



# Tracking outcomes during the COVID-19 pandemic (October 2020) – Reconvergence

## ANU Centre for Social Research and Methods

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## Abstract

From mid-late October, the ANU Centre for Social Research and Methods and the Social Research Centre conducted a survey of a little over 3,000 adult Australians, as part of the longitudinal COVID Impact Monitoring Survey Program. We found that anxiety and worry due to COVID-19 has continued to increase with females and young Australians continuing to be more anxious and worried. Life satisfaction appears to have improved slightly for Victorians (converging back to the rest of the Australian population) and there is some emerging evidence that psychological distress has increased again for young Australians. We also provide evidence that hours worked in Victoria have increased as restrictions have begun to be eased again, although this hides some significant within-state variation, as Melbourne still lags behind those in other capital cities. Importantly, both Victorians and the rest of Australia were less pessimistic about losing their jobs over the next 12 months, though that particular measure is still much higher than recorded in other surveys prior to the pandemic.

Using our full longitudinal dataset, we estimate that for all adults, there was an average loss of 67.4 hours over the pandemic period thus far, or 166.7 hours for those who were working in February. At estimated average hourly earnings, we estimate a loss in production over the period of \$47.0 billion from the drop in hours worked alone. Males have lost more hours than females, and those in the middle part of the age distribution have lost more than the young and old. The middle part of the education distribution has also lost more hours, though perhaps the most worrying finding is that Australians who were born overseas in a non-English speaking country have lost more hours than those born in Australia, even after we control for demographic and human capital characteristics.

## 1 Introduction and overview

On the 26<sup>th</sup> of October 2020, the Victorian Premier Dan Andrews announced a significant easing of restrictions on a range of physical distancing and social isolation measures that had been put in place to stop the spread of COVID-19. Melburnians would no longer be limited in terms of the reasons for why they could leave their home and would now be able to visit people in their homes. There was also an opening of a number of retail stores that were previously restricted from opening, and a return to community sport.

The easing of restrictions coincided with Victoria's first day of zero positive tests for many months and represented a further easing of restrictions in Melbourne from those announced on the 5<sup>th</sup> of October when returns to face-to-face learning were announced<sup>1</sup> the 18<sup>th</sup> of October<sup>2</sup> which included extending the distance people were able to travel to 25km; ceasing the two-hour daily limit for exercise and socialising; reopening a range of outdoor sports settings; and allowing groups of up to 10 people, from two households, to gather in public outdoor areas. Further lifting of restrictions in Melbourne have also been announced for the 8<sup>th</sup> of November, though there are likely to continue to be restrictions on travel between Melbourne and Victoria.

In regional Victoria, the restrictions were always less severe and had been eased much earlier. In the rest of Australia, restrictions have continued to be eased since the lockdown that coincided with the first wave of infections. Some internal borders remain closed for people who live in certain jurisdictions or cities/regions, and international borders essentially remain closed. The only exception is the so-called one-way travel bubble with New Zealand, which commenced in mid-October and allowed travellers to arrive in New South Wales without a mandatory quarantine period, though they were required to quarantine upon return to New Zealand.<sup>3</sup>

The reason for the opening of the 'bubble' is that, like New Zealand, Australia continues to have a low rate of infections and deaths from COVID-19 relative to many other developed countries (see below). With the easing of restrictions in Victoria, Australia is now also one of the least restricted countries based on the 'Oxford COVID-19 Government Response Tracker' amongst countries listed in Figure 2 and 3 below, above Sweden and Japan, but lower than all the other countries listed.

Between the 12<sup>th</sup> and 26<sup>th</sup> of October, as cases remained low in Australia and restrictions in Victoria began to be eased (as described above), the Social Research Centre on behalf of the ANU Centre for Social Research and Methods undertook a short survey on a representative sample of over 3,000 adult Australians on a set of wellbeing outcomes. This was the fourth wave of the ANU's COVID-19 Impact Monitoring Survey Program. Surveys had been conducted with the same group of respondents in January and February 2020, just before the COVID-19 pandemic started in Australia. Surveys were then conducted in April, May and August, after the pandemic started to cause impacts in Australia in a major way. The previous waves of data collection consisted of a 15-20 minute survey, with the October 2020 survey slightly less than five minutes in length. A full-length survey will be conducted again in November 2020 and January 2021. Full details of the survey are given in Appendix 1.

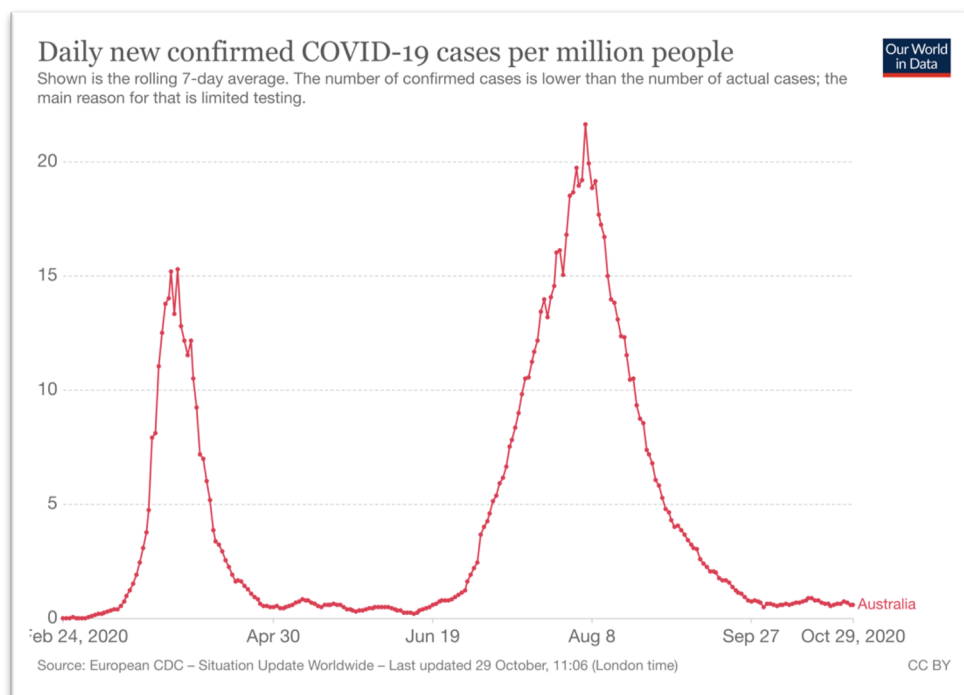
This paper provides a summary of the main findings from the October 2020 survey. Given the very different trajectories of Victoria and the rest of Australia, the results are presented separately for Victoria and the rest of Australia, with results occasionally presented for

Melbourne and the regional Victoria separately. Section 2 compares COVID-19 infection and death rates in Australia with selected other countries. In Section 3 we look at general and COVID-19 specific wellbeing measures, as well as mental health outcomes. In Section 4 we focus on labour market outcomes, and Section 5 provides some concluding comments.

## 2 COVID-19 infection and death rates in Australia and other countries

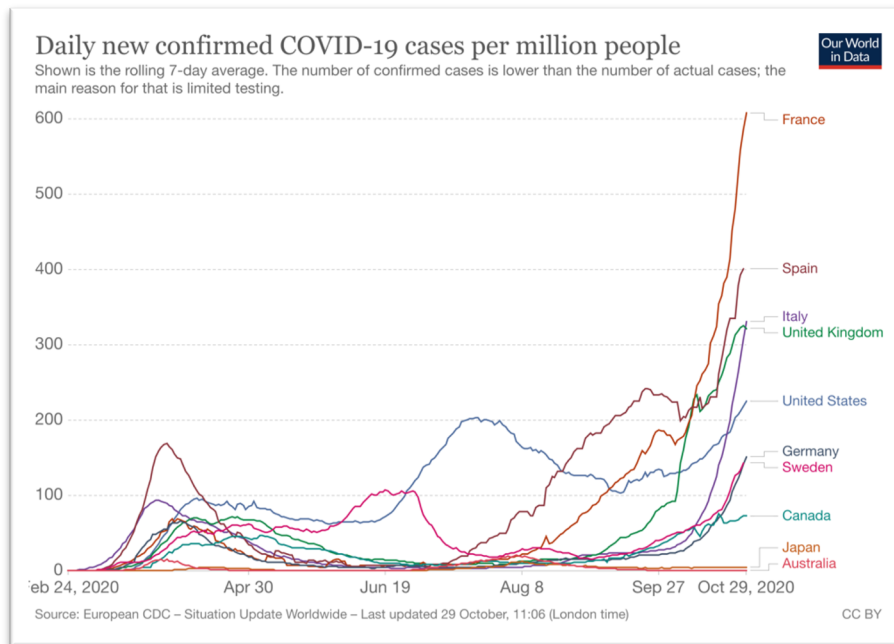
While Australia has seemingly moving past its second wave of infections (Figure 1), many other parts of the world were experiencing rapidly increasing infections, with daily confirmed cases at their highest ever levels (Figure 2).

**Figure 1** Confirmed COVID-19 cases by day per million people (7-day moving Average), Australia



Source: Data and chart from Our World in Data, University of Oxford, Oxford Martin Programme on Global Development and Global Change Data Lab (<https://ourworldindata.org/>).

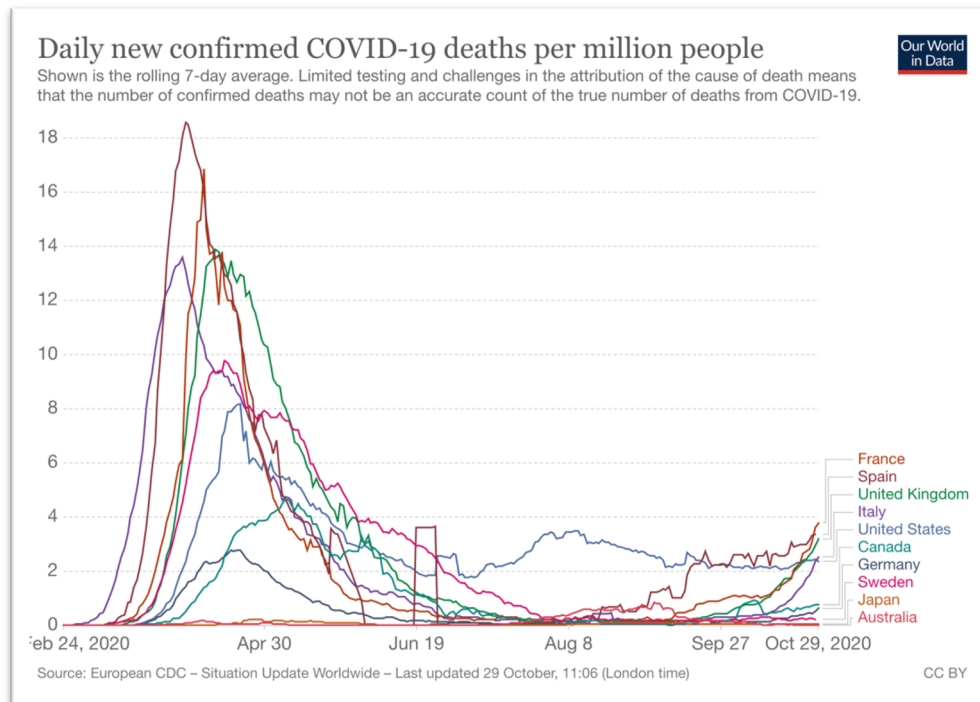
Figure 2 Confirmed COVID-19 cases by day per million people (7-day moving Average), selected countries



Source: Data and chart from Our World in Data, University of Oxford, Oxford Martin Programme on Global Development and Global Change Data Lab (<https://ourworldindata.org/>).

The significant increase in confirmed cases internationally does not necessarily mean that infection rates are higher than they were during the first wave of infections in March/April. There have been significant increases in testing levels and improvements in the accuracy of testing. Nonetheless confirmed deaths attributable to COVID-19 have also started to increase in many countries and given that increases in death rates lag the increase in infection rates deaths will continue to grow in these countries even if infection rates are brought back under control (Figure 3).

**Figure 3** Confirmed COVID-19 deaths by day per million people (7-day moving Average), selected countries



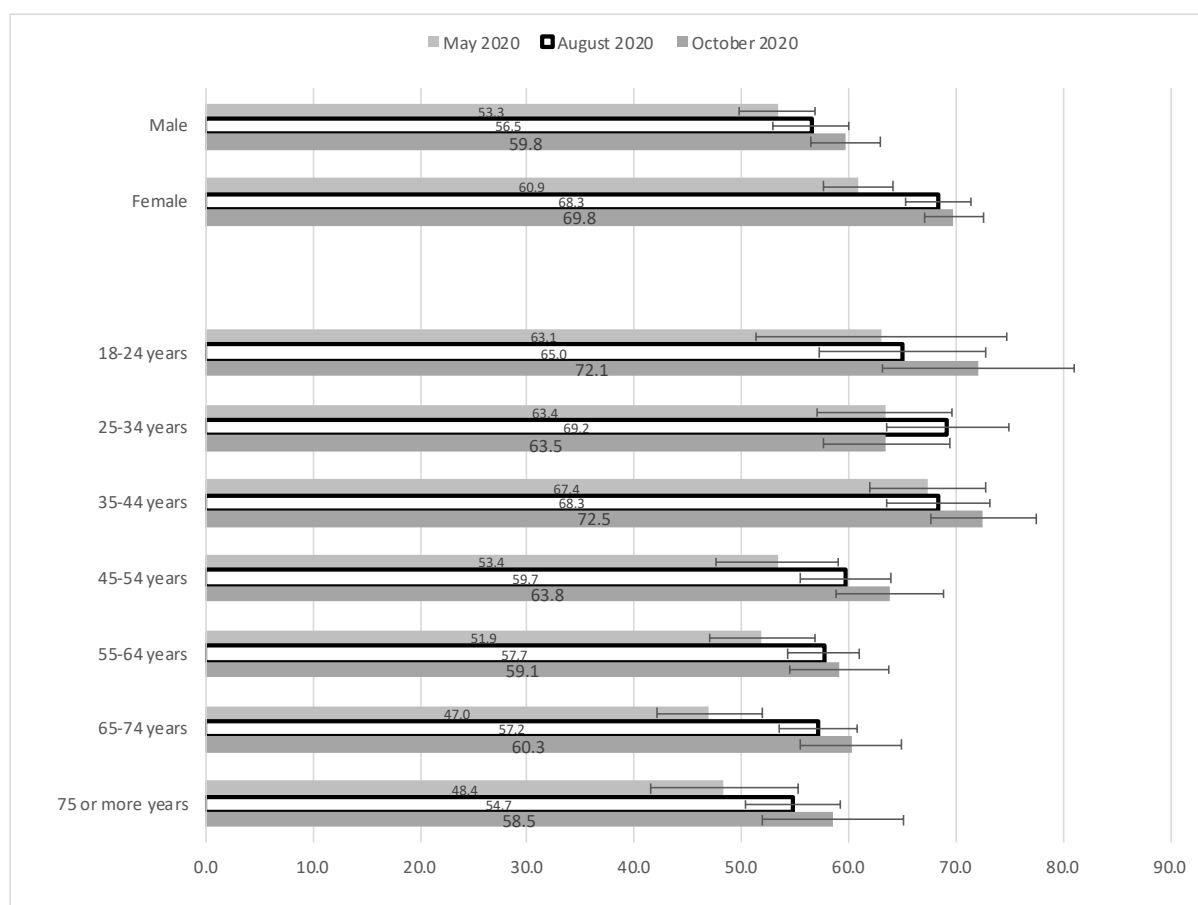
Source: Data and chart from Our World in Data, University of Oxford, Oxford Martin Programme on Global Development and Global Change Data Lab (<https://ourworldindata.org/>).

### 3 Anxiety, wellbeing and mental health outcomes

#### 3.1 Anxiety and worry

Despite the decrease in number of COVID-19 infections between August and October 2020 (particularly in Victoria), Australians continue to experience high rates of anxiety and worry due to COVID-19. There was a slight increase in anxiety and worry due to COVID-19 for males and females and for most age groups between August and October (Figure 4). While not all these changes were statistically significant, for the most part levels of anxiety and worry were significantly higher in October 2020 (just after the second COVID-19 wave was brought under control) compared to May (just after the first COVID-19 wave). In May, August and October females had higher levels of anxiety and worry about COVID-19 than males, and young Australians have higher levels of anxiety and worry than older Australians.

**Figure 4** Per cent of Australians who reported anxiety and worry due to COVID-19 by sex and age, May, August, and October 2020



Notes: The “whiskers” on the bars indicate the 95 per cent confidence intervals for the estimate.

Source: ANUpoll, May, August and October 2020.

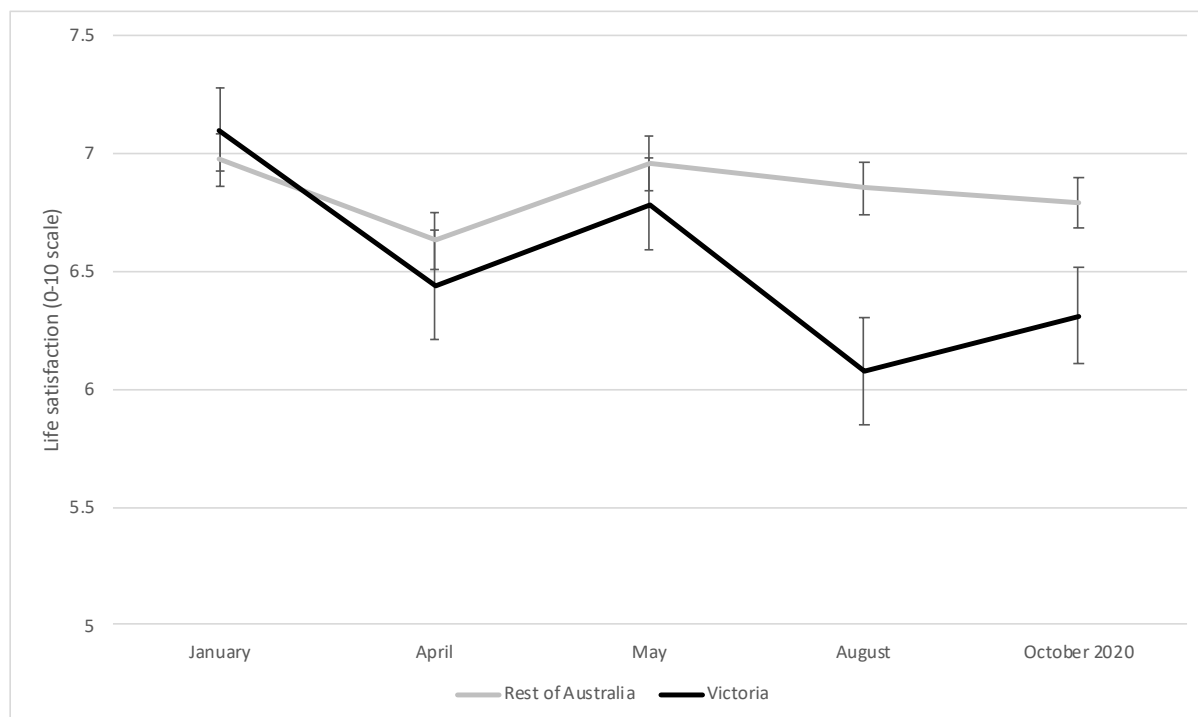
The increase in anxiety and worry between August and October was quite similar for Victoria (67.6 per cent in August to 71.0 per cent in October) and the rest of Australia (60.8 per cent to 62.7 per cent). Victorians, however, continues to have significantly higher rates of anxiety and worry about COVID-10 than people living in other areas of Australia.

### 3.2 Subjective wellbeing

The story with regards to life satisfaction, however, is quite different (Figure 5). Between May and August 2020 when infection rates remained low in most of Australia but increased substantially in Victoria, life satisfaction in Victoria dropped sharply while in the rest of Australia it decreased only slightly. Between August and October, however, there was a partial convergence with Victorians experiencing a moderate improvement in life satisfaction (from 6.08 to 6.31 on a scale of 0 to 10) with no significant change for the rest of Australia (6.85 to 6.79).

This improvement in life satisfaction was similar for regional Victoria (6.37 to 6.54) and Melbourne (6.06 to 6.22), despite restrictions in regional Victoria being released earlier and to a greater extent than those in Melbourne. This suggests that life satisfaction is a leading indicator (based on expected easing of restrictions and number of cases) rather than a lagging indicator.

**Figure 5** Life satisfaction in Victoria and the rest of Australia, January, April, May, August, and October 2020



Notes: The “whiskers” on the lines indicate the 95 per cent confidence intervals for the estimate. Restricted to those who completed all four waves of data collection

Source: ANUpoll, January, April, May, August and October 2020.

### 3.3 Mental health outcomes

The ANU Centre for Social Research and Methods COVID-19 impact monitoring surveys have been tracking mental health using the Kessler 6 (K6) scale measure of psychological distress.<sup>4</sup> Respondents who score highly on this measure are considered to be at risk of a serious mental illness (other than a substance use disorder). The psychological distress questions were previously asked in February 2017 and therefore allow us to measure long-term change through time in outcomes.

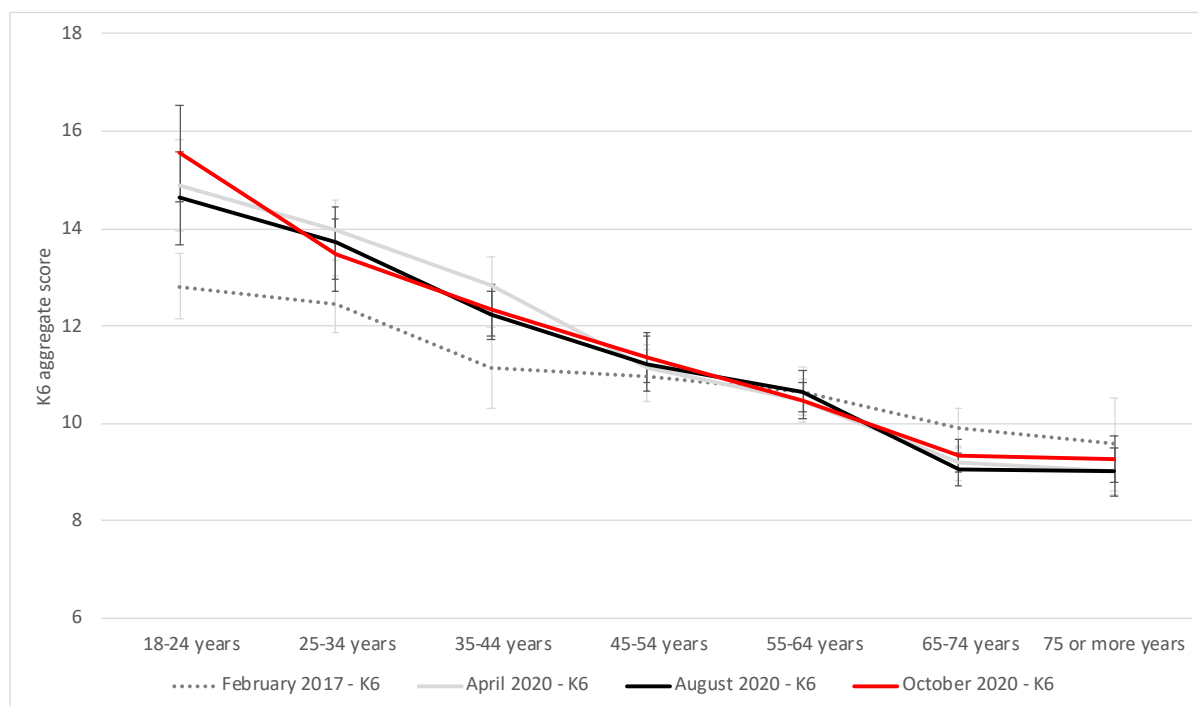
After worsening between February 2017 and April 2020, there were small reductions in the level of psychological distress between April and August 2020 (Figure 6). Specifically, in a previous publication we showed that ‘In February 2017 when the question was last asked on Life in Australia™, the average value was 11.2. By April 2020, the score had increased to have a mean of 11.9. Between April and May 2020 there was a significant reduction in psychological distress, although the K6 measure was still above the pre-COVID-19 values (mean = 11.5 in May 2020). Mental health worsened again though between May 2020 and August 2020, with an average in our most recent data collection of 11.7’ (Biddle et al. 2020). The previous paper showed that much of the decrease in psychological distress between May and August 2020 was caused by a worsening in Victoria.

Between August and October, the level of psychological distress does not appear to have changed significantly for Australia as a whole (the October 2020 average was 11.8) or for Australians 25 years or older. However, those aged 18 to 24 years appear to have experienced a large increase in psychological distress (K6 score increased from 14.6 in August to 15.7 in October for that group). Because of the relatively small sample sizes it is difficult to be too



definitive as to whether the change for 18-24 year olds was due to randomness in the data or not. However, it is still concerning that for young Australians mental health outcomes have not shown recovery towards their pre-COVID levels. For 18-24 year olds psychological distress was 21.3 per cent worse in October 2020 than it was prior to the pandemic in February 2017, and potentially even higher than it was between April and August 2020.

**Figure 6 Psychological distress by age, February 2017 and April, August, and October 2020**

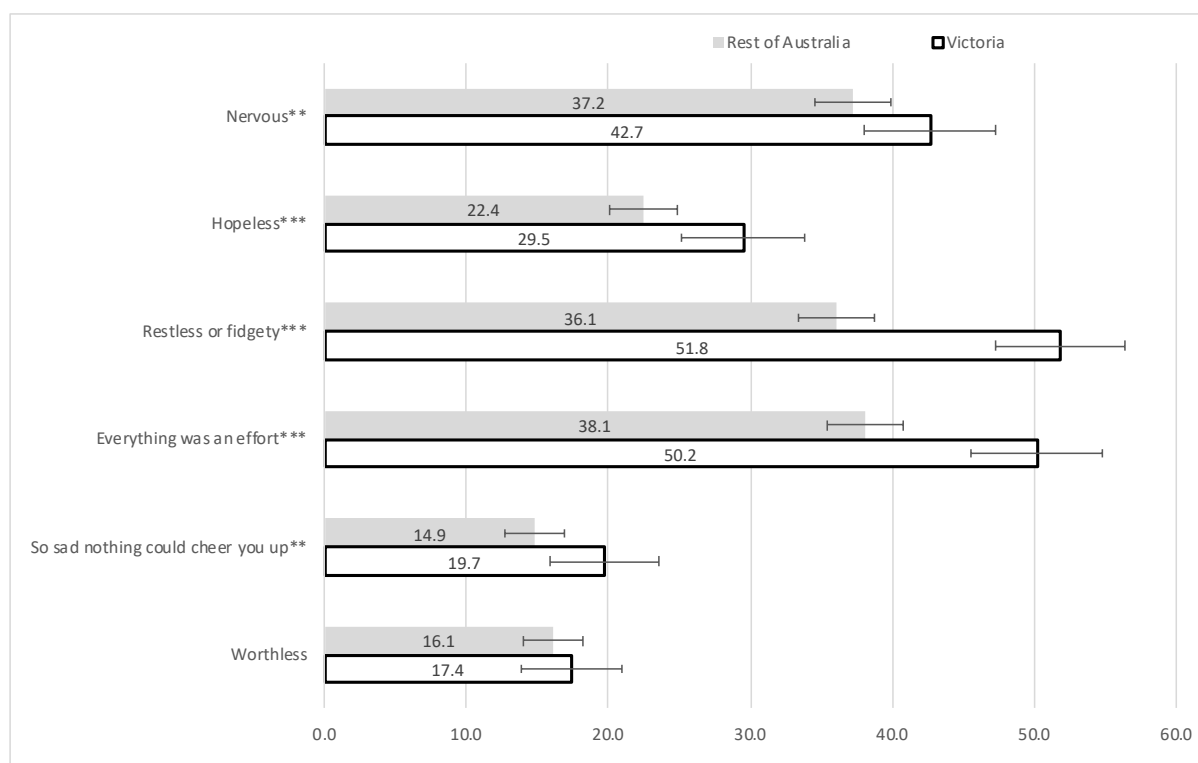


Notes: The “whiskers” on the bars indicate the 95 per cent confidence intervals for the estimate.

Source: ANUpoll, January April, August and October 2020 and Life in Australia Wave 35, February 2020.

The relatively stable levels of psychological distress across Australia were mirrored in Victoria (12.57 in August and 12.67 in October) and the rest of Australia (11.38 and 11.52). Despite the lack of change in the levels of psychological distress, Victorians continue to experience higher rates of psychological distress than their counterparts in the rest of Australia (Figure 7). The higher rates of psychological distress in Victoria is mainly driven by four of the six underlying measures of psychological distress. Victorians were more substantially (at least 30 per cent more likely) and statistically significantly more likely to report that in the last weeks that they had felt some, most or all of the time: feeling hopeless; feeling restless and fidgety; feeling like everything was an effort, and feeling so sad that nothing could cheer them up.

**Figure 7** Proportion of respondents reporting feeling indicators of psychological distress, Victoria and the rest of Australia October 2020



Notes: The “whiskers” on the bars indicate the 95 per cent confidence intervals for the estimate. Differences between Victoria and the rest of Australia that are statistically significant at the 1 per cent level of significance are labelled \*\*\*; those significant at the 5 per cent level of significance are labelled \*\*, and those significant at the 10 per cent level of significance are labelled \*.

Source: ANUPoll, October 2020.

## 4 Labour market outcomes

Australian Bureau of Statistics (ABS) Labour Force Survey data for the first two weeks of September showed that employment in Victoria had worsened substantially since August having fallen 1.1 per cent (ABS 2020a). In contrast there was an increase in employment in New South Wales, Queensland, Western Australia and South Australia (the other four large population States). The increase in employment in Queensland was 1.3 per cent.

The October ANUPoll provides data from one month later, and provides some evidence that by mid-October 2020, as lockdown conditions had started to be eased but before the more complete opening, employment had already increased in Victoria.

The ANU COVID-19 impact monitoring surveys ask about actual hours worked rather than usual hours or hours paid for. This means that those on JobKeeper who were working zero hours were recorded as employed but with zero hours. With this in mind, in Victoria there was an increase in average hours worked from 17.8 to 20.4 hours per week between August and October. This increase in hours worked in Victoria was due to an increase in the per cent of the population employed (from 57.2 per cent to 61.9 per cent in Victoria) and an increase in the average hours worked for those who were employed (31.0 hours to 33.0 hours).

By October 2020, there was no significant difference in average hours worked between Victoria

and the rest of Australia. However, this masks considerable variation within Victoria. In addition, the relatively small sample size for different areas of Melbourne means that our Victorian estimates have relatively large standard errors and so need to be interpreted with some caution.

Those who lived in Melbourne who experienced the most severe restrictions worked fewer hours on average (20.6 hours) than those who lived in other capital cities (21.8 hours). The gap with Sydney (which arguably had the most similar labour market pre-COVID), was even greater still, with Sydneysiders in our survey working 24.0 hours per week on average in October. While the average hours worked in October by those in Melbourne were lower than the hours worked in other capital cities, the difference had narrowed compared to August when those in Melbourne worked far fewer hours than those in other capital cities (17.5 hours compared to 21.2 hours).

Those who lived in the rest of Victoria, by comparison, were working more hours on average (19.7 hours) than the rest of Australians who lived outside of capital cities (17.9 hours). This represents a reversal from our previous data collection in August, when those in regional Victoria worked fewer hours on average (18.5 hours) than those in other parts of Australia outside of capital cities (19.0 hours).

The specific point estimates should be treated with caution, due to the relatively large standard errors around the estimates. However, the data suggests that between August and October 2020 there was some partial converge in hours worked between Melbourne and other capital cities, but an even great convergence outside of capital cities between Victoria and the rest of Australia, where restrictions had eased faster and earlier, potentially representing some pent-up labour demand.

It is interesting that the ABS found a decrease in payroll jobs in Victoria between the 19<sup>th</sup> of September and the 3<sup>rd</sup> of October (ABS 2020b) of 0.9 per cent. The difference between our series and the data from the ABS payroll series may be due to the methodology used (survey data compared to administrative data), and it may also be due to the different timing (our data is later in the month). Supporting this somewhat is the finding with the more recent data release (ABS 2020c) that payroll jobs for all of Australia had declined by 0.8 per cent between the 3<sup>rd</sup> of October and the 17<sup>th</sup> of October, but only by 0.3 per cent in Victoria over the period. There is some support, therefore, in the administrative data for the partial converge between Victoria and the rest of Australia.

Related to the increase in hours worked, is a significant improvement in respondent's expected future job prospects. In August 2020, the average expected probability an employed person gave for losing their job in the next 12 months was 25.0 (26.7 in Victoria and 24.5 in the rest of Australia). This declined to 22.8 between August and October 2020, with no differences between Victoria and the rest of Australia.

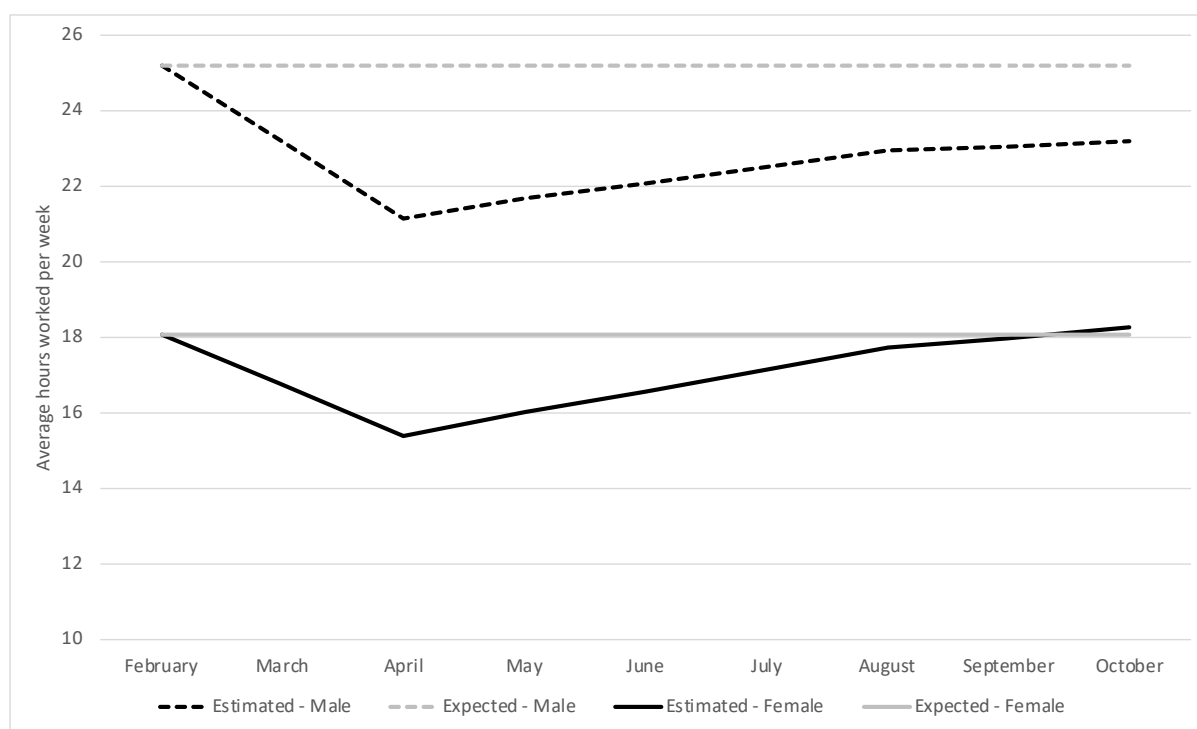
### 4.1 Lost hours over the pandemic

The ANU Centre for Social Research and Methods COVID-19 impact monitoring longitudinal survey program provides data that covers the first eight months of the pandemic period. Importantly, we have data for the same individuals over this period, which is quite different to the repeated cross-sectional surveys used elsewhere, or the 'rolling panel' used for the Labour Force Survey where one-eighth of the sample drops out after every monthly wave. The timing and trajectory of the economic effects of COVID-19 differ between groups of the Australian

population. Some groups experienced significant negative economic impacts very quickly, but then rebounded quickly, whereas others were affected less economically in the early stages of the pandemic, but have not recovered as quickly or by as much. Both situations clearly represent a negative outcome, but in quite different ways. We can now, however, start to paint a picture of the cumulative impact of the COVID-recession on different groups within Australia.

In Figure 8, we show the cumulative number of lost hours worked over the period since February 2020 for males and females. Specifically, we take average number of hours worked per week in February 2020 worked as the expected value over the period. We then give the estimated actual hours worked for each month, from March through to October.<sup>5</sup> We restrict analysis to those completed all surveys (February, April, May, August, and October) and weight based on the most recent survey. In absolute terms, and relative to the expected number of hours using February 2020 as the baseline, we can see that males in our longitudinal sample are estimated to have lost more hours worked than females at the depths of the COVID-recession, and still be working fewer hours eight months into it, whereas females are estimated to be essentially back to the pre-COVID levels by October.

**Figure 8** Estimated weekly hours worked by month – February to October 2020, by sex



Source: Life in Australia™, February 2020, ANUpoll, April, May, August, and October 2020.

Using the estimated hours worked for each month, we can calculate the total lost hours between March and October 2020 for each individual in our longitudinal sample (the area between the two lines in Figure 8).<sup>6</sup> There are 35 weeks in total across the eight months of the COVID-recession (which we have taken as starting on the 2<sup>nd</sup> of March) and for our total longitudinal sample we estimate an average expected number of hours worked of 759.8 hours if everyone kept on working at their February levels.

The estimated actual number of hours worked was 692.4 hours over the period, leading to an average net loss of 67.4 hours for all adults. Some adults who were not employed would have gained hours using our methodology, with an average total of 86.0 hours worked over the

period for those who were not employed in February. What this means though, is that the average loss in hours worked for those who were working was far greater than for all adults combined, with an average loss of 166.7 hours over the period for those who were employed in February.

If we take the adjusted Average Weekly Earnings per hour as of February 2020 as \$35.3 per hour,<sup>7</sup> this equates to a total loss of production of \$2,379 per adult or an average loss of \$5,885 per employed adult. If we multiply this per-adult estimated by the total estimated adult population (19,752,086 as of June 2020), this gives a total estimated loss of production equal to around \$47.0 billion or 1.3 billion hours due to the COVID-Recession.

The total loss of hours is not evenly distributed across the population. Not surprisingly, given the results presented in Figure 8, the total loss in hours worked was greater for males (average of 95.0 hours) than for females (38.5 hours). It is true that in relative terms the difference is not as large, as males worked more hours on average at the start of the period, but males are still estimated to have lost a greater proportion of expected hours (10.8 per cent) compared to females (6.1 per cent).

In Table 1, we expand this analysis through a regression-style approach. Specifically, we model the estimated hours lost over the eight-month period as a function of demographic and human capital measures. In Model 1, we estimate over the whole linked sample, whereas in Model 2 we estimate the relationship for those who were working in February 2020 and therefore had the opportunity to lose hours over the period. For those who were not employed in February 2020, it was only possible to gain hours.

In Model 1, we confirm that females lost fewer hours over the period than males. We can also see though that very young adult Australians (aged 18 to 24 years) lost fewer hours (albeit with a p-value of 0.113) as did older Australians (p-value = 0.109). Those with relatively low levels of education (having not completed Year 12) lost fewer hours. What is perhaps most striking though is the variation within Victoria, with those in Melbourne losing 58.0 more hours than those in the rest of Australia, but those in regional Victoria losing 58.4 fewer hours.

When we focus on the employed population (as of February), some even more striking results emerge. Females are still estimated to have lost fewer hours, but the number of additional hours lost by older Australians (140.6 hours) and those born overseas in a non-English speaking country (104 hours) is now substantially larger and statistically significant. What is also interesting, however, is that the COVID-recession appears to have impacted on the middle part of the education distribution with employed adults who have not completed Year 12 having a significantly a substantially smaller number of hours lost compared to those who have completed Year 12 but with a degree (by 113 hours) and those with an undergraduate or postgraduate degree also estimated to have lost fewer hours (by 62 hours and 68 hours respectively).

**Table 1** Factors associated with total hours lost, February to October 2020

|  | All adults |         | Employed in February 2020 |         |
|--|------------|---------|---------------------------|---------|
|  | Coeff.     | Signif. | Coeff.                    | Signif. |
| Melbourne  | 57.9       | **      | 72.0                      | *       |
| Regional Victoria                                      | -58.4      | **      | -117.1                    | **      |
| Female   | -55.4      | **      | -65.6                     | **      |
| Aged 18 to 24 years                                    | -75.6      |         | -28.8                     |         |
| Aged 25 to 34 years                                    | -15.1      |         | 48.8                      |         |
| Aged 45 to 54 years                                    | 32.3       |         | 54.3                      |         |
| Aged 55 to 64 years                                    | 12.0       |         | 67.6                      | *       |
| Aged 65 plus   | -45.8      |         | 140.6                     | **      |
| Indigenous   | 59.7       |         | 81.8                      |         |
| Born overseas in a main English speaking country       | 17.9       |         | 46.9                      |         |
| Born overseas in a non-English speaking country        | 60.8       |         | 104.0                     | *       |
| Speaks a language other than English at home           | -5.7       |         | 52.9                      |         |
| Has not completed Year 12 or post-school qualification | -57.3      | **      | -113.4                    | **      |
| Has a post graduate degree                             | -45.9      |         | -67.8                     | *       |
| Has an undergraduate degree                            | 1.8        |         | -61.8                     | *       |
| Constant   | 102.1      | **      | 145.4                     | **      |
| Sample size  | 2,282      |         | 1,284                     |         |

Source: ANUpoll, August 2020 and Life in Australia Wave 35, February 2020

Notes: OLS Regression Model. The base case individual lived outside of Victoria, is male; aged 35 to 44; non-Indigenous; born in Australia; does not speak a language other than English at home; has completed Year 12 but does not have a post-graduate degree.

Coefficients that are statistically significant at the 1 per cent level of significance are labelled \*\*\*; those significant at the 5 per cent level of significance are labelled \*\*, and those significant at the 10 per cent level of significance are labelled \*.

## 5 Concluding comments

At the time of writing, Australia appears to have been through its second wave of COVID-19 infections. The jurisdiction most impacted (Victoria) has had a number of days of zero new cases, and Australia as a whole has had infections in the single or low double-digits for a number of weeks. Melbourne has recently emerged from a lockdown that was amongst the most severe anywhere in the world since the initial restrictions placed on residents of Wuhan, with an even greater easing expected over the next few weeks. There is of course no guarantee that a third wave of infections won't occur at some stage in the not too distant future. However, Australia can now say once again that it has managed to avoid the worst of the direct (infection/mortality) effects of the COVID-19 pandemic.

From mid-late October, the ANU Centre for Social Research and Methods and the Social Research Centre conducted a survey of a little over 3,000 adult Australians, as part of the longitudinal COVID Impact Monitoring Survey Program. We found that anxiety and worry due to COVID-19 has continued to increase with females and young Australians continuing to be more anxious and worried. Life satisfaction appears to have improved slightly for Victorians (converging back to the rest of the Australian population) whereas there is some weak evidence that psychological distress has increased (worsened) again for young Australians. While there was some convergence in life satisfaction between Victoria and the rest of Australia, Victorians continue to report higher rates of four of the underlying measures of psychological distress - feeling hopeless; feeling restless and fidgety; feeling like everything was

an effort, and feeling so sad that nothing could cheer them up.

There was more positive economic news, with some evidence that hours worked in Victoria estimated to be roughly the same as the rest of the Australian population, after experiencing a significant decline between May and August 2020, although this hides some significant within-state variation, as Melbourne still lags behind those in other capital cities. Importantly, both Victorians and the rest of Australia were less pessimistic about losing their jobs over the next 12 months, though that particular measure is still much higher than recorded in other surveys prior to the pandemic.

With longitudinal data spread over eight months of the COVID-recession, we are now able to take a slightly longer term look at the drop in production due to lost hours worked over the period. We estimate that for all adults, there was an average loss of 67.4 hours over the COVID-19 period thus far, or 166.7 hours for those who were working in February. At estimated average hourly earnings, we estimate a loss in production over the period of \$47.0 billion from the drop in hours worked alone.

Males have lost more hours than females, and those in the middle part of the age distribution have lost more than the young and the old. The middle part of the education distribution has also lost more hours, though perhaps the most worrying finding is that Australians who were born overseas in a non-English speaking country have lost more hours than those born in Australia, even after we control for demographic and human capital characteristics.

The negative impacts of the lockdowns in Victoria are beginning to ease. However, our data continues to show that the economic costs of the COVID-recession are large, and not evenly distributed across the population.

## Appendix 1      About the survey

The primary source of data for this paper is the October ANUpoll. Data collection for the full sample commenced on the 13th of October. In total, 1,785 individuals were collected across three main days of data collection – October 13th to 15<sup>th</sup> and by the end of the collection period (26<sup>th</sup> of October) the total sample size for the survey was 3,043.

The Social Research Centre collected data online and through Computer Assisted Telephone Interviewing (CATI) in order to ensure representation from the offline Australian population. Around 4.8 per cent of interviews were collected via CATI. The contact methodology adopted for the online Life in Australia™ members is an initial survey invitation via email and SMS (where available), followed by multiple email reminders and a reminder SMS. Telephone non-response of panel members who have not yet completed the survey commenced in the second week of fieldwork and consisted of reminder calls encouraging completion of the online survey.

The contact methodology for offline Life in Australia™ members was an initial SMS (where available), followed by an extended call-cycle over a two-week period. A reminder SMS was also sent in the second week of fieldwork. Taking into account recruitment to the panel, the cumulative response rate for this survey is around 8 per cent.

Unless otherwise stated, data in the paper is weighted to population benchmarks. For Life in Australia™, the approach for deriving weights generally consists of the following steps:

1. Compute a base weight for each respondent as the product of two weights:
  - a. Their enrolment weight, accounting for the initial chances of selection and subsequent post-stratification to key demographic benchmarks
  - b. Their response propensity weight, estimated from enrolment information available for both respondents and non-respondents to the present wave.
2. Adjust the base weights so that they satisfy the latest population benchmarks for several demographic characteristics.

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (2014/241).



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## Endnotes

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- 1 <https://www.abc.net.au/news/2020-10-05/victoria-coronavirus-school-students-year-7-classroom-learning/12731798>
  - 2 <https://www.abc.net.au/news/2020-10-18/dan-andrews-reveals-victoria-melbourne-coronavirus-restrictions/12779462>
  - 3 <https://www.bbc.com/news/business-54564945>
  - 4 The K6 comprises six items and has been widely used and validated in many epidemiological studies (e.g., Kessler et al., 2002).
  - 5 We assume a linear trend between February and April in order to estimate March hours worked, a linear trend between May and August to estimate June and July hours worked, and a linear trend between August and October to estimate September hours worked.
  - 6 We apply the monthly estimate based on the month in which a given week commences. Based on this method, there are 5 weeks that use the March 2020 estimate, 4 for April, 4 for May, 5 for June, 4 for July, 5 for August, 4 for September, and 4 for October.
  - 7 This estimated hourly wage was found by multiplying the November 2019 Average Weekly Total Earnings Per Person (\$1,257) by the March 2020 Wage Price Index (134.1) and dividing by the December 2020 Wage Price Index (133.5) to get an estimate for February 2020 Average Weekly Total Earnings Per Person. We then divided this by the average hours worked for the employed population in our sample in February 2020 (35.8 hours).