

ORIGINAL ARTICLE

The initial impact of COVID-19 on Australasian sonographers part 3: Sonographer professional, personal, and social wellbeing

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Abstract

Introduction: The wellbeing of front-line healthcare workers can be impacted during a pandemic. This paper reports the initial impact on the wellbeing of COVID-19 on Australasian sonographers.

Methods: An online qualitative and quantitative survey was conducted between March and June 2020 to explore the wellbeing of Australasian sonographers in the early stages of the COVID-19 pandemic.

Results: Whilst most sonographers felt supported at work (300/379), those working in public hospitals felt more so than those in private practice. Sonographers in private practice felt more as though their job was at risk and were more likely to consider an alternate source of income. Sonographers felt they were working on the front line and many felt anxious about themselves (74%) or family (78%) contracting COVID-19 due to their employment. Forty-one percent of sonographers felt more isolated than normal, with younger age groups (18-34 years) feeling less like they had enough hobbies or selfcare activities to get them through. Twelve percent of sonographers reported never, or rarely, coping with the juggle of work and home life.

Conclusion: The initial impact of the COVID-19 pandemic on the wellbeing of sonographers is evident. Longitudinal data will enable wellbeing to be tracked over time.

KEYWORDS

Australia, COVID-19, impact, sonographer, wellbeing

1 | INTRODUCTION

On the 11th of March 2020, the World Health Organisation (WHO) characterised as a pandemic the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and the coronavirus disease (COVID-19) caused by the virus.¹ The virus has had an ongoing impact world-wide, testing resilience, leadership and preparedness of organisations, support systems, and people alike.² The first case of COVID-19 was reported in Australia on the 25th of January 2020.³

Despite the early public health response adopted by Australia and New Zealand, the economic and mental impact of the COVID-19 response has been substantial with widespread loss of employment, social isolation and health fears sparked across the country.⁴ At the time the pandemic took hold, Australia was already in a position of considerable economic stress due to a summer of bushfires and prolonged drought.

A study investigating the initial impact of COVID-19 in Australia reported the perceived levels of job insecurity were high, with one in four employed Australians assessing their likelihood of losing their job

in the next 12 months was greater than 50 percent.⁵ Two thirds of Australians reported that they felt anxious or worried for the safety of themselves, close family members or friends.⁵

Specific to the health system, a systematic review by Cabarkapa et al.⁶ identified many studies which explored the impact of the COVID-19, severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS) pandemic and epidemics on health care worker wellbeing.⁶ No studies which focussed specifically on sonographers in Australia and New Zealand were found.

The negative impact of epidemics on health care worker wellbeing has been reported to be higher in female workers than their male counterparts,⁶ which may exacerbate the effects in the predominantly female Australasian sonographic workforce. A study specific to Australia has suggested that front line health workers are at higher risk of adverse mental health outcomes than the general population and reported preliminary evidence of an increased burden of psychological distress and morbidity.⁴ Studies investigating historical outbreaks of SARS have shown further risk of negative impacts on health care workers' emotional states during this current COVID-19 pandemic.⁷⁻⁹

The Australasian Sonographers Association (ASA) and the Australian Society for Ultrasound in Medicine (ASUM) are the professional bodies responsible for releasing guidelines and policy and advocating for the sonographic community. In order for these societies to advocate for the sonographic community and inform future policy and guidelines, this study was developed to capture data of the true impact of COVID-19 on the Australasian Sonographic Community.

This paper presents the results of part three of a series which explore the initial impact of COVID-19 on Australasian Sonographers. The first two papers in this series report multiple changes to work structures and work hours for Australasian sonographers.^{10,11} Changes to working structure, loss of working hours, and lack of leadership in working environments, in addition to the increased risk of mental health problems, raises significant concern about the potential negative impact of the COVID-19 pandemic for sonographer professional, personal, and social wellbeing. This research sought to capture the immediate effects of COVID-19 on Australasian Sonographers in terms of their wellbeing and leadership support.

2 | METHODS

Institutional ethics approval (Protocol number 203084) was granted prior to the commencement of the study.

A survey was developed to collect data relating to participant demographics and workplace type (ie, public hospital, private practice, hospital or non-hospital setting, sonographer or self-owned practice, -non-clinical), and the status of sonographer professional, personal, and social wellbeing as well as feelings of support. Likert style questions were developed, along with free answer questions relating to how well sonographers felt their workplace had initially dealt with the

pandemic. Prior to data collection, the survey questions were sent to the ASA and the ASUM boards for comment and feedback, then adjusted accordingly.

The survey was distributed as an anonymous internet survey using an online survey tool (Survey Monkey Inc©, San Mateo, California). The survey was released on the eighth of May 2020 and closed on the 14th of June 2020. Respondents were asked for their answers to reflect their observations "since the 11th of March," the date on which COVID-19 was declared a pandemic.

The survey was distributed as an online link via the online newsletters, social media and websites of the ASA and the ASUM. Members of the ASA were also sent an email from the CEO inviting them to participate. Participants were provided with an information sheet on the first page of the survey and their completion of the survey considered informed consent. At the end of the survey, participants were invited to follow a link where they could provide their email address in order to be contacted to fill out the subsequent rounds of the project and enter to win a gift card. The purpose of the separate data collection for email addresses was to ensure anonymity within the initial survey.

2.1 | Statistical analysis

Data was extracted from Survey Monkey in html files to capture the free text responses and also in SPSS format and transferred into the SPSS (Version 23.0. Armonk, NY: IBM Corp) statistical package. Descriptive and qualitative analysis was conducted on the free text responses by one of three members of the research team (BO, KL, SM) and then a fourth member of the research team (JC) reviewed the themes of each question. Disagreements were resolved via discussion with the team.

Fishers exact test was used to examine the associations between the demographics and quantitative survey answers with a level of significance set at .05.

3 | RESULTS

A total of 444 participants responded to all of part of the survey. To achieve an accuracy of at least $\pm 5\%$ with 95% confidence, a sample of 366 was required. The demographic characteristics of the participants can be seen in Table 1.

3.1 | Workplace support

Overall, most sonographers reported feeling supported by their employers with 51% ($n = 192/379$) reporting they often or always felt supported, 29% ($n = 108/379$) sometimes, and only 18% ($n = 69/379$) rarely or never feeling supported. There were statistically significant differences seen between age groups with the older age groups (55-64 years) feeling more supported by their

TABLE 1 Demographic characteristics of participants

Variable	Category	N (%)
Age	18–24	8 (2)
	25–34	89 (20)
	35–44	104 (23)
	45–54	139 (31)
	55–64	84 (19)
	65+	15 (3)
	Undisclosed	5 (1)
Gender	Male	48 (11)
	Female	396 (89)
	Other	0 (0)
Location of residence		
	South Australia	40 (9)
	New South Wales	146 (33)
	Victoria	103 (23)
	Queensland	63 (14)
	Tasmania	5 (1)
	Western Australia	37 (8)
	Northern Territory	3 (1)
	Australian Capital Territory	13 (3)
	New Zealand	23 (5)
	Varied	11 (3)
Location of work		
	Capital City	282 (64)
	Regional Town	121 (27)
	Rural-remote	26 (6)
	Varied	15 (3)
Experience		
	Student	43 (10)
	<2 years Clinical Experience	13 (3)
	2–5 years clinical experience	37 (8)
	6–10 years clinical experience	46 (10)
	11–15 years clinical experience	57 (13)
	Greater than 15 years clinical experience	187 (42)
	Not reported	61 (14)
Position		
	Tutor Sonographer	53 (12)
	Senior Sonographer	127 (29)
	Management	35 (8)
	Chief	46 (10)
	Locum	19 (4)
Workplace		
	Public Hospital	86 (20)
	Private Practice	266 (60)
	Nonclinical	5 (1)
	Mixed	80 (18)

(Continues)

TABLE 1 (Continued)

Variable	Category	N (%)
Type of Sonographer		
	General	317 (73)
	Vascular	16 (4)
	Obstetric	38 (9)
	Cardiac	52 (12)
	MSK	10 (2)
	Breast	2 (1)
	Total	N = 444

employers than the younger age groups (18–34 years) ($P = 0.013$). In the 55–64 year age group, 42% ($n = 29/69$) always felt supported compared to 15% ($n = 10/69$) in the 25–34-year age group. Sonographers working in public practice felt significantly more supported than those in private practice with 68% ($n = 52/76$) often or always feeling supported compared to 48% ($n = 108/227$) in private practice ($p = 0.022$).

Most sonographers felt well informed by updates at work with 62% ($n = 236/379$) reporting they often or always felt readily informed, 24% ($n = 90/379$) sometimes felt informed and only 11% ($n = 43/379$) reported rarely or never feeling informed. When asked whether people felt they had a supportive leader to approach with queries and clarifications, 33% ($n = 125/379$) answered always, whilst 9% ($n = 35/379$) answered never.

3.2 | Workplace security

The survey indicated that in relation to job security, the only statistically significant difference was seen between sonographers working in public and private practices ($p = 0.012$). Those in public practices felt less like their employment was at risk with 70% ($n = 50/72$) reporting they never or rarely felt as though their employment was at risk compared to 43% ($n = 96/225$) of sonographers working in private practices who reported they never or rarely felt their employment was at risk. Almost one quarter (25% $n = 55/225$) of sonographers in private practice felt their employment was often or always at risk compared to 14% ($n = 10/72$) of sonographers working in the public sector (Figure 1).

Most sonographers reported that they had considered an alternative source of income, 41% ($n = 155/379$) rarely or sometimes, and 21% ($n = 78/379$) often or always. The only significant association to the demographics was that of public versus private ($p = 0.001$) (Figure 2). Sonographers in public practice were more likely to never or rarely (79% $n = 59/75$ vs. 48% $n = 109/228$) consider a different source of income. Sonographers in private practice were more likely to consider a different source of income often or always (27% $n = 62/228$ vs. 5% $n = 4/75$).

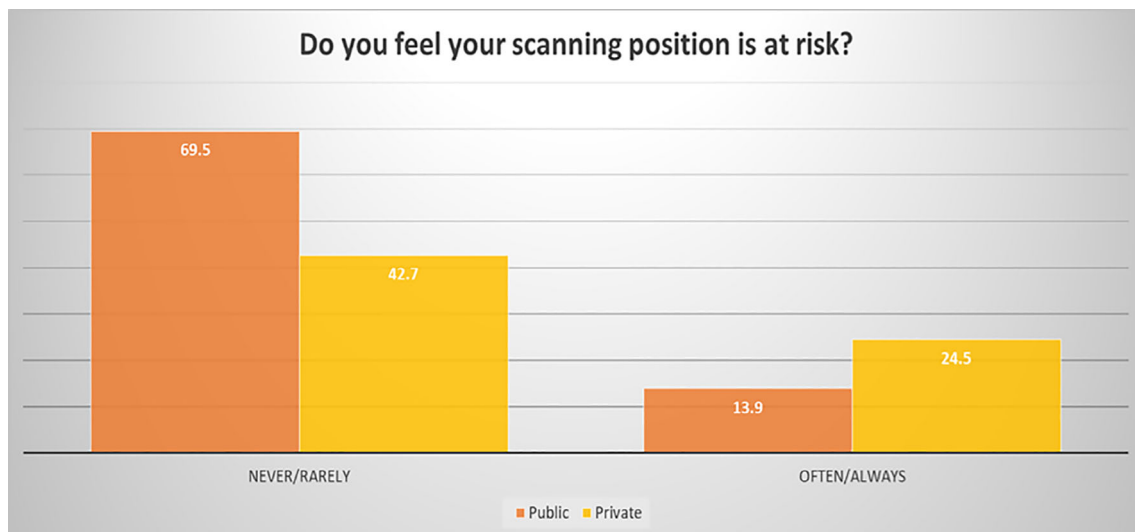


FIGURE 1 Participant perception to risk of employment status in the initial COVID-19 impact period

3.3 | Sense of pride as a sonographer

The survey provided the following breakdown in relation to pride of sonographers in their work. Most sonographers (81% $n = 296/378$) often or always felt a sense of pride in their work with a quarter (26% $n = 88/379$) reporting they often or always felt their sense of pride had increased during COVID-19. However, 12% ($n = 46/379$) reported that they never felt as though their sense of pride in their role had increased with 24% ($n = 91/379$) answering rarely. When asked if their sense of pride had decreased, 13% ($n = 49/378$) answered often or always with 60% ($n = 228/378$) reporting never or rarely. There were significant differences seen between age groups with the trend showing an increase in age corresponding to an increased sense of pride, with lower age groups less likely to feel a sense of pride in their work ($p = 0.006$). There were no significant differences in sense of pride between sonographers working in private and public practices, however, sonographers working in the public sector were more likely to report that their sense of pride had increased during COVID and sonographers working in private departments were more likely to report that their sense of pride had decreased during COVID ($p = 0.079$).

3.4 | Working on the front line

Many sonographers felt as though they were working on the front line of health care. Thirty-seven percent of participants ($n = 141/379$) felt they were often or always working on the front line with only 8% ($n = 31/379$) reporting that they never felt like they were working on the front line. Again, the only statistically significant difference was seen between sonographers working in public and private departments ($p = 0.001$), with sonographers in public departments being twice as likely to feel they were working on the front line than those working in private departments; 61% ($n = 46/75$) of public sector

sonographers reporting often or always compared to 33% ($n = 74/224$) in the private sector. There was also a weak but significant difference ($P = 0.044$) between public and private with respect to whether people felt safe going to work, with those in private departments feeling safer than those in public departments (Table 2).

When questioned if they felt anxious about contracting COVID-19 at work, 35% ($n = 131/379$) of sonographers reported they often or always felt anxious about contracting COVID-19 at work, with 38% ($n = 144/379$) reporting they sometimes felt anxious, 20% ($n = 75/379$) rarely, and only 6% ($n = 22/379$) never. Likewise, 42% ($n = 159/379$) of sonographers often or always felt anxious about their family contracting COVID-19 due to their employment, with 34% ($n = 130/379$) sometimes, 15% ($n = 57/379$) rarely, and 6% ($n = 23/379$) never sharing this concern.

3.5 | Feelings of coping

When asked questions about how they felt they were coping during the initial stages of the COVID-19 pandemic, 41% ($n = 154/376$) of sonographers reported often or always feeling more isolated than normal. However, general wellbeing around connectedness with friends and families was good (Table 3). There were statistically significant differences between locations ($p = <0.001$), showing that those in Queensland (53% $n = 27/51$), Victoria (50% $n = 42/84$) and South Australia (42% $n = 14/33$) often or always felt more isolated than normal compared to none in Tasmania and the Northern Territory.

Most sonographers felt they had enough hobbies or self-care activities still available to them to get them through the period; 37% ($n = 141/378$) of participants responded with always, 30% ($n = 114/378$) often, 21% ($n = 81/378$) sometimes, 8% ($n = 31/378$) rarely and 2% ($n = 9/378$) never. Respondents also felt they had enough social outlets to relieve stress related issues; 24% ($n = 90/378$) always, 28% ($n = 105/378$) often, 30% ($n = 113/378$) sometimes, 15% ($n = 55/$

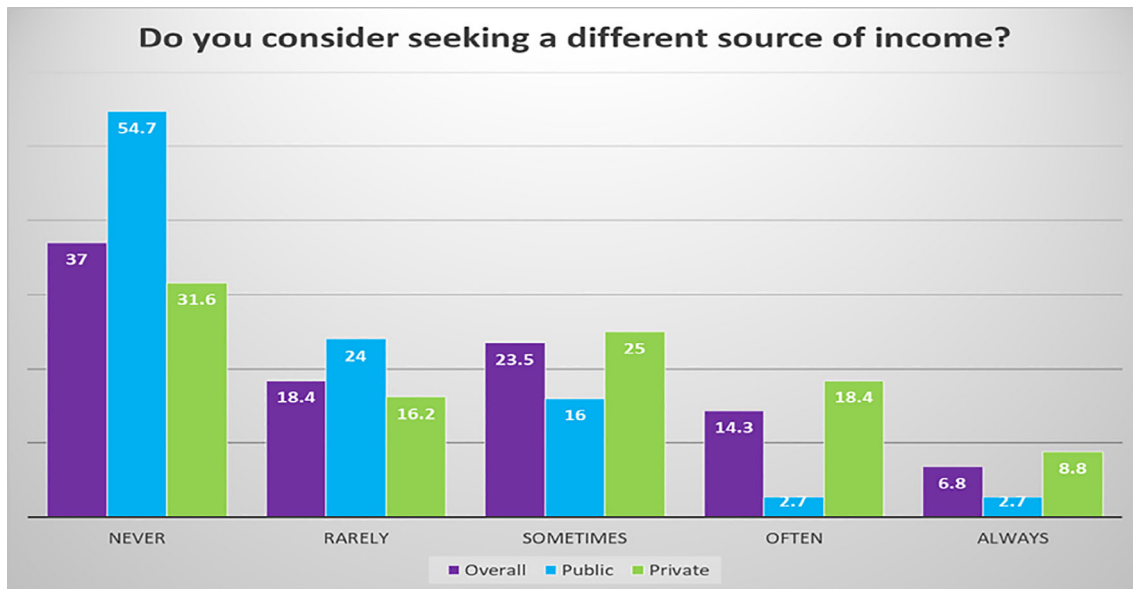


FIGURE 2 Overall, public hospital, and private practice proportions of sonographers who considered seeking a different source of income

TABLE 2 Participant responses to “Do you feel safe going to work?” (n = 303)

	Never	Rarely	Sometimes	Often	Always
Sonographers working in Public hospitals (n = 76)	2 (3%)	5(7%)	26(34%)	31(41%)	12(16%)
Sonographers working in Private practices (n = 227)	6 (3%)	37(16%)	52(23%)	88(39%)	44(19%)

TABLE 3 Responses to questions around sonographer coping

	Never	Rarely	Sometimes	Often	Always
Do you feel more isolated than normal?	8% (n = 30)	15% (n = 55)	36% (n = 133)	31% (n = 115)	11% (n = 39)
Do you feel connected with your colleagues?	1% (n = 5)	14% (n = 50)	34% (n = 126)	37% (n = 137)	14% (n = 50)
Do you feel connected with your family and friends outside of work?	2% (n = 9)	16% (n = 61)	37% (n = 139)	30% (n = 114)	14% (n = 53)

378) rarely, and 3% (n = 11/378) never. There were statistically significant differences in age groups ($p = 0.009$) with 40% of those in the 18-24-year age group, never or rarely feeling they had enough hobbies or selfcare activities to get them through. The older age groups were more likely to feel they always had enough activities to fill their time, with respondents who reported always having enough activities being: 20% for the 18-24-year age group (1/5), 24% for the 25-34-year age group (17/71), 25% for the 35-44-year age group (22/88), 45% for the 45-54 year age group (57/127), 53% for the 55-64 year age group (38/72), and 46% for the 65+ age group (6/13).

When asked if people felt they were coping with juggling work and home life 20% (n = 76/378) reported they were always coping, 37% (n = 141/378) reported they were often coping, 27% (n = 102/378) reported they were sometimes coping, 10% (n = 38/378) reporting they were rarely coping and 2% (n = 8/378) reported they were never coping. Again, there was a statistically significant difference seen between the age groups ($p = 0.021$). For those in the 18-24-year age group 60% (n = 3/5) often or always felt they were

coping with juggling work and home life compared to 50% (n = 35/70) in the 25-34-year age group, 46% (n = 40/88) in the 35-44-year age group, 67% (n = 85/126) in the 45-54 year age group 71% (n = 47/66) in the 55-64 year age group, and 58% (n = 12) in the 65 + age group.

3.6 | Overall opinions

Two open ended questions asked participants the three best and the three worst aspects of the way their workplace has dealt with the - COVID-19 pandemic. These were analysed and grouped into themes.

Six themes emerged around the three worst aspects of the way workplaces had dealt with the COVID-19 pandemic.

- staff retrenched/decreased hours/forced leave
- extra duties with no additional reimbursement
- perceived lack of concern for staff from management

- no, or lack of, PPE/education of PPE
- increased cleaning requirements with no extra time
- lack of communication.

Participants were asked to note three of the best aspects of how their workplaces had dealt with the pandemic. The themes identified from their responses included:

- good communication,
- working in teams without cross over,
- limiting the number of people in the practice/waiting room/scanning rooms,
- ready provision of PPE and hand sanitizer and staff training in these,
- departments keeping updated with government and professional body advice/good organisation and quick reactions,
- concern for staff wellbeing,
- working from home initiatives,
- introduction of patient screening,
- managers doing their best to keep people employed/equitable reduction with no preferential treatment,
- giving employees choice to work or not,
- reduced scanning times,
- increased cleaning times/good infection controls.

When asked what sonographers were worried about from an economic perspective, 33% ($n = 119/360$) were worried about the immediate impact, 40% ($n = 145/360$) were worried about the medium impact, and 60% ($n = 215/360$) were worried about the long-term impact. Please note that sonographers were able to select more than one option.

4 | DISCUSSION

This paper presents the level of professional, personal, and social wellbeing in sonographers during the early stages of the COVID-19 pandemic, with results being collected between the 11th of March and the 14th of June 2020.

Parts 1 and 2 of this series revealed that many sonographers experienced a decrease in work hours as a result of the reduced level of patient throughput across departments. Protocols also changed to accommodate the extra cleaning required, the necessity for PPE and the need to limit patient contact in an effort to reduce community transmission of COVID-19.

Seventy percent of respondents with a change of hours stated that this change was involuntary. The free text responses, however, reflected some autonomy in how work hours could be reduced, and the appreciation by sonographers for their employers for supporting their decisions around workload management. This appreciation was echoed by sonographers who acknowledged their managers who worked to retain as many jobs as possible by issuing an even spread of work hour reductions across all staff rather than favouritism of a particular few. Student sonographers were seen to suffer the largest

reductions with some losing their positions all together. Interestingly there were no statistically significant differences between student sonographers and other sonographers with respect to wellbeing during the initial stages of the COVID-19 pandemic.

Australian research reported high levels of job insecurity in the Australian population with 25% of employed people reporting high job insecurity.⁵ This was echoed within the results of this study where 25% of sonographers working in private practice felt their employment was often or always at risk. However, these numbers were lower amongst sonographers working in public hospitals at only 14%. Twenty one percent of sonographers reported that they often or always considered an alternative source of income, however there are no pre COVID-19 statistics for comparison and it is unknown if this is a result of job security changes as a result of the pandemic, or other factors.

Two thirds of Australians reported that they felt anxious or worried for the safety of themselves and close family members.⁵ With 38% of sonographers reporting that they often or always felt they were working on the front line; it is not surprising that 74% sometimes, often or always felt anxious about contracting COVID-19 themselves and 78% sometimes, often or always felt anxious about their family contracting COVID-19 due to their employment. This anxiousness is arguably reflected in the large percentage of sonographers who voluntarily reduced their work hours (70% of those who work hours were reduced did so voluntarily).

An effective approach by leaders has been shown to generate a strong image of social solidarity² and 52% of sonographers felt supported by their employers with 20% reporting they never felt supported. Interestingly, the older age groups felt more supported than the younger age groups, with those in public practice feeling more supported than those in private. Sixty four percent of sonographers felt readily informed by updates and 34% felt they always had a supportive leader to approach with queries and clarifications suggesting some work could be done to improve in these areas.

The sense of pride in some of the sonography workforce was increased during the initial stages of the COVID-19 pandemic. This was more likely to be experienced by those in the older age groups than the younger, who reported a decreased sense of pride in their role.

Only 21% of sonographers reported they were always coping with juggling work and home life, an alarmingly low statistic. However, 37% reported they were often coping and 2% reported they were never coping, which although small is still alarming. Only 46% of those in the 35-44-year age group often or always felt like they were coping with juggling work and home life and only 50% in the 25-34-year age group, corresponding to those age groups more likely to have children at home.

It is evident that sonographers are concerned from an economic perspective with 33% being worried about the immediate impact, 40% worried about the medium impact and 60% worried about the long-term aspect. Those in private practice were more likely to consider an alternate source of income and felt more like their job was at risk.

It should be noted that the comparisons made between public hospitals and private practice included within the private practice category those who worked in a public or private hospital but within a

private practice. A comparison between those working in hospitals (public or private practices within public or private hospitals) and those working in clinics has not been undertaken, presenting a limitation to this study.

Without a baseline for this data, it is difficult to determine what is a result of COVID-19 and what is longstanding. This data will be followed over time with second and third survey events, following which a more detailed analysis will be able to be conducted, and the ongoing impacts of the COVID-19 pandemic to the Australasian sonographer workforce will be better understood.

5 | CONCLUSION

The wellbeing of sonographers appears to have been affected by the COVID-19 pandemic. Without baseline figures it is difficult to say with certainty that the low numbers of sonographers who felt supported at work and the high number of sonographers concerned about the longevity of their employment or even thinking of other employment is a result of the pandemic, but longitudinal data collection will allow us to track these feelings over time. Sonographers working in public hospitals appear to have felt more secure in their employment and more supported than those in private practices. Differences were evident between age groups, with sonographers in the older age groups reporting a greater sense of pride in their jobs. On the other hand, sonographers in the younger age groups perceived a relative lack of hobbies and self-care activities. Sonographers in the child-rearing age groups felt they found it harder to cope with juggling home and work life.

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CONFLICT OF INTEREST

Jessie Childs is an editorial board member for *Sonography* and a co-author on this article. JC was blinded and not involved in the peer review process; management of the peer review process and decision-making for this article was undertaken by the Editor-in-Chief, Kerry Thoires, acting as Handling Editor.

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REFERENCES

1. Cucinotta D, Vanellie M. WHO declares COVID-19 a pandemic. *Acta Biomed.* 2020;91(1):157–160.
2. McGuire D, Cunningham J, Reynolds K, Matthews-Smith G. Beating the virus: an examination of the crisis communication approach taken by New Zealand Prime Minister Jacinda Ardern during the Covid-19 pandemic. *Hum resource Dev Int.* 2020;23(4):361–379.
3. Department of Parliamentary Services [homepage on the internet] COVID-19; a Chronology of state and territory government announcements. Parliament of Australia [cited 2021 Jan 18th]. https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp2021/Chronologies/COVID-19StateTerritoryGovernmentAnnouncements#_Toc52275794
4. Shakespeare-Finch J, Bowen-Salter H, Cashin M, et al. COVID-19: an Australian perspective. *J Loss Trauma.* 2020;25(8):662–666.
5. Devani M. Factors associated with the willingness of health care personnel to work during an influenza public health emergency; an integrative review. *Prehosp Disaster Med.* 2012;27(6):551–566.
6. Cabarkapa S, Nadjidai SE, Murgier J, Chee N. The psychological impact of COVID-19 and other viral epidemics on frontline healthcare workers and ways to address it: A rapid systematic review. *BBI Health.* 2020;8:100144–100144.
7. Biddle N, Edwards B, Gray M, Sollis P. Hardship, distress and resilience. The initial impacts of COVID-19 in Australia. Canberra. ANU Centre for Social Research and Methods, Australian National University. https://openresearch-repository.anu.edu.au/bitstream/1885/213194/1/The_initial_impacts_of_COVID_19_in_Australia_2020_4.pdf
8. Chan AO, Huak CY. Psychological impact of the 2003 severe acute respiratory syndrome outbreak on health care workers in a medium size regional general hospital in Singapore. *Occup Med (Lond).* 2004 May;54(3):190–196. <https://doi.org/10.1093/ocmed/kqh027>.
9. Nickell LA, Crighton EJ, Tracy CS, et al. Psychosocial effects of SARS on hospital staff: survey of a large tertiary care institution. *CMAJ.* 2004;170(5):793–798. <https://doi.org/10.1503/cmaj.1031077>.
10. Childs J, Lamb K, Maranna S, Osborne B, Esterman A. The initial impact of COVID-19 on Australasian sonographers Part 1: changes in scan numbers and sonographer work hours. *Sonography.* 2021; In Consideration.
11. Childs J, Maranna S, Osborne B, Lamb K, Esterman A. The initial impact of COVID-19 on Australasian Sonographers Part 2: protocol Changes. *Sonography.* 2021; In Consideration.

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