



Australian
National
University

CENTRE FOR SOCIAL
RESEARCH & METHODS

The impact of COVID-19 on child mental health and service barriers: The perspective of parents – August 2021

ANU Centre for Social Research and Methods

Professor Nicholas Biddle,¹ Associate Professor Ben Edwards,¹ Professor Matthew Gray,¹ and Kate Sollis¹

1 ANU Centre for Social Research and Methods

Australian National University

24th September 2021

Acknowledgements

The authors would like to thank a number of people who were involved in the development of the ANUpoll questionnaires, including Diane Herz, Dr Benjamin Phillips, Dr Paul Myers, Matilda Page, Diana Nguyen, Anna Lethborg and Charles Dove from the Social Research Centre, and Professor Ian McAllister from the ANU. Financial support for the ANU COVID-19 Impact Monitoring Survey Program has been provided by the Australian Institute of Health and Welfare.

Abstract

COVID-19 has had a significant impact on the mental health and wellbeing of the Australian population. This paper provides detailed data on the mental health of those aged 18 years and under, as reported by an adult in their household. For children aged 2 to 4 years, parents and carers do not report a dramatic worsening in mental health outcomes. For those aged 5 to 18 years, however, it would appear that parents/carers think that COVID-19 has had a large negative impact on mental health. The mental health of adolescents and young adults aged 15 to 18 is of particular concern, with 71.0 per cent of adolescents and young adults in this age group reported to have had a worsening in mental health outcomes due to COVID-19, significantly higher than any other age group. A comparison of our results with those from a survey undertaken in July 2020 suggests that these negative mental health impacts have gotten worse. Outcomes appear to have worsened particularly for children who live in one of the states that have had long lockdown periods and where the parent/carer has high levels of psychological distress themselves. There is also some evidence of a greater worsening in mental health for those children whose parent/carer is Aboriginal and/or Torres Strait Islander,. The other main finding from the analysis is that there were significant barriers in finding mental health support. Around two-in-five carers reported that it was difficult or very difficult (39.9 per cent), with 12.2 per cent reporting that it was very difficult.

1 Introduction and overview

The international evidence suggests that COVID-19 has had substantial negative effects on the wellbeing of children and young people. In particular, impacts on educational and mental outcomes have been considerably greater for children from less social-economically advantaged backgrounds.¹ While the health and economic impacts of COVID-19 have been smaller in Australia than in many other countries, this has been achieved via the imposition of some of the most stringent COVID-19 restrictions in the world and there is emerging evidence that COVID has had a significant negative impact on Australian children and young people.²

A number of Australian studies have examined the impact of COVID-19 on the mental health and educational development of children and young people (Australian Human Rights Commission, et al. 2020; Biddle et al. 2020; Li et al. 2020). There is a general consensus amongst these studies that the impacts to children and young people's mental health have been significant, and substantially greater for children and young people who have been living in lockdown-affected areas (De Young et al. 2021). A large proportion of children and young people have reported feeling high levels of anxiety, fear of being infected with COVID-19, and feeling that life will never be the same (De Young et al. 2020; UNICEF Australia 2020).

Furthermore, research conducted with parents has indicated that young children have exhibited attachment-seeking behaviours during lockdown periods (Vasileva et al. 2021). Young adults, in particular those in their final year of schooling, have highlighted how separation from their peers and missing important rites of passage such as graduation ceremonies and celebrations have markedly impacted their wellbeing and sense of identity (Commissioner for Children and Young People South Australia 2020; Green and Bennett 2020).

Consistent with international evidence, the emerging evidence is that some groups of Australian children and young people have been negatively impacted more than others. For example, research with parents of Aboriginal and Torres Strait Islander children has found that the pandemic has impacted children's connection to culture (SNAICC 2021). Young multicultural Victorians have been impacted by increased racism and discrimination throughout the pandemic (Doery et al. 2020). LGBTQ+ young people have been affected through feelings of isolation and challenges in accessing mental health services (Byron et al. 2021). Finally, children and young people with disability, or those who have special needs, have been negatively impacted through uncertainty about education, challenges in accessing health services and less outdoor time (Dickinson and Yates 2020; Pellicano et al. 2020; Sciberras et al. 2020). Furthermore, difficulties accessing essential social and medical services (Drummond Street Service 2020) may have compounded the impacts for some of these population groups.

Most of the studies of the impact of COVID-19 currently available were conducted during the early stages of the pandemic. This paper builds upon the earlier studies to examine the impacts of the pandemic on children and young people as reported by parents or other adults in their household 18-months into the pandemic in August 2021. The paper also examines the sociodemographic correlates of families whose children's wellbeing has been more and less affected. This will help governments and the communities to better support, and tailor programs, to help soften the impact of the pandemic on the wellbeing of children and young people in Australia going into the future.

The data used in this paper is from a high-quality survey that uses representative, probability-based sampling, as opposed to the convenience or opt-in sampling that most other Australian

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

studies have used.

The structure of the remainder of the paper is as follows. In the next section, we describe the August 2021 ANUpoll data set and provide a summary of the reported level of mental health for children and young people in August 2021. In the section that follows the main results of the paper are given, including a detailed analysis of the factors associated with a reported worsening in mental health outcomes due to COVID-19. In Section 4 we present results on access to services, including mental health services, with the final section providing some concluding comments.

2 Data and cross-sectional measure of mental health

The analysis is based on the August 2021 wave of the ANUpoll series of surveys, which forms part of the ANU Centre for Social Research and Methods' COVID-19 Impact Monitoring survey program. Respondents are taken from the Life in Australia™ panel, Australia's only probability-based source of online and offline survey participants.

The August 2021 wave collected data from 3,135 Australians aged 18 years and over. The data collection occurred between the 10th and the 23rd of August 2021 with 51.5 per cent of the eventual sample completing the survey on the 11th or 12th of August. The vast majority (95.9 per cent) of interviews were completed online with 4.1 per cent being completed over the phone. More detail on the survey is available in Appendix 1, and the survey data is available for download through the Australian Data Archive (doi: 10.26193/YB3CXX).

The August 2021 wave asked parents/carers of children about their views on a range of outcomes for the children. There were 763 parents/carers in our sample, reporting on behalf of 1,368 children. In Biddle et al. (2021) we provided what was, as far as we are aware, the first large-scale survey on vaccine hesitancy/willingness in Australia focused on children. In this paper we focus on the survey questions related to child mental health and service usage. Some of these questions are based on items from the Royal Children's Hospital Child Health Poll.³

For the first time, in August 2021 respondents to the COVID-19 Impact Monitoring survey program who had children in living in their household were asked about the wellbeing of those children and their assessment of the impact of COVID-19 on the children. The respondent was asked the child related questions for all household members born in 2003 or later. The vast majority of these household members who were born in 2003 or later will have been aged under 18-years at the time of the interview in August 2021 and all will have been aged under 18-years when COVID-19 first impacted Australia in early 2020. Information was collected on the age, gender, relationship to the respondent, and education participation of each child.

Respondents were first asked about the mental health of each child in their household (born in 2003 or after) using the following question:

'A child's mental health and wellbeing affects how they feel, think, behave, and relate to others. When a child has good mental health they feel good and function well. When a child has difficulties with mental health they may have problems that affect their thoughts, mood, feelings or behaviour. These problems might be temporary and can result from the stresses of life.'

'In general, how would you rate the mental health of <NAME>?' with response categories being poor, fair, good, very good or excellent.

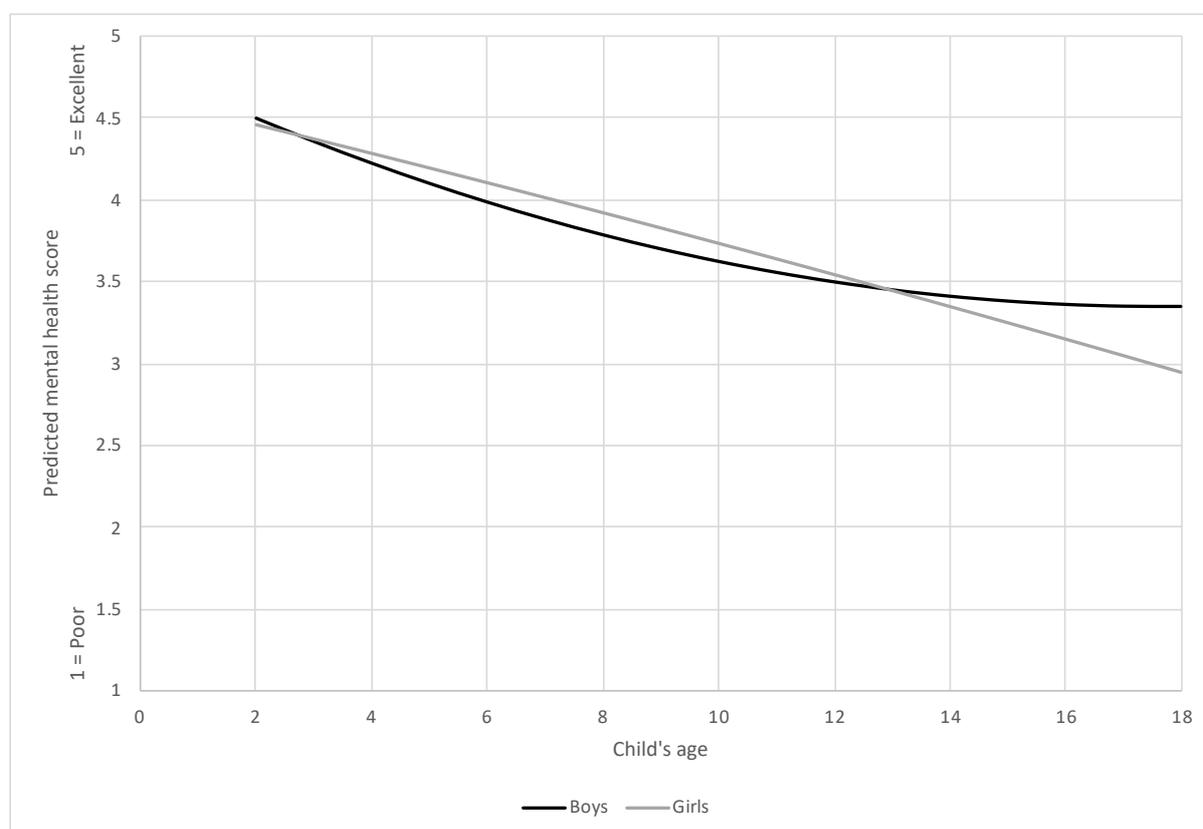
Given that poor mental health can be exhibited in different ways for very young children

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

compared to older children, we restrict the analysis in this paper to children aged 2 years and over. A little under one-third (30.7 per cent) of children are reported (by an adult respondent) as having excellent mental health, with a further 32.0 per cent reported as having very good mental health and 21.2 per cent as having good mental health. However, about one-in-ten (12.0 per cent) are reported as having fair mental health and 4.2 per cent as having poor mental health.

There is a significant interaction between a child's age, their gender and their mental health. For both girls and boys, mental health declines with age. Girls are reported to have better mental health outcomes than boys up until the age of about 12 years, but then the mental health of boys is better than that of girls. The relationship between age and mental health for boys and girls is illustrated in Figure 1 which shows predicted mental health score with predictions derived from separate regression models for boys and girls. The 5-point categorical mental health variable has been converted to a continuous score ranging from 1 to 5 with 1 being the worst mental health and 5 being the best mental health.

Figure 1 Child mental health by age, and gender of child



Notes: The responses to the question on child mental health has been converted to a continuous scale ranging from 1 to 5 with 1 equating to the worst mental health and 5 to the best mental health. The predicted probabilities are based on separate liner (OLS) regression models for boys and girls with the explanatory variables including age and age squared in order to allow for a non-linear relationship between age and mental health.⁴

Source: ANUpoll, August 2021.

3 Reported impact of COVID-19 on the mental health of children

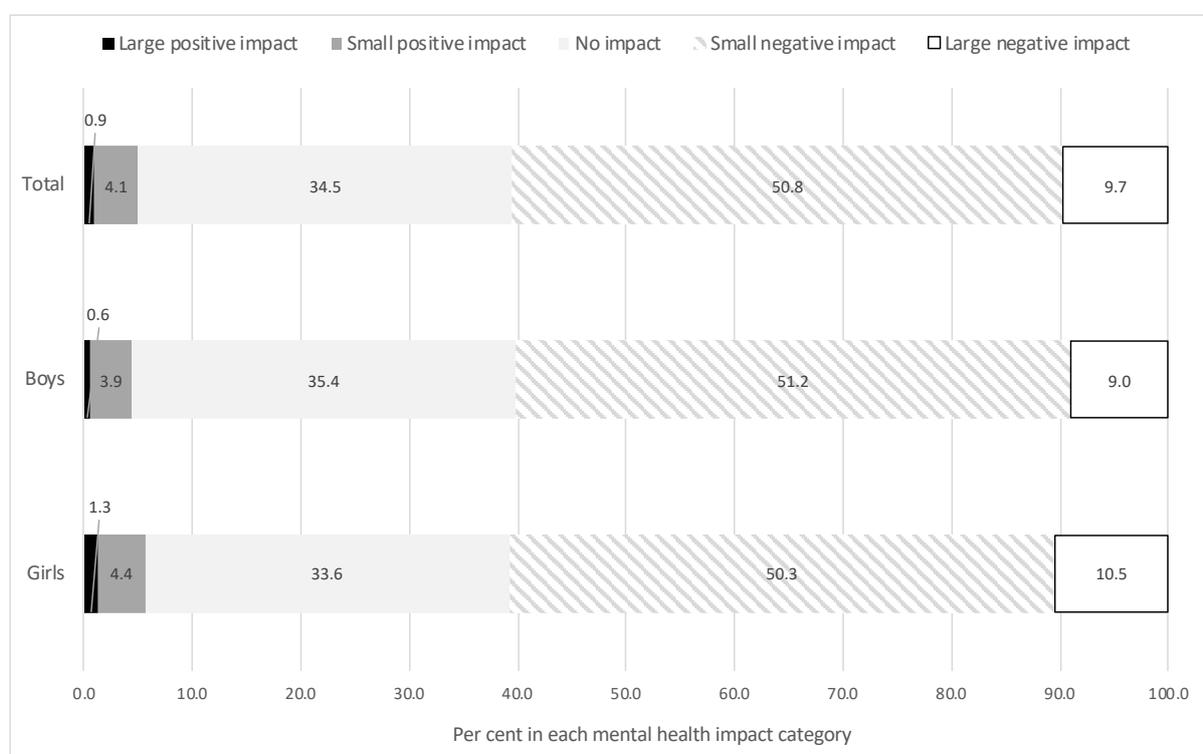
The COVID-19 impact monitoring survey program has been tracking the mental health outcomes of adults in Australia since April 2020, with baseline data from February 2017. As

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

this is the first time that questions have been asked regarding the mental health of children, there is no comparable data to track at the individual level the changes in mental health of children over the COVID-19 period. As far as we are aware, such longitudinal data does not exist for Australian children across the age distribution, or if it exists it is not currently publicly available. Respondents were therefore asked (about children in the household) ‘What would you say the impact of COVID-19 has been on the mental health of <NAME>?’

Focusing once again on those children aged 2 years and over,⁵ parents and carers report that for slightly more than half of children in that age group (50.8 per cent), COVID-19 has had a small negative impact and for about one-in-ten children (9.7 per cent), COVID-19 has had a large negative impact (Figure 2). Around one-third (34.5 per cent) thought that COVID-19 had no impact on the child’s mental health, just 4.1 per cent said it had a small positive impact, and 0.9 per cent said that it had a large positive impact.

Figure 2 Impact of COVID-19 on child mental health for children aged 2 years and over, as reported by adult respondent, August 2021



Source: ANUpoll, August 2021

Our estimates for August 2021 are close to double the proportion of children whose parents/carers reported that COVID-19 had a negative impact on the mental health as was reported in July 2020 when a similar question was asked in the Royal Children’s Hospital National Child Health Poll.⁶ For children aged 3 to 17 years, the age range reported by the Royal Children’s Hospital (2020), in August 2021 around three-in-five (61.3 per cent) parents/carers thought that COVID-19 has had a negative impact on the mental health of their children,) compared to 36 per cent in July 2020. Although the methodology for recruitment to the two surveys are different, this gives a strong indication that child mental health outcomes have worsened further as the pandemic has continued into the second half of 2021, and at a point where a greater proportion of children were experiencing lockdown conditions at the time of the survey and for those in Victoria had experienced several extended periods of lockdown.

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

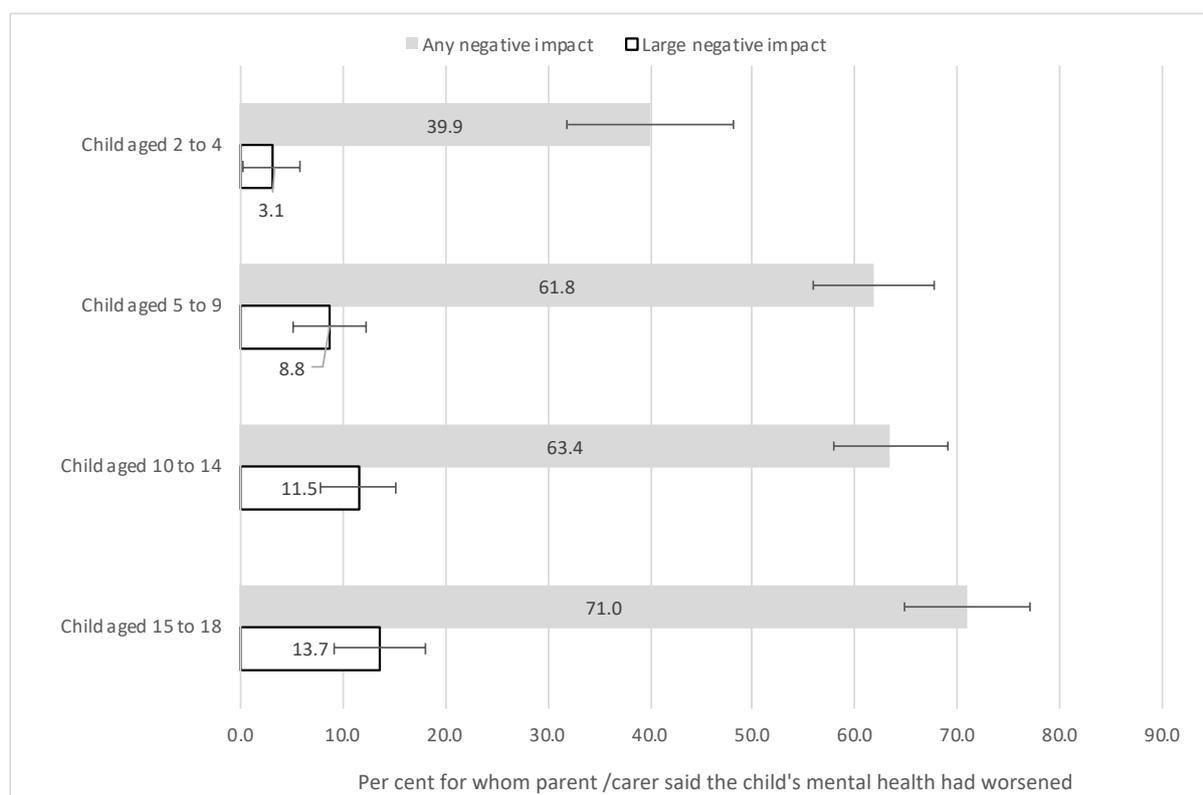
In order to identify factors associated with differences in the reported impact of COVID-19 on child mental health (as reported by an adult), a series of regression models have been estimated. Given that the outcome measures take one of five discrete outcomes (ranging from a large negative impact to a large positive impact), an ordered probit model is estimated. Four specifications of the model are estimated. Model 1 includes child gender, age, and the interaction between gender and age in order to allow the relationship between age and the reported impact of COVID-19 on mental health to differ between boys and girls. Model 2 includes child age, gender, and the interaction between age and gender plus parent/carer demographic, socioeconomic, and geographic characteristics. Model 3 adds to Model 2 a measure of parent/carer's mental health as reported in the August ANUpoll.

Results from the estimation of Model 1 suggests that there are no differences in adult reports of the impacts of COVID-19 on the mental health of between boys and girls. Respondents were, however, more likely to report that COVID-19 had a negative impact for older children. There was no difference in the estimated relationship between the reported impact of COVID-19 on mental health and age between boys and girls.

Outside of the econometric model, we can see this relationship in Figure 3 through the proportion of children for whom their parent/carer reported that their mental health had worsened (either at all, or for whom there was a large negative impact reported). There is a large difference in the reporting of any negative impact between those aged 2 to 4 (39.9 per cent) and the next two age cohorts (61.8 per cent for those aged 5 to 9 and 63.4 per cent for those aged 10 to 14). The largest proportion of children reported to have had a worsening in mental health outcomes over the period, however, was amongst those aged 15 to 18 years. We estimate that 71.0 per cent of adolescents and young adults in this age group were reported to have had a worsening in mental health outcomes due to COVID-19. The relationship by age is similar for large negative impact.

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

Figure 3 Per cent of children reported to have had a worsening in mental health due to COVID-19, by age – August 2021



Source: ANUpoll, August 2021

In a more detailed econometric analysis (using the ordered probit model) as reported in Table 1, the negative impacts of COVID-19 were lower for older adult respondents (45 years and over) and younger adult respondents (18 to 24 years) parents/carers; those who speak a language other than English; and those who lived in non-capital city NSW, capital cities outside of Sydney and Melbourne, and non-capital cities in states other than NSW and Victoria.

We can see the scale of these geographic differences when we compare the proportion of children reported as having been negatively impacted by COVID-19. Parents/carers of those children who lived in Sydney reported that 76.7 per cent had a worsening in their mental health outcomes. This was similar to those who lived in Melbourne (69.3 per cent) and the rest of Victoria (77.5 per cent). For those who lived in the rest of NSW, however, only 50.2 per cent of carers reported a worsening in mental health outcomes, with similarly low rates for those who lived in a capital city outside of NSW/Victoria (47.6 per cent) or another part of those states and territories (52.9 per cent).

A final demographic variable that had a large coefficient that was however not statistically significant, was the parent/carer being Aboriginal and/or Torres Strait Islander. Given the p-value was 0.107 with a reasonably small sample, the results do give indicative evidence that the mental health of children of Aboriginal and Torres Strait Islander parents/carers may have been more impacted by COVID-19 than non-Indigenous children. Outside of the econometric model (that is, without controlling for other characteristics), 71.2 per cent of Aboriginal and/or Torres Strait Islander parents/carers reported that their child had a worsening in mental health outcomes due to COVID-19, compared to 60.2 per cent of children of non-Indigenous carers.

In the third model, we also look at the association between parent/carer psychological distress,

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

as well as their reported change in relationship status. We find that parents/carers with high levels of psychological distress are more likely to report that their children had experienced a worsening in mental health due to COVID-19. For those parents/carers who had levels of psychological distress that would identify them as being at risk of a serious mental health issue, 76.9 per cent reported that their child had a worsening in mental health outcomes due to COVID-19. This compares to 69.9 per cent of those whose K-6 measure is in the moderate range, and 49.8 per cent of those below both thresholds.

It is not possible to separate causality with this measure of parent/carer mental health, and it is particularly prone to response biases. It may be that parent/carer mental health impacts on child mental health, or it may be that the child's mental health negatively impacts on the parent/carer. It is also distinctly possible that there is a separate set of characteristics that impact both either directly, or through the way in which both measures of mental health are reported. This complexity aside, the results do give some indication that if an adult in a household reports high rates of psychological distress, that there is a higher probability that the child will be reported as having had a worsening mental health due to COVID-19.

At least as important is the finding that those parents/carers who reported that their relationship status had worsened were also more likely to say that their child's mental health had deteriorated. Once again, although causality is difficult to establish, the differences are quite large. For those parents/carers who reported no change in their relationship quality, 47.1 per cent reported a worsening in the mental health outcomes of their children due to COVID-19. For those who reported a worsening in relationship quality, on the other hand, this rises to 73.4 per cent.

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

Table 1 Factors associated with impact of COVID-19 on child mental health for children aged 2 years and over, as reported by adult respondent, August 2021

Explanatory variables	Model 1		Model 2		Model 3	
	Coeff.	Signif.	Coeff.	Signif.	Coeff.	Signif.
Psychological distress					0.042	***
Relationship quality improved					0.071	
Relationship quality worsened					0.352	***
Child's age	0.034	***	0.046	***	0.049	***
Child is a girl	-0.071		-0.103		-0.021	
Child's age x child is a girl	0.007		0.010		0.003	
Female			-0.059		-0.087	
Aged 18 to 24 years			-0.387		-0.486	*
Aged 25 to 34 years			0.059		0.000	
Aged 45 years plus			-0.202	**	-0.155	*
Indigenous			0.468		0.371	
Born overseas in a main English-speaking country			-0.075		0.004	
Born overseas in a non-English speaking country			-0.165		-0.126	
Speaks a language other than English at home			-0.343	***	-0.368	***
Has not completed Year 12 or post-school qualification			-0.274		-0.226	
Has a post graduate degree			-0.105		-0.006	
Has an undergraduate degree			-0.178		-0.054	
Has a Certificate III/IV, Diploma or Associate Degree			-0.023		0.073	
Lives in the most disadvantaged areas (1st quintile)			-0.029		-0.038	
Lives in next most disadvantaged areas (2nd quintile)			-0.008		-0.005	
Lives in next most advantaged areas (4th quintile)			-0.239	**	-0.177	
Lives in the most advantaged areas (5th quintile)			0.193		0.274	**
Lives in non-capital city NSW			-0.607	***	-0.477	***
Lives in Melbourne			-0.112		-0.100	
Lives in non-capital city Victoria			0.097		0.120	
Lives in another non-capital city			-0.479	***	-0.439	***
Lives in another capital city			-0.529	***	-0.458	***
Cut-point 1	-2.036		-2.598		-1.852	
Cut-point 2	-1.322		-1.915		-1.171	
Cut-point 3	0.071		-0.424		0.366	
Cut-point 4	1.668		1.286		2.155	
Sample size	1,287		1,256		1,256	

Source: ANUpoll, August 2021.

Notes: Ordered Probit Regression Model. The base case child is a boy. The base case parent/carer is male; aged 35 to 44 years; 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; lives in neither an advantaged or disadvantaged suburb (third quintile); and lives in a capital city in NSW. With the exception of child age and sex all the other explanatory variables relate to the adult respondent.

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 *.

4 Demand for health and other services

A characteristic of COVID-19 has been that as the demand for certain services increases, for example because of worsening health or barriers to learning, lockdown and other restrictions can make those health services more difficult to access. Furthermore, especially at times when infection rates are relatively high in the community, there can be real competition for health service workers (doctors, nurses and administrators) as they focus on treating and managing COVID-19 infections.

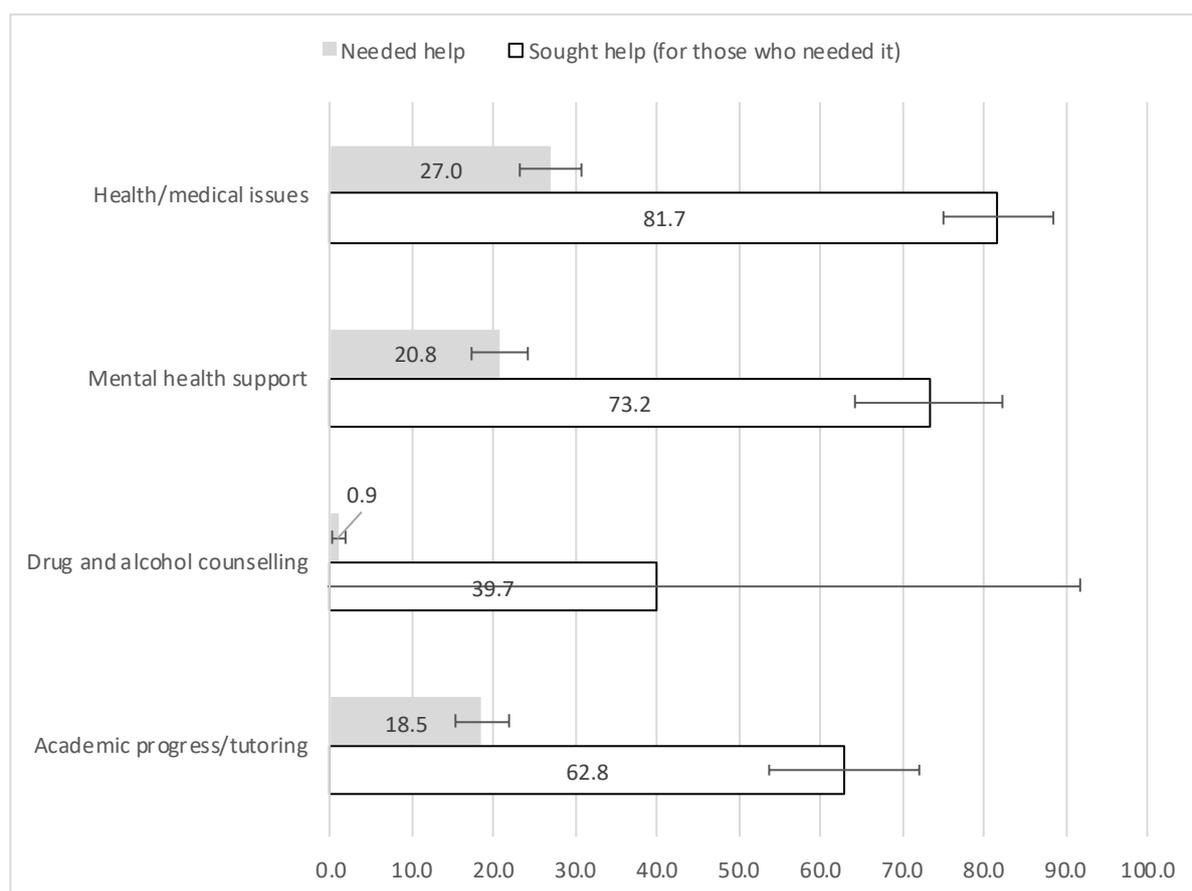
Respondents to the August 2021 ANUpoll were asked 'Since the spread of COVID-19 in

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

Australia, have you needed help for the following issues for children in your household? [bold in the original]. Figure 4 shows that of the four types of services asked about in the survey, the most common type of service that was needed was for health/medical issues (reported as needed by 27.0 per cent of parents/carers), followed by mental health support (20.8 per cent), and academic progress/tutoring (18.5 per cent). Very few parents/carers reported that they needed help for drug and alcohol counselling for their children.

For those who did need help for the given issue, parents/carers were asked ‘Did you seek help for a support service for the following issues for children in your household?’ [bold in original]. Figure 4 shows that 81.7 per cent of those who needed help for health/medical issues actually sought that help. A lower proportion (73.2 per cent) of those who needed mental health support actually sought help, with an even lower percentage of those who needed help for academic progress/tutoring seeking help. The sample sizes for drug/alcohol counselling are too small to make meaningful conclusions.

Figure 4 Per cent of parents/carer who needed help for their children for particular issues and the per cent of those who sought help, August 2021



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

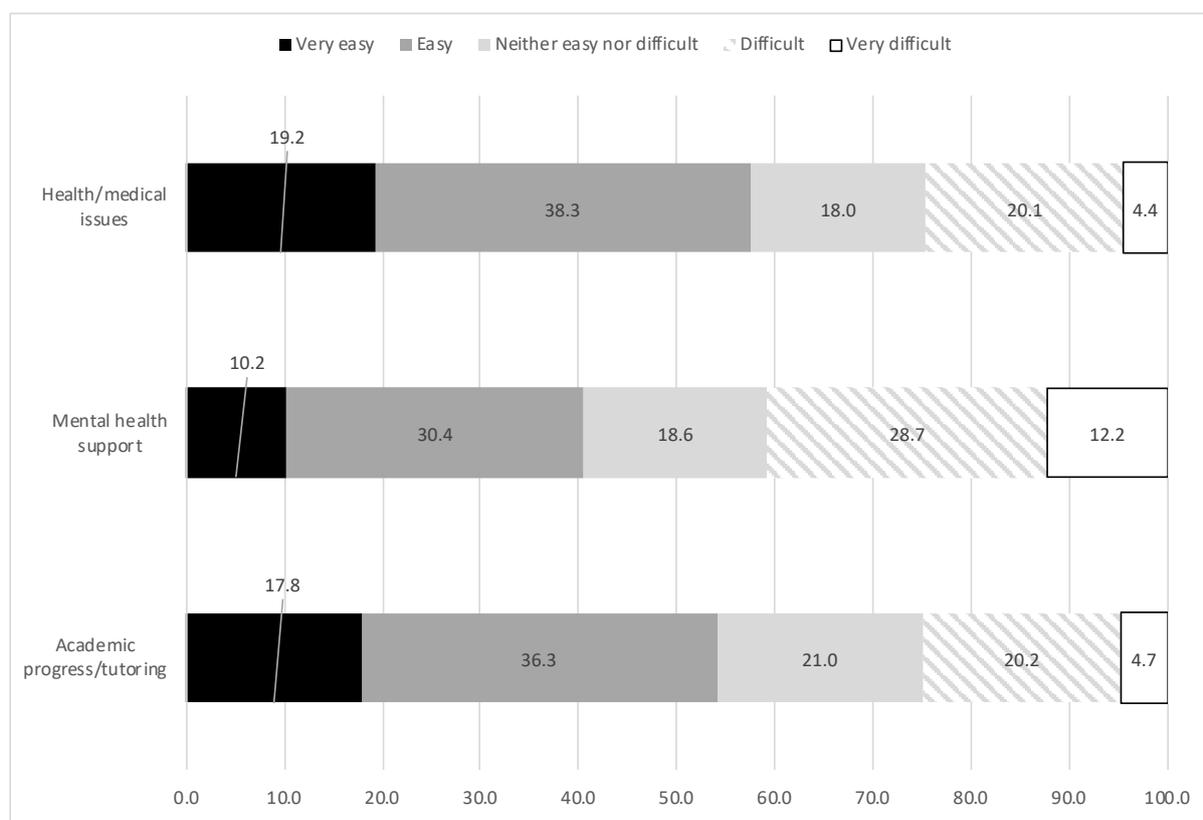
Source: ANUpoll, August 2021.

The final question that we asked with regards to support services was ‘How easy or difficult was it to seek help from support services for the following issues?’, with options of very easy; easy; neither easy nor difficult; difficult; and very difficult. Leaving aside drug and alcohol counselling, which has very low sample sizes, Figure 5 gives the responses for those who sought help for the other three types of services. The greatest barriers appear to be for those who

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

sought help for mental health support, with around two-in-five carers reporting that it was difficult or very difficult, with 12.2 per cent of the total sample reporting that it was very difficult.

Figure 5 Ease in accessing services for those who sought help, August 2021



Source: ANUpoll, August 2021.

5 Concluding comments

COVID-19 has had a significant impact on the mental health and wellbeing of the Australian population. The impact of the pandemic, however, is different for different age cohorts. When we combine the data presented in this paper and data on adults from Biddle and Gray (2021), we can identify five reasonably distinct, but broad age cohorts. Amongst adults, those 65 years and over appear to have had lower levels of psychological distress throughout the pandemic than pre-pandemic. For this group, perhaps because the physical health impacts have not been as large as first feared and the economic shocks have been more muted, mental health appears to be reasonably stable. For those aged 45 to 64 years, psychological distress has been reasonably stable. For younger adults, however, and particularly those 18 to 24 years, there appears to have been a significant worsening in mental health outcomes, particularly at the start of the pandemic, but even into the second half of 2021.

This paper completes this life course picture by looking at the mental health of those aged 18 years and under, as reported by adults in their household. For those aged 2 to 4 years, parents and carers do not report a dramatic worsening in mental health outcomes. This is perhaps not surprising, as for this group mental health needs are more easily met in lockdown conditions, and the effects of COVID-19 may have been more focused on other developmental outcomes. Other types of questions than those used in this paper may better capture the impact of

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

COVID-19 on this age group. For those aged 5 to 18 years, however, it would appear that parents/carers think that COVID-19 has had a large negative impact on mental health.

For children aged 5 to 9 years, 61.8 per cent of parents/carers think that COVID-19 has had a negative impact, as do 63.4 per cent of parents/carers of children aged 10 to 14 years. The largest proportion of children reported to have had a worsening in mental health outcomes over the period, however, was amongst those aged 15 to 18 years. 71.0 per cent of adolescents and young adults (15 to 18 years) were reported by another adult in their household to have had a worsening in mental health outcomes due to COVID-19. When we compare our results with those from the Royal Children's Hospital National Child Health Poll undertaken in July 2020, it would appear that these negative mental health impacts have got worse.

Furthermore, another key finding from the analysis is that there were significant barriers in finding mental health support. Around two-in-five carers reported that it was difficult or very difficult (39.9 per cent), with 12.2 per cent reporting that it was very difficult.

Measuring the mental health of children is complex, especially when examining it over time. It is difficult to construct a measure that is equally relevant for young infants and primary school age children as it is for adolescents and young adults. The views and expectations of parents/carers are also likely to impact on the reporting of outcomes for children. Although it is not possible using the data source that we have relied on in this paper, it is vitally important that the views and experiences of children and adolescents themselves are incorporated when making a complete reckoning of the impact of COVID-19 on the mental health of children.

Despite these limitations, the results presented in this paper suggest a large negative impact of COVID-19 on mental health. These effects have been particularly substantial for those aged 15 to 18, where the parent/carer is Aboriginal or Torres Strait Islander, or those who live in a state which has experienced long lockdown periods.

Appendix 1 About the survey

The primary source of data for this paper is the August 2021 ANUpoll. Data collection commenced on the 10th of August 2021 with a pilot test of telephone respondents. The main data collection commenced on the 11th of August and concluded on the 23rd of August. The final sample size for the survey is 3,135 respondents. 52.0 per cent of the sample had completed the survey by the 12th of August and the average interview duration was 15.4 minutes. Of those who had completed the August 2021 survey, 86.7 per cent (N=2,717) had completed the April 2021 survey.

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 4.1 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.

A total of 3,481 respondents were invited to take part in the survey, leading to a wave-specific completion rate of 90.1 per cent. Taking into account recruitment to the panel, the cumulative response rate for this survey is around 5.8 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 (2021/430).

References

- Australian Human Rights Commission, Yourtown and Kids Helpline (2020). 'Impacts of COVID-19 on children and young people who contact Kids Helpline.' Retrieved from https://humanrights.gov.au/sites/default/files/document/publication/ahrc_khl_covid-19_2020.pdf
- Biddle, N., and M. Gray (2021). 'Tracking wellbeing outcomes during the COVID-19 pandemic (August 2021): Lockdown blues' COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.
- Biddle, N., B. Edwards, M. Gray and K. Sollis (2021). 'Determinants of COVID-19 vaccination and views of parents about vaccination of children in Australia: August 2021.' COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.
- Biddle, N., B. Edwards, M. Gray, and K. Sollis (2020). 'Mental health and relationships during the COVID-19 pandemic.' COVID-19 Briefing Paper, ANU Centre for Social Research and Methods, Australian National University, Canberra.
- Byron, P., K. Robinson, C. Davies and S. D'Souza (2021). 'LGBTQ+ young people, COVID-19, & service provision in Australia: A twenty-10 case study.' University of Technology Sydney, Sydney.
- Commission for Children and Young People Victoria (2020). 'Impact of COVID-19 on children and young people: Mental health.' Commission for Children and Young People, Melbourne.
- Commissioner for Children and Young People South Australia (2020). 'Reflections on COVID-19 - In their own words, South Australian young people reflect on the impact of the coronavirus on their world and their futures.' Commissioner for Children and Young People South Australia, Adelaide.
- De Young, A., Paterson, R., E. Hoehn, V. Cobham, C. Donovan, C. Middeldorp, T. Gash and M. Vasileva (2020). 'COVID-19 Unmasked: Young children Report 1: Early findings and recommendations.' Queensland Centre for Perinatal and Infant Mental Health, Children's Health Queensland Hospital and Health Service, Brisbane.
- De Young, A., R. Paterson, S. March, E. Hoehn, E. Alsic, V. Cobham, C. Donovan, C. Middeldorp, T. Gash and M. Vasileva (2021). 'COVID-19 Unmasked Young Children Report 2: Impact of the second wave in Australia on the mental health of young children and parents.' Queensland Centre for Perinatal and Infant Mental Health, Children's Health Queensland Hospital and Health Service, Brisbane.
- Dickinson, H. and S. Yates. (2020). 'More than isolated: The experience of children and young people with disability and their families during the COVID-19 pandemic.' Report prepared for Children and Young People with Disability Australia (CYDA), Melbourne.
- Doery, K., C. Guerra, E. Kenny, L. Harrlott and N. Priest (2020). 'Hidden cost: Young multicultural Victorians and COVID-19.' Centre for Multicultural Youth, Melbourne.
- drummond street service (2020). 'Assessing the impact of COVID-19 on client needs & drummond street's response.' <https://ds.org.au/wp-content/uploads/2020/09/COVID-19-Staff-report-Edition-2.pdf>

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

- Green, B. and A. Bennett (2020). 'No festivals, no schoolies: young people are missing out on vital rites of passage during COVID.' *The Conversation*.
- headspace. (2020). 'headspace National Youth Mental Health Survey 2020: Youth mental health and wellbeing over time.' Retrieved from <https://headspace.org.au/assets/Uploads/Insights-youth-mental-health-and-wellbeing-over-time-headspace-National-Youth-Mental-Health-Survey-2020.pdf>
- Holt, L. and L. Murray (2021). Children and Covid 19 in the UK. *Children's Geographies*. <https://doi.org/10.1080/14733285.2021.1921699>
- Li, S., J. Beames, J. Newby, K. Maston, H. Christensen and A. Werner-Seidler (2020). 'The impact of COVID-19 on the lives and mental health of Australian adolescents.' medRxiv, 2020.2009.2007.20190124. doi:10.1101/2020.09.07.20190124
- Office for Civil Rights (2021). Education in a pandemic: The disparate impacts of COVID-19 on America's students, Department of Education, Washington. Retrieved from <https://www2.ed.gov/about/offices/list/ocr/docs/20210608-impacts-of-covid19.pdf>
- Pellicano, L., S. Brett, J. den Houting, J. M. Heyworth, I Magiati, R. Steward, A. Urbanowicz and M. Stears (2020). "'I want to see my friends': The everyday experiences of autistic people and their families during COVID-19.", Sydney.
- Rhodes, A. (2020). 'RCH National Child Health Poll - COVID-19 pandemic: Effects on the lives of Australian children and families.' Royal Children's Hospital Melbourne, Melbourne.
- Sciberras, E., M. Stokes, D. Coghill, C. Middeldorp, M. Bellgrove, S. Becker, D. Efron, A. Stringaris, S.V. Faraone, S.T. Bellows, J. Quach, T. Banaschewski, J. McGillivray, D. Hutchinson, T.J. Silk, G. Melvin, A.G. Wood, A. Jackson, G. Loram, L. Engel, A. Montgomery and E. Westrupp (2020). 'Physical health, media use, and mental health in children and adolescents with ADHD during the COVID-19 pandemic in Australia'. *Journal of Attention Disorders*. doi:10.1177/1087054720978549
- SNAICC. (2021). SNAICC COVID-19 Ongoing Impacts Survey Report. Retrieved from <https://www.snaicc.org.au/wp-content/uploads/2021/01/SNAICC-COVID-19-ONGOING-IMPACTS-SURVEY-REPORT.pdf>
- Taylor, R. (2021). Covid-19: impact on child poverty and on young people's education, health and wellbeing. House of Lords Library, UK Parliament, London.
- Tucci, J., J. Mitchell and L. Thomas, L. (2020). 'A lasting legacy - The impact of COVID-19 on children and parents.' Retrieved from https://www.childhood.org.au/app/uploads/2020/08/A_Lastig_Legacy_-_The_Impact_of_COVID19_on_Children_and_Parents_Final.pdf?utm_source=afc%20website&utm_medium=report&utm_campaign=a%20lasting%20legacy
- UNICEF Australia (2020). "'Living in limbo": The views and experiences of young people in Australia at the start of the COVID-19 pandemic and national response.' Retrieved from <https://www.unicef.org.au/Upload/UNICEF/Media/Documents/UNICEF-COVID-19-Living-in-Limbo-2020.pdf>
- UNICEF Australia (2021). 'Children's voices in a changing world: 2021 UNICEF Australia Young Ambassador Report.' Retrieved from

Parental reports of the impact of COVID-19 child mental health and service barriers – August 2021

<https://www.unicef.org.au/Upload/UNICEF/Media/Our%20work/Emergencies/UA-YA-Report-2021-LR.pdf>

Vasileva, M., E. Alisic and A. De Young, A. (2021). 'COVID-19 unmasked: preschool children's negative thoughts and worries during the COVID-19 pandemic in Australia.' *European Journal of Psychotraumatology*, 12(1), 1924442.
doi:10.1080/20008198.2021.1924442

WA Department of Education, WA Department of Health, & Telethon Kids Institute. (2021). DETECT Schools Study: Understanding the impact of COVID-19 in Western Australian Schools. Retrieved from
<https://www.telethonkids.org.au/globalassets/media/documents/projects/detect-schools-study-final-report-and-appendices.pdf>

Westrupp, E., C. Bennett, T.S. Berkowitz, G. Youssef, J. Toumbourou, R. Tucker, R., . . . and E. Sciberras (2020). 'Child, parent, and family mental health and functioning in Australia during COVID-19: Comparison to pre-pandemic data.' *PsyArXiv*.
doi:10.31234/osf.io/ydrm9

Endnotes

¹ See for example Holt and Murray (2021), Office for Civil Rights (2021) and Taylor (2021).

² Australian studies have utilised a range of approaches including surveys with parents and carers (e.g. De Young et al. 2020; Rhodes 2020; Tucci et al. 2020; Westrupp et al. 2020), surveys with children and young people (e.g. headspace 2020; UNICEF Australia 2021; WA Department of Education et al. 2021), and interviews with young people (e.g. Commission for Children and Young People Victoria 2020; Pellicano et al. 2020).

³ <https://www.rchpoll.org.au/wp-content/uploads/2020/07/nchp-poll18-report-covid.pdf>

⁴ For boys, the constant term is 4.815692, the linear age term is -0.1666477, and the quadratic age term is 0.0047152. All three variables are statistically significant. For girls, the constant term is 4.626015, the linear age term is -0.0841226 and the quadratic age term is -0.0004911. The constant and linear age term were statistically significant, but the quadratic age term was not.

⁵ When we look at data for the entire child population, including those aged 0 and 1 (as reported in Australia's Welfare), 9.5 per cent reported that there was a large negative impact 48.5 per cent of respondents said there was a small negative impact, 5.0 per cent thought that COVID-19 had a positive impact, with the remaining 37.1 per cent saying that there was no impact.

⁶ <https://www.rchpoll.org.au/wp-content/uploads/2020/07/nchp-poll18-report-covid.pdf>