possible reason for this could be due to the fact that physical rallies were not allowed as a result of the COVID-19 pandemic, and hence parties largely resorted to online platforms to interact with the electorate. This would have required older adults to adapt to using such platforms in order to be able to interact with or listen to representatives from various parties. As previous findings from the SLP have illustrated, older adults have faced difficulties adapting to the use of new technologies during COVID-19; for instance, in May 2020 it was found that only 40% and 44% of respondents felt comfortable scanning QR codes for SafeEntry and holding video conversations with friends or family respectively. It was also found that higher educated respondents were more likely to utilize non-traditional communications technologies, such as messaging apps or social media platforms, as compared to traditional communications technologies such as SMS, phone calls, and email. Thus, one possible reason for the large number of older adults not listening to or interacting with representatives from political parties during GE2020 could be that older adults faced difficulty adapting to the new platforms by which they could interact with or listen to party representatives, although higher educated older adults would not have faced as much difficulty.

SOCIAL MEDIA USE AND GE2020

In-line with the increased reliance on online platforms by political parties to interact with the electorate, it was observed that more than a third (39.46%) of older adults surveyed used social media platforms for campaign news. Social media was the third most used source of campaign information, after the Television (used by 74.88% of respondents) and Newspapers (used by 47.76% of respondents) (see Figure 9).

Figure 9.

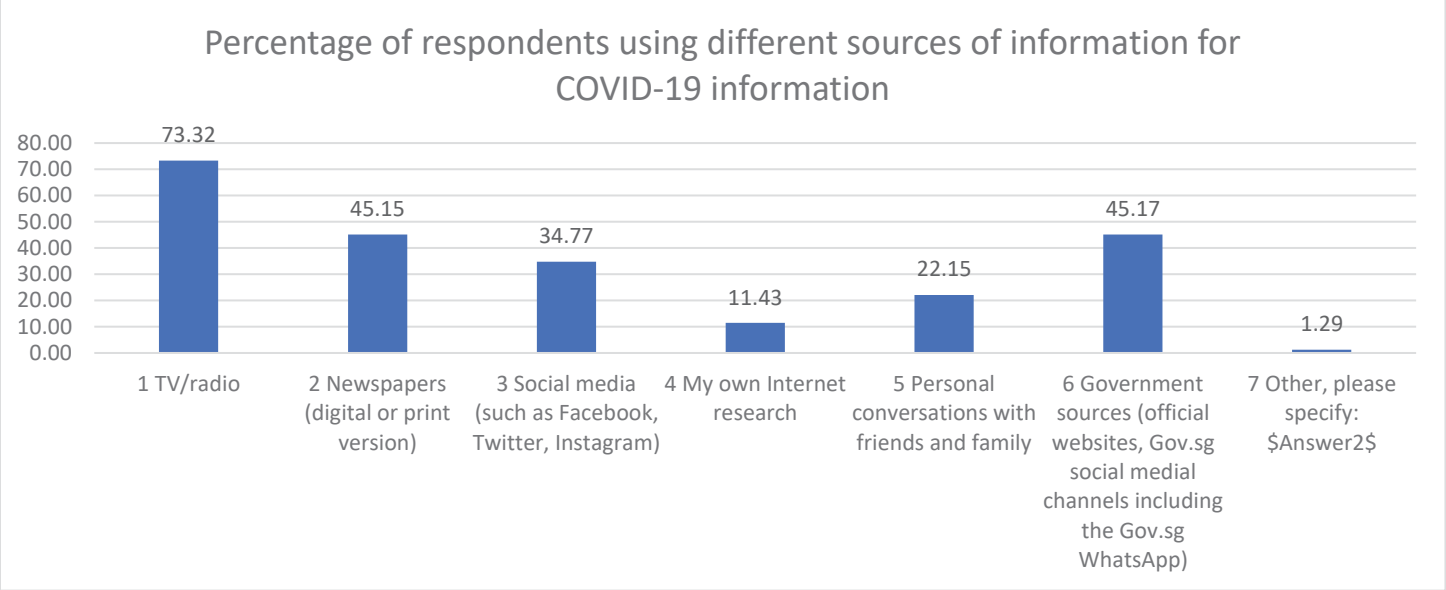
Share of respondents using different sources of information for campaign news



While respondents had not been asked previously about the sources of information they use for campaign news making it difficult to assess if there had been an increase in the use of Social media for campaign news during GE2020, in the month of May 2020 respondents were asked about the sources of information they relied on for information on the COVID-19 situation (see Figure 10). As can be seen when comparing figure 9 and 10, a smaller percentage of respondents (34.77%) relied on social media platforms for information on COVID-19 in May 2020 as compared to the percentage of respondents who relied on social media for campaign news during the GE2020, although the margin of difference is small. Also of note is the fact that 9.03% more respondents relied on personal conversations with friends and family for campaign news (31.18%) than for information on COVID-19 (22.15%).

Figure 10.

Share of respondents using different sources of information for COVID-19 information in May 2020



CONCLUSION

Given the association between voter efficacy, political engagement, and well-being among older adults, this brief thus makes a recommendation to increase feelings of voter efficacy and political engagement among older adults as a means to increase well-being.

Respondents' educational levels were shown to be significantly associated with the levels of voter efficacy and political engagement they felt, as well as their levels of political participation in the form of the number of representatives from parties they interacted with or listened to during GE2020. While this can be interpreted to be due to the fact that the higher educated tend to develop the necessary skills that enable them to be politically engaged, one's education level is also often used to reflect one's socioeconomic status (SES) in Singapore. Thus, SES-related factors are likely to have been important in shaping the level of voter efficacy and political engagement, as well as

political participation in GE2020. This is substantiated by the fact that respondents' housing type, another SES measure in Singapore, was also found to be strongly associated with their level of political participation. Such an interpretation is supported by existing literature that have illustrated that lower SES individuals are less likely to actively participate in political processes (Brown-Iannuzzi et al., 2017). Reasons for the lower level of engagement include the lack of financial resources, free time, or civic skills to be able to be as politically engaged (Nickerson, 2015).

In light of this, campaign news and information about the issues surrounding general elections should be made more accessible as a means to increase political engagement and participation, particularly for individuals of a lower SES. Such efforts would further serve to increase the well-being of these older adults as well. This is perhaps particularly important as alternative platforms such as social media platforms become increasingly relevant during general elections, a trend exacerbated during GE2020 by COVID-19 restrictions. However, while such platforms are novel for many older adults, they serve as a possible means by which political engagement and participation can be made more accessible. Various studies have shown that the presence of social media and political engagement are positively linked, and that there is a greater level of political engagement and efficacy throughout all age groups among social media users (Kenski & Stroud, 2006; Skoric et al., 2009). While a study conducted on the previous GE in 2015 showed that social media did not have a large impact on the election, it did however argue that social media users were more interested in election issues, were more likely to discuss politics with others, and participated more in offline political activities than non-users (Soon & Samsudin, 2016).

Thus, enabling lower SES older adults to use social media to access campaign news or news on the issues surrounding general elections could perhaps be one way in which political

engagement and participation can be made more accessible. The use of such platforms may be more convenient for individuals who have less time to keep updated given that the information on such platforms can be accessed by individuals at any time, as compared to, for instance, having to keep to TV schedules. This could possibly be done through conducting workshops at the community level informing older adults where they can find information regarding the issues surrounding general elections, or information on political parties and their representatives on social media platforms. Such initiatives should, however, also include equipping older adults with the skills to discern political misinformation from legitimate information, as well as to discern objective news sources, as the misuse of social media has also been shown to lead to political polarization in certain contexts (Bail et al., 2018).

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ANNEX A – PROFILE OF RESPONDENTS

Table A1. Profile of Respondents (Aug 2020)

Sample Characteristics	Proportion (%)
Age	
Median age = 63, Mean age = 63.4, Std. Dev. = 5.33	
55 - 59	27.31
60 - 64	31.14
65 - 69	23.27
70 - 74	18.29
Gender	
Male	47.43
Female	52.57
Marital status	
Married	77.89
Single (never married)	8.87
Separated	0.60
Divorced	5.42
Widowed	7.23
Ethnicity	
Chinese	86.64
Malay	6.05
Indian	5.46
Other	1.86
Housing Type	
1 and 2 Room Flat	3.04
3 Room Flat	16.12
4 Room Flat	31.73
5 Room and Executive Flats	31.66
Condominium and Apartments	10.72
Landed	6.73
Disabled/Student/Other	2.96

Sample Characteristics	Proportion (%)
Household size (including respondent and spouse)	
Median size = 3, Mean size =3.34, Std. Dev. = 1.48	
1	7.48
2	25.30
3	24.15
4	24.00
5	11.50
6	4.80
7	1.81
8	0.56
9	0.22
10	0.15
11	0.04
Educational attainment	
No formal education/Primary education	23.19
Secondary education	41.42
Post-Secondary education	35.39
Work status	
Working Full-time	30.41
Working Part-time/Flexible	14.86
Self-Employed	7.75
Unemployed/Laid off/On sick leave	6.48
Retired/Homemaker	37.54
Disabled/Student/Other	2.96

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Research Brief Series: 2C

December 2020

Staying Connected- The Importance of Social Integration on the Well-being of Older Adults

Glimpse into the Social Capital of Seniors Based on the Singapore Life Panel

INTRODUCTION

As people age, it becomes increasingly challenging to maintain a healthy level of social activity and in turn, social relationships suffer. Social relationship, a multidimensional construct inclusive of components such as network size, frequency of social contact, and closeness of ties, above others (Cao et al., 2014), is a key predictor of well-being across all ages and is especially salient for adults above their 50s (Lane et al., 2019). As such, to envisage successful ageing in Singapore, a detailed look at the trends of social relationships with age is crucial. The current paper analysed data from the Singapore Life Panel (SLP) to investigate the links between old age, social networks and well-being. Equally important in this investigation is to identify the mechanisms behind observed trends so as to provide insights for developing future strategies and policies required to ensure the healthy ageing of the Singapore elderly.

The SLP is a population representative monthly survey with a monthly sample size of 7,500 respondents that tracks the lives of Singaporeans aged 55 to 75 to understand the factors that shape

the well-being of older adults. In August, a new module which encompassed 27 new questions on social networks was fielded to respondents and table A1 shows the sample characteristics of the 61st wave. With the available data, a cross-sectional analysis was carried out to answer three key questions:

(1) What are the trends of social relationships among older adults?

(2) What are the factors affecting the trends of social relationships for older adults?

(3) How do the identified factors and trends work in tandem to affect well-being?

We aim to answer these questions to revitalise the current literature on the social networks of older adults in Singapore, and to provide guidance for policymakers, caregivers, employers, and volunteers alike, in designing interventions meant to promote the well-being of our seniors.

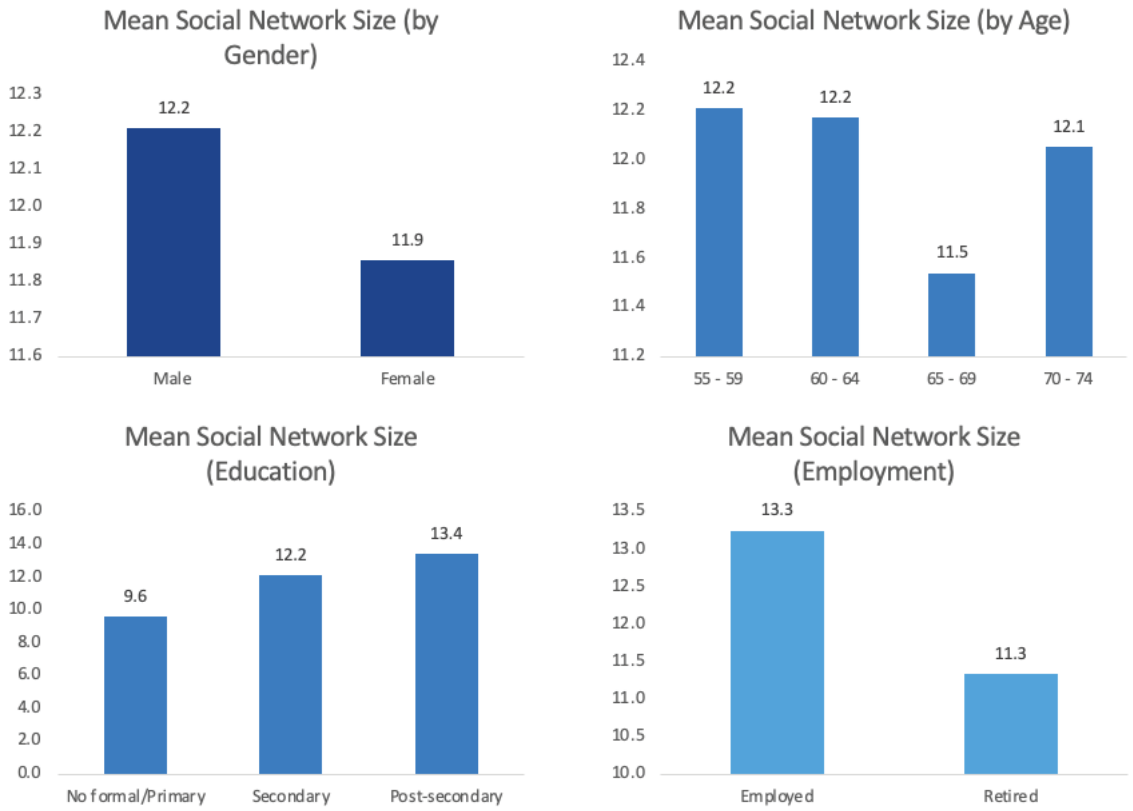
SOCIAL NETWORK CHARACTERISTICS

Network Size

To begin, the August data allowed for a closer inspection of social network sizes, in other words, the number of social contacts a respondent has, which we examine across respondents' different demographic variables. Figure 1 presents the mean network size of respondents based on their demographic groups. Interestingly, the size of an older adult's social network does not decrease with age. This is contrary to findings elsewhere such as that of Cornwell and colleagues (2008), which demonstrated that age was negatively correlated with the network size of respondents. However, considering the other demographic variables, such as level of education and employment status, data from the SLP is consistent with the literature in illustrating that a retired senior would have a smaller network while having higher levels of education is connected with bigger social network sizes.

Figure 1.

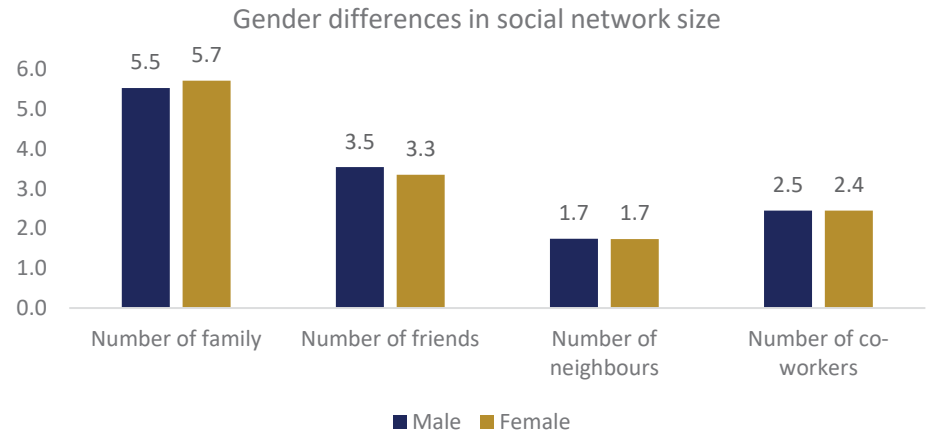
Graphs of network sizes according to gender, age, education and employment groups.



Note. Network sizes are obtained from the integer values entered in response to "How many close family/neighbours/friends do you have?", (see Annex A1 for questionnaire). From Figure 1, male respondents appeared to have greater number of total contacts than female respondents, however, consistent with past research, this difference was found to be not significant, $t(7782)= 1.26$, $p = 0.21$ (Dunbar & Spoors, 1995; Moore, 1990).

Figure 2.

Graph of gender differences in social network size

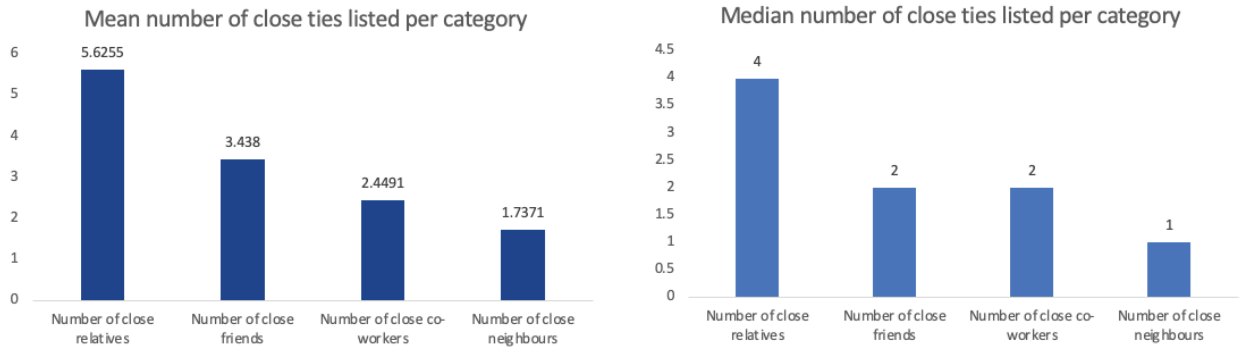


Looking at gender differences in the size of social network of older adults, Figure 2 shows that male respondents are more likely to report more friends and co-workers than female respondents while female respondents are more likely to report more family ties. To note, gender differences was only found to be significant for the number of friends reported, $t(7764) = 2.08$, $p < 0.05$.

Older adults were tasked to list the number of members in their social network by the type of relationship shared with the network member (e.g. *How many close relatives do you have*?). Figure 3 shows that overall, older adults tend to list more close relatives than any other types of network members, indicating that older adults are more likely to form close ties with family members compared to friends, co-workers and neighbours.

Figure 3.

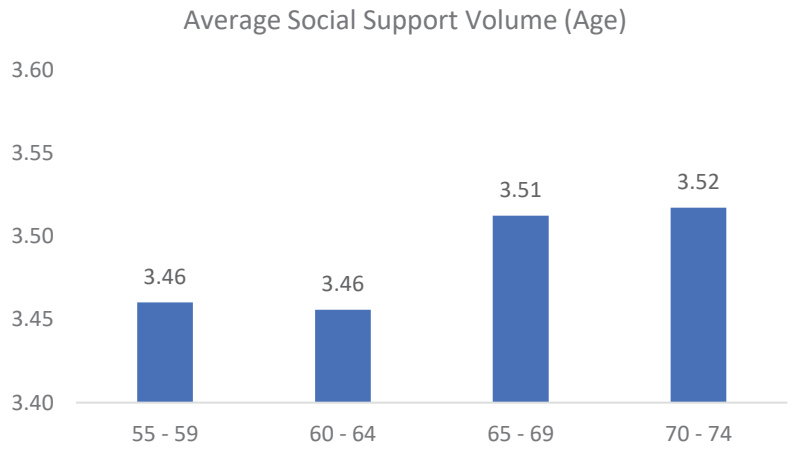
Proportion of network by type of relationship with respondent.



Other than the social network sizes of respondents, an equally interesting aspect of social networks is the volume of support a respondent perceives to have. Social support can be categorised as both emotional (e.g., receiving love and affection) or physical support (e.g. help getting out of bed). It has been argued that the size of the network only matters as much as how supportive the members of the network are to the core individual (Chan & Lee, 2006). Indeed, the influential stress-buffering hypothesis (Cohen, 1985) supports that the number of social ties around a person matters less than whether close ties are perceived to be helpful and supporting. Evidently, the quality of social networks matters more than the quantity of it. Thus, a more detailed look at older adults' infrastructures of social support could drive more insightful conversations on identifying factors that hold more influence over well-being than simply network size. Figure 3 illustrates that at older age (age 65 – 74) compared to a relatively younger age (55 – 64), respondents reported greater levels of social support received, such as how frequent they have *someone to talk to*, *count on in a time of need*, and *receive love and affection from* (see Annex A1).

Figure 4.

Graph of perceived volume of social support received according to age groups

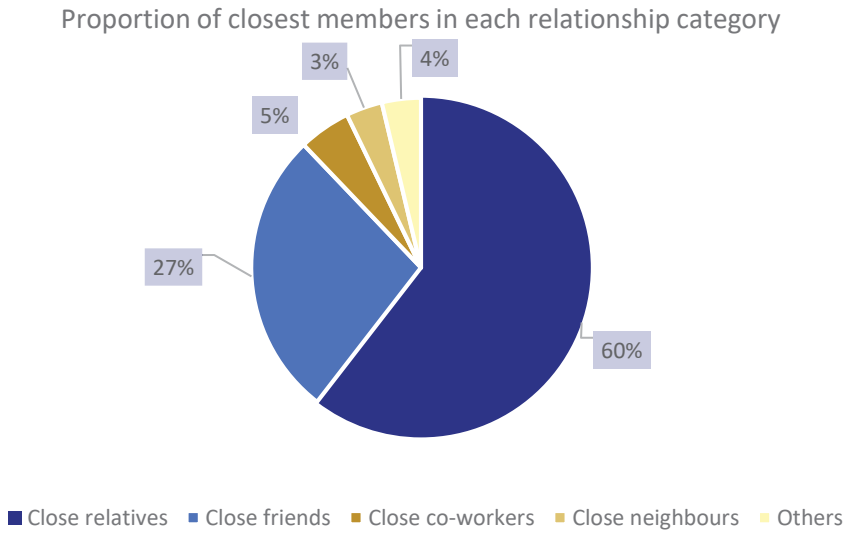


Note. Average volume of social support was obtained from the mean of the responses on a 7-item social support frequency scale (*M* = 3.48 , *SD* = 0.93, Range = 1 - 5).

Besides asking about social networks in a general manner, in August, respondents were also asked specifically about their closest contacts. To do this, they were tasked to list down the names of five people who are the closest to them (see Annex A1). They were allowed to enter less than five names. For each close contact, they were asked more detailed questions about their relationship with that person. In total, approximately 91% of respondents were able to provide all five names and a total of 37, 479 close contacts were named across 7,886 respondents. Out of these close contacts listed, 60% were close relatives, forming the large majority, while only 3% were neighbours (see Figure 5).

Figure 5.

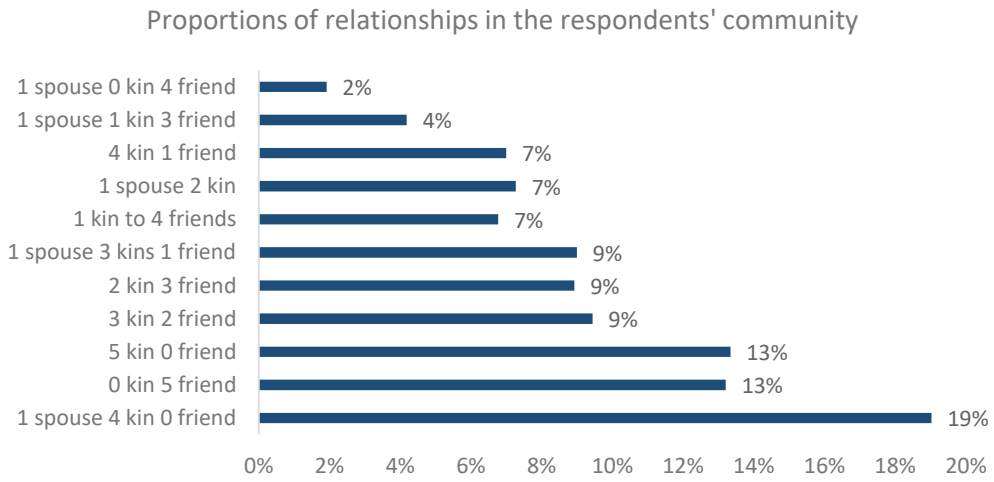
Chart of close contacts by their relationship with the respondent.



Despite the numbers being skewed towards relatives, the results also showed that older adults were equally likely (13%) to name all five names as kin or friends (see Figure 4).

Figure 6.

The division of close contacts by relationship for older adults.



Note. Friends are network members who are not the respondent's relatives (non-kin)

It is highly likely that married older adults will always list their spouse as one of the top five closest contact (48% of the time). Of note is that when older adults do list their spouse, they are then less likely to list more non-kin as close contacts than kin after. The results demonstrated that married older adults who list their spouses are more likely to list close kin than non-kin social contacts. Hence, suggesting that married older adults who are close to their spouses tend to orient towards having strong kinship over other social circles, likely due to having children as part of their close networks. Meanwhile, for older adults who either do not have a spouse or did not list a spouse as a close contact, 18% of respondents (see Figure 4) listed an almost equal proportion of kin and friends (i.e., 2 kin 3 friends or 3 kin 2 friends, where friends are simply non-kin).

Additionally, respondents were probed on how close they feel with each member, whether each of the five members knew each other, and how long they have known each other.

Table 1.

Network characteristics considering only the top five closest members.

Variables	**N**	**Mean**	**SD**	**Range**
Network closeness	7,697	16.74	3.40	1 – 20
Network density	7,635	6.72	3.33	0 - 10
Length of relationship	7,593	22.92	4.01	1 – 25

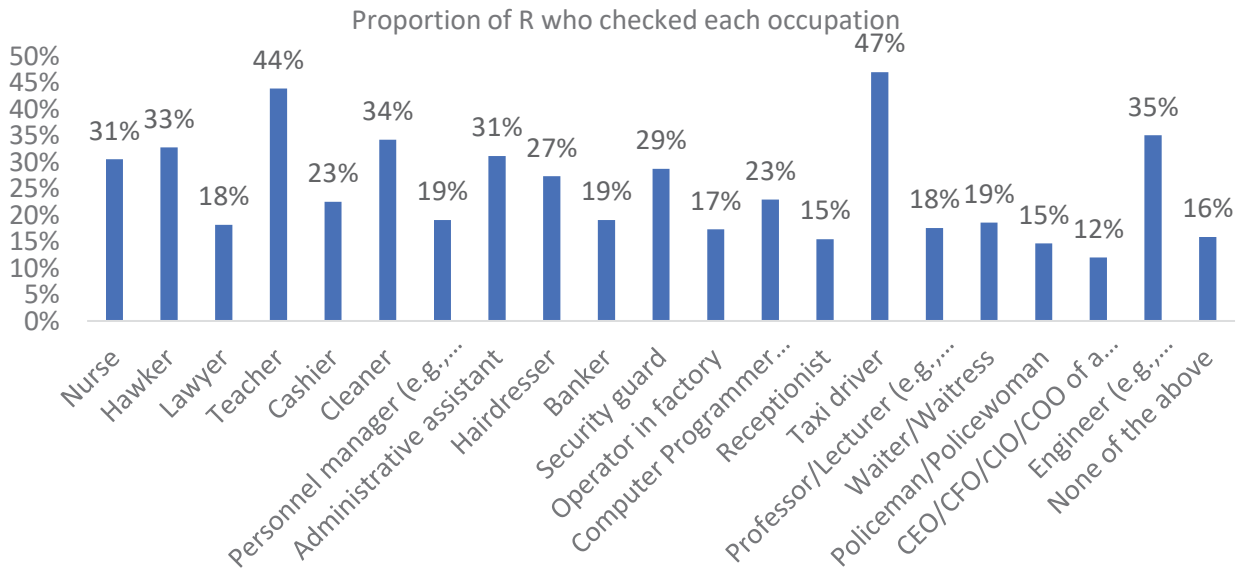
Network closeness, which is how close respondents feel towards each listed contact was measured on a 4-point scale (*1 = not close at all, 4 = very close*); for a total of five names, the maximum closeness score would be 20 points. Network density, which is a variable indicating

how well the respondent's close contacts knew each other, was measured on a 4-point scale similar to the closeness question, but was changed to a dichotomy of whether each member knew the other contacts (yes or no). Finally, for length of relationship which measures how long respondents have known each contact, respondents were asked to indicate it on a 5-point scale (*1 = less than 1 year, 5 = more than 10 years)*, hence the maximum would be 25 if all five members were known for more than 10 years. Table 1 shows the summary statistics of these variables and Annex A1 shows the questions fielded for these variables.

Finally, respondents were also asked about the weaker ties in their networks. Using a position generator question with a list of 20 different occupations, each holding a different prestige score based on the social status attached to each job respectively, respondents were tasked to list whether their network consists of these occupations (see Annex A1 for question). Figure 7 shows the proportion of respondents who listed each occupation as a social contact.

Figure 7.

Graph of proportion of respondents on position generator



Particularly of interest would be the interpretation of the prestige scores, where the higher the score, the higher the social status of the person holding that occupation (see Table A2 for scores). These scores are based on a 1991 study of occupations in Singapore (Chiew et al., 1991). Table 2 shows network characteristics such as network extensiveness, resource heterogeneity and upper reachability derived from the occupation prestige scores. Network extensiveness, measured by the number of occupations checked by each respondent, shows how many different ties exist in the respondent's network based on occupation prestige. For instance, an individual who has more acquaintances from different fields of work would have higher network extensiveness than one who only knows people within a single occupation. Resource heterogeneity is measured by the difference between the highest and lowest scoring occupation and it indicates how diverse a respondent's social network is. Meanwhile, upper reachability, measured by the highest prestige score, represents the highest 'ranking' friend each respondent has.

Table 2.

Network characteristics by prestige scores from position generator.

Variables	**N**	**Mean / Median**	**SD**	**Range**
Network extensiveness > 0[a]	6,583	6.0343 / 5	4.2214	1 – 20
Network extensiveness[a]	7,821	5.0791 / 4	4.4554	0 – 20
Resource heterogeneity	5,871	40.0538	27.1429	0 – 82
Upper reachability	5,871	69.1249	22.1359	12 – 94

Note. For *a*, mean and median were provided

Taking all of the above social network characteristics together, a comprehensive understanding of an older adult's social health in Singapore can be achieved. It is imperative to

note that each of the above characteristics has been found to influence well-being in either isolation or in tandem with other network variables. For instance, research has shown that network extensiveness, resource heterogeneity and upper reachability are all positively related to well-being, following the understanding that these three variables indicate that more social contacts are able to provide helpful resources to older adults in times of need (Huang et al., 2019). Separately, social network characteristics can also act as interactive factors that can either influence well-being or interact with other variables to affect well-being in older adults. Hence, the next step forward is to investigate these interactions in greater detail such as to gain a more comprehensive understanding of the relation between social relationships and well-being.

SOCIAL NETWORK, HEALTH AND WELL-BEING

Extensive research has shown that social networks do have an influence over the well-being of older adults and it has been separately proposed that the positive impacts of healthy social relationships on health can explain why well-being also benefits. Healthy social relationships have demonstrated to bring positive impacts to physical health and mental health and could act as a buffer for the decline in health for older adults (Ashida & Heaney, 2008; Hawe &Shiell, 2000). Furthermore, social network members provide resources for the ailing seniors to battle health issues and stay optimistic about their recovery (Yip et al., 2007). There is evidence enough to believe that through the positive impacts on health, healthy social networks can also reflect positively on well-being in old age. Several regression models were conducted to investigate this relationship and to examine the interactions between social variables on self-reported health satisfaction (M = 4.02, SD = 0.90).

Network size is one variable which positively predicts health satisfaction, but only for the number of close relatives, close neighbours and close friends, but not close co-workers. However, this relationship loses statistical significance for close relatives and close friends when the average amount of social support received by the respondent is controlled for, suggesting that the number of network ties to relatives, neighbours and friends are only important insofar as the network is supportive of the respondent. Tie quality prevails over tie quantity. Particularly, the network size of close neighbours remain positively related to health satisfaction despite controlling for social support, which could suggest that whether neighbours show high social support or not, having more of them in the network is beneficial to health (see Table A3 & A4).

A study conducted in Finland revealed that relationships with immediate family and life-long friends are important for the upkeep of mental well-being in older adults (Forsman, 2013). Such a finding might suggest that recently acquired friendships might not be relevant for successful ageing thus signifying to policymakers that promotion of community activities for the elderly to make new friends might not be effective. Thus it is imperative to test whether only friendships that have been forged for a long time matter for the quality of relationships. We found that the average length of friendship across the five contacts does not matter significantly for health satisfaction; the two factors are completely independent of one another. Meanwhile, older adults' network density is also significantly related to health satisfaction along with the number of close members listed (table A5). Taking all of the above information together, it is beneficial to encourage older adults to make new friends in their communities as having more friends (even if they are not lifelong) who know each other, is connected with higher levels of health satisfaction and thus promotes well-being.

The above trends were discussed in the context of close relationships. However, research has also demonstrated that weak social relationships, such as with acquaintances or friends who are not especially close to the ego, can also influence older adults' health and well-being (Verhaeghe & Tampubolon, 2012). We measured respondents' social capital amongst these weak ties using the position generator question where occupational prestige scores were used to derive an individual's network extensiveness, resource heterogeneity and upper reachability. Our research showed that older adults fare better in health in satisfaction when they have more friends or acquaintances in different occupations (high network extensiveness), less friends spanning across too diverse of occupations (low resource heterogeneity) or more friends in more prestigious occupations (high upper reachability). Such connections remain significant and relevant even after controlling for demographic factors such as age, gender, race, education level, and marital status above others (see Table A6).

LIMITATIONS

There are several points of caution moving forward with the above analyses. Firstly, given that the social network module is in its first month of release, there are not enough datapoints to perform time-series analyses that may provide better insight on the direction of the relationship between many of the social network variables and health satisfaction. As of now, our analyses are largely cross-sectional and correlational; caution should be had when drawing conclusions that healthy social relationships is beneficial to health satisfaction when it could be the other way round. Older adults more satisfied with their health might be more proactive at strengthening their social relationships or at least better at maintaining them as they have less worries about their health. The analyses above does not remove the possibility of such reverse causational effect. Additionally,

our findings on neighbours being important to health satisfaction might be limited in use due to the small sample size of older adults who indicated that they have neighbours as close ties.

Moving forward, the module will be fielded at least once a year to capture more data points and eventually allow us to perform a time-series analysis that may more accurately predict changes in health satisfaction with social network variables.

IMPLICATIONS

Despite the limitations, our findings have mainly showed consistencies with past research investigating the links between social networks and older adults' health. Knowing the positive relationship between social relationships and health satisfaction, which is beneficial to well-being, the next thing to consider is how to maintain such benefits for older adults. The analysis illustrated that older adults may not benefit from network if these network members do not provide support to them. As such, rather than purely encouraging consistent phone-calls or visits to older adults, greater time and resources could be provided to the close ties of an elderly to ease the act of showing care and support to older adults. For instance, a holiday such as a "Grandparents Day" that gives time-off to young working adults specifically to spend time with the elderly could incentivise them in providing support to their parents or grandparents.

Next, our research showed that neighbourly ties are important to health satisfaction both in terms of quality and quantity, hence, policies should look to establish more neighbourly ties within older adults' social networks. More close neighbours in a social network would in turn, generate contacts who are closer in proximity and are able to provide timely support. One possible scheme could be to introduce incentives to neighbours who care for each other, such as offering grocery vouchers to neighbours who are assisting each other in getting groceries. Community centre

activities could also offer better prizes for seniors who sign up with their neighbours or make their main focus to help older adults build new friendships at an older age.

CONCLUSION

Although past research has shown that social relationships are increasingly difficult to maintain or upkeep at old age, it is not impossible. The data from the SLP showed that on the preliminary level, social relationships do not decline with the increase in age and this is a positive sign for the elderly in Singapore. As demonstrated, healthy social networks that are extensive, perceived to be supportive and are tightly knitted are ideal for promoting health satisfaction of older adults in Singapore. Despite the fact that this relationship could be bidirectional, where higher health satisfaction might likewise breed healthy social relationships; some research suggests that social relationships do in fact benefit well-being of older adults (Chan & Lee, 2006; Lane et al., 2019). Therefore, sufficient emphasis should be placed on invigorating the social health of older adults in Singapore such that their physical and mental domains can be satisfied as well.

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ANNEX A

Table A1. Profile of Respondents (Aug 2020)

Sample Characteristics	Proportion (%)
Age	
Median age = 63, Mean age = 63.4, Std. Dev. = 5.33	
55 - 59	27.31
60 - 64	31.14
65 - 69	23.27
70 - 74	18.29
Gender	
Male	47.43
Female	52.57
Marital status	
Married	77.89
Single (never married)	8.87
Separated	0.60
Divorced	5.42
Widowed	7.23
Ethnicity	
Chinese	86.64
Malay	6.05
Indian	5.46
Other	1.86
Housing Type	
1 and 2 Room Flat	3.04
3 Room Flat	16.12
4 Room Flat	31.73
5 Room and Executive Flats	31.66
Condominium and Apartments	10.72
Landed	6.73
Disabled/Student/Other	2.96

Sample Characteristics	Proportion (%)
Household size (including respondent and spouse)	
Median size = 3, Mean size =3.34, Std. Dev. = 1.48	
1	7.48
2	25.30
3	24.15
4	24.00
5	11.50
6	4.80
7	1.81
8	0.56
9	0.22
10	0.15
11	0.04
Educational attainment	
No formal education/Primary education	23.19
Secondary education	41.42
Post-Secondary education	35.39
Work status	
Working Full-time	30.41
Working Part-time/Flexible	14.86
Self-Employed	7.75
Unemployed/Laid off/On sick leave	6.48
Retired/Homemaker	37.54
Disabled/Student/Other	2.96

A1. Design template for the social network module

f06080 R position generator occupations
Among your relatives, friends and acquaintances, or other people that you know well enough to talk to, do you know anyone who is of the following occupations?
Please check all that apply.
f06080s1 Nurse
f06080s2 Hawker
f06080s3 Lawyer
f06080s4 Teacher
f06080s5 Cashier
f06080s6 Cleaner
f06080s7 Personnel manager (e.g., HR manager)
f06080s8 Administrative assistant
f06080s9 Hairdresser
f06080s10 Banker
f06080s99 None of the above

f06081 R position generator occupations
And what about these occupations?
Among your relatives, friends and acquaintances, or other people that you know well enough to talk to, do you know anyone who is of the following occupations?
Please check all that apply.
f06081s11 Security guard
f06081s12 Operator in factory
f06081s13 Computer Programmer (includes software, web and multimedia developer)
f06081s14 Receptionist
f06081s15 Taxi driver
f06081s16 Professor/Lecturer (e.g., at tertiary level)
f06081s17 Waiter/Waitress
f06081s18 Policeman/Policewoman
f06081s19 CEO/CFO/CIO/COO of a big company
f06081s20 Engineer (e.g., mechanical, industrial and production, electronics, chemical, electrical)
f06081s99 None of the above

f06090 R number close relatives
For the next few questions we would like you to consider people with whom you are **close**. That is, **people that you would talk to about important things in your life**.
How many **close relatives** do you have? [IF d005=1 Married THEN FILL: Please do not include your spouse.]
[INTEGER]

f06100 R number close neighbours
Not including the people that you have already counted, how many **close neighbours** do you have?
Close neighbours are those who you would choose to talk to about important things in your life.
[INTEGER]

IF [1 Working for pay IN e001 OR 8 Self-employed in Working for pay] THEN
| **f06110 R number close coworkers**
| Not including the people that you have already counted, how many **close co-workers** do you have?
| Close co-workers are those who you would choose to talk to about important things in your life.
| [INTEGER]
ENDIF /* [1 Working for pay IN e001 OR 8 Self-employed in Working for pay]

f06120 R number close friends
Not including the people that you have already counted, how many **close friends** do you have?
Close friends are those who you would choose to talk to about important things in your life.
[INTEGER]

f06130 R close contact name generator

From time to time, most people discuss things that are important to them with others. For example, these may include good or bad things that happen to you, problems you are having, or important concerns you may have, including our current health and economic crises during COVID19. Looking back over the last 12 months, who are the people with whom you most often discussed things that were important to you?

Thinking about the **five people** with whom you are **closest,** please write down their first name or their initials to help you identify them in the following questions. These names will be removed from our database at the end of August, and will not be available in the published dataset available to researchers.

Closest person [Name 1]
Second-closest [Name 2]
Third-closest [Name 3]
Fourth-closest [Name 4]
Fifth-closest [Name 5]

IF [name 1==name 2 OR name 1 == name 2 OR name 1==name 3 OR name 1==name 4 OR name 1==name 5 OR name 2==name 3 OR name 2==name 4 OR name 2==name 5 OR name 3==name 4 OR name 3==name 5 OR name 4==name 5] THEN
| **error_duplicate_names**
| You have entered two or more names/initials that are the same. Please go back and check that you have
| reported five different names.
ENDIF

IF [name 1==EMPTY OR name 2 == EMPTY OR name 3==EMPTY OR name 4==EMPTY OR name 5==EMPTY] THEN
| **error_missing_names**
| You have not entered all five names. Please think about any other social contacts outside of those who were
| mentioned previously. For example, you may like to also consider your extended family, friends, co-workers
| and neighbours, plus anyone else with whom you may like to discuss things that are
| important to you. Please go back and add more names or initials.
ENDIF

f06140 R close contact relationship

Now we would like to ask you some questions about each of close contacts that you have just named.
What is {Name 1}'s relationship to you?
{Name1} is my:
1 Spouse/partner
2 Parent
3 Parent in-law
4 Child
5 Stepchild
6 Grandchild
7 Sibling
8 Other family member
9 Friend
10 Neighbour
11 Co-worker or boss
12 Ex-spouse
13 Minister, priest, or other clergy
14 Psychiatrist, psychologist, counselor, or therapist
15 Caseworker/Social worker
16 Housekeeper/Home health care provider/Domestic worker
17 Other, please specify: [TEXT]

[Repeat for close contacts 2-5]

f06150 R close contact gender

Please indicate the gender of each close contact.

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 Male	•	•	•	•	•
2 Female	•	•	•	•	•

f06160 R close contact race

Please indicate the race of each close contact.

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 Chinese	•	•	•	•	•
2 Malay	•	•	•	•	•
3 Indian	•	•	•	•	•
4 Other, please specify: [TEXT BOX])	•	•	•	•	•

f06170 R close contact education

What is the highest educational qualification that each close contact has?

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 No formal schooling	•	•	•	•	•
2 Primary	•	•	•	•	•
3 Secondary	•	•	•	•	•
4 Post-Secondary or Tertiary	•	•	•	•	•

f06180 R close contact age

How old is each close contact?

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 18 or younger	•	•	•	•	•
2 19 – 29	•	•	•	•	•
3 30 – 39	•	•	•	•	•
4 40 – 49	•	•	•	•	•
5 50 – 59	•	•	•	•	•
6 60 – 69	•	•	•	•	•
7 70 – 79	•	•	•	•	•
8 80 or older	•	•	•	•	•

f06190 R close contact relationship duration

How long have you known each close contact?

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 Less than 1 year	•	•	•	•	•
2 1 to 3 years	•	•	•	•	•
3 4 to 7 years	•	•	•	•	•
4 7 to 10 years	•	•	•	•	•
5 More than 10 years	•	•	•	•	•

f06200 R close contact coresidence

Does the listed person live in the same residence as you?

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 The same household as me	•	•	•	•	•
2 Another household in Singapore	•	•	•	•	•
3 Abroad	•	•	•	•	•

f06210 R close contact how often

How often do you contact each close contact?

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 Daily	•	•	•	•	•
2 Several times a week	•	•	•	•	•
3 Once a week	•	•	•	•	•
4 1 – 3 times a month	•	•	•	•	•
5 Several times a year	•	•	•	•	•
6 Once a year or less	•	•	•	•	•

f06220 R close contact method

Which method(s) of contact do you use with each close contact?

Please check all that apply.

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
f06220s1 Physical meet-up (including both arranged and chance meetings)	☐	☐	☐	☐	☐
f06220s2 Phone call	☐	☐	☐	☐	☐
f06220s3 Video call	☐	☐	☐	☐	☐
f06220s4 Messaging including with SMS, WhatsApp, Telegram, Facebook Messenger, etc.	☐	☐	☐	☐	☐
f06220s5 Social Media (e.g. Facebook, Twitter, etc)	☐	☐	☐	☐	☐
f06220s6 Exchanging emails	☐	☐	☐	☐	☐

f06230 R close contact how close

How close would you say you are with each close contact?

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 Not at all close	•	•	•	•	•
2 Not very close	•	•	•	•	•
3 Quite close	•	•	•	•	•
4 Very close	•	•	•	•	•

f06240 R close contact relationship satisfaction

How satisfied are you with your relationship with each close contact?

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 Very dissatisfied	•	•	•	•	•
2 Somewhat dissatisfied	•	•	•	•	•
3 Slightly dissatisfied	•	•	•	•	•
4 Slightly satisfied	•	•	•	•	•
5 Somewhat satisfied	•	•	•	•	•
6 Very satisfied	•	•	•	•	•

f06250 R close contact medical advice likelihood

How likely are you to seek medical advice from each close contact?

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 Very unlikely	•	•	•	•	•
2 Somewhat unlikely	•	•	•	•	•
3 Slightly unlikely	•	•	•	•	•
4 Slightly likely	•	•	•	•	•
5 Somewhat likely	•	•	•	•	•
6 Very likely	•	•	•	•	•

f06260 R close contact discussed covid

Please indicate if you have discussed COVID-19 matters with each close contact.

	{Name_1}	{Name_2}	{Name_3}	{Name_4}	{Name_5}
1 Yes, I have discussed COVID-19 with this person	•	•	•	•	•
2 No, I have not discussed COVID-19 with this person	•	•	•	•	•

f06270 R close contact network density

For each of the following pairs of your close contacts, please indicate how close they are to each other.

	1 Not at all close	2 Not very close	3 Quite close	4 Very close
f06270s1a {Name1} & {Name2}	•	•	•	•

f06270s2a {Name1} & {Name3}	•	•	•	•
f06270s3a {Name1} & {Name4}	•	•	•	•
f06270s4a {Name1} & {Name5}	•	•	•	•
f06270s5a {Name2} & {Name3}	•	•	•	•
f06270s6a {Name2} & {Name4}	•	•	•	•
f06270s7a {Name2} & {Name5}	•	•	•	•
f06270s8a {Name3} & {Name4}	•	•	•	•
f06270s9a {Name3} & {Name5}	•	•	•	•
f06270s10a {Name4} & {Name5}	•	•	•	•

Table A2.

Occupation	**Singapore Prestige Score**
Nurse	56
Hawker	29
Lawyer	94
Teacher	68
Cashier	35
Cleaner	12
Personnel Manager	72
Administrative Assistant	43
Hairdresser	29
Banker	87
Security Guard	12
Operator (in factory)	21
Computer Programmer	65
Receptionist	26
Taxi Driver	23
Professor	96
Waiter	7
Policeman	47
CEO	86
Engineer	89

Table A3.

Regression Model for social network size and health satisfaction

	Model 1				Model 2			
Variables	Coeff.	SE	Z	p	Coeff.	SE	z	p
Number of close relatives	.0055	.0021	2.62	.009	.0023	.0020	1.17	.241
Number of close neighbours	.0213	.0059	3.62	.000	.0224	.0055	4.09	.000
Number of close co-workers	.0060	.0047	1.27	.204	.0037	.0044	0.84	.403
Number of close friends	.0165	.0039	4.27	.000	.0066	.0036	1.82	.069
Age	.0023	.0022	1.02	.310	.0019	.0021	0.93	.355
Male	-.0514	.0267	1.93	.054	-.0219	.0249	-0.88	.380
Chinese	-.1167	.0395	2.96	.003	-.0727	.0369	-1.97	.049
Below Secondary	-.1327	.0337	3.94	.000	-.1300	.0315	-4.13	.000
Housing (4-rooms to Multigenerational HDB)	.0035	.0271	0.13	.897	.0133	.0253	0.52	.600
Married	.0990	.0334	2.97	.003	-.0319	.0316	-1.01	.313
Employed	Omitted							
Average social support					.3246	.0133	24.37	.000

Table A4.

Regression model for size of top 5 closest network members and health satisfaction

	Model 1				Model 2			
Variables	Coeff.	SE	z	p	Coeff.	SE	z	p
Number of close relatives	.0349	.0131	2.66	.008	.0089	.0131	0.68	.499
Number of close neighbours	.0559	.0216	2.59	.010	.09100	.0216	4.22	.000
Number of close co-workers	.0380	.0191	1.99	.047	.0517	.0189	2.73	.006
Number of close friends	.0599	.0137	4.38	.000	.0585	.0136	4.30	.000
Age	-.0010	.0016	-0.60	.551	-.0012	.0016	-0.73	.465
Male	-.0441	.0210	-2.10	.036	-0.106	.0208	-0.51	.609
Chinese	-1.419	.0292	-4.86	.000	-.0995	.0289	-3.44	.001
Below Secondary	-1.851	.0242	-7.65	.000	-.1720	.0239	-7.19	.000
Housing (4-rooms to Multigenerational HDB)	.0066	.0206	0.32	.747	.0033	.0203	0.16	.872
Married	.0992	.0250	3.96	.000	.0878	.0247	3.55	.000
Employed	.1494	.0216	6.91	.000	.1426	.0247	6.67	.000
Average closeness					.3029	.0214	15.78	.000

Table A5.

Regression model for length of friendship, network density and health satisfaction

	Model 1				Model 2			
Variables	Coeff.	SE	t	p	Coeff.	SE	t	p
Number of close members	.0986	.0157	6.28	.000	.0937	.0197	4.74	.000
Length of relationship	.0057	.0167	0.34	.731	.0001	.0173	0.01	.994
Age	-.0010	.0016	-0.61	.541	-.0013	.0017	-0.79	.428
Male	-.0370	.0210	-1.76	.078	-.0357	.0212	-1.69	.092
Chinese	-.1381	.0294	-4.70	.000	-.1386	.0296	-4.68	.000
Below Secondary	-.1882	.0242	-7.77	.000	-.1947	.0246	-7.90	.000
Housing (4-rooms to Multigenerational HDB)	-.0012	.0206	-0.06	.953	-.0020	.0208	-0.10	.923
Married	.0996	.0250	3.98	.000	.0886	.0253	3.50	.000
Employed	.1432	.0213	6.74	.000	.1427	.0214	6.67	.000
Network Density					.0067	.0032	2.07	.039

Table A6.

Regression model for weak social ties using position generator and health satisfaction

	Model 1				Model 2			
Variables	Coeff.	SE	z	p	Coeff.	SE	z	p
Number of occupations (Extensiveness)	.0227	.0039	5.78	.000	.0202	.0039	5.11	.000
Resource heterogeneity	-.0019	.0007	-2.63	.009	-.0019	.0007	-2.63	.009
Upper reachability	.0052	.0007	7.62	.000	.0048	.0007	6.68	.000
Age					-.0002	.0018	-0.09	.929
Male					-.0458	.0235	-1.95	.052
Chinese					-.0993	.0324	-3.06	.002
Below Secondary					-.1354	.0290	-4.67	.000
Housing (4-rooms to Multigenerational HDB)					.0296	.0232	1.28	.201
Married					.0852	.0280	3.04	.002
Employed					.1196	.0239	5.00	.000

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ABOUT THE CENTRE FOR RESEARCH ON SUCCESSFUL AGEING (ROSA)

ROSA is a multidisciplinary research centre based in SMU. It was established with an MOE Tier 3 social sciences research grant, as well as the generous support of The Ngee Ann Kongsi. Research at ROSA seeks to define and measure a holistic construct of well-being and to identify the factors that impact Singaporeans' well-being as they progress through the later phases of life. Through close collaboration with government and other partner agencies, ROSA also aims to translate research insights into policy innovations that advance the well-being of older adults holistically and promote successful ageing in Singapore. ROSA brings together a diverse team of leading international and local researchers in ageing and age-related issues from various disciplines. Through empirical evidence derived from a longitudinal methodological approach, the multidisciplinary and multi-institutional research team advances propositions that promote successful ageing in Singapore.

For any additional comments or inquiries regarding this research brief series, please email us at rosa@smu.edu.sg.