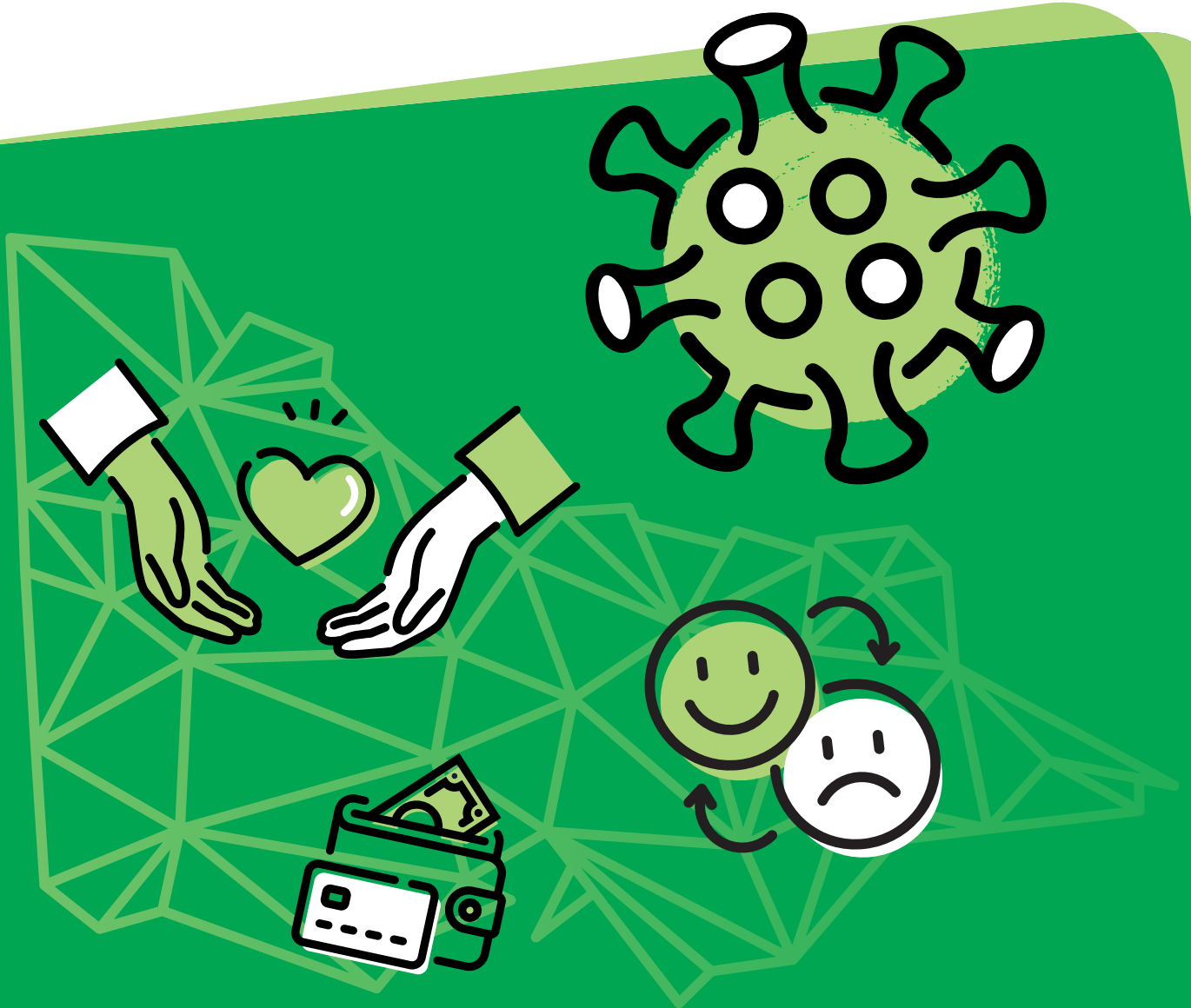


VicHealth Coronavirus Victorian Wellbeing Impact Study: **Follow-up survey**

Summary of surveys #3 (January 2022) & #4 (June 2022)

How the pandemic waves impacted the
health and wellbeing of Victorians



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Executive Summary

The COVID-19 pandemic adversely impacted the mental health and wellbeing of many Australians, with some population groups, such as students, young people, women and people with existing health comorbidities, carrying a heavier burden.

This report details findings from the Victorian population on their general wellbeing, mental health, social connection and experiences of financial hardship, based on the findings from four surveys conducted by the Social Research Centre (SRC) for VicHealth, as part of VicHealth's Coronavirus Victorian Wellbeing Impact Study. The VicHealth Coronavirus Victorian Wellbeing Impact Study is the largest repeated cross-sectional study on the mental health of people living in Victoria, with collected data on four occasions from 2020 to 2022. Survey 1 in June 2020, Survey 2 in September 2020, Survey 3 in January 2022, and Survey 4 in June 2022.

The findings in this report align with previous research about the impact of the pandemic on mental health and wellbeing¹⁻³ Despite the clear burden placed on mental health by the pandemic, few studies have examined the lasting effects after restrictions. The VicHealth surveys contribute by allowing us to analyse mental health indicators during and after pandemic restrictions at several time points.

Findings

In general, the prevalence of high psychological distress among the Victorian population gradually increased from Survey One (16%), Two (17%) and Three (18%) and decreased in Survey Four (16%), but did not return to pre-pandemic levels (15%). We also found that, during the pandemic restrictions occurring in Survey One and Two, subjective wellbeing were low (score of 65 in Survey One and 62 in Survey Two), and they have not yet reached pre-pandemic levels (score of 77); though, it is trending upwards (score of 65 in Survey Three and 68 in Survey Four). The prevalence of low-mid life satisfaction increased during the pandemic restrictions and from pre-pandemic level (20%) to Survey One (42%) and Survey Two (53%), and decreased after the pandemic restrictions (42% at Survey Three and 33% at Survey Four), but not at the level observed pre-pandemic.

Similarly, social connection decreased during the pandemic restrictions (37% felt connected to others in Survey One and 31% in Survey Two) compared to pre-pandemic levels (57% felt connected to others). However, the adverse impacts of the restrictions on social connection began reducing at the time of Surveys Three (49% felt connected to others) and Four (52%). Yet, counter to this trend, the proportion of people with any financial hardships increased enormously after Survey Two (21% experienced financial hardship) and became concerningly higher in Surveys Three and Four, at 35% for both survey periods. People facing financial difficulties, understandably, were adversely impacted by the restrictions on their ability to work and find new jobs. In addition, restrictions on social interaction made it challenging for people living alone or without their family to feel connected and supported. These findings relating to financial hardship, and social interactions of Australians throughout the pandemic are similarly reported in the literature.⁴⁻⁷

While there have been a general pattern of improvement in life satisfaction or subjective wellbeing from Survey Two to Survey Four, people who were unemployed, those earning less than \$40,000, living in a share house and eligible for JobSeeker have not shown the same level of change as other groups in the last two surveys. Some sub-populations experienced high proportions of high psychological distress across all time points: those with a disability; those with an income less than \$40,000; unemployed and; and younger Victorians (18 – 34 years old).

Even during the last two surveys which occurred in 2022, those who were unemployed, earned less than \$40,000, self-reported a disability and were eligible for JobSeeker payments continued to feel more concern about their loss of connection to their community and those outside of their household than others. Moreover, the sub-populations with the highest levels of reported financial hardship in the final survey included those unemployed; earning household income less than \$40,000; eligible for JobSeeker; and younger than 34 years old.

Our finding that people with a disability were more severely affected is unsurprising, although has not been researched in detail in general community-based studies. However, several previous studies have described poorer mental health among people with an existing comorbidity, and perhaps people with disabilities were included in this group or experience similar impacts. There were several characteristics that had been identified by previous studies such as risk factors for poorer mental health during the pandemic that were not as apparent in our surveys. In particular, women and young people are frequently reported as having higher levels of psychological distress and lower wellbeing.

Implications for the present and future

The mental health of Victorians has yet to return to pre-pandemic levels. People who experience disadvantages such as financial constraints, isolated living circumstances or disability, amongst others, were especially vulnerable to worsening mental health and wellbeing during the COVID-19 pandemic, highlighting the existing social and economic inequities that were exacerbated by the pandemic.

We need multi-sectoral population level mental health policy responses to support recovery and enable resumption of socially and economically productive lives. These also require an equity lens to ensure the adverse consequences for the most affected groups are mitigated. Extra, targeted support through government initiatives and community organisations are vital. Equally important, policies and programs should enable and enhance social connection and cohesion, and support inclusive community initiatives as part of a comprehensive policy response.

Acknowledgements:

This report was prepared in collaboration with Global and Women's Health, Monash University, and The Social Research Centre.

1. Introduction

In early 2020, as COVID-19 emerged as a threat to population health, various strategies were implemented by the Federal and state governments to reduce spread of the virus, including border closures, stay-at-home orders, school closures, restrictions on social gatherings, mask wearing, and curfews, amongst others. Whilst most states and territories ended restrictions after the first wave in 2020, Victoria experienced several extended lockdowns throughout 2020 and 2021.

Considerable amount of research has been conducted since the beginning of the pandemic about the impact on mental health and wellbeing, highlighting the alarmingly negative impact global crises, such as a pandemic, can have on mental health and wellbeing of the population.

Psychological distress has been measured among both the general Australian population and specific groups within society, such as students.^{1-3,5,8-13} The prevalence of high psychological distress ranged from 18% to 48%, with most studies finding one in three people experiencing psychological distress during the pandemic.^{2,3} Risk factors associated with higher levels of psychological distress included younger age, female or gender-diverse, pre-existing mental health condition, fear about COVID-19. Several studies also reported protective factors, including exercise and older age.^{1-3,8,12,13}

The pandemic restrictions affected the social connection of Australian families throughout 2020 and 2021.¹⁴ Older Australians felt especially less connected where almost one in five people over 70 had daily contact with family they didn't live with compared with two in five people under 40.¹⁴ Lack of free time, COVID restrictions, distance and financial constrains made it difficult to maintain social connection.¹⁴

Of the few studies reporting on wellbeing, the prevalence of low wellbeing in Australia ranged between 45% to 65% during the pandemic.^{15,16} Women, younger Australians and those experiencing forms of worse mental health were at higher risk of lower wellbeing, whereas older Australians and those financially stable had reduced risk of low wellbeing.¹⁵⁻¹⁹

While Australian studies on experiences of financial hardship during the pandemic is limited, a few have observed high prevalence of financial hardship during and after the pandemic restrictions.^{7,20,21} Older Australians, students and women were among those vulnerable to financial hardships.²⁰⁻²⁴

In 2020 and 2022, VicHealth undertook the Coronavirus Wellbeing Impact Study. This study comprised of a series of repeated cross-sectional surveys conducted by SRC, to understand the health and wellbeing impacts of the pandemic on people in Victoria. Data from the surveys show changes in population health and wellbeing across time, through the lockdowns to the current time. They also provide important information on groups of Victorians whose health and wellbeing were concerningly the most compromised during the restrictions and slowest to recover from the impact of the pandemic.

2. Survey methods

The VicHealth Coronavirus Victorian Wellbeing Impact Surveys One, Two, Three and Four were conducted via an opt-in 'research only' online panel (i.e., non-probability panel). While Surveys One and Two targeted Victorians residents aged 18 years and above, the in-scope population for Surveys Three and Four were Victorians aged 16 years and over. The surveys were developed by VicHealth in consultation with the Social Research Centre with a range of health behaviour and general wellbeing questions.

Survey One commenced on 31st May 2020 and concluded 8th June 2020. The total achieved sample size was 2,000. In Survey One, respondents were asked about their healthy lifestyle behaviours and wellbeing in the first pandemic wave, and to recall their experiences and behaviours in February 2020, before the pandemic restrictions came into effect. It is important to note that responses related to February 2020 relied on retrospective recall. Therefore, direct comparison to these results were not made. It is provided as a point of reference only. The detailed findings from Survey One can be accessed on the VicHealth Coronavirus Wellbeing Impact Study website page (<https://www.vichealth.vic.gov.au/media-and-resources/publications/coronavirus-victorian-wellbeing-impact-study>).

Survey Two, which occurred during the second lockdown, commenced on 10th September 2020 and concluded on 21st September 2020. It included 1,008 respondents who were re-contacted from Survey One and 992 'new' respondents (i.e., those who did not complete Survey One), to boost the total sample size to n=2,000. The detailed findings from Survey Two can be accessed on the VicHealth Coronavirus Wellbeing Impact Study website page (<https://www.vichealth.vic.gov.au/media-and-resources/publications/coronavirus-victorian-wellbeing-impact-study>).

Additional survey items in Survey Two compared to Survey One included community group participation, parental report of physical activity and healthy eating behaviours for their children aged one to 17 years, and perceived positive and negative impacts of pandemic restrictions.

Survey Three, which occurred during the third pandemic wave, commenced on 17th January 2022 and concluded on 2nd February 2022. Survey Four commenced on 14th June 2022 and concluded on 26th June 2022. While the sample population of Surveys One and Two were 2,000 each, the third and fourth surveys incorporated a booster sample of Victorian residents aged 16 to 25 years old participants to allow for a more detailed analysis by age to be conducted. The additional sampled of Victorians 16 to 25 years old were 493 for Survey Three and 500 for Survey Four, bringing the sample population to 2,349 for Survey Three and 2,500 for Survey Four. Of the total sample there were 4,902 completed one survey, 1,169 that completed two surveys, 311 that completed three surveys and 205 that completed all four surveys.

The opt-in panel used for all four surveys was LiveTribe, a research-only panel operated and managed by i-Link Research. LiveTribe panellists are recruited via a blend of print media, online marketing initiatives, direct mail, social media platforms, affiliate partnerships, personal invitations and a range of other ad-hoc initiatives. Respondents of the survey received a nominal incentive for their participation in line with panel guidelines. A number of key questions were also asked on Life in Australia™, Australia's most methodologically rigorous online panel, to allow for calibration of the final sample with robust probability-based benchmarks.

The 20-minute survey questionnaire was developed by VicHealth in consultation with the Social Research Centre. The broad areas included in each of the questionnaires were:

- general wellbeing
- social connection
- physical activity
- healthy eating
- alcohol consumption and smoking
- working and home life during the third pandemic wave
- parent report of children's physical activity, healthy eating and mental wellbeing

Items on socio-demographic characteristics were also included in each survey including age, gender, income, main activity (e.g., employed, student, retiree), household arrangement, region of resident (e.g., metro, interface, regional city, shire). Interface refers to a group of municipalities that form a ring around the edges of metropolitan Melbourne.

Additional survey items in Survey Three and Four compared to Surveys One and Two included impacts on child mental health.

Different question styles were used to minimise respondent fatigue and enhance engagement with the survey, for example, Likert scales, closed-ended questions and open-ended questions. Current guidelines were followed to ensure questions were as user-friendly as possible for respondents, regardless of the device being used to access the survey – for example, mobile phones, tablets, desktops or laptops. For information on weighting and analysis techniques please see Appendix 1.

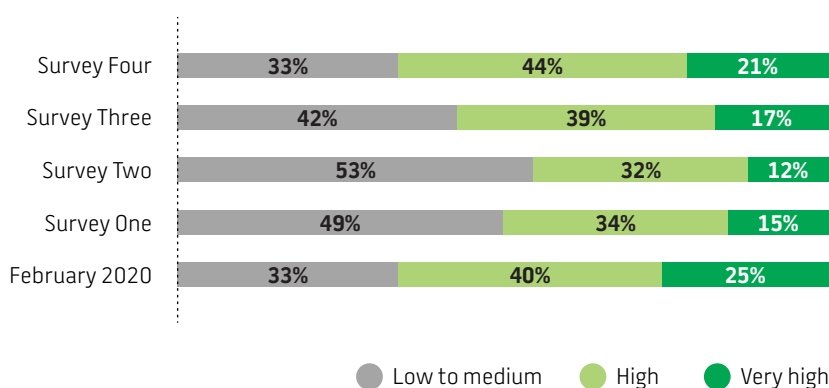
3. Findings

3.1. Differences in General Wellbeing and Mental Health

3.1.1. Life satisfaction

To measure overall life satisfaction among Victorian respondents, respondents were asked to rate their “satisfaction with their life as a whole” on a scale of 0 (completely dissatisfied) to 10 (completely satisfied). A score of 6 or lower was determined to be low to medium life satisfaction in line with definitions used in the Victorian Population Health Survey. A score of 7 or 8 refers to high life satisfaction and 9 or 10 refers to very high life satisfaction. In Survey One, respondents were also asked to provide a rating of their life satisfaction during February 2020 using the same scale, however as this result relies on retrospective recall, significance testing was not conducted; it is provided as a point of reference only. There was a substantial increase in the proportion of low to medium life satisfaction from February 2020 to Survey Two. That proportion decreased consistently in the last two surveys to approach the number from February 2020 (Figure 1).

Figure 1 Satisfaction with life as a whole



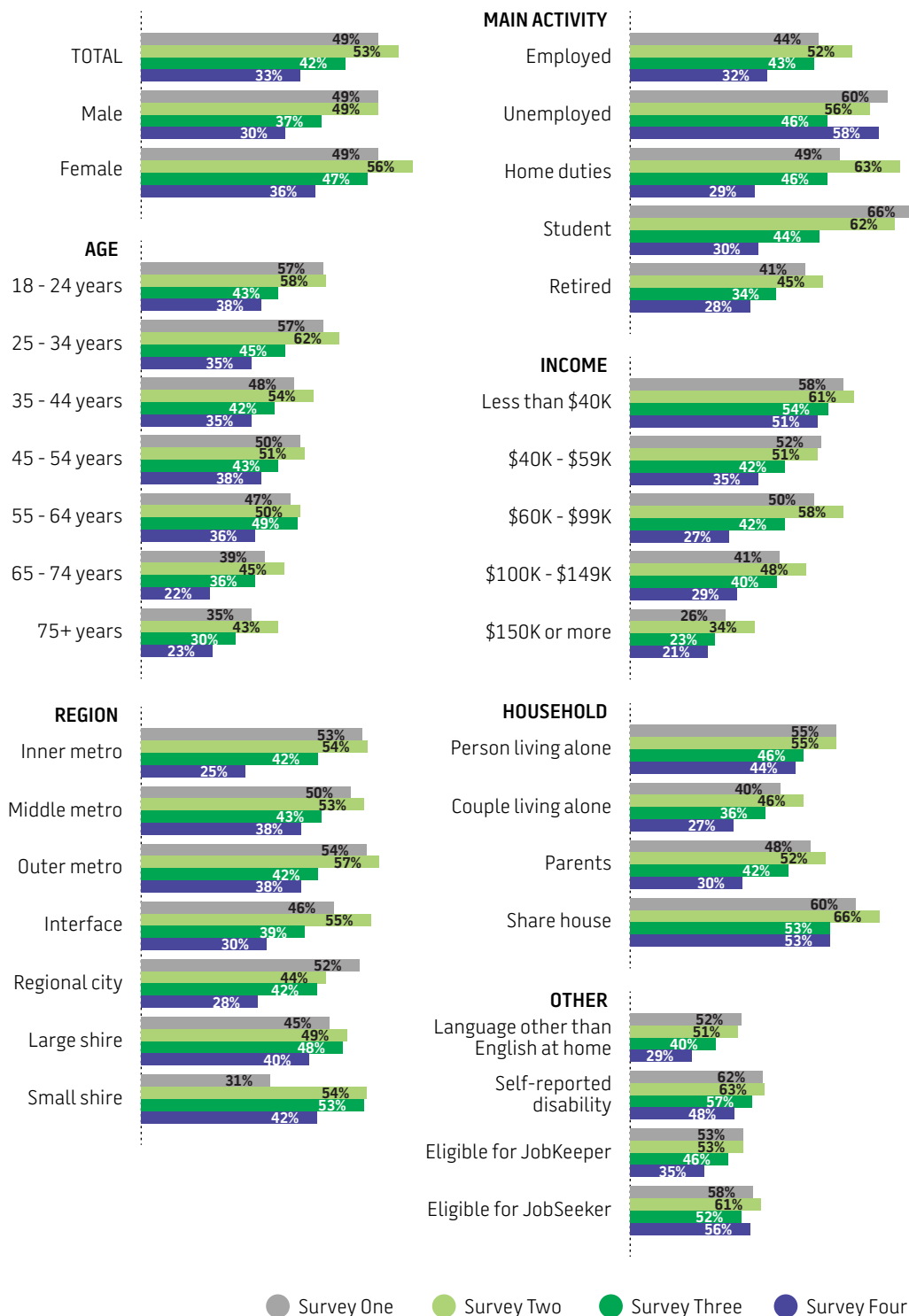
Question: Thinking about your own life and your personal circumstances, how satisfied are you with your life as a whole?
Please use a scale from 0–10, where 0 is completely dissatisfied and 10 is completely satisfied.

Base: All – Survey Four (n=2,444), Survey Three (n=2,334), Survey Two (n=2,000), Survey One (n=2,000).

Note: Figures do not add to 100% because the following are not shown: Not sure – Survey Four (1%), Survey Three (1%), Survey Two (2%), Survey One (2%); and Prefer not to say – Survey Four (1%), Survey Three (1%), Survey Two (1%), Survey One (1%).

Figure 2 shows sub-population differences of those who provided a low to medium rating for their life satisfaction in Surveys One, Two, Three and Four. While there was a general pattern of improvement in life satisfaction from Survey Two to Survey Four, this was not even for all groups and for all time points. People who were unemployed, those earning less than \$40,000, living in a share house and eligible for JobSeeker did not show the same level of change as other groups in the last two surveys.

Figure 2 Low-medium life satisfaction – Victorian and sub-population frequencies



Question: Thinking about your own life and your personal circumstances, how satisfied are you with your life as a whole? Please use a scale from 0–10, where 0 is completely dissatisfied and 10 is completely satisfied.
 Base: All – Survey Four (n=2,444), Survey Three (n=2,334), Survey Two (n=2,000), Survey One (n=2,000).
 Note: Figures do not add to 100% because the following are not shown: Not sure – Survey Four (1%), Survey Three (1%), Survey Two (2%), Survey One (2%); and Prefer not to say – Survey Four (1%), Survey Three (1%), Survey Two (1%), Survey One (1%).

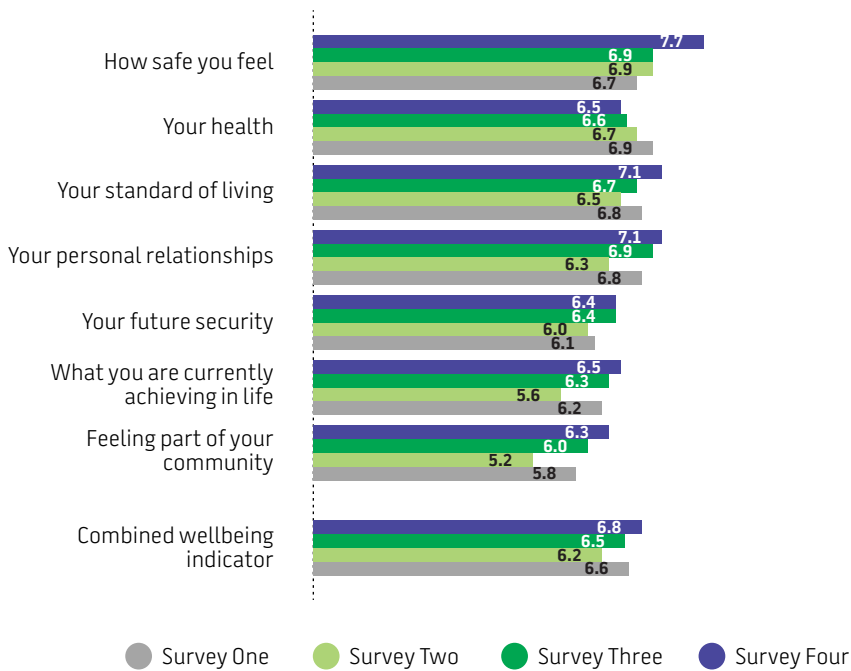
3.1.2. Subjective wellbeing

The Personal Wellbeing Index was used as a measure of subjective wellbeing. 25 Respondents were asked to rate their satisfaction with a variety of life aspects that divide subjective wellbeing into seven domains. Response options were on a scale of 0 (completely dissatisfied) to 10 (completely satisfied).

A comparison of the subjective wellbeing domain scores between the surveys can be found in figure 3. Significantly higher average scores were observed for Victorians in Survey Four compared to the previous surveys for their level of satisfaction with their safety, personal relationships and feeling a part of the community.

Though, concerningly, the health score decreased from Survey One to Four, indicating Victorians felt, on average, increasingly less satisfied with their health.

Figure 3 Subjective wellbeing domain scores and overall score



Question: Turning now to various areas of your life. How satisfied are you with...?

Base: All excluding Not sure and Prefer not to say – Survey Four (n=2,329), Survey Three (n=2,285), Survey Two (n=1,835), Survey One (n=1,710).

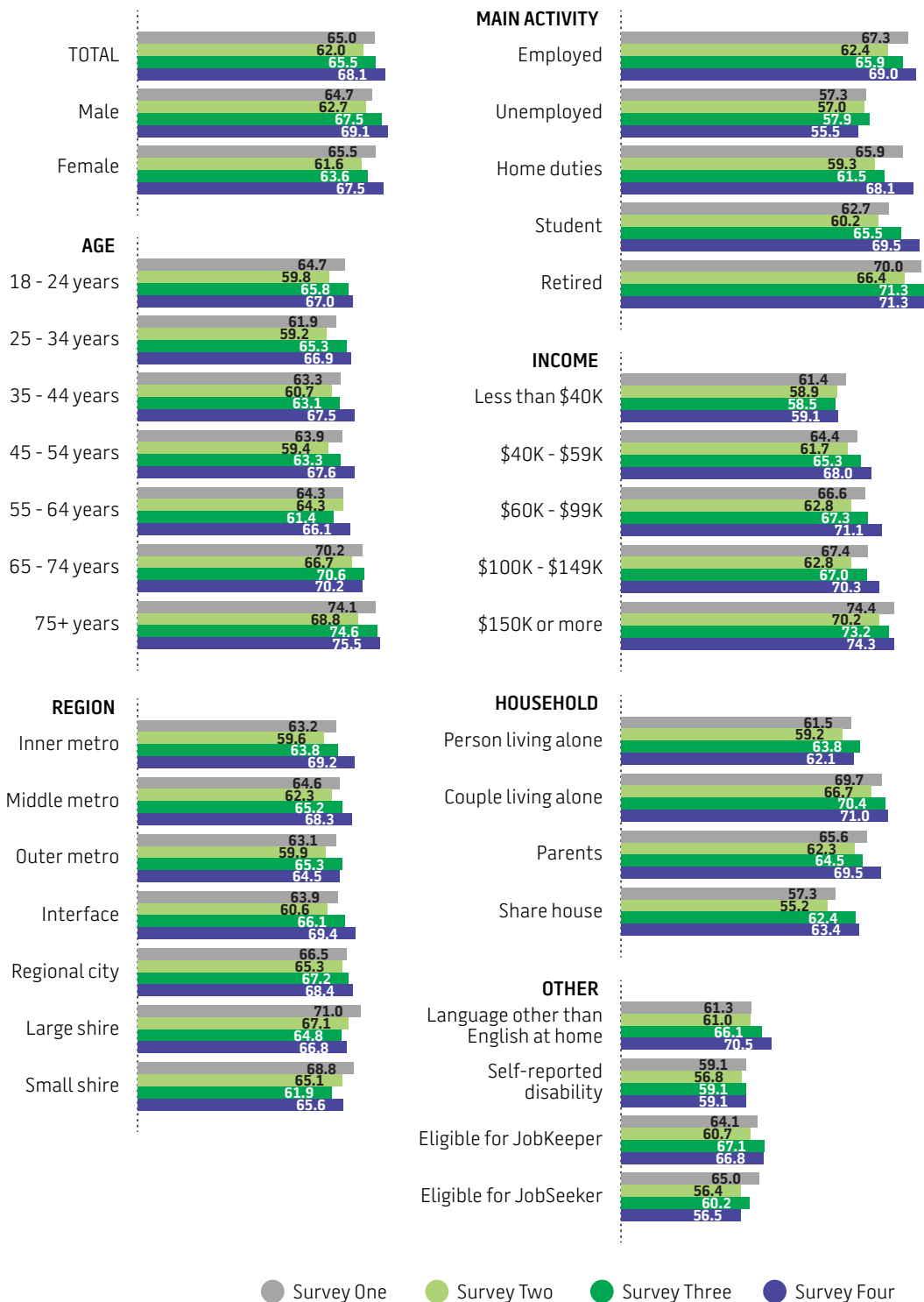
The Personal Wellbeing Index provides a combined subjective wellbeing score calculated as the average score across all seven domains, which is then scaled up to a score out of 100. For Victoria overall, the subjective wellbeing score was 68.1 in Survey Four, which was significantly higher than the result of 65.5 from Survey Three (Figure 4).

More favourable levels of combined subjective wellbeing were reported among the following sub-populations across the four surveys: those who were aged 75+; those living as a couple alone; and those who were earning more than \$150,000.

Increases in combined subjective wellbeing from Survey Three to Four were observed in: female; people aged 35-44; people aged 45-54; people living in the interface; employed living in the interface; income \$60,000-\$99,000; parents; and speak other than English at home.

The sub-populations that did not improve as the whole population from Survey Two include: unemployed; income less \$40,000; people living alone; self-reported disability; and eligible for JobSeeker.

Figure 4 Subjective wellbeing - Victorian and sub-population scores



Question: Turning now to various areas of your life. How satisfied are you with...?

Base: All excluding Not sure and Prefer not to say – Survey Four (n=2,308), Survey Three (n=2,171), Survey Two (n=1,835), Survey One (n=1,710).

Note: Results for some sub-populations are higher than others and not significantly different to the overall results due to small base sizes.

3.1.3. Psychological distress

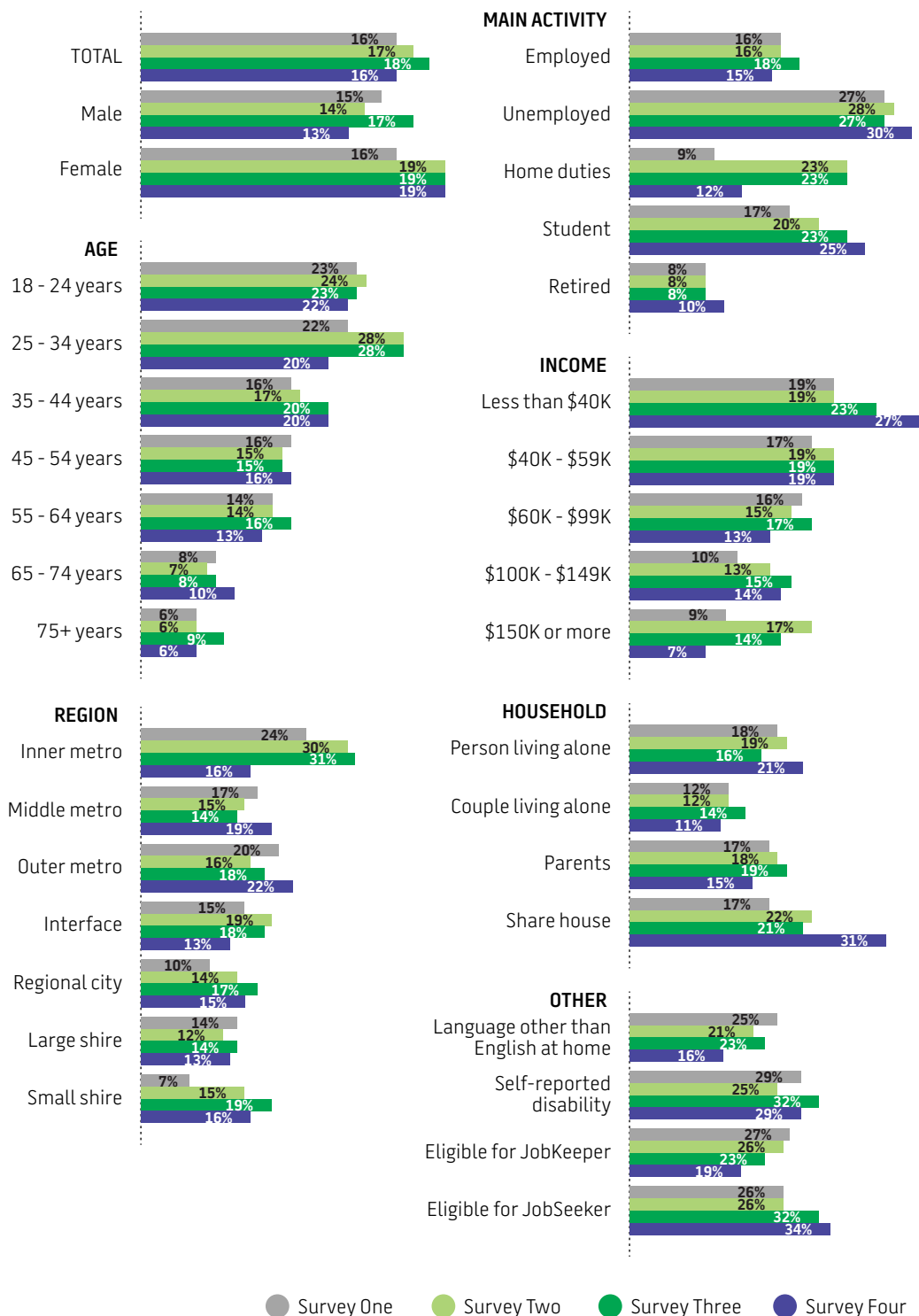
The Kessler Psychological Distress Scale-6 (K6) is a scale of psychological distress comprised of six questions. It was developed as a measure of non-specific psychological distress on the anxiety-depression spectrum.^{26,27} Respondents rate how often in the last month they experienced each indicator of psychological distress. As recommended by the ABS,^{26,27} the cut off score of 19 or more out of 30 is used here as an indicator of high psychological distress. This score indicates presence of multiple depressive or anxiety symptoms suggesting a high chance of having or developing serious mental health conditions.

Overall, the proportion of people with high psychological distress was highest in Surveys Two and Three. Sixteen percent of respondents were classed as having high psychological distress in Survey Four, similar to results recorded in Survey One (16%). This is also on par with a 2017 comparison survey that showed that 15.4% of Victorians had high psychological distress as measured by the K10,^{26,27} which is a longer form of the K6.

As shown in Figure 5, there were some sub-populations with high proportions of high psychological distress across all time points: those with a disability; those with an income less than \$40,000; unemployed and; and younger Victorians (18 – 34 years old).

Some sub-populations had the proportions of high psychological distress unchanging or increasing from Survey Two to Survey Four: unemployed; students; income less than \$40,000; people living alone or sharing house; and eligible for JobSeeker.

Figure 5 High psychological distress – Victorian and sub-population frequencies



Question: Now a question about your wellbeing, during the last month, how often did you feel...

Base: All, excluding those answering Not sure or Prefer not to say for two or more indicators - Survey Four (n=2,391), Survey Three (n=2,285), Survey Two (n=1,940), Survey One (n=1,927).

Note: Results for some sub-populations are higher than others and not significantly different to the overall results due to small base sizes.

3.2. Social connection

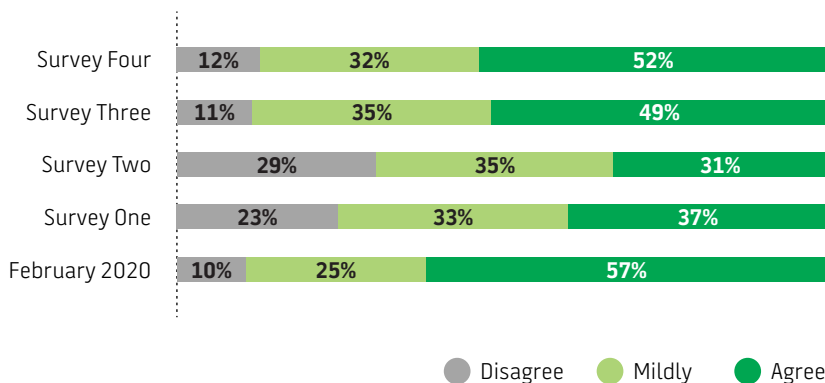
Restrictions on movement during the pandemic were expected to change the ways in which people interacted and connected with others. This presented a risk of disconnecting people from their friends, family and the wider community. To track this, we asked respondents to assess how connected they felt to others, and also used a subjective index of social solidarity to provide an indicative measure of how a person was engaged with their community.²⁸ These results have been compared between the four survey periods to assess the impacts on these indicators of social connection.

3.2.1. Social connection to others

General social connection

Respondents were asked to rate the degree to which they agreed with the statement 'I feel connected with others'. As shown in Figure 6, the proportion of those who agreed with this statement in Survey Four (52%) was essentially unchanged from Survey Three (49%). This followed an increase in agreement in Survey Three (49%) compared to Survey Two (31%). In Survey One, respondents were also asked whether they agreed with the statement that they felt connected to others in February 2020 using the same scale. However, as this result relies on retrospective recall, significance testing was not conducted; it is provided as a point of reference only.

Figure 6 Agreement that respondents feel connected with others (disagree, mildly agree or agree)



Question: Please rate the degree to which you agree or disagree, with the following statement: I feel connected with others.

Base: All – Survey Four (n=2,444), Survey Three (n=2,349), Survey Two (n=2,000), Survey One (n=2,000).

Note: Figures do not add to 100% because the following are not shown: Not sure – Survey Four (3%), Survey Three (3%), Survey Two (3%), Survey One (5%); and Prefer not to say – Survey Four (0%), Survey Three (1%), Survey Two (2%), Survey One (2%).

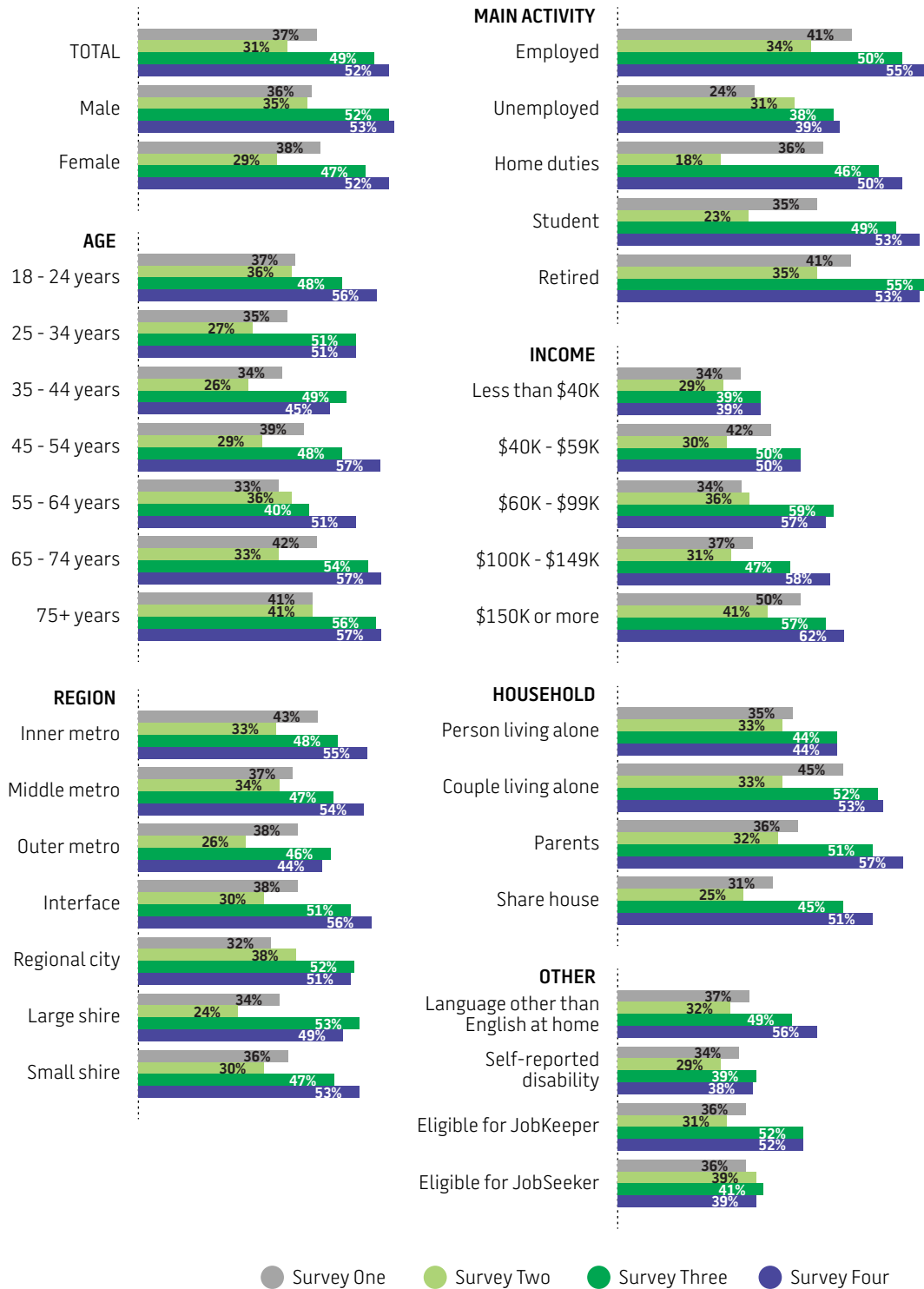
3.2.1. Social connection to others cont.

Figure 7 shows the proportions of respondents who agreed with the statement 'I feel connected with others' for Victoria overall and for sub-populations in the surveys. Responses for all sub-populations have largely remained at the higher level observed in Survey Three compared to Survey Two.

In Surveys One and Two, respondents whose main activity was home duties or education, who had an income less than \$40,000, or who were living in a share house were significantly less likely than the rest of Victoria to report that they agreed with this statement. Respondents with an annual household income of \$150,000 or more (62%) were significantly more likely to agree with the statement 'I feel connected with others'.

The increases of the agreement with the statement 'I feel connected to others' from Surveys One and Two to Survey Three and Four were lower among the following sub-populations: unemployed; annual household income less than \$40,000, and people eligible for JobSeeker.

Figure 7 Agreement with the statement 'I feel connected with others' – Victorian and sub-population frequencies



Question: Please rate the degree to which you agree or disagree (where 1 is strongly disagree and 6 is strongly agree) with the following statement: I feel connected with others.

Base: All – Survey Four (n=2,444), Survey Three (n=2,349), Survey Two (n=2,000), Survey One (n=2,000).

Note: Results for some sub-populations are higher than others and not significantly different to the overall results due to small base sizes.

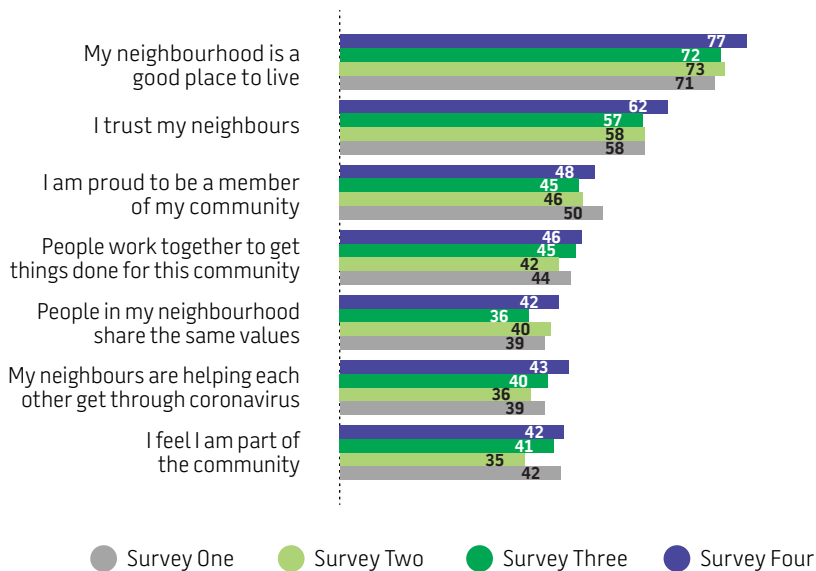
3.2.1. Social connection to others cont.

Social solidarity

Social solidarity is a metric used to determine how close people feel with their communities using a combined score across six measures. These measures ask respondents whether they agree with statements regarding their connection with their local community.

Figure 8 shows the agreement respondents had with several statements regarding their connection with the local community. The majority of Victorians in all four surveys agreed that their neighbourhood is a good place to live and that they trust their neighbours. In Survey Four, there was a significant increase in agreement compared to Survey Three with the statement ‘My neighbourhood is a good place to live’ (77% compared to 72%), and ‘I trust my neighbours’ (62% compared to 57%). Agreement with the remaining statements was consistent with the results from Survey Three.

Figure 8 Agreement with social connectedness statements



Question: To what extent do you currently agree with the following statements...?

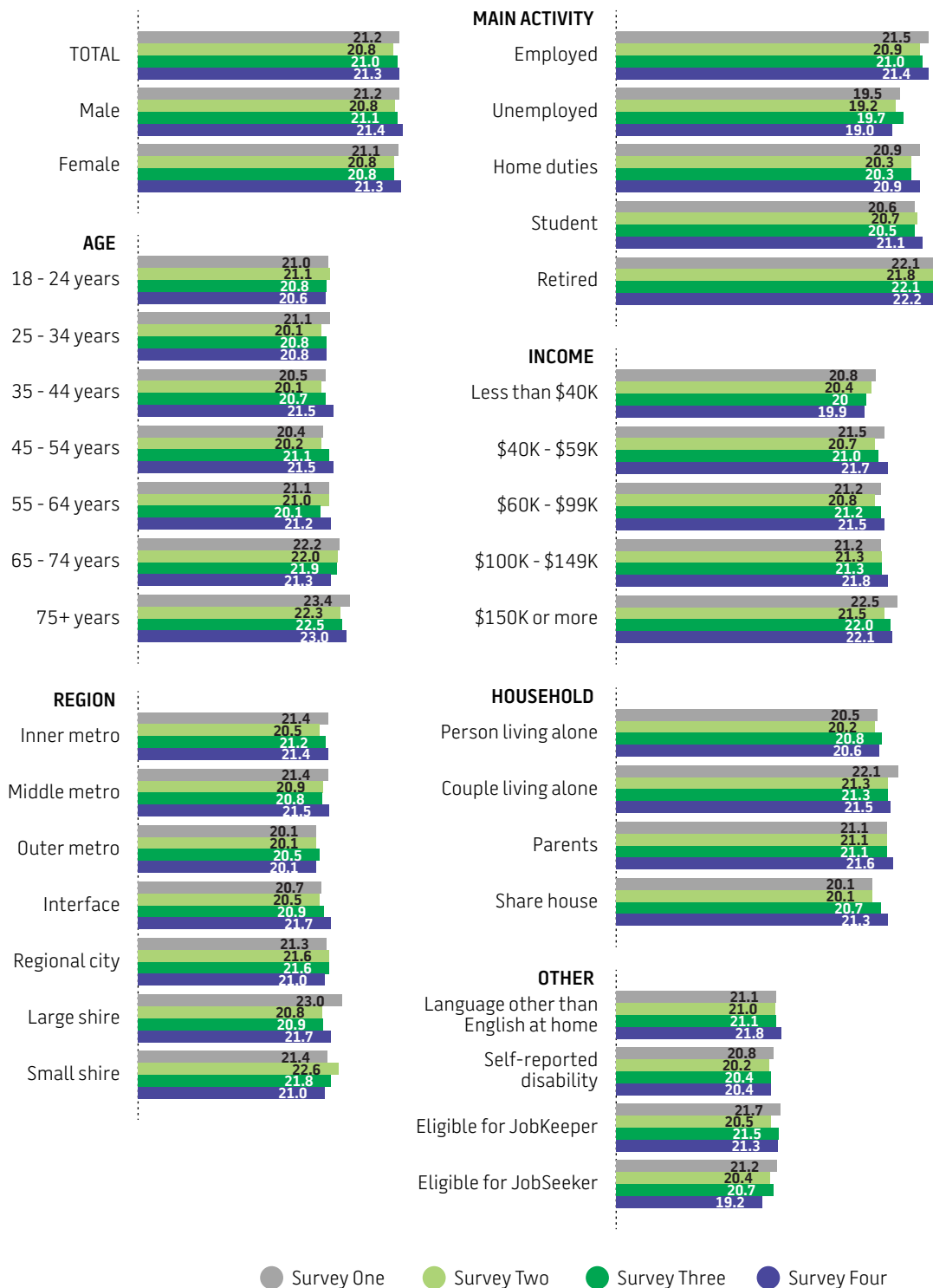
Base: All – Survey Four (n=2,444), Survey Three (n=2,334), Survey Two (n=1,993), Survey One (n=1,986).

Responses to the above statements, excluding the item ‘neighbours are helping each other to get through coronavirus’ have been combined into an index of social solidarity that indicates the level of local community social solidarity and support experienced by individuals.²⁸ This social solidarity score has a range of 6 to 30, where higher results are indicative of feeling more connected to the local community. Results for this are presented in Figure 9.

Older Victorians aged 74+ were more likely to have higher social solidarity scores than Victorians overall. Other groups with higher social solidarity scores were those with an annual household income of \$150,000 or more.

Between Surveys Three and Four, there was only one significant downward change in social solidarity score, with people on JobSeeker having lower scores in Survey Four (19.2) when compared to Survey Three (20.7). There were two significant increases in Survey Four from Survey Three: people who were employed (from 21.0 to 21.4) and parents (from 21.2 to 21.6).

Figure 9 Social solidarity – Victorian and sub-population scores (max. score of 30)



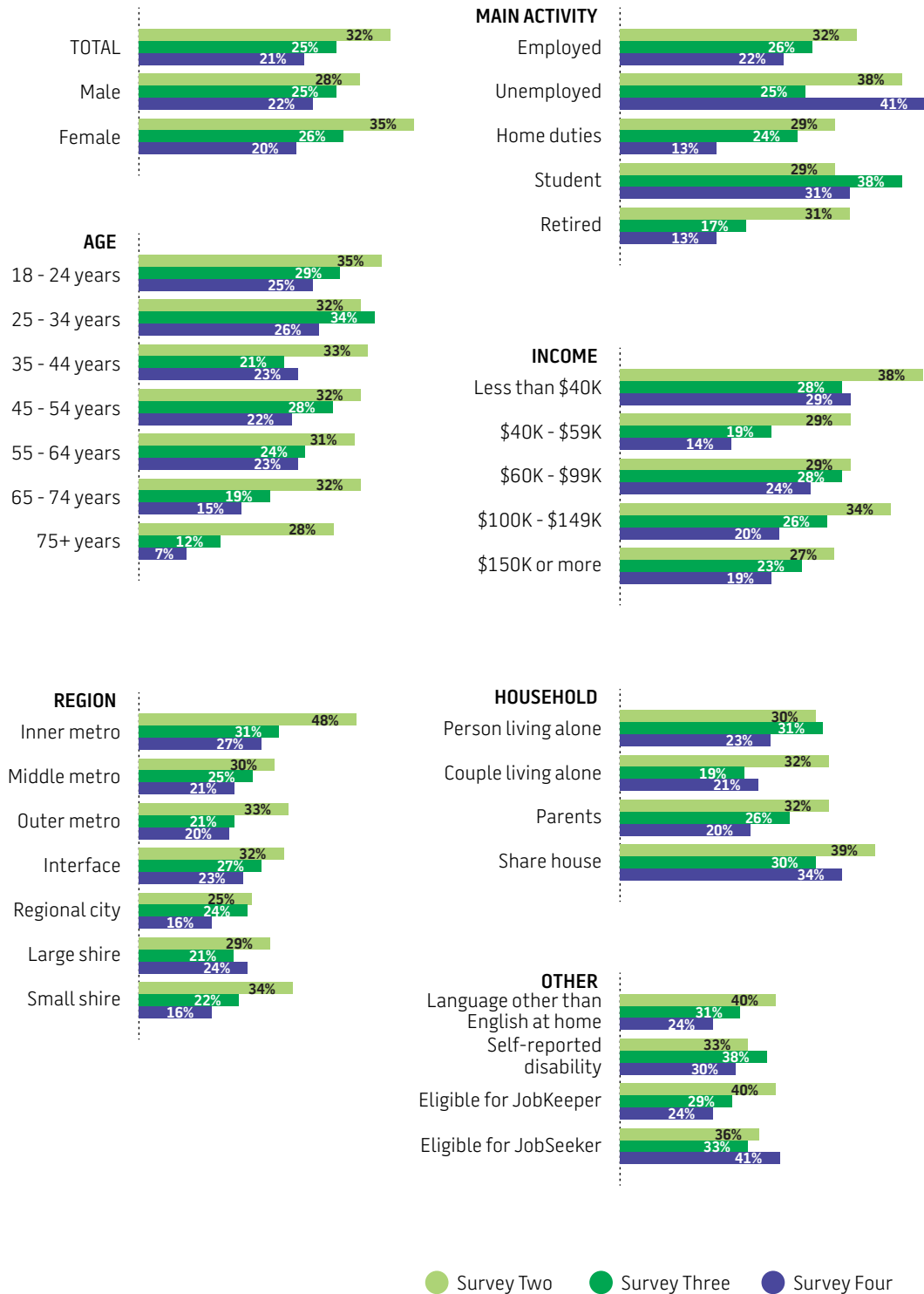
Question: To what extent do you currently agree with the following statements...?
 Base: All, excluding those answering Not sure or Prefer not to say – Survey Four (n=2,015), Survey Three (n=1,897), Survey Two (n=1,680) Survey One (n=1,615).

3.2.2. Concerns about loss of connection

In addition to the abovementioned measures of social connection, a question was also asked (in Survey Two to Survey Four) if loss of connection was a concern for respondents. They were asked the level of concern they were feeling about their loss of connection to others outside their household. There was a decrease in concern for loss of connection from 32% in Survey Two to 21% in Survey Four.

As shown in Figure 10, some sub-populations showed higher levels of concern than others in Survey Four. Significantly higher levels of concern were reported by those who were unemployed (41%), earned less than \$40,000 (29%), self-reported a disability (30%) and were eligible for JobSeeker payments (41%).

Figure 10 Percentage of people concerned about their connection to others – Victorian and sub-population frequencies



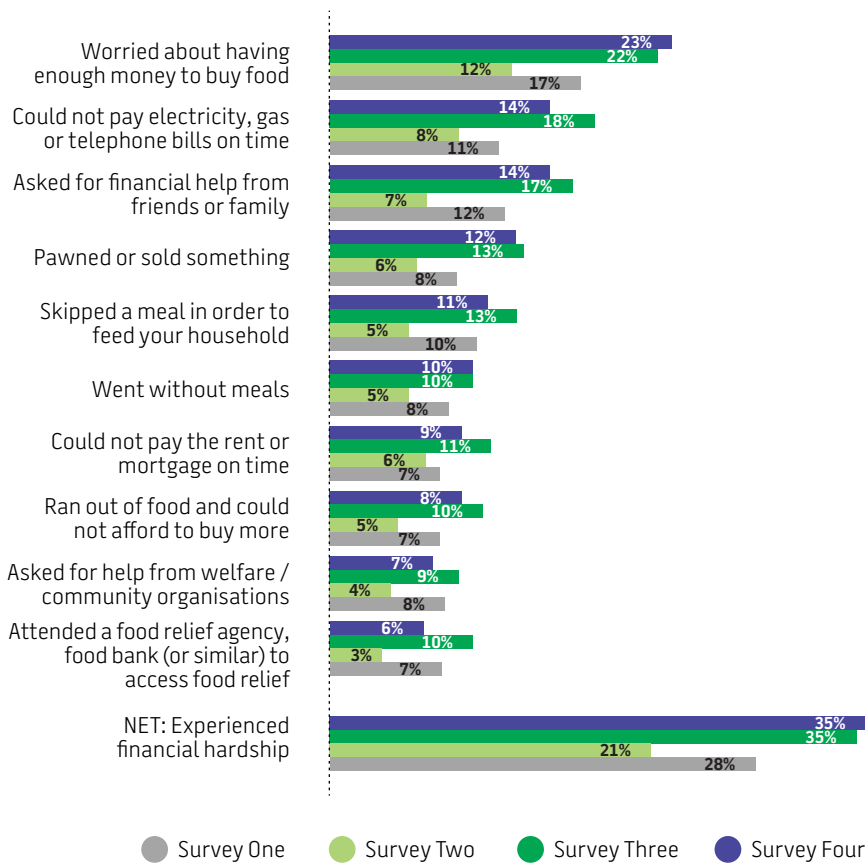
Question: Thinking about how you feel right now, on a scale of 1 to 5, where 1 is very concerned and 5 is not at all concerned, would you say...? I feel concerned about my loss of connection to others outside my household
 Base: All – Survey Four (n=2,444), Survey Three (n=2,349), Survey Two (n=2,000).
 Note: ‘Concerned’ includes responses 1 or 2.

3.3. Financial hardship

Respondents were asked if they had experienced one of the listed forms of financial hardship since pandemic restrictions began due to a shortage of money. Those who reported experiencing any one of six forms of financial hardship were combined into a single measure for the proportion of respondents that had experienced hardship.

The proportion with any form of financial hardship was lower in Surveys One and Two. The ending of the main forms of federal income support (i.e., JobKeeper, Coronavirus Supplement and the Economic Support payments) in March 2021, may be associated with higher proportions of hardship in the subsequent surveys. The ratio of respondents experiencing different forms of hardship increased from one in five respondents in Survey Two to one in three respondents in Survey Three and Four (Figure 11). The most common hardship reported was worrying not being able to pay for food.

Figure 11 Financial hardship experienced

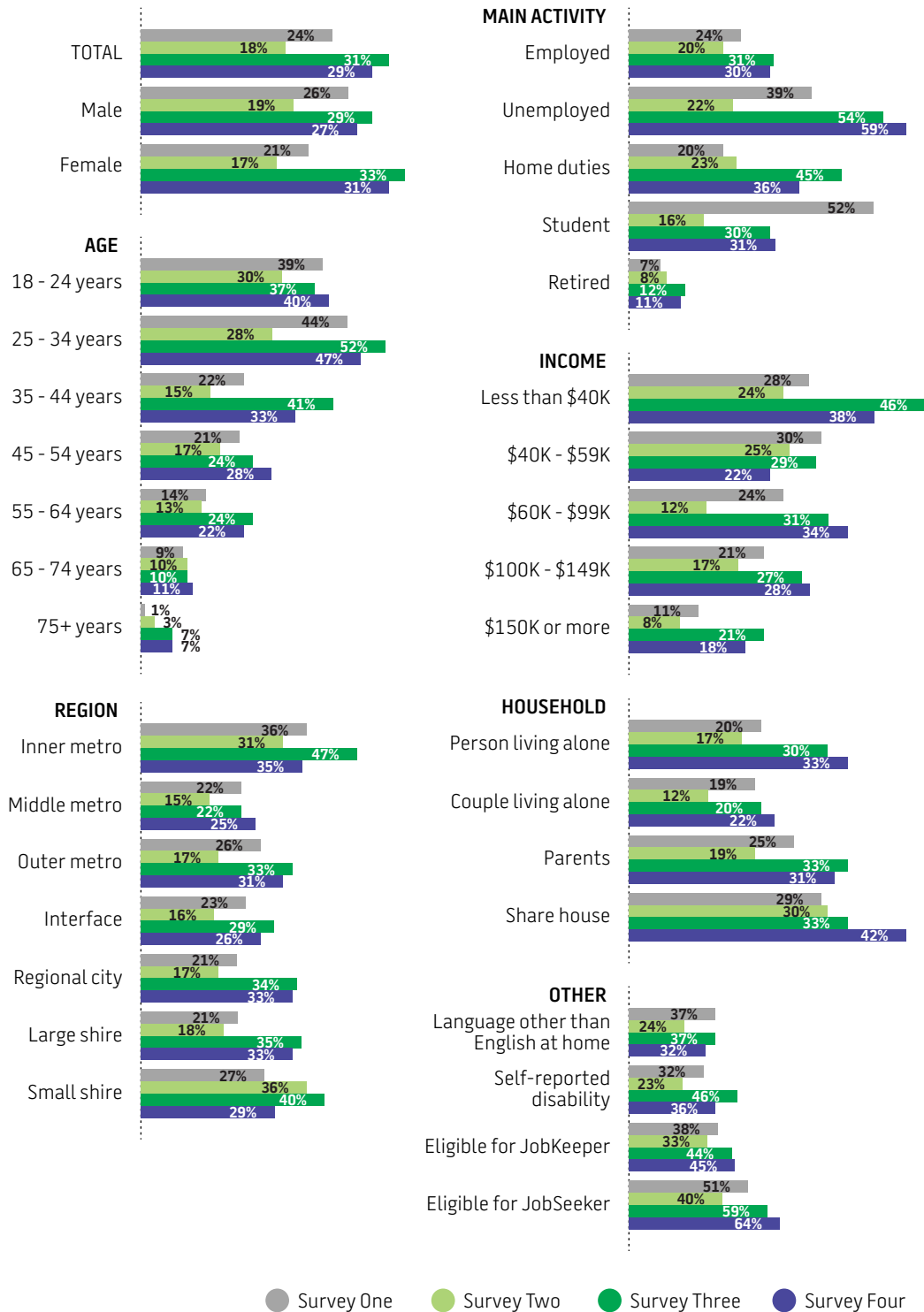


Question: Since October last year when restrictions eased, did any of the following happen to your household because of a shortage of money? (% responding 'Yes').

Base: All – Survey Three (n=2,444), Survey Three (n=2,334), Survey Two (n=1,993), Survey One (n=1,986).

*Note: **'Applied for early access to my superannuation' was a new code in Survey Two, and therefore there is no comparable data from Survey One but has been included in the measure for overall financial hardship as it was asked in Survey Three.

Figure 12 Experience of financial hardship – Victorian and sub-population frequencies



Question: Since October last year when restrictions eased, did any of the following happen to your household because of a shortage of money? (% responding 'Yes' to any of items G12a-f).

Base: All excluding 'Not sure' and 'Prefer not to say' – Survey Three (n=2,421), Survey Three (n=2,318), Survey Two (n=1,966), Survey One (n=1,961).

Note: Results for some sub-populations are lower than other and not significantly different to the overall results due to small base sizes.

4. Discussion

The VicHealth Coronavirus Victorian Wellbeing Impact Study is the largest repeated cross-sectional study on the mental health of people living in Victoria, which collected data multiple times from 2020 to 2022. In general, major mental health indicators among the Victorian population were low during the pandemic restrictions (Surveys One and Two), and recovered to a certain degree after the lockdowns (Surveys Three and Four), but did not return to pre-pandemic levels. We also found subjective wellbeing and life satisfaction were low during the pandemic restrictions, and they have not yet reached pre-pandemic levels; though, it is trending upwards. Similarly, social connection was low during the pandemic restrictions but the adverse impacts of the restrictions on social connection began reducing at the time of Surveys Three and Four. Yet, counter to this trend, the proportion of people with any financial difficulties increased enormously after Survey Two and was relatively high and stable in Surveys Three and Four.

The findings in this report align with previous research about the impact of the pandemic on mental health.^{1,2,11,16,19} Despite the clear burden placed on mental health by the pandemic, few studies have examined the lasting effects after restrictions. Our surveys contribute by examining mental health indicators during and after pandemic restrictions at several time points.

There were a number of sub-populations who were affected more severely by the restrictions across all indicators of mental health, and social and economic wellbeing, including those with particular financial constraints (unemployed, earning <\$40,000, students, eligible for JobSeeker payments), people in isolated living circumstances (living alone or in a share house) and people with a disability. The risk factors related to financial and living situation that we report are similar to those reported in the literature. People facing financial difficulties, understandably, were adversely impacted by restrictions on their ability to work and find new jobs. In addition, restrictions on social interaction made it challenging for people living alone or without their family to feel connected and supported. Our finding that people with a disability were more severely affected is unsurprising, although has not been researched in detail in general community-based studies. However, several previous studies have described poorer mental health among people with an existing comorbidity, and perhaps people with disabilities were included in this group or experience similar impacts. There were several characteristics that had been identified by previous studies such as risk factors for poorer mental health during the pandemic that were not as apparent in our surveys. In particular, women and young people are frequently reported as having higher levels of psychological distress and lower wellbeing.

The Victorian population faced extreme adversity and challenge across the last few years, and many people may not be able to bounce back easily. Monitoring the population's mental health, wellbeing and experiences of hardship as we continue to live in a COVID-affected world is key in identifying and understanding vulnerable population groups.

Implications for the current pandemic

- Mental health of Victorians has yet to return to pre-pandemic levels. We need a multi-sectoral population level mental health policy response to support recovery and enable resumption of socially and economically productive lives.
- People with existing disadvantages such as financial constraints, isolated living circumstances or disability were especially vulnerable to worsening mental health and wellbeing during the COVID-19 pandemic, highlighting the existing social and economic inequities that were exacerbated by the pandemic.

Future pandemics

- A mental health and wellbeing policy plan focused on responding to future pandemics through an equitable lens needs to be a priority to ensure adverse consequences for vulnerable people are mitigated.
- Extra, targeted support for vulnerable people through government initiatives and community organisations are vital during the pandemic period and throughout the recovery phase.
- Policies and programs should also enable and enhance social connection and cohesion, and support inclusive community initiatives as part of a comprehensive policy response.

References

1. Dawel A, Shou Y, Smithson M, et al. The Effect of COVID-19 on Mental Health and Wellbeing in a Representative Sample of Australian Adults. Original Research. *Frontiers in Psychiatry*. 2020;11
2. Botha F, Butterworth P, Wilkins R. Evaluating How Mental Health Changed in Australia through the COVID-19 Pandemic: Findings from the 'Taking the Pulse of the Nation' (TTPN) Survey. *International journal of environmental research and public health*. 2022;19(1)doi:<https://dx.doi.org/10.3390/ijerph19010558>
3. Li SH, Beames JR, Newby JM, Maston K, Christensen H, Werner-Seidler A. The impact of COVID-19 on the lives and mental health of Australian adolescents. *European Child & Adolescent Psychiatry*. 2021/04/28 2021;doi:10.1007/s00787-021-01790-x
4. Bryson H, Mensah F, Price A, et al. Clinical, financial and social impacts of COVID-19 and their associations with mental health for mothers and children experiencing adversity in Australia. *PloS one*. 2021;16(9):e0257357-e0257357. doi:10.1371/journal.pone.0257357
5. Munasinghe S, Sperandei S, Freebairn L, et al. The Impact of Physical Distancing Policies During the COVID-19 Pandemic on Health and Well-Being Among Australian Adolescents. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*. 2020;67(5):653-661. doi:<https://dx.doi.org/10.1016/j.jadohealth.2020.08.008>
6. Dimmock J, Krause AE, Rebar A, Jackson B. Relationships between social interactions, basic psychological needs, and wellbeing during the COVID-19 pandemic. *Psychology & health*. 2022;37(4):457-469. doi:<https://dx.doi.org/10.1080/08870446.2021.1921178>
7. Botha F, Butterworth P, Wilkins R. Protecting mental health during periods of financial stress: Evidence from the Australian Coronavirus Supplement income support payment. *Social science & medicine (1982)*. 2022;306:115158-115158. doi:10.1016/j.socscimed.2022.115158
8. Bailey E, Boland A, Bell I, Nicholas J, La Sala L, Robinson J. The Mental Health and Social Media Use of Young Australians during the COVID-19 Pandemic. *International journal of environmental research and public health*. 2022;19(3)doi:<https://dx.doi.org/10.3390/ijerph19031077>
9. Dash S, Bourke M, Parker AG, Dadswell K, Pascoe MC. Lifestyle behaviours and mental health and wellbeing of tertiary students during COVID-19 lockdown in Australia: A cross-sectional study. *Comprehensive psychiatry*. 2022;116:152324. doi:<https://dx.doi.org/10.1016/j.comppsy.2022.152324>
10. Griffiths D, Sheehan L, van Vreden C, et al. Changes in work and health of Australians during the COVID-19 pandemic: a longitudinal cohort study. *BMC public health*. 2022;22(1):487. doi:<https://dx.doi.org/10.1186/s12889-022-12897-4>
11. Lyons Z, Wilcox H, Leung L, Dearsley O. COVID-19 and the mental well-being of Australian medical students: impact, concerns and coping strategies used. *Australasian psychiatry : bulletin of Royal Australian and New Zealand College of Psychiatrists*. 2020;28(6):649-652. doi:<https://dx.doi.org/10.1177/1039856220947945>
12. Newby JM, O'Moore K, Tang S, Christensen H, Faasse K. Acute mental health responses during the COVID-19 pandemic in Australia. *PloS one*. 2020;15(7):e0236562. doi:<https://dx.doi.org/10.1371/journal.pone.0236562>
13. Rahman MA, Hoque N, Alif SM, et al. Factors associated with psychological distress, fear and coping strategies during the COVID-19 pandemic in Australia. *Globalization and health*. 2020;16(1):95. doi:<https://dx.doi.org/10.1186/s12992-020-00624-w>
14. Australian Institute of Family Studies. Families in Australia Survey: Staying connected when we're apart. 2020. https://aifs.gov.au/sites/default/files/publication-documents/covid-19-survey-report_2_staying_connected_0.pdf

15. Cornell S, Nickel B, Cvejic E, et al. Positive outcomes associated with the COVID-19 pandemic in Australia. *Health promotion journal of Australia : official journal of Australian Association of Health Promotion Professionals*. 2022;33(2):311-319. doi:<https://dx.doi.org/10.1002/hpja.494>
16. Dodd RH, Dadaczynski K, Okan O, McCaffery KJ, Pickles K. Psychological Wellbeing and Academic Experience of University Students in Australia during COVID-19. *International journal of environmental research and public health*. 2021;18(3)doi:<https://dx.doi.org/10.3390/ijerph18030866>
17. Eime R, Harvey J, Charity M, et al. The impact of COVID-19 restrictions on perceived health and wellbeing of adult Australian sport and physical activity participants. *BMC public health*. 2022;22(1):848. doi:<https://dx.doi.org/10.1186/s12889-022-13195-9>
18. Gall A, Diaz A, Garvey G, Anderson K, Lindsay D, Howard K. Self-reported wellbeing and health-related quality of life of Aboriginal and Torres Strait Islander people pre and post the first wave of the COVID-19 2020 pandemic. *Australian and New Zealand journal of public health*. 2022;46(2):170-176. doi:<https://dx.doi.org/10.1111/1753-6405.13199>
19. Westrupp EM, Stokes MA, Fuller-Tyszkiewicz M, et al. Subjective wellbeing in parents during the COVID-19 pandemic in Australia. *Journal of psychosomatic research*. 2021;145:110482. doi:<https://dx.doi.org/10.1016/j.jpsychores.2021.110482>
20. Evans S, Mikocka-Walus A, Klas A, et al. From “It Has Stopped Our Lives” to “Spending More Time Together Has Strengthened Bonds”: The Varied Experiences of Australian Families During COVID-19. *Frontiers in psychology*. 2020;11:588667-588667. doi:10.3389/fpsyg.2020.588667
21. Nolte L. Behind closed doors : a grounded theory of the social processes that describe how parents talk to their children about parental mental health difficulties. ProQuest Dissertations Publishing; 2014.
22. Jhuremalani A, Potter R, Lushington K, Lowies B. COVID19: Financial wellbeing of older Australians in times of crisis. *Australas J Ageing*. 2022;41(3):440-447. doi:10.1111/ajag.13061
23. Nguyen OTK, Balakrishnan VD. International students in Australia - during and after COVID-19. *Higher education research and development*. 2020;39(7):1372-1376. doi:10.1080/07294360.2020.1825346
24. Wood D, Griffiths K, Crowley T. Women’s work: The impact of the COVID crisis on Australian women. 2021.
25. Cummins RA, Eckersley R, Pallant J, van Vugt J, Misajon R. Developing a National Index of Subjective Wellbeing: The Australian Unity Wellbeing Index. *Social Indicators Research*. 2003/11/01 2003;64(2):159-190. doi:10.1023/A:1024704320683
26. Australian Bureau of Statistics. K10 Scoring. Australian Bureau of Statistics. Oct 27, 2022. Accessed Oct 27, 2022. <https://www.abs.gov.au/ausstats/abs@.nsf/lookup/4817.0.55.001Chapter92007-08>
27. Kessler RC, Green J, Gruber M, et al. Screening for serious mental illness in the general population with the K6 screening scale: results from the WHO World Mental Health (WMH) survey initiative. *International Journal of Methods in Psychiatric Research*. 2010;19(Suppl 1):4-22.
28. Hawdon J, Räsänen P, Oksanen A, Ryan J. Social solidarity and wellbeing after critical incidents: Three cases of mass shootings. *Journal of critical incident analysis*. 2012;3(1):2-25.
29. Chen G, Olsen JA. How is your life? understanding the relative importance of life domains amongst older adults, and their associations with self-perceived COVID-19 impacts. *Quality of life research : an international journal of quality of life aspects of treatment, care and rehabilitation*. 2022;31(8):2281-2293. doi:<https://dx.doi.org/10.1007/s11136-021-03043-5>

References cont.

30. Houghton S, Kyron M, Hunter SC, et al. Adolescents' longitudinal trajectories of mental health and loneliness: The impact of COVID-19 school closures. *Journal of adolescence*. 2022;94(2):191-205. doi:<https://dx.doi.org/10.1002/jad.12017>
31. Griffiths D, Sheehan L, Petrie D, van Vreden C, Whiteford P, Collie A. The health impacts of a 4-month long community-wide COVID-19 lockdown: Findings from a prospective longitudinal study in the state of Victoria, Australia. *PloS one*. 2022;17(4):e0266650. doi:<https://dx.doi.org/10.1371/journal.pone.0266650>
32. Australian Institute of Family Studies. *Families in Australia Survey: Connection to family, friends and community*. 2021.

Appendices

Literature review

Below is a summary of research findings relating to wellbeing of Australians during COVID-19.

Subjective wellbeing

- Subjective wellbeing is a common indicator of wellbeing assessed across the population during COVID-19.
- Several cross-sectional online surveys and cohort studies have investigated wellbeing using a variety of methods, such as the Personal Wellbeing Index, the World Health Organization wellbeing scale, and a visual analogue scale.^{3,6,15-19,29,30}
- Very few studies reported prevalence data for wellbeing. Of those that did, the prevalence of low wellbeing ranged from 45.8% – 65.3%.^{15,16} Some studies reported mean scores for the wellbeing scale used.^{15,16}
- Risk factors for lower wellbeing included: female, younger age, comorbid mental health condition.¹⁵⁻¹⁹
- Predictors of higher wellbeing included: older age, financial stability.^{15,18,19}
- Several studies focussed on the wellbeing of students, and particularly university students.^{6,16,30} These studies highlighted the impact of school closures and restrictions on the ability to study.

Psychological distress

- Many studies have investigated psychological distress among the general adult population and specific populations, such as students, adolescents and healthcare workers.^{1-3,5,8-13}
- Most studies were cross-sectional online surveys that used the Kessler Psychological Distress Scale or the Depression, Anxiety and Stress Scale to measure psychological distress.
- The prevalence of high psychological distress ranged from 17.7% - 48.3%.^{2,3} Most studies found approximately one in three people were experiencing psychological distress.
- One study compared psychological distress during lockdown in Victoria (but not for other states) in 2020 and after lockdown ended.³¹ During Victoria's lockdown, levels of psychological distress were much higher in Victoria than elsewhere. However, following the lockdown, these elevated levels resolved.
- Risk factors associated with higher levels of psychological distress included: younger age, female or gender-diverse, pre-existing mental health condition, fear about COVID-19.^{1-3,8,12,13}
- Several studies also reported protective factors, including exercise and older age.^{3,9,12}
- Some characteristics examined were not significantly associated with distress, or had inconsistent findings. These include screen time for connecting with friends and family, employment, living status, being born in Australia, and the financial impact of COVID-19.
- Some studies focused on adolescents and young adults. This is an important group to involve in research, given younger age is consistently a risk factor for psychological distress. In addition, prevention of mental health problems in adolescence and early adulthood is beneficial for later life.^{3,5,8}

Social connection

- The Families in Australia Survey was conducted across four waves in 2020 and 2021, and investigated how families had been affected by the pandemic and restrictions including social connection.^{14,32}
- In May 2020, of people who lived with others, one in three felt just as connected, and half felt more connected, to people in their household. By comparison, only one third felt more connected to family they weren't living with.¹⁴
- Older people were less connected – 23% of people over 70 compared with 40% of people under 40 had daily contact with family they didn't live with.¹⁴
- Many people were able to maintain connections through online activities, including talking and texting, playing games, sharing meals, watching movies or exercising.¹⁴
- Barriers to contact with family members included lack of free time, COVID restrictions, relationships, distance and affordability.¹⁴
- Particular relationships were impacted, such as grandparents providing care for grandchildren. Many grandparents ceased providing this care, leading to feelings of isolation and disconnection.³²
- Connection to the community has also been disrupted by restrictions. Some people who were regularly volunteering were forced to stop, and have not been able to recommence.³²

Financial hardship

- Studies on the prevalence of financial hardship during the pandemic in Australia are limited.
- Several studies have observed financial hardship within subpopulations in Australia:
 - In an Australian cross-sectional survey from May to December 2020, 44% of mothers reported job or income loss due to the pandemic.⁴
 - Among a series of cross-sectional surveys delivered between April 2020 and May 2021 across Australia, 44% of unemployed Australians reported financial stress.⁷
- Risk factors of financial hardship due to the pandemic identified included: older age, students, women, and families.²⁰⁻²⁴
- Experiences of financial hardship through the pandemic has also been associated with higher psychological distress, including greater depressive and anxiety symptoms.^{7,20,21}
- The burden of financial hardship and worsening mental health is not equally shared among the population with women developing worse mental health as a result of financial hardship compared to men.²⁴

Analysis and weighting

Unlike Life in Australia™, the selection mechanism for the non-probability panel was unknown so it is not possible to calculate selection probabilities for use in making statistical inferences about the population. To address these issues, a revised weighting procedure was adopted, making use of the probability survey conducted in parallel through Life in Australia™.

Following Lee and Valliant (2009)^I, DiSogra et al. (2011)^{II}, Valliant and Dever (2011)^{III} and Elliott and Valliant (2017)^{IV}, the following weighting process was carried out:

1. Design weights for the non-probability sample were derived as the inverse of pseudo-inclusion probabilities estimated from covariates available for both the probability and non-probability samples. The probabilities were found from a logistic regression model predicting membership of the non-probability sample, conditional on survey variables available for both samples.
2. The pseudo-design weights were then adjusted to match population distributions across a range of respondent characteristics, including those whose patterns of responses are most different between the probability and non-probability samples and which are associated with key outcome variables,

The revised first step aims to correct for selection bias by estimating the selection probabilities for the non-probability panel and producing design weights that mimic the properties of probability samples and thereby provide a basis for drawing inferences about the population of interest. In the second step, additional variables are used as benchmarks in an effort to align the two samples more closely and reduce the remaining bias. Key requirements of this “quasi-randomisation” approach are that the probability sample is not subject to the same coverage issues as the non-probability sample, collects the same information as the non-probability sample, and has been separately weighted to appropriate benchmarks.

Calculation of pseudo-design weights

The data from the surveys were combined into a single dataset containing all common questionnaire items along with a flag denoting sample membership (1 for the non-probability sample, 0 for the probability sample). A logistic regression model predicting membership in the non-probability sample was then estimated, conditional upon the demographic and outcome variables common between the samples. The model was weighted using the weights for Life in Australia™ respondents and constant weights for the non-probability respondents.

I. Lee, S. and R. Valliant (2009). Estimation for volunteer panel web surveys using propensity score adjustment and calibration adjustment. *Sociological Methods & Research* 37(3), 319-343.
II. DiSogra, C., C. Cobb, E. Chan and J. Dennis (2011). Calibrating non-probability internet samples with probability samples using early adopter characteristics. *Joint Statistical Meetings (JSM), Survey Research Methods*.
III. Valliant, R. and J. Dever (2011). Estimating propensity adjustments for volunteer web surveys. *Sociological Methods & Research* 40(1), 105-137.
IV. Elliott, M.R. and R. Valliant (2017). Inference for nonprobability samples. *Statistical Science* 32(2), 249-264.

Adjustment of pseudo-design weights

Once pseudo-design weights were estimated for the non-probability sample, they were then adjusted to match population distributions for available characteristics. For demographic characteristics, these distributions were obtained from the Australian Bureau of Statistics. For outcome variables, these distributions were estimated from Life in Australia™ itself.

Given the number of such characteristics available in the dataset, many different combinations of benchmarks were trialled in an effort to reduce the bias across the wider range of items common to both surveys (demographic and outcome). To identify the “optimal” combination, the following steps were repeated many hundreds of times:

1. Randomly select a set of adjustment characteristics^v.
2. Adjust the base weights for the combined sample so that they match the benchmarks for the selected set of characteristics.
3. Calculate weighted estimates and standard errors for the remaining^{vi} characteristics.
4. Calculate the mean square error^{vii} for each characteristic, to summarise the discrepancy between the estimates and the benchmarks as well as the variance of the estimates. Benchmark values were obtained from the Australian Bureau of Statistics for demographic characteristics and from Life in Australia™ for outcome variables.
5. Find the average mean square error across each type of variable (demographic, lifestyle and outcome).

V. Between four and seven characteristics were chosen at random, the upper value being set to restrict the extent of variance introduced through weighting. In principle, weighting by all available characteristics would produce the least biased weights, but these would be severely impacted by instability and variability.

VI. Variables used for adjustment were excluded from the bias assessment. For instance, if age and education were used for weighting, these variables were excluded from the bias assessment since their estimated bias would be zero.

VII. The sum of the bias squared and the variance for each estimate, where smaller is better.

The optimal weighting solution was the one yielding a low average mean square error (primary consideration) along with an acceptable level of variation^{VIII} in the weights (secondary consideration).

As the weighting solutions become more complex, the average MSE across variable types improves (tends towards zero) but this is offset by declining weighting efficiency. The final adopted solution yielded low average MSE across all variable types (demographic and outcome) while still achieving an acceptable level of variability in the weights. The population characteristics are shown in Table 3.

Table 3 Sample profile

Demographic characteristic		Survey One		Survey Two		Survey Three		Survey Four	
		Unwtd. (n=2,000)	Weighted (n=2,000)	Unwtd. (n=2,000)	Weighted (n=2,000)	Unwtd. (n=2,326)	Weighted (n=2,326)	Unwtd. (n=2,326)	Weighted (n=2,326)
Gender	Male	45.6%	49.2%	45.7%	44.3%	39.6%	49.2%	39.7%	49.3%
	Female	54.4%	50.8%	54.3%	55.7%	60.4%	50.8%	60.3%	50.7%
Age groups	18–24 years	12.8%	12.4%	12.4%	12.6%	27.3%	10.7%	25.4%	10.8%
	25–34 years	14.8%	20.1%	11.5%	20.4%	15.7%	20.1%	18.3%	20.0%
	35–44 years	19.0%	17.5%	14.9%	17.3%	14.3%	18.0%	14.5%	18.0%
	45–54 years	19.6%	16.1%	19.1%	15.9%	14.6%	16.0%	13.4%	16.0%
	55–64 years	18.1%	14.2%	19.4%	14.1%	13.9%	14.4%	14.0%	14.3%
	65–74 years	11.9%	14.5%	16.4%	10.9%	10.4%	15.7%	10.4%	11.5%
	75+ years	3.9%	5.2%	6.5%	8.8%	3.9%	5.2%	3.9%	9.4%
Location	Capital city	77.0%	76.2%	76.8%	78.2%	77.9%	75.8%	75.6%	72.4%
	Rest of state	23.1%	23.8%	23.3%	21.8%	22.1%	24.2%	24.4%	27.6%

Base: All excluding 'Prefer not to say'. Gender also excludes 'Non-binary' and 'Other'.
 Survey One: Gender (n=1,994), Age (n=1,999), Location (n=2,000).
 Survey Two: Gender (n=1,997), Age (n=1,998), Location (n=2,000).
 Survey Three: Gender (n=2,326), Age (n=2,334), Location (n=2,349).
 Survey Four: Gender (n=2,422), Age (n=2,423), Location (n=2,444).

VIII.Elliott, M.R. and R. Valliant (2017). Inference for nonprobability samples. *Statistical Science* 32(2), 249-264.



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to all Elders past, present and future.



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