

Australians' Well-being and Resilience during COVID-19



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CRIS
Centre for Resilient
and Inclusive Societies

This report was researched and written on unceded Country.
We pay our respect to Elders past, present and future,
and acknowledge Aboriginal and Torres Strait Islander
communities' ongoing struggles for empowerment, healing and
self-determination.

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Executive summary

On 11 March 2020, the World Health Organization (WHO) declared that the coronavirus (COVID-19) was a global pandemic. On 14 March 2020, Australia reached its first 100 cases. By 12 November 2020, almost 28,000 total cases and nearly 1,000 deaths had been recorded. In response, Australian state and federal governments enacted border closures, social distancing measures and lockdowns to curtail the impacts of the pandemic. Anecdotal reports have pointed to the negative impacts of these physical measures on Australians' well-being and resilience; however, these potential impacts have been under-examined and empirical evidence is lacking.

This report presents findings of a national survey of Australians 16 years and over (N = 1,380) conducted in November 2020 to examine Australians' well-being and resilience within the COVID-19 pandemic context, and the factors that promoted and hindered their well-being and resilience. By the end of October 2020, the Victorian lockdown of 112 days was the longest continuous lockdown period in the world (BBC News, 2020) and was a critical time period for Australia. Given that COVID-19 is still a concern, and in preparation for future crises, these findings should be considered in the context of recovery and boosting the resilience of all Australians.

In November 2020, the vast majority (98.3%) of survey respondents had not contracted COVID-19, and only 5.4% knew someone who had. At the time, the respondents on average 'somewhat agreed' that Scott Morrison, Parliament, and federal and state governments were doing a great job during the COVID-19 crisis, that they provided sufficient information about who should be tested, where to be tested, and who should be isolated in response to COVID-19. While the respondents perceived the state/federal government websites as the most accurate source of obtaining COVID-19 information, they did not access these websites as often as commercial TV/radio. Two-fifths (41.7%) of respondents reported using Facebook to obtain COVID-19 information, while almost half (45.3%) did not use social media at all as a source of COVID-19 information.

When asked about various COVID-19 conspiracy beliefs and COVID-related fake news, most respondents disagreed with the majority of the statements. However, there was some support and uncertainty around conspiracy theories that COVID-19 was created by the Chinese and is bio-engineered, and belief in fake news that hot climates/temperatures can kill the coronavirus. One in five (20%) respondents agreed that face masks do not prevent the spread of COVID-19 and that making masks mandatory impedes on their personal freedom. Participants' responses to open-ended questions further illuminated the ways in which COVID-19 impacted on their everyday lives, specifically in their daily interactions with people, employment and living arrangements, and social support.

Given that COVID-19 is still a concern, and in preparation for future crises, these findings should be considered in the context of recovery and boosting the resilience of all Australians.

Interpersonal trust was a consistently protective factor, associated with less depression, anxiety, stress, loneliness and greater resilience.

In terms of well-being, on average Australians reported normal to moderate levels of anxiety, moderate stress, and mild depression. They also showed moderate to high levels of loneliness that may nonetheless indicate a resilient response. In terms of the factors that promoted or hindered well-being, those who believed that external forces (such as luck) determined their outcomes in life were more likely to be depressed, anxious, stressed and lonely and less resilient as compared to those who believed that they were responsible for their own success. However, interpersonal trust was a consistently protective factor, associated with less depression, anxiety, stress, loneliness and greater resilience.

We also found that various personal and situational factors affected well-being and resilience. The most consistent differences were seen across age groups, employment status, and living arrangements. In general, younger Australians were relatively more depressed, anxious, stressed, lonely and less resilient compared to older Australians. In addition, students and unemployed Australians were more depressed, anxious, stressed, lonely and less resilient as compared to those who were retired. Relationship status and living arrangements also had an impact on well-being and resilience, with respondents not in romantic relationships (single) and living with their parents/family being more depressed, anxious, and stressed as compared to all others. Couples living without children were the least depressed, anxious, and stressed. Single people (regardless of their living arrangements) and people in share houses, were the most lonely, while couples (with or without children) were the least lonely. In terms of resilience, the most resilient were couples (regardless of whether they had children or not) and single people living alone. This was followed by single people with children or people in share houses, with single people living with their parents/family being the least resilient.

This study sought to inform mental-health, well-being and resilience strategies developed and propagated by government and non-government agencies and providers. Given the pandemic is not yet over, some of these issues persist today (e.g., declining mental health of younger people) and should be a focus for policymakers and practitioners alike. We hope the findings will help inform the allocation of funding and resources towards improving the well-being and resilience for all Australians.

Key findings

- By the end of 2020, towards the end of the first year of the pandemic, the pandemic had negatively impacted Australians' well-being and resilience.
- On average, Australians were fairly satisfied with the COVID-19 information and response provided by the Prime Minister, Parliament, and both federal and state governments.
- Two-fifths of respondents reported using Facebook to obtain COVID-19 information, while almost half did not use any social media as a source of COVID-19 information at all.
- Over half of respondents expressed either support for conspiracy theories that COVID-19 was created by the Chinese and is a bio-engineered virus, or uncertainty about these theories.
- One in five respondents believed that face masks do not prevent the spread of COVID-19.
- The rates of depression and stress we found during the first year of the pandemic appear comparable with the UK's and higher than New Zealand's, while the rates for anxiety were higher than both countries.
- The most significant negative correlates of well-being and resilience were having an external locus of control and high intolerance of uncertainty (inhibitory anxiety), highlighting how individual differences factors relate to people's well-being and resilience.
- The most significant positive correlate of well-being and resilience was having high interpersonal trust, a protective factor which has been shown in other research to be positively related to several adaptive outcomes (e.g., positive coping, higher quality of life). So, increasing people's interpersonal trust is critical in promoting wellbeing and resilience to future crises.
- Interestingly, whilst altruism towards strangers was associated with increased resilience, it was also associated with increased depression, anxiety and stress. One possible reason for this finding is that not being able to help others may have contributed to feelings of helplessness and reduced self-efficacy, which indirectly may have negatively impacted on their mental health as well.
- The groups most negatively affected by COVID-19 were young people, students and the unemployed, and single people (in particular single people living with their parents/family). Thus, service providers may want to target some of their services towards these particular groups of people who may be struggling more than others.

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Introduction

The COVID-19 pandemic has produced a worldwide mental and physical health crisis, as populations across the globe face the threat of the virus, adapt to preventative measures, and experience a new level of socio-economic uncertainty (Onyeaka et al., 2021). The pandemic has affected countries differently due to diverse preventative measures (Coccia, 2022), and has reignited long-standing concerns about the readiness and systemic inequality in health responses, within and between countries (Marmot, 2005; 2015). With such prolonged strains on society, it is necessary to examine the adaptation and barriers to resilience in this context.

In November 2020, the time of data collection for this study, Australia had recorded 27,893 confirmed cases resulting in 907 deaths (Australian Government, 29 November 2020). On a global scale, Australia's relatively low cases per capita was likely due to fairly successful compliance with border closures and social distancing measures that were enacted to prevent the virus's transfer. Included in such measures were several 'lockdowns' (also known as stay-at-home orders) to stymie outbreaks, particularly in the state of Victoria at the time of this study's data collection.

During the data collection period for this study, the unemployment in Australia was 6.8% (ABS, 2020b), and 22% of businesses reported revenue decreases (ABS, 2020a). Research on the 2008 Global Financial Crisis (GFC) demonstrated that older populations are vulnerable to poorer health outcomes due to economic stress, and increased depressive and anxiety symptoms as well as declined health status (Sargent-Cox, Butterworth & Anstey, 2011). More broadly, financial crises produce increased negative effects and detrimental behaviours, including elevated alcohol consumption and tobacco use, suicide, poor mental health, and (to some extent) an increased risk of non-communicable (e.g., cardiovascular disorders) and communicable diseases (tuberculosis), as well as limited access to care (Karanikolos et al., 2016). In the longer term, there would likely be increased negative mental and physical health implications as economic impacts will introduce prolonged stress (Karanikolos et

al., 2016). The negative mental and physical health impacts specifically associated with the economic stressors of the COVID-19 pandemic, in Australia and elsewhere, are under-examined.

More broadly, recent research has found that the COVID-19 pandemic and associated restrictions enacted by governments could contribute to adverse outcomes, such as increased loneliness, depression, anxiety, financial worry and reduced social support (Asmundson & Taylor, 2020; Courtet et al., 2020; Reger et al., 2020). In the US and UK, there is evidence that the pandemic context increased levels of loneliness and poor mental health among adults (Li & Wang, 2020; Luchetti et al., 2020). One US study examined the potential relations of both stay-at-home orders and the perceived impact of COVID-19 on daily life in regards to various psychological outcomes (Tull et al., 2020). Tull and colleagues (2020) found that both stay-at-home orders and the perceived impact of the pandemic context on daily life had negative impacts on people's well-being, in that both were associated with increased anxiety and financial worry. However, only stay-at-home orders was associated with increased loneliness, as the perceived impact of the pandemic context on daily life was associated with increased social support seeking and reduced loneliness, one silver lining to the pandemic.

In Australia, between 16 March 2020 and 1 May 2022, over 29.0 million government (Medicare)-subsidised mental health-related services were processed. Medicare-subsidised mental health services delivered via telephone or videoconference peaked during April 2020. The volume of mental health-related Pharmaceutical Benefits Scheme prescriptions dispensed spiked in March 2020 when pandemic restrictions were first introduced, followed by a dip in April 2020. From mid-November 2021 to mid-March 2022, weekly volume tracked above the same week one year prior. These patterns were observed across all jurisdictions (Australian Institute of Health and Welfare, 2022). Thus, the health orders may have inadvertently introduced the long-term production of an environment that puts more of the population at risk of mental health issues. Research on previous pandemics have also found negative mental health outcomes; for example, increased

levels of anxiety during the 2009 H1N1 pandemic (Wheaton et al., 2012) and the 2003 SARS outbreak (Hawryluck et al., 2004). However, the extent of these negative mental and physical health implications is currently unclear, as is the extended mental and physical health implications of the COVID-19 pandemic context.

A number of empirical studies have provided varied data on the well-being and resilience outcomes for Australians during the COVID-19 pandemic. The ANU Social Research Centre collected data as part of their COVID-19 Impact Monitoring Series. This is a significant dataset with 11 surveys undertaken throughout the first 2 years of the pandemic. This study found that life satisfaction decreased substantially during the first few months of the pandemic and then fluctuated over the course of the pandemic. There was a large increase in psychological distress at the start of the pandemic and again, evidence that psychological distress fluctuated depending on changing circumstances within the pandemic. The greatest negative impact of the pandemic on psychological distress appears to have been for particular subgroups such as women, younger adults, Victorians and low-income households. There was a dramatic decrease in social interaction, which has not yet returned to pre-pandemic levels and has partially contributed to high levels of loneliness and social isolation. The study also found that social cohesion (measured through trust, fairness, and helpfulness questions) significantly increased in the first 6 months of the pandemic, has slightly decreased since, but remains above pre-COVID levels (Biddle, Gray, & Rehill, 2022). The 2020 'National Youth Mental Health Survey' (n:1035), taken in the first 4 months of the pandemic with young people aged 12-25 years, showed high rates of psychological distress (though comparable to the 2018 survey rates), and an overall decline in well-being in young Australians.

While many of these empirical studies touch on well-being and resilience impacts, and/or focus on specific subgroups, robust empirical evidence of Australians' well-being and resilience during the pandemic is needed in order to identify important knowledge gaps in need of urgent attention. The study presented in this report sought to provide this evidence by gauging the extent to which Australians have been affected by and responded to the

COVID-19 pandemic, and the factors that promoted and hindered their well-being and resilience in the context of the pandemic. The study included a number of psychometrically-validated measures of well-being and resilience (e.g., DASS-9, UCLA Loneliness Scale, Brief Resilience Scale). The study also included a number of COVID-related questions, such as Australians' trust in, and perceptions of, the government's handling of the pandemic, their preferred information COVID-19 sources, and belief in COVID-19 conspiracy theories and fake news. The study also included individual differences variables (e.g., intolerance of uncertainty, external locus of control, narcissism) to examine how these factors related to their well-being and resilience. The study sought to inform mental-health, well-being and resilience strategies developed and propagated by government and non-government agencies and providers. Such evidence can also be used to develop tailored advice and resources to improve the well-being and resilience for all Australians.

Research aim

The overarching aim of this project was to examine how Australians are affected by and respond to the pandemic. We were particularly interested in the factors that promote and hinder well-being and resilience in the context of COVID-19 (e.g., information seeking via media including social media, pro-social behaviour), as well as to examine whether the pandemic may be affecting certain populations more adversely as compared to others. This included the investigation of the following questions:

1. What are Australians' COVID-19 experiences, perceptions and beliefs?
2. What is the perceived impact of the pandemic on Australians?
3. What are the factors that promote or hinder Australians' well-being and resilience?
4. Did the pandemic affect various subpopulations differently?

Methodology

We conducted a national online survey of Australians between November 12 – 26, 2020. The survey consisted of 1,380 respondents who were currently residing in Australia, and were 16 years of age and older. We targeted a national sample that was representative by state/territory, with a 1:2 ratio of those from culturally and linguistically diverse (CALD) backgrounds as compared to those from Anglo backgrounds in order to obtain a culturally diverse sample. We utilised Dynata, an online panel provider, who have a pool of over 300,000 Australian panellists.

The survey included a combination of close-ended (quantitative) and open-ended (qualitative) questions. The quantitative close-ended questions included demographic and background characteristics, COVID-19 specific questions (e.g., ‘Have you had COVID-19?’, ‘Do you know someone close to you that has contracted COVID-19?’, ‘If you had to guess, what is the likelihood that you will contract COVID-19?’, and questions about information-seeking behaviour), trust in other people, trust in government, individual differences variables (e.g., intolerance of uncertainty, locus of control, altruism, narcissism), beliefs in conspiracy theories and fake news, mental health (e.g., depression, anxiety, stress), loneliness, and resilience. The qualitative open-ended questions focused on the impact of COVID-19 on the individual’s social life and living arrangements (e.g., ‘How has COVID-19 impacted your employment and/or living arrangements?’, ‘What are the most significant impacts COVID-19 has had on your social support (good or bad)?’, as well as trust in news sources (e.g., ‘What news source do you use most often for COVID-19?’) (see Appendix for survey items).

Quantitative analysis

We conducted both descriptive (e.g., means, frequencies) and inferential statistics (e.g., correlation, multiple regression) to provide a snapshot of: Australians’ COVID-19 experiences, perceptions and beliefs; correlates of well-being and resilience; and whether there were any differential impacts on various sub-populations (e.g., younger people, people with a disability/ies). Specifically, we used means and frequencies to examine

their pandemic-related experiences. We used a combination of correlations and multiple regression to examine the relationship between personal and individual differences factors to examine correlates of well-being and resilience during COVID-19, and the factors that promote or hinder their well-being and resilience. Lastly, we disaggregated the findings to compare mean differences to examine whether well-being and resilience differed for various sub-populations.

Qualitative analysis

We conducted an inductive thematic analysis on the open-ended survey responses, which were coded with NVivo 2020, to examine the perceived impacts of the pandemic on people’s everyday lives, in particular new ways of interacting with people, employment, living arrangements, and social support and lifestyle.

Survey demographics

The majority of participants identified with an Anglo background (73.1%), and 57.1% of the participants identified as female (Table 1). A significant number of participants were born overseas (39.4%), with the majority identifying with an Anglo-background (76.5%). Thus, our sample included many Anglo migrants. Almost half of the sample had at least a tertiary level qualification (45.0%), with 14.0% having a postgraduate qualification. Older participants were over-represented, with 60.5% of participants aged 55+, as were retirees (38.5%). Unemployment was somewhat high (7.7%) in the sample of respondents, a little higher than the national average of 6.8% (ABS, 2020b). Almost half (48.9%) of the participants earned <\$40,000 per annum, and 42.6% of respondents viewed themselves to be in the lower half in terms of subjective social status. In terms of which political party they would be most likely to vote for, the distribution was fairly representative of the current Australian political climate, with 33.6% supporting Labor and 41.1% Liberal-National. The vast majority (78.4%) of respondents lived in a major city, 16.6% lived in an inner regional area, the remaining 5.0% in an outer regional, remote or very remote area. In terms of geographic distribution, 31.0% were in New South Wales, 25.0% in Victoria, and 21.6% in Queensland (see Table 1 & Figure 1).

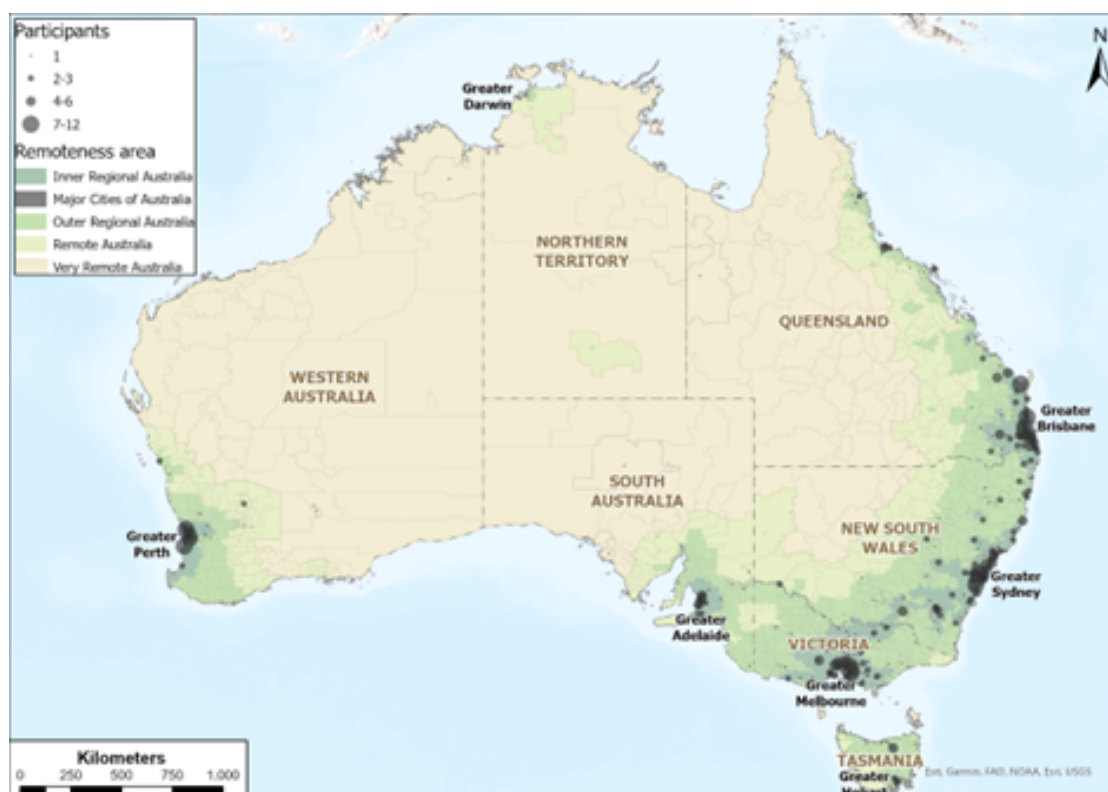
Table 1. Demographic and background characteristics of the sample (N = 1,380)

Demographic & background characteristics		%
Background	Anglo	73.1
	Non-Anglo	26.9
Gender	Female	57.1
	Male	42.6
	Non-binary/other/prefer not to say	0.3
Country of Birth	Australia	60.6
	Other	39.4
Family background	Aboriginal and/or Torres Strait Islander	0.4
	Anglo	76.5
	Asian	17.6
	African	0.4
	Middle Eastern	1.3
	Hispanic & Latino	0.5
	Pacific Islander & Oceania	0.3
	Prefer not to say	0.5
Highest level of education completed	Mixed race	2.5
	No formal qualifications	7.8
	Higher School Certificate (year 12) or equivalent	20.5
	Trade or TAFE qualification	26.7
	Other tertiary qualification	6.9
	University degree	24.1
Age	Postgraduate qualification	14.0
	16-17	1.5
	18-24	1.5
	25-34	7.3
	35-44	15.0
	45-54	14.1
	55-64	21.3
	65-74	28.8
Employment status	75 or older	10.4
	Employed	36.5
	Unemployed	7.7
	Self-employed	5.2
	Retired	38.5
	Caring/home duties	9.6
Annual income (pre-tax)	Student	2.5
	Under \$20,000	18.9
	\$20,000-\$29,999	18.5
	\$30,000-\$39,999	11.5
	\$40,000-\$49,999	7.5
	\$50,000-\$59,999	7.3
	\$60,000-\$79,999	9.8
	\$80,000-\$99,999	6.7
	\$100,000-\$149,999	7.1
	\$150,000 or more	3.3
Don't know/don't wish to divulge	9.5	



Demographic & background characteristics		%
MacArthur Scale of Subjective Social Status (from 1 = 'bottom' to 10 = 'top')	1	0.8
	2	3.3
	3	7.9
	4	10.7
	5	19.8
	6	22.9
	7	22.1
	8	9.2
	9	2.3
	10	0.9
Political party most likely to vote for	Greens	7.8
	Labor	33.6
	Liberal-National	41.1
	One Nation	3.3
	Independent	7.0
	Other	7.2
Remoteness	Major cities	78.4
	Inner regional	16.6
	Outer regional / remote / very remote	5.0
State/Territory	Australian Capital Territory	1.5
	New South Wales	31.0
	Northern Territory	0.7
	South Australia	7.3
	Tasmania	1.9
	Victoria	25.0
	Western Australia	11.0
	Queensland	21.6

Figure 1. Geographic distribution (by LGA) of the survey sample (N = 1,380)



COVID-19 experiences, perceptions and beliefs

Participants were asked several questions about the pandemic, including whether they had contracted COVID-19, their perceived chances of contracting the virus, and whether they knew of anyone who had COVID-19. They were also asked about their perceptions of the government’s response to COVID-19, sources of COVID-19 related information, as well as their beliefs in COVID-19 conspiracy theories and fake news.

COVID-19

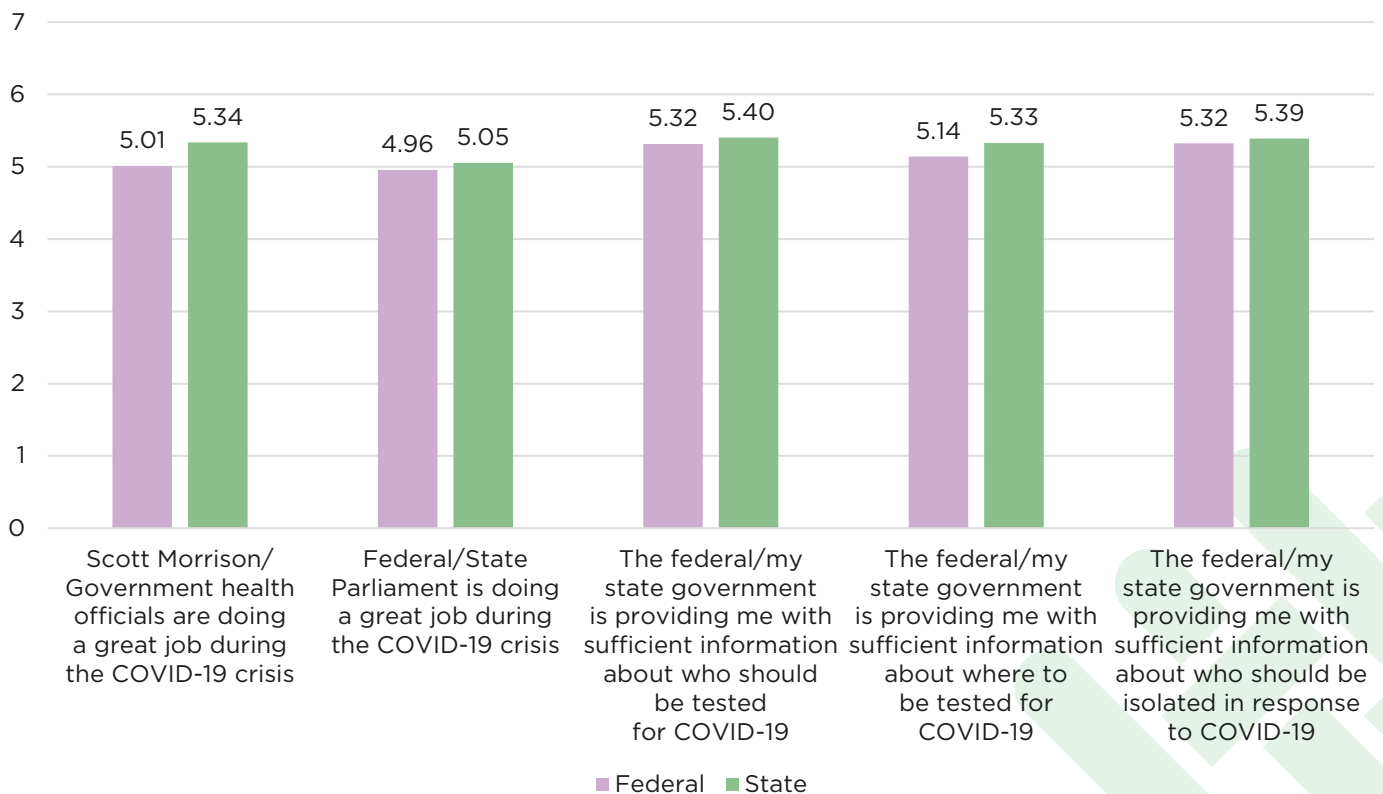
In November 2020, when asked if they have had COVID-19, the vast majority (98.3%) had not, 1.5% did, and 0.2% preferred not to say. Of the 9,972,000 tests conducted nationally at

that time, 0.3% of the tests had been positive (Australian Government, 29 November 2020). When asked if they had to guess what would be the likelihood that they would contract COVID-19 (from 0 = ‘0% chance’ to 10 = ‘100% chance’), the mean response was a 34% chance (*SD* = 22%). At that time, only 5.4% of respondents knew someone who had contracted COVID-19, including 2.2% who had a friend who had contracted COVID-19, and 2.1% whose extended family member had contracted COVID-19. Less than 1% had an immediate family member (0.8%), partner (0.4%), housemate (0.1%), or colleague/co-worker (0.5%) who had contracted COVID-19.

Government handling and response to COVID-19

In terms of Australians’ perceptions of the government’s handling and response to COVID-19, on average, the respondents ‘somewhat agreed’ (on a 7-point scale) that the Prime Minister, Parliament, and both federal and state governments were doing a great job during the COVID-19 crisis, that they provided sufficient information about who should be tested, where to be tested, and who

Figure 2. Australian respondents ‘somewhat agreed’ that the Prime Minister, Parliament, and both federal and state governments were doing a great job and providing sufficient COVID-19 information in the pandemic (N = 1,380)



should be isolated in response to COVID-19 (see Figure 2).

When comparing between federal and state responses, there were a few significant differences of note:

- On average, the respondents agreed more strongly that government health officials were doing a great job during the pandemic as compared to Scott Morrison
- On average, the respondents agreed more strongly that their state government (as compared to the federal government) were providing them with sufficient information about who and where they should be tested for COVID-19

News sources for COVID-19

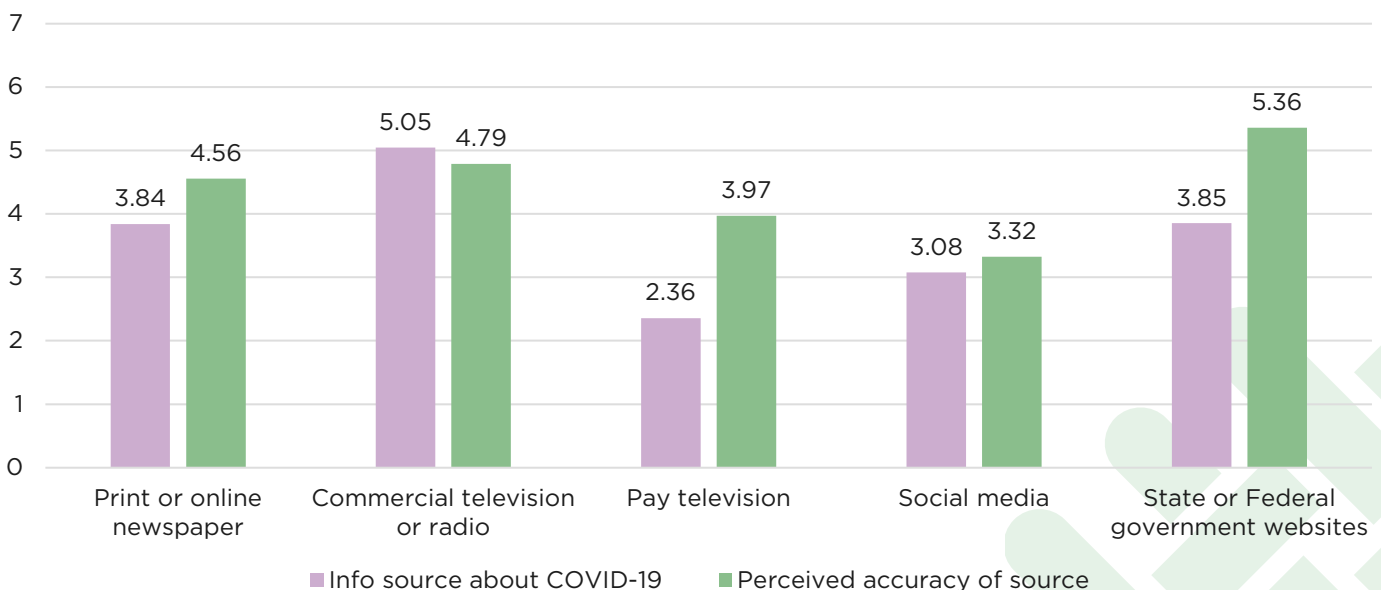
We also asked participants about the various media formats they consulted to obtain information about COVID-19 (from 1 = 'not at all' to 7 = 'very often'), as well as the perceived accuracy of the sources in their reporting on COVID-19 (from 1 = 'completely inaccurate' to 7 = 'completely accurate') (see Figure 3). To obtain COVID-19 information, participants accessed commercial TV/radio most often, followed by state/federal government websites and print/online newspapers,

followed by social media, and pay TV the least often.

In terms of the perceived accuracy of these various sources, state/federal government websites were rated as most accurate, followed by commercial TV/radio, then print/online newspapers, pay TV, and social media last. Thus, while the respondents perceived the state/federal government websites as more accurate in terms of their COVID-19 reporting, they did not access these websites as often as commercial TV/radio, which was likely due to the ease in being able to access commercial TV/radio with less effort. In addition, the respondents consulted social media sources less often, and perceived social media sources to be less accurate in their reporting of COVID-19.

Two-fifths (41.7%) of respondents reported that they used Facebook to obtain information about COVID-19, 19.9% used YouTube, 10.3% WhatsApp, 9.2% Instagram, 8.0% Twitter, and 2.4% used WeChat. Two percent or less of respondents used Reddit, Twitch, and/or Weibo to obtain COVID-19 information. Almost half (45.3%) of the respondents said that they did not use social media at all as a source of COVID-19 information.

Figure 3. Australian respondents accessed commercial TV/radio sources most often but perceived state/federal government websites as the most accurate sources of COVID-19 information in the pandemic (N = 1,380)



When asked what news source they use most often about the pandemic (open-ended question), most participants used vague terms such as a “news website”, while others used multiple sources. The most popular national news sources mentioned across multiple mediums were (in descending order): ABC (n=229), followed by Channel 7 (n=78), Channel 9 (n=73) and SBS (n=36). The majority were relatively discerning regarding their media, with 8.8% searching for their own information online. A small minority (1.7%) of participants did not engage with any news sources at all. Participants usually did not disclose reasons, but among those that did, this was either to avoid bad news, or in distrust of news sources:

“NONE. News is controlled by a small handful of self-absorbed arseholes who control everything we see/hear for their own interests in order to keep us living in fear in the hope we will simply buy more of their stuff, making them richer every day”

Some indicated an overall distaste:

“[N]one stopped watching the garbage as I sick to death off the over reaction and the frighten little scared peoples response”

Other participants indicated that they have also searched for alternative news sources and outlets due to the distrust of traditional media forms:

“In Youtube, I trust people like Doctor Mike because he gives us proper information about what to do in COVID and expose politicians for being stupid and making more panic.”

For this open-ended question, only 25 participants directly identified the government and health services as a source of information, with the majority accessing news programs, despite a high level of trust in government reporting.

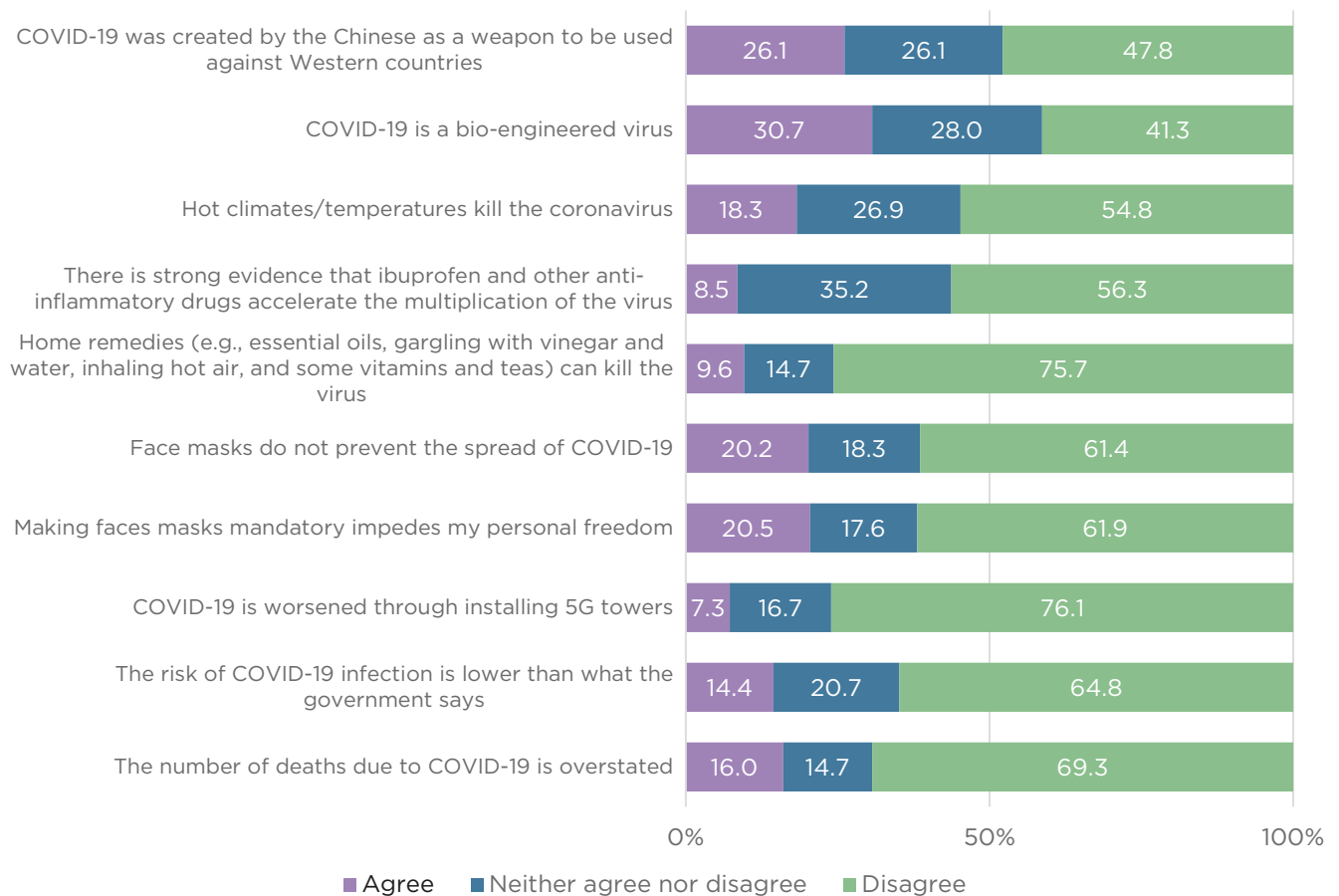
COVID-19 conspiracy beliefs

We asked respondents about various COVID-19 conspiracy beliefs (e.g., COVID-19 was created by the Chinese as a weapon to be used against Western countries) as well as COVID-related fake news beliefs (e.g., ‘The risk of COVID-19 infection is lower than what the government says’) (see Figure 4). Whilst the majority of the respondents ‘disagreed’ with 7 of the 10 statements, there was some support (‘agree’) and uncertainty (‘neither agree nor disagree’) around the conspiracy theories that COVID-19 was created by the Chinese and is a bio-engineered virus, and that hot climates/temperatures can kill the coronavirus. One in five (20%) respondents ‘agreed’ that face masks do not prevent the spread of COVID-19 and that making masks mandatory impedes on their personal freedom.

One in five (20%) respondents agreed that face masks do not prevent the spread of COVID-19 and that making masks mandatory impedes on their personal freedom.



Figure 4. Australian respondents' beliefs in COVID-19 conspiracy theories and fake news varied somewhat (N = 1,380)



Impacts of COVID-19

In order to slow down the spread of COVID-19, multiple government mandates were introduced around social distancing, lockdowns, masks and other interventions. The next section reports on the open-ended questions regarding the impacts of the pandemic on people's everyday lives, such as new ways of interacting with people, employment, living arrangements, and social support and lifestyle.

New activities or ways of interacting with people

Despite the severity of the disease, and government intervention, 34.9% of participants reported no change to their

social lifestyle and 36.8% did not do any new activities or methods of communication. The cause of this is unclear, as the participants may have been introverted or did not regularly socialise before COVID-19. However, this was not disclosed by most participants, with only 2.3% reporting that there was no change as they were a 'homebody' or 'introvert' before. It is likely that it is because of the participants' age that they were already less likely to socialise as 53.9% of the participants that reported no change were age 55 and older.

Though most participants reported some form of change in their ways of interacting with people, such as adopting social distancing (10.9%) or using telecommunications (40.4%) instead of in-person interactions. However, several participants purported adhering to most rules whilst simultaneously breaking social distancing mandates. For example, a 76-year-old, female participant noted that she

had practiced social distancing and avoids family for fear of the virus:

“We practice social distancing at church and in our other groups. I am NOT going down to Brisbane to look after my grandchildren as I was doing, in case my doctor daughter brings the virus home to me. I am 76 years old. We don’t hug each other at church.”

However, despite the fear of the virus, and the desire to adhere to social distancing protocols, the same participant attended events and continued family gatherings even though the virus is still a threat:

“We don’t have morning tea after church, now. We had used that time to sit and chat and eat etc. with. We have Zoom meetings for prayer instead of face to face. We are not visiting our very elderly relative. However I must say I have just been to a Seniors conference at Mt Tambourine, and there was about 100 in attendance. I think our efforts at social distancing were very poor, but we all thoroughly enjoyed ourselves. We were all over 60 I’d say. Our extended family is getting together for a Christmas thing on 20th December.”

Conversely, those who already were introverted or had social anxiety viewed the changes to social behaviour as a benefit, as one participant said:

“It has improved it! I am an introvert and couldn’t be happier; what a great excuse to stay at home and not have any intruders wanting to visit. My greatest worry – my relatives from NSW will again invade my place for a free holiday for Christmas.”

While some people welcomed the social distancing guidelines, others did not. A minority of participants (13.9%) reported feelings of isolation, separation from family (11.4%), and behaviour change to avoid people or for health reasons (4.6%). Some participants identified such a change in behaviour:

“I no longer see my friends as much, even the ones who live in the same

city as me. My best friends are stuck in Melbourne and Singapore. I have not seen my boyfriend who lives in Japan for a year. Because of this I am feeling extremely depressed and I refuse to socialise with my friends anymore and I have been reclusive.”

Such changes have led to perceptions of increased distrust in society: “The general trust and courage has been lacking even more than before, and the stress on people’s minds is still getting worse.” Yet conversely 18.3% of participants said that the virus has impacted them in a positive way, 6.4% reported increased meaningful connections with close relationships or acquaintances, and a further 5.1% adopted new forms of contact and support during the pandemic.

In summary, participants’ social behaviour during the pandemic fell into two categories. The first was minimal change or impact, which may be accounted by protective factors and adaptive behaviours such as new methods of communication. Others were impacted more severely. For this group, there was an overall increase in distress and isolation, despite the adaption of new methods of communication, with 39.1% of participants citing lost opportunities for interaction and communal engagements.

Impact on employment and living arrangements

The extent of the impact of the pandemic on employment and living arrangements varied greatly amongst the participants. Over half (57.32%) did not report any change in their employment status due to the pandemic, which may be due to the over-representation among our sample of retired participants (46.41%) or people with caring/home duties (11.0%). A small minority (1.3%) were unable to work due to a disability, and some people were already unemployed before COVID-19 (0.6%). Of the participants who reported not being impacted in terms of their employment or living arrangements, one-fourth (25.5%) were employed.

Another one-fourth (23.6%) reported a change in their employment during pandemic. The most common issues were a reduction in employed hours (7.2%), loss of employment due to COVID-19 (4.9%) and shifting to

working from home (8.3%). Far fewer participants reported increased hours and/or work stress (1.5%), and some struggled to find work or were unemployed at the time (1.3%). This change in stability extended beyond the participant, with some sighting broader impacts and increased stress in the home due to changes in living arrangements:

“My housemate has been laid off since March 2020. He is on job keeper but that didn’t replace his wage at the full level and is much less now. This has impacted both of us, him being at home all the time, the extra food required, (his food was provided at work) electricity etc.”

A common theme which arose was a shift in living arrangements due to family, with significant uncertainty, and a return to home for many:

“Just prior to the 1st lockdown in Victoria, I had my son, his partner and their 2 school aged children staying with us. When the lockdown was lifted they went back to their own home. My daughter arrived just prior to the 2nd lockdown and has been home with us ever since. She is on Job Keeper and is now waiting to hear when she goes back to her job in Melbourne. So yes COVID-19 has changed our living arrangements.”

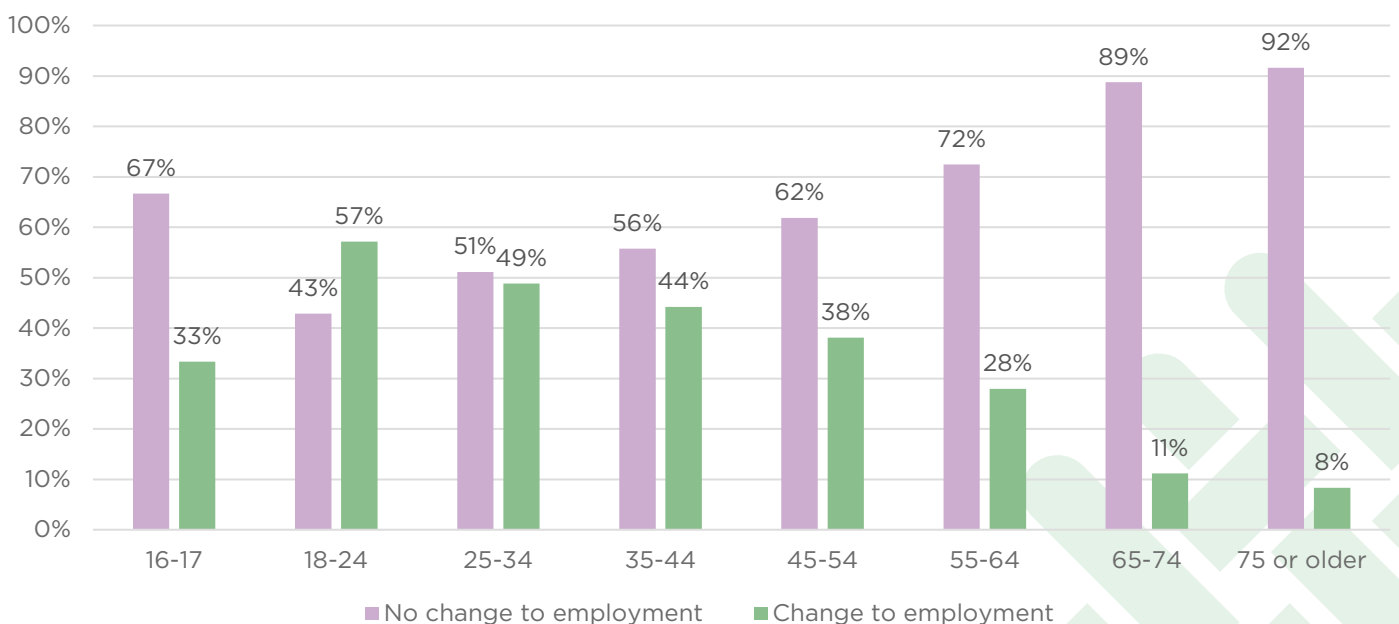
In terms of changes to employment, the shifts were fairly consistent across states. However, participants in major cities and outer regional locations were most likely to experience an impact to employment, with 27.7% of people from major cities and 29.7% from outer regional locations impacted. This was closely followed by inner regional areas where 22.0% were impacted. It indicates that those in more densely populated locations or areas of transition were more impacted, which could potentially be due to the interconnectedness of business across these regions, or having fewer participants living remotely.

Older people tended to report relatively little change in their employment circumstances as compared to younger people, while people aged 18-34 reported the most change in their employment (Figure 5).

For those with disability, particularly immunocompromised people, the pandemic had a disheartening effect about any future prospects:

“I have been unemployed since 2008, but because I am immunocompromised, I can no longer attend interviews in person nor can I attend a workplace in person, and there are ZERO remote opportunities in my fields. I cannot work full time, and these are the only available jobs - so I am now totally unemployable.”

Figure 5. Older people reported relatively little change in their employment whilst younger people reported relatively more change in their employment in the pandemic (n = 1,084)



Impacts of social support

The pandemic has also impacted on Australians' social relationships and support. Even though one-third of participants reported minimal to no impact of COVID-19 on their social support (34.9%), the majority of participants reported at least some positive (18.3%) or negative impact (41.8%). One-fourth (24.9%) of participants reported that their relationships with certain people were impacted, with 13.7% of participants reporting an impact on their familial relationships, and 11.2% on their friendships. The impacts of these were largely shaped by separation or missing of key connections (13.0%). Respondents noted a significant increase in feelings of isolation (12.0%), a diminished social support network (7.1%), and longing for in-person social meetings (4.1%) and personal contact (2.0%). This was impacted in part through travel restrictions and social distancing. As one participant said:

“It was really hard when I was unable to visit my parents, because my siblings live a long way away, and I don't have any friends I see in person locally. I was able to have phone and message chats, but it is not always as effective. Mum managed to drop some meals at my door when I was really struggling. But it was kind of good to have more at-home entertainment and resources available, with so many other people also being forced to stay home.”

The significant loss of everyday opportunities for interacting with others have diminished social rituals which previously fostered meaningful relationships:

“I have lost contact with many friends I used to meet through regular meetings, coffee mornings, lunches, especially my volunteer groups. Now restrictions are almost lifted within Queensland I find I am not receiving invitations or notices about meetings/gatherings. Requests for my help with volunteering also have vanished.”

Family and close, meaningful relationships have been found to be a protective factor against stressors. But the separation and

mandates have placed strain upon these traditional modes of support and engagement:

“I am no[t] employed and I do not get any government money. I have to draw down my money I put away for the future as not government hand out, major stress on me and my wife, who is trapped overseas because of the covid and is trying to get back to Australia, that means an airline ticket, hotel payments more costs.

Including trying to support her while overseas.

Again without any government help being a country she has to find her own flight out!!!”

Others saw positive changes in their relationships, such as strengthening of meaningful relationships, creation of some new relationships, and adoption of new forms of communication:

“I have been resilient and proactive enough to enjoy the solitude and find many other activities to keep me busy. At the same time I have written many letters keeping in touch with friends and completed many market research surveys that have earned me vouchers for birthday and Christmas gifts”

However, with the increased social distancing we have simultaneously seen the solidification of certain isolationist and conspiratorial responses, with almost 100 mentions of restrictions (29), paranoia (13) and health awareness (24). This suggests a potential increase in strain upon the population (which is unsurprising as 41.81% reported a negative impact), but also that this strain and consolidation of in-groups may produce potentially maladaptive behaviours, as evident here:

“My family, friends and I know the truth. We gain strength from each other. This is what technocracy wants to pull apart human interaction.”

Well-being and resilience

In terms of respondents' well-being, on average, the respondents reported 'normal to moderate' anxiety ($M = 1.51$, $SD = 2.07$), 'moderate' stress ($M = 2.15$, $SD = 2.11$), and 'mild' depression ($M = 2.18$, $SD = 2.30$) (Table 2 & Figure 6). They also reported 'moderate to high' loneliness ($M = 22.77$, $SD = 5.79$) (Table 2 & Figure 7), but were within the 'normal' range in terms of resilience ($M = 3.31$, $SD = .83$) (Table 2 & Figure 8).

Table 2. Descriptive statistics for the well-being variables ($N = 1,380$)

	Range	Mean	SD	# of items	Alpha
Anxiety	0-9	1.51	2.07	3	.853
Stress	0-9	2.15	2.11	3	.837
Depression	0-9	2.18	2.30	3	.867
Loneliness	8-32	22.77	5.79	8	.870
Resilience	1-5	3.31	.83	6	.889

Figure 6. The majority of Australian respondents reported normal to moderate levels of anxiety, stress, and depression in the pandemic ($N = 1,380$)

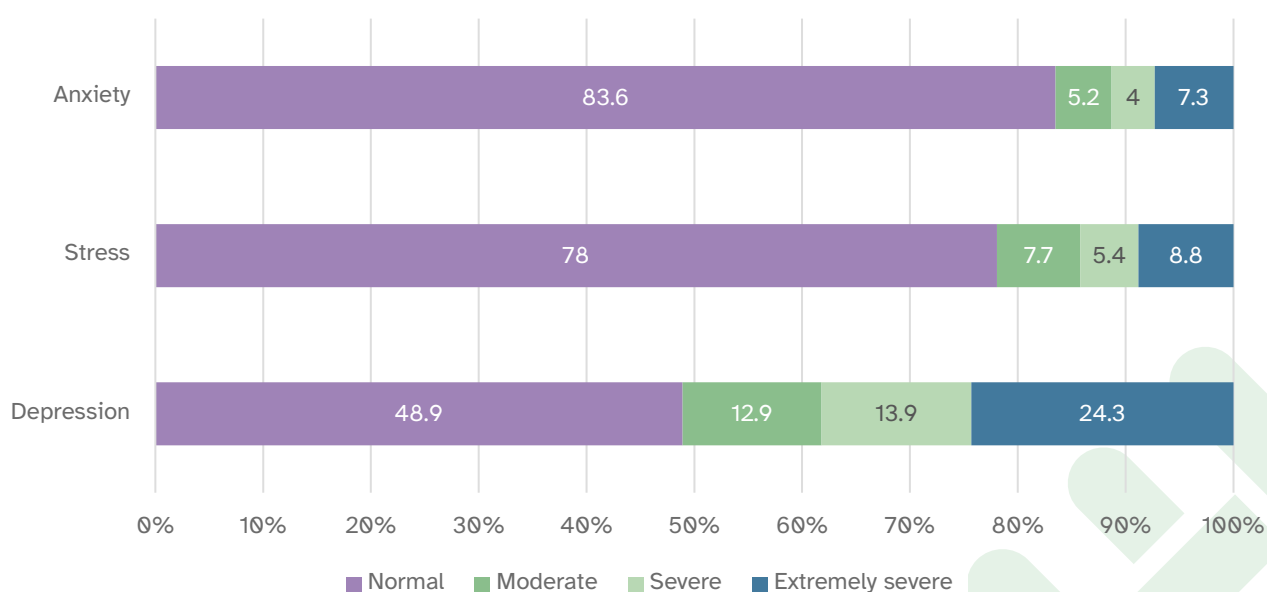


Figure 7. A little over one-third of Australian respondents reported high levels of loneliness (N = 1,380)

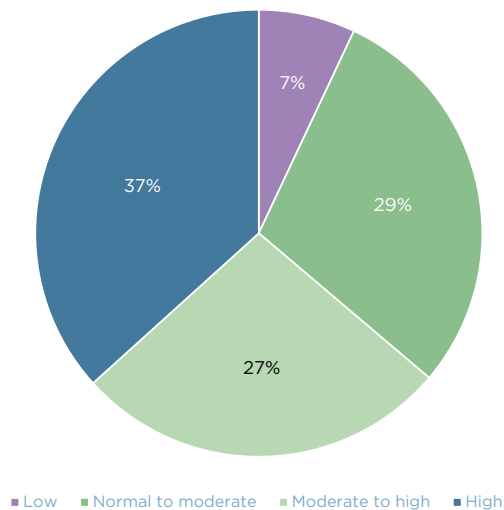
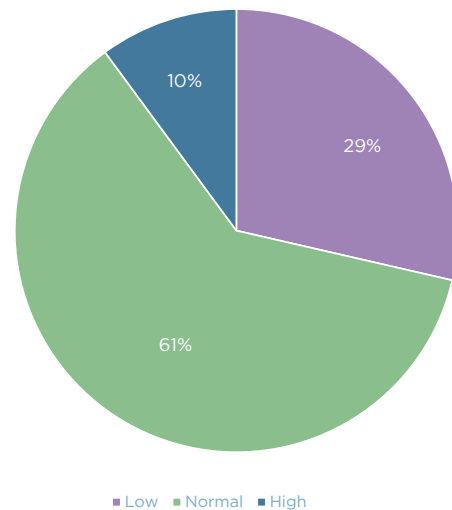


Figure 8. Three out of five Australian respondents reported normal levels of resilience (N = 1,380)



This section explored the extent to which personal factors and individual differences were associated with respondents' well-being and resilience. We were particularly interested in the factors that promoted or hindered mental health, loneliness, and resilience in individuals during the pandemic.

Table 3 presents the correlations between well-being and resilience, and various personal and individual differences factors. Using Cohen's (1988, 1992) guidelines to determine the strength of associations, correlations of .1 to .3 are considered small, .3 to .5 moderate, and .5 to 1.0 to be large. The correlations in Table 3 have been highlighted to denote the small, moderate and large correlations. The significant correlates will be presented in decreasing strength of associations.

Having an external locus of control and being higher on inhibitory anxiety were the two factors that correlated the strongest with well-being and resilience (in blue). The variable that had the largest and most consistent association with mental health, loneliness and resilience, was having an external locus of control (e.g., "A great deal of what happens to me is probably just a matter of chance"). In other words, those who believed that external forces (such as luck) determined their outcomes in life were more

likely to be depressed, anxious, stressed and lonely and less resilient as compared to those who believed that they were responsible for their own success. A similar pattern was also seen for those who were high in inhibitory anxiety. That is, those who become paralysed in the face of uncertainty (e.g., "The smallest doubt can stop me from acting") were also more likely to be depressed, anxious, stressed and lonely and less resilient as compared to those who were lower in inhibitory anxiety.

Well-being was moderately correlated with interpersonal trust, prospective anxiety, belief in COVID-19 conspiracy theories, and narcissism (in green). Having higher interpersonal trust was associated with less depression, anxiety, stress, and loneliness and greater resilience. Thus, those who trusted others in general tended to be better off in terms of their well-being and resilience. While not as strong as the correlations for inhibitory anxiety, prospective anxiety had moderate associations with all the outcomes. In particular, people who had anxiety in anticipation of future uncertainty were more likely to be depressed, anxious, stressed and lonely and less resilient as compared to those who had less anxiety about future uncertainty. Belief in COVID-19 conspiracy theories had a negative relationship with well-being and resilience, as those who had stronger beliefs in

COVID-19 conspiracy theories and fake news had poorer mental health, were more lonely and less resilient as compared to those who did not believe in these conspiracy theories and fake news. Interestingly, narcissism was also associated with poorer well-being and resilience. Narcissists were more likely to have poorer mental health, were more lonely, and less resilient as compared to non-narcissists.

Lastly, there were a number of small correlates with well-being and resilience. Those who perceived their social status to be higher were relatively less depressed, anxious, stressed, and lonely and more resilient as compared to those who perceived themselves to be lower in social status. And, those with higher incomes were more resilient as compared to those with lower incomes. Having had COVID-19 and perceived greater likelihood of contracting the virus was associated with increased depression, anxiety and stress, and less resilience (for perceiving a greater likelihood of contracting the virus only). Thus, having contracted COVID-19, and even the anticipation of contracting COVID-19, had detrimental effects on mental health and resilience. Trusting the federal government's response to COVID-19 was associated with better mental health, decreased loneliness, and higher resilience. Trusting the state government's response to COVID-19 was also associated with decreased loneliness. Similarly, being distrustful of government in general was associated with poorer mental health, increased loneliness, and less resilience as compared to those who trusted the government.

Interestingly, the sources of information for COVID-19 as well as the perceived accuracy of information during the pandemic were also associated with well-being and resilience. Specifically, those who obtained their information about COVID-19 from pay television and/or social media were more likely to be depressed, anxious and stressed and less resilient (those who obtain their information

from social media only) as compared to those who did not obtain COVID-19 information from these sources. This was also true for those who perceived social media sources to be accurate, in that those who believed social media to be accurate were also more likely to have poorer mental health and were less resilient. On the other hand, those who perceived the state and federal government websites to be an accurate source of COVID-19 information had better mental health and were less lonely compared to those who did not believe that state and federal government websites were an accurate source of information. Lastly, altruism towards family and friends was associated with being less lonely and more resilient, whilst altruism towards strangers was associated with increased depression, anxiety and stress.

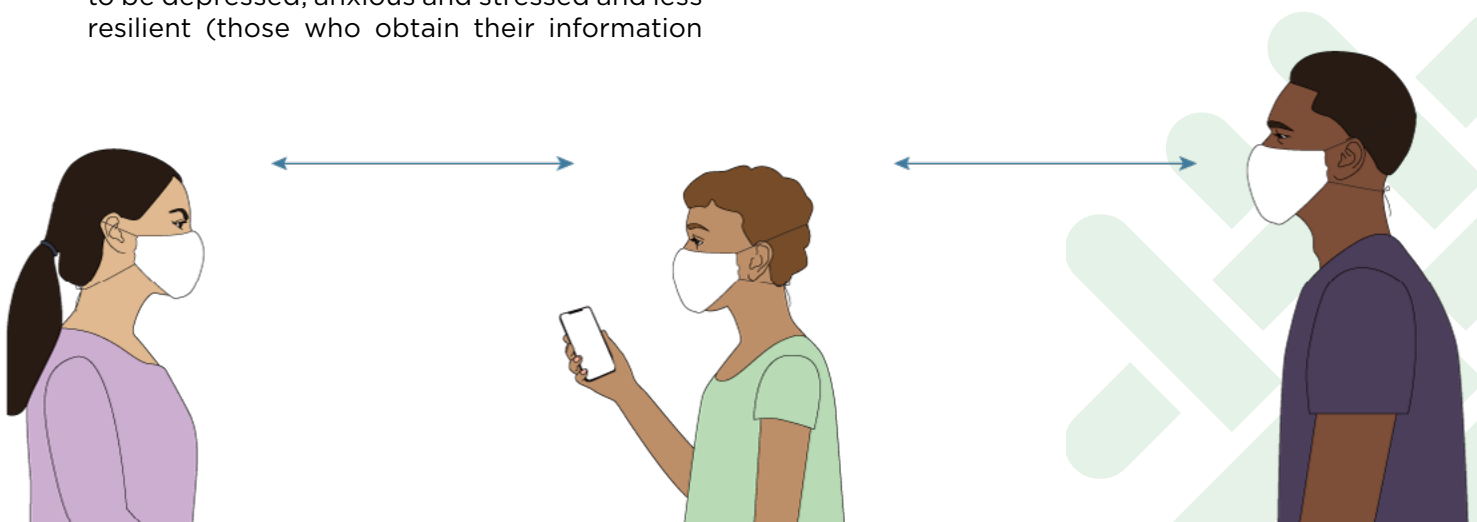


Table 3. Correlations with well-being and resilience (N = 1,380)

	Depression, Anxiety, & Stress ^a	Loneliness ^a	Resilience ^b
Highest education level (1 = no formal qualifications to 6 = postgraduate qualification)	.039	-0.02	.063*
Income (1 = <\$20,000 to 10 = \$150,000+)	-.007	-.095**	.169**
MacArthur scale of subjective social status (1 = bottom to 10 = top)	-.138**	-.260**	.287***
Have had COVID-19 (yes v. no)	.131**	.033	-.001
Perceived likelihood that you will contract COVID-19? (0 - 100%)	.164**	.094**	-.177**
Know someone that has contracted COVID-19 (yes v. no)	.082**	.045	-.013
Trust in federal government	-.105**	-.171**	.145**
Trust in state government	-.072**	-.106**	.078**
Distrust of government in general	.211**	.207**	-.205**
COVID-19 info source - Print or online newspaper	-.010	-.082**	.054*
COVID-19 info source - Commercial television or radio	.010	-.050	.020
COVID-19 info source - Pay television	.133**	-.012	.024
COVID-19 info source - Social media	.270**	.096**	-.147**
COVID-19 info source - State/Federal government websites	.075**	-.034	.035
Perceived accuracy - Print or online newspaper	-.046	-.073**	.067*
Perceived accuracy - Commercial television or radio	-.017	-.064*	.061*
Perceived accuracy - Pay television	.028	-.046	.052
Perceived accuracy - Social media	.205**	.049	-.089**
Perceived accuracy - State/Federal government websites	-.103**	-.105**	.099**
Belief in COVID-19 conspiracy theories and fake news	.343**	.153**	-.139**
Interpersonal trust	-.420**	-.433**	.430**
Intolerance of Uncertainty - Prospective anxiety	.466**	.306**	-.345**
Intolerance of Uncertainty - Inhibitory anxiety	.652**	.493**	-.557**
External locus of control	.627**	.519**	-.598**
Narcissism	.356**	.172**	-.137**
Altruism towards family members	-.050	-.184**	.124**
Altruism towards friends/acquaintances	.003	-.148**	.104**
Altruism towards strangers	.126**	-.084**	.087**

* p < .05; ** p < .01

^a Higher scores indicate an adverse association with outcomes (i.e., higher depression, anxiety, stress, loneliness)^b Higher scores indicate a positive association with outcomes (i.e., higher resilience)

Strength of Association	Correlation
Small	0.1-0.3
Moderate	0.3-0.5
Large	0.5 and above

Table 4 presents the standardized Beta coefficients for the multiple regression results when all the correlates (predictors) of well-being and resilience were considered simultaneously. The analyses also controlled for socioeconomic background and demographic characteristics, taking into account gender, age, country of birth, Anglo/non-Anglo background, education, income, subjective social status, employment, living arrangement, remoteness, disability/ies, and whether they were impacted negatively by the 2019-20 bushfires.

Similar to the correlations, the strongest (and most consistent) predictors of poorer well-being and resilience were having an external locus of control and greater inhibitory anxiety. Both of these factors predicted greater depression, anxiety, stress, loneliness and less resilience. Other predictors of poorer mental health (i.e., depression, anxiety, stress) included narcissism, belief in COVID-19 conspiracy theories and fake news, and altruism towards strangers. In terms of resilience, people who believed they were more likely to contract COVID-19 were less resilient as compared to those who thought they were less likely to contract the virus. People who distrusted the government were also less resilient. In terms of protective factors, interpersonal trust predicted less depression, anxiety, stress, loneliness and greater resilience. Altruism towards strangers also predicted greater resilience, as did belief in COVID-19 conspiracy theories and fake news.

Table 4. Standardized Beta Coefficients predicting well-being and resilience, controlling for socioeconomic background and demographic characteristics (N = 1,380)

	Depression, Anxiety, & Stress ^a	Loneliness ^a	Resilience ^b
Likelihood that you will contract COVID-19? (0 - 100%)	.007	-.018	-.062 *
Know someone that has contracted COVID-19 (yes v. no)	-.015	.014	.022
Trust in federal government	-.011	-.037	.021
Trust in state government	.034	.004	.020
Distrust of government in general	.022	.034	-.064 *
COVID-19 info source - Print or online newspaper	.011	-.018	-.031
COVID-19 info source - Commercial television or radio	.041	.025	-.026
COVID-19 info source - Pay television	.009	-.028	.051
COVID-19 info source - Social media	.037	-.011	-.003
COVID-19 info source - State/Federal government websites	.008	-.014	.020
Perceived accuracy - Print or online newspaper	.002	-.006	-.015
Perceived accuracy - Commercial television or radio	-.048	-.046	.059
Perceived accuracy - Pay television	-.017	.002	.029
Perceived accuracy - Social media	.002	-.018	.012
Perceived accuracy - State/Federal government websites	-.002	.044	-.029
Belief in COVID-19 conspiracy theories and fake news	.079 **	-.027	.092 **
Interpersonal trust	-.132 ***	-.171 ***	.136 ***
Intolerance of Uncertainty: Prospective anxiety	.037	-.029	.040
Intolerance of Uncertainty: Inhibitory anxiety	.292 ***	.248 ***	-.333 ***
External locus of control	.220 ***	.214 ***	-.305 ***
Narcissism	.115 ***	.018	.021
Altruism towards family members	-.025	.002	-.042
Altruism towards friends/acquaintances	-.011	-.064	-.001
Altruism towards strangers	0.100 **	-.025	.099 **

Note: Analyses controlled for gender, age, country of birth, Anglo/non-Anglo background, education, income, subjective social status, employment, living arrangements, remoteness, disability/ies, and whether they were impacted negatively by the 2019-20 bushfires.

* $p < .05$; ** $p < .01$; *** $p < .001$

a Higher scores indicate an adverse impact on outcomes (i.e., higher depression, anxiety, stress and loneliness)

b Higher scores indicate a positive impact on outcomes (i.e., higher resilience)



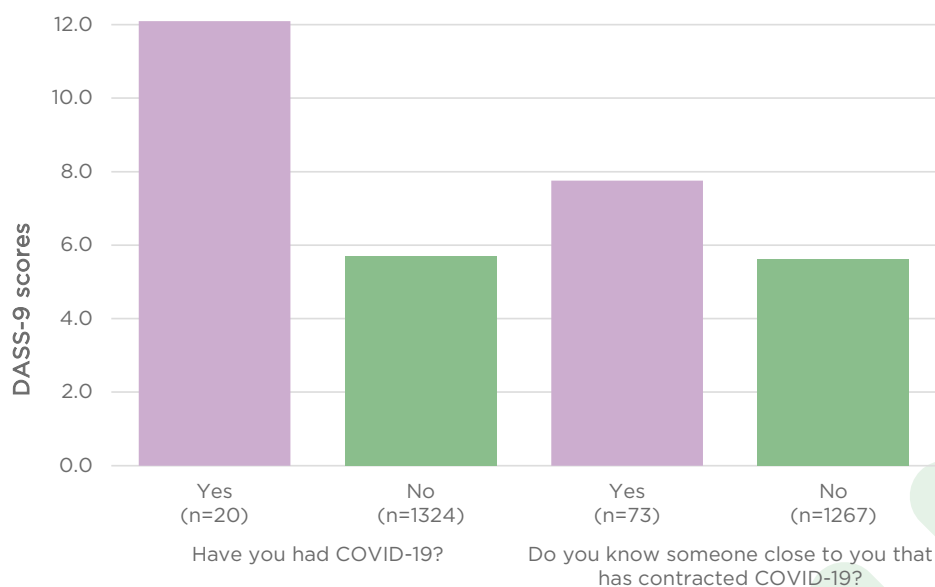
Differential impacts

This section explored potential differences in well-being and resilience by various personal and situational factors. In particular, we examined whether there were any differences in depression/anxiety/stress, loneliness, and resilience by: COVID-19 infection and perceived risk of infection, gender, country of birth, cultural background, age, employment, state, remoteness, living arrangements, disability/ies, and whether they were impacted negatively by the 2019-20 bushfires.

Depression, anxiety and stress

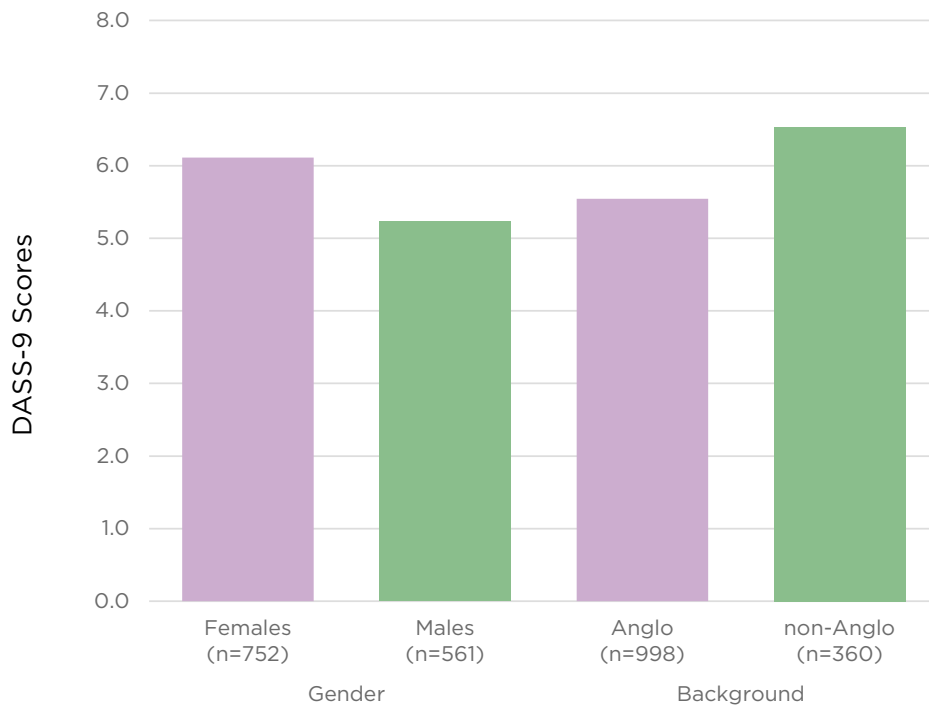
This section explored potential differences in mental health, as measured by the DASS-9 which assesses depression, anxiety, and stress (with higher scores indicating higher levels of depression, anxiety and stress). Those who had contracted COVID-19 reported higher DASS-9 scores as compared to those who had not had COVID-19 (Figure 9). Since this was back in November 2020, at that time 1.5% of respondents had reported having had COVID-19 at that time. There was also evidence of vicarious effects (Figure 9), with people who knew someone close to them that had contracted COVID-19 also reported higher DASS-9 scores as compared to those who did not know anyone who had contracted COVID-19. Participants were also asked about their perceived likelihood of contracting COVID-19 (i.e., from '0% chance' to '100% chance'). Those who perceived a higher chance of contracting COVID-19 reported higher scores on the DASS-9 as compared to those who felt their chances of contracting the virus was low ($r = .164, p < .001$).

Figure 9. Those who had contracted COVID-19 and/or knew someone close that had COVID-19 reported poorer mental health as compared to those who had not had COVID-19 and/or did not know anyone that had COVID-19.



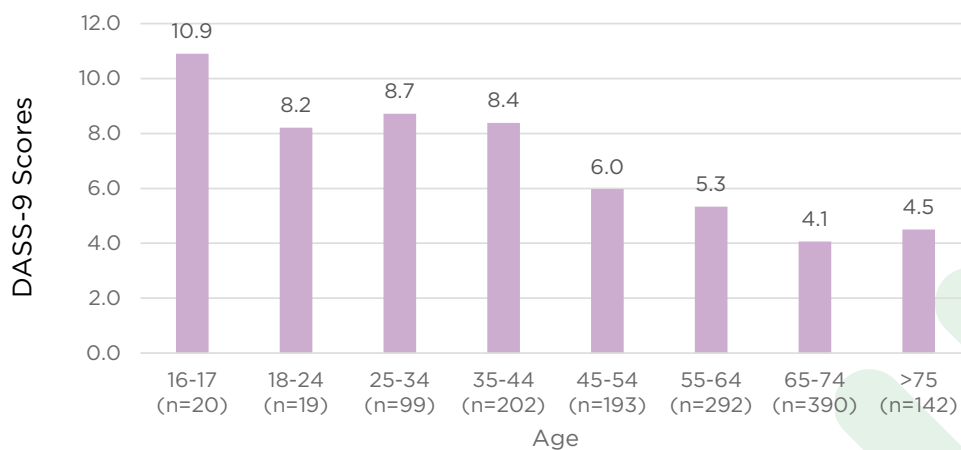
In terms of background characteristics, women reported higher DASS-9 scores as compared to men. While there were no differences in mental health between respondents born overseas as compared to those born in Australia, those who identified with an Anglo (e.g., White Australian/British) background had lower DASS-9 scores as compared to those that did not identify with an Anglo background (Figure 10).

Figure 10. Women had poorer mental health than men in the pandemic. Those born overseas had poorer mental health than those born in Australia in the pandemic.



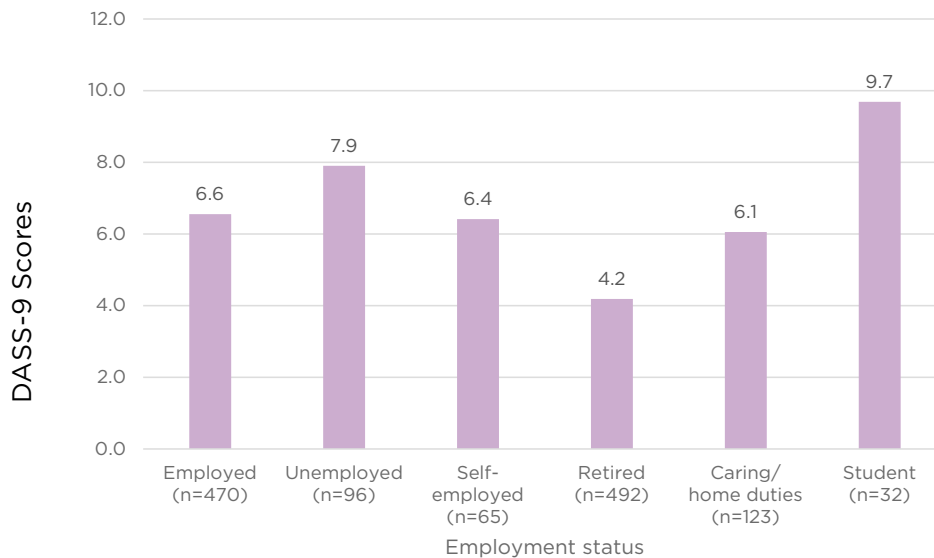
There were also significant differences in DASS-9 scores by age (Figure 11). In general, younger participants (16-44 years of age) reported significantly higher DASS-9 scores as compared to older participants (aged 45 years and older).

Figure 11. Younger people had poorer mental health as compared to older people in the pandemic.



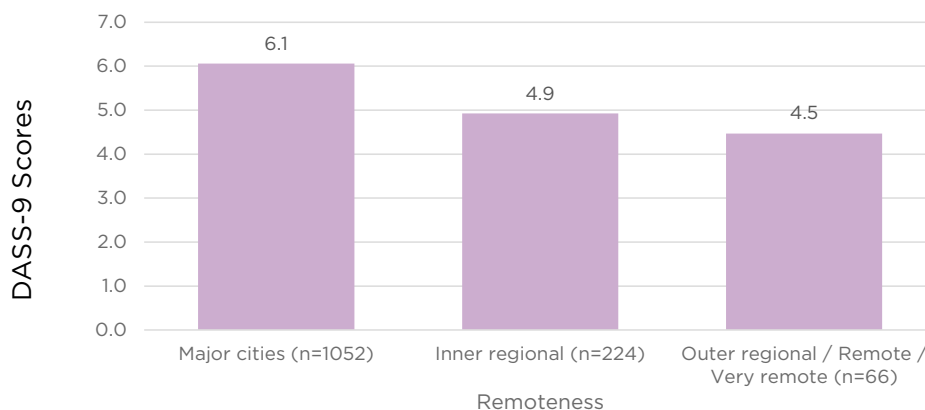
Across employment status, retirees had the lowest DASS-9 scores across all groups, reporting the lowest levels of depression, anxiety as stress as compared to the others (Figure 12). Thus, it appears that those who were more financially stressed (and younger) had poorer mental health.

Figure 12. Those who were more financially stressed had poorer mental health as compared to those that were not financially stressed in the pandemic.



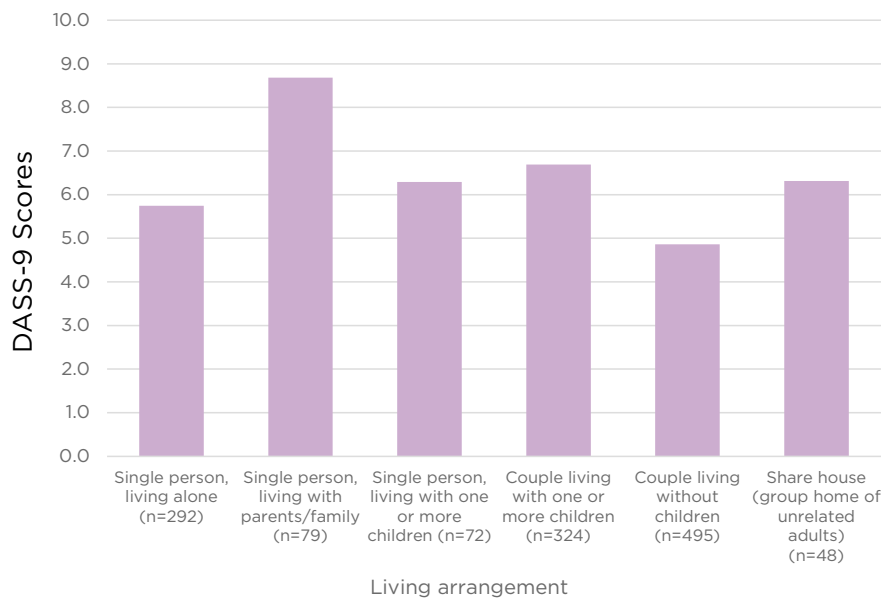
There were no differences in DASS-9 scores by state of residence, but there were variations in terms of remoteness. In particular, those who were located in a major city had the highest DASS-9 scores as compared to those located in inner regional areas, and those in outer regional, remote or very remote areas with the lowest DASS-9 scores (Figure 13).

Figure 13. Those in major cities had poorer mental health as compared to those in less populated areas in the pandemic.



In terms of living arrangements, single people living with their parents/family had the highest DASS-9 scores, and couples without children had the lowest DASS-9 scores, with all others (e.g., single person living alone) falling in between (Figure 14).

Figure 14. Single people living with their parents/family had poorer mental health as compared to everyone else in the pandemic.



There was also variation in mental health across respondents who reported having a disability and the extent to which they reported experiencing difficulty. For example, for those who have difficulty seeing (even if wearing glasses), they were asked to what extent they have difficulty (from 1 = 'no difficulty' to 4 = 'cannot do at all'). Those who were visually impaired ($r = .201, p = .002$), had difficulty remembering or concentrating ($r = .433, p < .001$), difficulties with self-care ($r = .256, p < .001$), or who had difficulty communicating ($r = .341, p < .001$) all reported higher DASS-9 scores as compared to those with less or no difficulties. In addition, those who were negatively impacted by the 2019-20 bushfires also reported poorer mental health ($r = .469, p < .001$) as compared to those who were not negatively impacted by the bushfires.

Loneliness

This section explored predictors of loneliness, with higher scores indicating increased loneliness. Having had COVID-19, or knowing someone close who has had COVID-19 had no association with loneliness. Hence, there did not appear to be any direct or vicarious effects of COVID-19. However, perceived likelihood of contracting COVID-19 was associated with increased loneliness. Specifically, those who perceived a greater chance of contracting the virus reported being lonelier than those who felt their chances of contracting the virus was low ($r = .094, p < .001$).

Women reported being more lonely than men, and Australian-born respondents reported being more lonely than those born overseas (Figure 15). There were also differences in loneliness in terms of age, with the general trend being that younger participants were more lonely as compared to older participants (Figure 16). In regards to

employment status, students and unemployed respondents were the most lonely, and the retired were the least lonely, with the remaining groups (employed, self-employed, caring/home duties) in the middle in terms of loneliness (Figure 17).

Figure 15. Women were more lonely than men in the pandemic. Those born in Australia were more lonely than those born overseas in the pandemic.



Figure 16. Younger people were more lonely than older people in the pandemic.

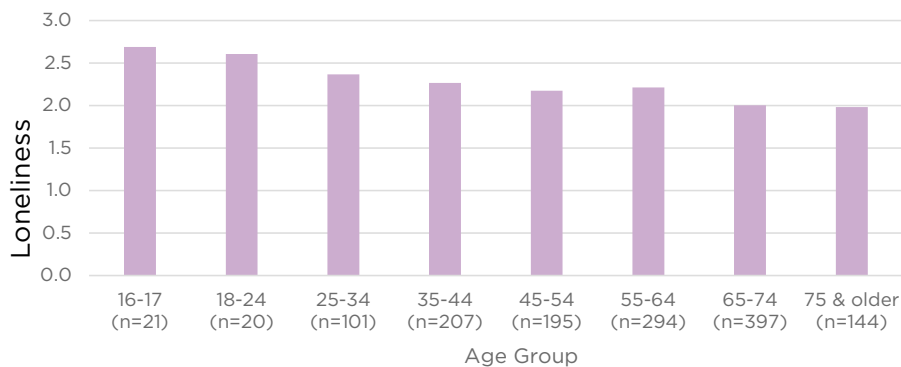
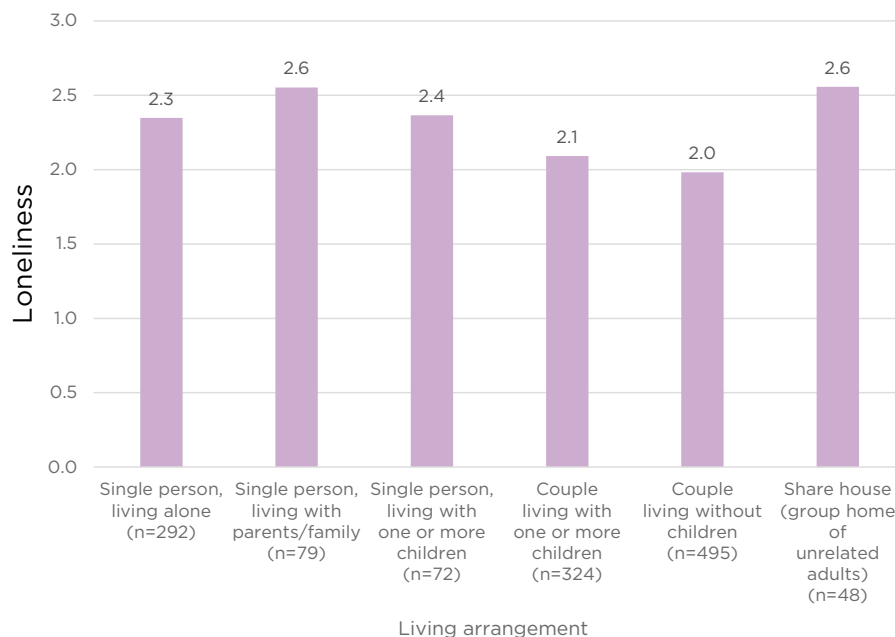


Figure 17. Students and the unemployed were the most lonely as compared to everyone else in the pandemic.



There were no differences in loneliness in respondents by state or by remoteness, but there were differences in loneliness by living arrangements (Figure 18). In particular, single people (regardless of their living arrangements) and people in share houses, were the most lonely, while couples (with or without children) were the least lonely.

Figure 18. Single people and people living in share houses were the most lonely as compared to everyone else in the pandemic.



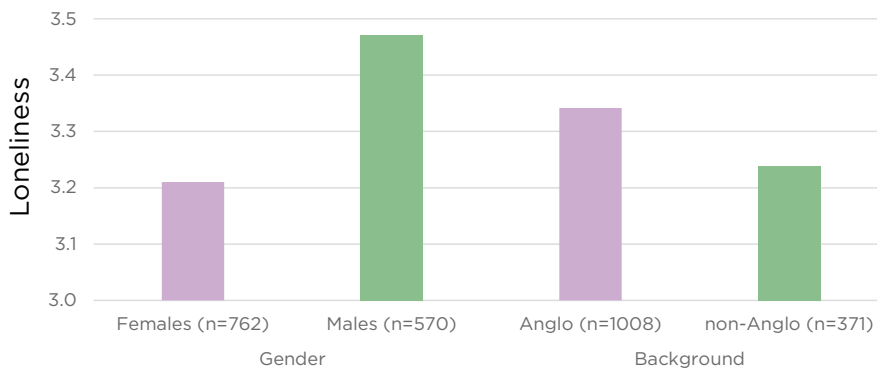
In terms of those who have a disability, those who have difficulty seeing ($r = .171, p = .008$), remembering or concentrating ($r = .267, p < .001$), and those who have difficulty communicating ($r = .190, p = .003$) all reported being more lonely as compared to those with less difficulties. In addition, those who were negatively impacted by the 2019-20 bushfires also reported increased loneliness ($r = .264, p < .001$) as compared to those who were not negatively impacted by the bushfires.

Resilience

This section explored predictors of resilience, with higher scores indicating being more resilient. Similar to the findings for loneliness, there were no direct or vicarious effects of COVID-19 on participants' resilience (i.e., ability to cope with difficulties). But, those who perceived a greater chance of contracting COVID-19 had lower resilience as compared to those who felt their chances of contracting the virus was low ($r = -.177, p < .001$).

Women reported being less resilient as compared to men (Figure 19). There were no differences in resilience between those born in Australia versus those born overseas. But, respondents from Anglo backgrounds were more resilient than participants from non-Anglo backgrounds (Figure 19).

Figure 19. Women were less resilient as compared to men in the pandemic. People from non-Anglo backgrounds were less resilient as compared to those from Anglo backgrounds in the pandemic.



In regards to age, older participants (65 years and older) tended to be more resilient as compared to the younger participants (Figure 20). People who were retired, self-employed, and employed were the most resilient, with people who had caring/home duties, were unemployed, and students being the least resilient (Figure 21).

Figure 20. Younger people were less resilient as compared to older people in the pandemic.

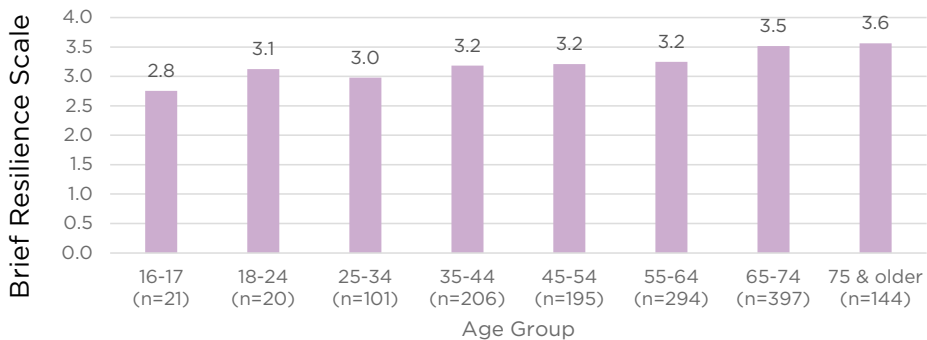
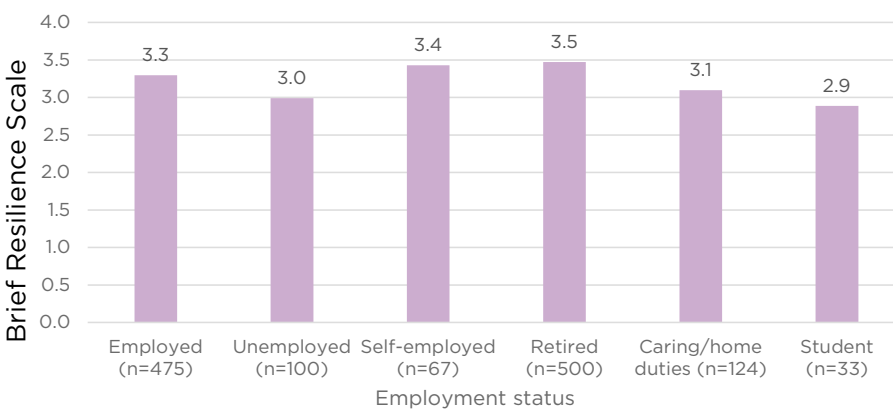
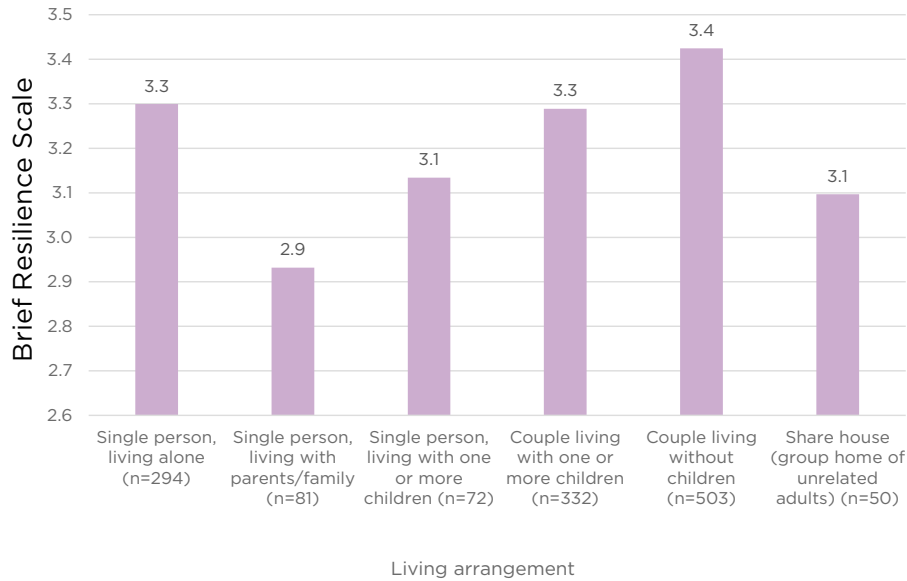


Figure 21. Students, the unemployed, and those with caring/home duties were less resilient as compared to the employed and retired in the pandemic.



There were no differences in resilience across respondents by state or by remoteness. There were however differences in resilience by living arrangements (Figure 22). The most resilient were couples (regardless of whether they had children or not) and single people living alone, then single people with children or people in share houses, with single people living with their parents/family being the least resilient.

Figure 22. Single people living with their parents/family were the least resilient as compared to everyone else in the pandemic.



For those with a disability, respondents who have difficulty seeing ($r = -.215, p < .001$), remembering or concentrating ($r = -.231, p < .001$), difficulties with self-care ($r = -.138, p = .032$), or who have difficulty communicating ($r = -.163, p = .011$) were all less resilient as compared to those with less difficulties. Lastly, those who were negatively impacted by the 2019-20 bushfires also reported being less resilient ($r = -.280, p < .001$) as compared to those who were not negatively impacted by the bushfires.

Discussion and conclusion

Despite Australia's relative success in managing the prevalence of COVID-19 as compared to other nations across the world, the pandemic and associated responses to the pandemic have had detrimental effects on the mental health, well-being and resilience of Australians (Biddle et al., 2020; Fisher et al., 2020; Rossell et al., 2020; Zhao et al., 2022). This study contributes to existing research on the potential impacts of COVID-19 by examining the factors that promoted or hindered well-being and resilience, as well as the potential differential impacts of the pandemic on various subgroups.

Our study is consistent with international research elucidating some of the factors that hinder well-being and resilience as a result of the COVID-19 pandemic (Shiloh et al., 2022). Our study showed that the most significant negative correlates of well-being and resilience were having an external locus of control and high inhibitory anxiety (intolerance of uncertainty). This finding is consistent with other research that shows the relative importance of these individual factors in relation to other background and demographic characteristics in terms of people's well-being and resilience (e.g., Shiloh et al., 2022), and also points to the potential moderating effects of both these factors on the relationship between COVID-19 anxiety and quality of life (Shoychet et al., 2022).

Interestingly, whilst altruism towards strangers was associated with increased resilience, it was also associated with increased depression, anxiety and stress. This latter finding is consistent with other COVID-19 research that showed that altruistic individuals exhibit more emotional distress as compared to those low in altruism, which indirectly increased their anxiety and depression (Feng et al., 2020). Feng et al (2020) conducted their study in China when people were required to self-isolate at home. The authors reasoned that one potential explanation for this finding was that "altruists who perceived a high risk of this pandemic and who could not help others experienced a dilemma, which might have reduced their self-efficacy and increased their

feelings of helplessness and other negative emotions" (p. 7).

Another novel finding was in relation to beliefs in COVID-19 conspiracy theories and fake news and their relationship with well-being and resilience. In particular, belief in COVID-19 conspiracy theories and fake news was positively associated with depression, anxiety and stress, but also resilience. Whilst counterintuitive at first glance, this finding is consistent with Douglas' theory on the psychology of conspiracy theories (e.g., Douglas, 2021; Douglas et al., 2017). According to Douglas (2021), belief in conspiracy theories increase in times of crisis (such as during the COVID-19 pandemic), as people are drawn to them when their psychological needs are not being met. Douglas argues that conspiracy theories are attractive to many since they satisfy their epistemic motives (the need to understand) as well as their existential motives (the need to feel safe and secure). Our findings are consistent with Douglas' (2021) theory in that people who believe in COVID-19 conspiracy theories were more anxious, stressed, and depressed. At the same time, believing in these conspiracy theories also made them feel more safe and secure and resilient in a way. Our resilience measure in this study assesses the ability to "bounce back" after hard times.

Our study also showed that people who perceived a higher risk of contracting COVID-19 exhibited more depression, anxiety and stress, another finding consistent with Feng and colleagues (2020). In addition, our study also showed that those who had contracted COVID-19 had higher levels of depression, anxiety and stress as compared to those who had not had COVID-19. There were also vicarious effects in that people who knew someone close to them that had contracted COVID-19 also reported more depression/anxiety/stress as compared to those who did not know anyone that had COVID-19. Thus, perceived and actual risk are both associated with poorer mental health.

Lastly, our study showed that certain subgroups of Australians had poorer well-being and resilience as compared to other subgroups. In particular, younger people, students and the unemployed, and single people appear to be more negatively affected by COVID-19 as compared to older, employed and non-single Australians. This finding is also consistent

with a growing body of research showing the disproportionate effect the COVID-19 pandemic has had on younger people's lives, impacting negatively on their education, employment, social life, health and well-being (Kabátek, 2020; Lam et al., 2022; Li et al., 2021; Munasinghe et al., 2020).

Our study has a number of implications for policymakers and practitioners working to respond to the pandemic and improve Australians' mental health and resilience. First, our findings highlight the pervasiveness of beliefs in conspiracy theories. They support previously-made calls to provide robust and accessible COVID-19 information and to contest misinformation (e.g., Douglas, 2021). This is imperative as conspiracy theories will likely thrive again in future crises (Douglas et al., 2017). We join Maguire and Looi's (2022) recent recommendations for pandemic public health risk communication, particularly regarding the need for information that is clear, timely, balanced, and from a reputable source; for correcting mis- and disinformation about the virus and its protective measures; and for promoting a sense of control and self-efficacy to help mitigate health threats. Douglas (2021) suggests that "inoculating" people with factual information *before* they are exposed to conspiracy theories can curb the uptake and spread of conspiracy theories. Thus, governments should support reliable information sources and news in order to provide accurate information *as soon as possible* in order to discourage any mis/dis information that may follow.

Another strategy that Douglas (2021) proposes for consideration is to promote collectivism, and appeal to the larger group membership (e.g., "All of us Australians are in this together"). Previous research has shown that individualists were more likely to believe in COVID-19 conspiracy theories, and therefore less likely to take preventative actions (e.g., mask wearing); however, collectivists were not (Biddlestone et al., 2020). Thus, governments should promote messages such as "All of us Australians are in this together" which can discourage beliefs in conspiracy theories and encourage more preventative behaviours that are beneficial for all Australians. For example, since March 2020, New Zealand's clear message to "Unite against COVID-19" has been displayed prominently on the government's website as the country's source of COVID-19 information (<https://covid19.govt.nz/>). The message received over

700 million views within the first three months (Hunt, 2021).

Second, the rates of depression and stress we found during the first year of the pandemic appear comparable with the UK's and higher than New Zealand's, while the rates for anxiety were higher than both countries (Faulkner et al., 2022). Uncertainty during COVID-19 may have been particularly rife in Australia, and manifested as inhibitory anxiety with a significant impact on all of our well-being and resilience outcomes. Similarly, those who believed that they had little control over, and that external forces determine the outcomes of, their life also had significantly poorer well-being and resilience. Our findings that mental health varied across age, employment situations, and marital situation and living arrangement, urge us to think about customised, targeted responses that engage with best ways of supporting different population groups. Beyond governmental organisations dedicated to improving mental health and services in Australia (e.g., the Australian Institute of Health and Welfare), key organisations working to address COVID-19 anxiety may want to further consider these findings in their service provision, for example *beyondblue*, the Black Dog Institute and the Australian Psychological Society (APS).

Third, social support systems have been crucial to building resilience to these harms during the pandemic, although we still found that more than 40% of respondents were negatively impacted. In our study, interpersonal trust was a consistent protective factor in the context of the pandemic, and improved the well-being and resilience of the respondents. To enhance resilience during these times, stakeholders should support systems, platforms and practices that have important protective roles, including the formation and nourishment of close, meaningful connections and interpersonal trust between people. Increased funding should be allocated to funding local, community-level organisations and initiatives that boost interpersonal trust and social connections. These are promising avenues for funding and for future research. Given that resilience may help individuals to cope more effectively with traumatic events such as COVID-19 (Liu et al., 2020), it is important that we continue to examine the ways in which we can increase the well-being and resilience of all Australians so that we are better prepared for the next crisis or public health issue.

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Appendix: Survey items and sources

Survey Item/Questions	Source
<p>Subjective Social Status</p> <p>Instructions: Think of this ladder as representing where people stand in Australia. At the top of the ladder are the people who are the best off – those who have the most money, the most education, and the most respected jobs. At the bottom are the people who are the worst off – those who have the least money, least education, the least respected jobs, or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.</p> <p>Please indicate the rung where you think you stand at this time in your life relative to other people in Australia (from 1 = ‘bottom’ to 10 = ‘top’).</p> 	<p>Adapted from the MacArthur Scale of Subjective Social Status (Adler & Stewart, 2007)</p>
<p>COVID-19 questions</p> <ul style="list-style-type: none"> • Have you had COVID-19? • Do you know someone close to you that has contracted COVID-19? • If you had to guess, what is the likelihood that you will contract COVID-19? (from 0 = ‘0% chance’ to 10 = ‘100% chance’) • How has COVID-19 affected your social lifestyle? • What new activities or ways of interacting with people have you adopted since COVID-19 started? • What are the most significant impacts COVID-19 has had on your social support (good or bad)? 	<p>Original</p>
<p>Trust in federal government</p> <ul style="list-style-type: none"> • Scott Morrison is doing a great job during the COVID-19 crisis • Federal Parliament is doing a great job during the COVID-19 crisis • The federal government is providing me with sufficient information about who should be tested for COVID-19 • The federal government is providing me with sufficient information about where to be tested for COVID-19 • The federal government is providing me with sufficient information about who should be isolated for COVID-19 	<p>Original</p>
<p>Trust in state government</p> <ul style="list-style-type: none"> • My State Parliament is doing a great job during the COVID-19 crisis • My State government is providing me with sufficient information about who should be tested for COVID-19 • My State government is providing me with sufficient information about where to be tested for COVID-19 • My State government is providing me with sufficient information about who should be isolated for COVID-19 	<p>Original</p>
<p>Distrust of government in general</p> <ul style="list-style-type: none"> • The government does what is right (reverse) • The government is regulated by a few big interests • The government wastes considerable tax money • Most government officials are not capable of performing their duties • Many government officials are dishonest 	<p>Adapted from the Political Cynicism Scale (Miller, 1974)</p>

Survey Item/Questions	Source
<p>COVID-19 information sources & perceived accuracy of sources</p> <p>Which of the following media formats have you consulted to obtain information about COVID-19?</p> <ul style="list-style-type: none"> • Print or online newspaper • Commercial television or radio • Pay television • Social media • State or Federal government websites <p>How would you rate these sources for their accuracy of reporting on COVID-19?</p> <ul style="list-style-type: none"> • Print or online newspaper • Commercial television or radio • Pay television • Social media • State or Federal government websites <p>Please indicate which forms of social media you used to specifically obtain information about COVID-19? (choose all that apply)</p> <ul style="list-style-type: none"> • Facebook • Twitter • Twitch • Weibo • Reddit • YouTube • Instagram • WhatsApp • WeChat • Other (please specify): • No social media <p>What news sources do you most often use? (i.e., radio station, news program, YouTube channel, news website, newspaper etc.)</p>	Original
<p>COVID-19 conspiracy theories & fake news</p> <ul style="list-style-type: none"> • COVID-19 was created by the Chinese as a weapon to be used against Western countries • COVID-19 is a bio-engineered virus • Hot climates/temperatures kill the coronavirus • There is strong evidence that ibuprofen and other anti-inflammatory drugs accelerate the multiplication of the virus • Home remedies (e.g., essential oils, gargling with vinegar and water, inhaling hot air, and some vitamins and teas) can kill the virus • Face masks do not prevent the spread of COVID-19 • Making faces masks mandatory impedes my personal freedom • COVID-19 is worsened through installing 5G towers • The risk of COVID-19 infection is lower than what the government says • The number of deaths due to COVID-19 is overstated 	Original
<p>Interpersonal trust</p> <ul style="list-style-type: none"> • Trust what people say • Trust others • Believe in human goodness • Distrust people (reverse) • Suspect hidden motives in others (reverse) • Believe that people are essentially evil (reverse) 	Trusting Scale from the International Personality Item Pool (https://ipip.ori.org/) (Goldberg et al., 2006)

Survey Item/Questions	Source
<p>Intolerance of Uncertainty</p> <p>Inhibitory anxiety</p> <ul style="list-style-type: none"> • Uncertainty keeps me from living a full life • When it's time to act, uncertainty paralyzes me • When I am uncertain I can't function very well • The smallest doubt can stop me from acting • I must get away from all uncertain situations <p>Prospective anxiety</p> <ul style="list-style-type: none"> • Unforeseen events upset me greatly • It frustrates me not having all the information I need • One should always look ahead so as to avoid surprises • A small unforeseen event can spoil everything, even with the best of planning • I always want to know what the future has in store for me • I can't stand being taken by surprise • I should be able to organize everything in advance 	<p>Intolerance of Uncertainty Scale (Carleton et al., 2007)</p>
<p>External locus of control</p> <ul style="list-style-type: none"> • I can anticipate difficulties and take action to avoid them (reverse) • A great deal of what happens to me is probably just a matter of chance • Everyone knows that luck or chance determines one's future • I can control my problem(s) only if I have outside support • When I make plans, I am almost certain that I can make them work (reverse) • My problem(s) will dominate me all my life • My mistake and problems are my responsibility to deal with (reverse) • Becoming a success is a matter of hard work, luck has little or nothing to do with it (reverse) • My life is controlled by outside actions and events • People are victims of circumstances beyond their control • To continually manage my problems I need professional help • When I am under stress, the tightness in my muscles is due to things outside my control • I believe a person can really be the master of his fate (reverse) • It is impossible to control my irregular and fast breathing when I am having difficulties • I understand why my problem(s) varies so much from one occasion to the next • I am confident of being able to deal successfully with future problems (reverse) • In my case maintaining control over my problem(s) is due mostly to luck 	<p>Locus of control of behaviour (Craig et al., 1984)</p>
<p>Narcissism</p> <p>To what extent do you agree with this statement: "I am a narcissist." (Note: The word "narcissist" means egotistical, self-focused, and vain.)</p>	<p>Single Item Narcissism Scale (SINS) (Konrath et al., 2014)</p>

Survey Item/Questions	Source
<p>Altruism</p> <p>Altruism towards family members</p> <ul style="list-style-type: none"> • I have supported one of my family members when they were not feeling well • I have helped with housekeeping (e.g., cooking, cleaning, garbage removal) • I have helped one of my family members when they were overburdened • I have nursed one of my family members when they were sick • I have helped to retrieve things from high places when a family member needed help • I have made tea for my family members • I have kept in tune with one of my family members when they were in a bad mood <p>Altruism towards friends/acquaintances</p> <ul style="list-style-type: none"> • I have listened to the troubles and complaints of a friend/acquaintance • I have accompanied a friend to a place they wanted to go • I have congratulated a friend on their birthday • I have given a friend/acquaintance sweets and a drink • I have phoned or sent an e-mail to a friend who was depressed • I have helped a friend/acquaintance when they dropped something • I have lent money to a friend <p>Altruism towards strangers</p> <ul style="list-style-type: none"> • I have helped a stranger who fell on the road • I have helped a stranger put their luggage on a train or bus rack • I have offered help when a stranger was looking for something • I have helped old people carry their heavy luggage • I have helped pick up a stranger's bicycle when it fell down • I have taught strangers how to use a vending or ticket machine • I have taken care of a stranger or called an ambulance when they were injured or fell ill suddenly 	<p>Self-Report Altruism Scale Distinguished by the Recipient (SRAS-DR) (Oda et al., 2013)</p>
<p>Depression, Anxiety & Stress</p> <p>Depression</p> <ul style="list-style-type: none"> • I found it difficult to work up the initiative to do things • I felt that I had nothing to look forward to • I was unable to become enthusiastic about anything <p>Anxiety</p> <ul style="list-style-type: none"> • I experienced trembling (e.g., in the hands) • I was worried about situations in which I might panic and make a fool of myself • I felt I was close to panic <p>Stress</p> <ul style="list-style-type: none"> • I tended to over-react to situations • I found myself getting agitated • I was intolerant of anything that kept me from getting on with what I was doing 	<p>Depression, Anxiety and Stress Scale (DASS-9) (Kyriazos et al., 2018)</p>
<p>Loneliness</p> <ul style="list-style-type: none"> • I lack companionship • There is no one I can turn to • I am an outgoing person (reverse) • I feel left out • I feel isolated from others • I can find companionship when I want it (reverse) • I am unhappy being so withdrawn • People are around me but not with me 	<p>UCLA Loneliness Scale (ULS-8) (Hays & DiMatteo, 1987)</p>

Survey Item/Questions	Source
<p>Resilience</p> <ul style="list-style-type: none"> • I tend to bounce back quickly after hard times • I have a hard time making it through stressful events (reverse) • It does not take me long to recover from a stressful event • It is hard for me to snap back when something bad happens (reverse) • I usually come through difficult times with little trouble • I tend to take a long time to get over set-backs in my life (reverse) 	<p>Brief Resilience Scale (Smith, 2008)</p>

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