EMPIRICAL RESEARCH MIXED METHODS

Nursing/midwifery students' perceptions of caring pedagogy and online learning during the COVID-19 pandemic

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Abstract

Aim: This study aimed to gain a better understanding of nursing/midwifery students' perspectives on a pedagogy of caring and online learning during the COVID-19 pandemic. In addition, it aimed to determine if the COVID-19 pandemic impacted students' perceptions and experience of online learning and students' desire to enter the nursing/midwifery workforce.

Design: Mixed methods.

Methods: A multi-centre cross-sectional survey of Australian nursing and midwifery students was undertaken to explore students' experience of learning during the COVID-19 pandemic.

Results: There are several key findings from this study that may be relevant for the future delivery of undergraduate health education, students transitioning to practice and healthcare workforce retention. The study found that although students were somewhat satisfied with online learning during COVID-19, students reported significant issues with knowledge/skill acquisition and barriers to the learning process. The students reported feeling less prepared for practice and identified how clinical staff were unable to provide additional guidance and support due to increased workloads and stress. The textual responses of participants highlighted that connection/disconnection, empathy and engagement/disengagement had an impact on learning during COVID-19.

Conclusion: Connection, engagement and isolation were key factors that impacted nursing students' online learning experiences. In addition, graduates entering the workforce felt less prepared for entry into practice due to changes in education delivery during COVID-19 that they perceived impacted their level of clinical skills, confidence and ability to practice as new graduate nurses/midwives.

Patient or Public Contribution: Not applicable.

Impact:

- Attention must be given to the transition of new graduate nurses and midwives whose education was impacted by pandemic restrictions, to support their

professional career development and to ensure retention of future healthcare workforce.

- Connection, engagement and isolation were key factors that impacted nursing students' online learning experiences. Educators should consider how connection and engagement can be actively embedded in the online learning environment.

1 | INTRODUCTION

Nurse education has evolved continuously with significant transitions over time. Since the advent of the internet, we have witnessed the increasing availability of resources in an ever more interconnected world, with online nurse education now common in many countries and regions. More recently, nursing education has been significantly affected by the COVID-19 pandemic (Malones et al., 2023; Usher et al., 2023; WHO, 2020). COVID-19 instituted lockdowns that resulted in restrictions on travel, which prevented students and faculty from attending university campuses and interrupted students' attendance at clinical placements. In addition, there was an increased risk of sending students on placement due to the potential of exposing students to COVID-19 (Hayter & Jackson, 2020). While nursing degrees had been moving to increasing use of online delivery models, the COVID-19 pandemic increased the speed of this transition, shutting down face-to-face delivery and causing universities to pivot to purely online delivery modes, in many cases without the time to adjust pedagogy and/or learning materials.

While these changes may have been easier for some theoretical teaching and learning components of the nursing curricula, it was perhaps more challenging for teaching/practising clinical skills (Malones et al., 2023). These rapid changes impacted student experience considerably, with research reporting the physical separation from educators and the expectations of online learning leading to increased levels of anxiety, feelings of isolation, depression and decreased satisfaction with the learning experience for many university students (Gritsenko et al., 2021; Kim et al., 2021; Usher et al., 2023). For some nursing students, the change to online learning led to such upheaval many chose to withdraw from their course and not to continue with the nursing degree (Michel et al., 2021).

There are many facets to developing an online learning environment to achieve successful student learning, such as suitable online learning management systems and adequate resources to support the technology, as well as intensive upskilling of educators to manage these new approaches. Previous research has indicated that a strong educational pedagogy of caring that includes a humanistic caring presence can transcend remote online learning, limiting the impact of asynchronous learning, providing additional support during crisis, improving holistic learning, supporting student success and improving connectiveness (Jones et al., 2020; Mastel-Smith et al., 2015).

A pedagogy of caring is defined as 'intentional communication and actions designed to meet students' actual and potential needs for human connection, learning, support and respect' (Jones et al., 2020, p. 564). The provision of a caring online environment goes beyond the physical and technical resources. To achieve a caring online environment, self-care and care for others have to be overtly present by the nursing faculty to promote and generate engagement (Brown & Wilson, 2016). Jones et al. (2020) propose that faculty demonstrating caring behaviours can enhance the student experiences of online courses and suggest that these caring behaviours should be fundamental to the development of online nursing education and should begin with course design.

Previous research on the COVID-19 pandemic and nursing students with undergraduate degrees across the world has reported significant accounts of stress, anxiety and depression (Bai et al., 2021; López et al., 2022; Tambunan & Sinaga, 2023; Usher et al., 2023; Wittayapun et al., 2023), as well as fear, satisfaction and negative attitudes towards nursing (Adesuyi et al., 2023; Cernelic-Bizjak & Dolenc, 2022; Turan et al., 2021; Zengin & Uzsen 2024). As such, it is timely to explore the impact the COVID-19 pandemic has had on nursing/midwifery students' study, their satisfaction with online learning, their desire to remain in the profession, and to determine whether students perceived a caring pedagogy in their online learning experience. In this study, we aimed to gain a better understanding of nursing/midwifery students' perspectives of a pedagogy of caring and their experiences of online learning during the COVID-19 pandemic and to determine if the COVID-19 pandemic impacted students' perceptions and experiences of online learning, and students' desire to enter the nursing/midwifery workforce. The objectives of the study were:

1. To measure undergraduate nursing/midwifery student's perceptions of importance associated with faculty caring behaviours and satisfaction in online learning.
2. To determine if the changes to nursing/midwifery education and the COVID-19 pandemic influenced students' intention to continue their education and enter the nursing workforce.

2 | METHODOLOGY

2.1 | Study design, participants and site

A multi-centre cross-sectional survey of Australian nursing and midwifery students. The study was conducted between September 2022 and July 2023. Nursing and midwifery students (including first, second- and third-year students) were surveyed using an

anonymous online survey via Qualtrics. The study aimed to recruit pre-registration nursing/midwifery undergraduate students currently enrolled at multiple universities across Australia OR recently withdrawn/discontinued, OR recently graduated. Inclusion criteria: Participants were either currently enrolled or recently (within the past 18 months) enrolled in a Bachelor of Nursing/Midwifery undergraduate (pre-registration) program at a University **OR** had recently completed a Bachelor of Nursing/Midwifery program in the past 18 months. Exclusion criteria: Bachelor of Nursing/Midwifery students who completed their degree prior to 2021 or commenced after 2023, under 18 years of age, and not proficient in the English language.

2.2 | Recruitment

An invitation to participate and a link to the online survey were distributed using two methods.

1. Student learning management systems were used to run an advert to recruit participants for the study. Recruitment of students included recently completed, enrolled, withdrawn and discontinued nursing students from each participating university ($n = 11$).
2. An advert/post was shared through researcher's and university social media platforms (twitter and Facebook) to capture students who had recently withdrawn/discontinued or completed.

2.3 | Data collection

Data collection occurred from July 2022 to July 2023 through an anonymous five-part online survey hosted by Qualtrics. The first part of the survey contained a participant information sheet and informed consent to the participant. All participation was voluntary and anonymous, and all participants were informed that they could withdraw at any time. The informed consent included consent to be quoted and for publication of the data. At this point, if the participants did not consent, the survey ended.

Part two of the survey collected student demographic data including university attended, years of study, full or part-time status, age, gender, ethnicity, employment, comfort level with technology, and student's enrolment pathway (for example school leaver, mature age, Endorsed Enrolled Nurse pathway, international pathway).

Part three of the survey collected Students Perceptions of Caring Online utilizing a pre-developed survey tool by Sitzman (2010). Using a Likert scale for 24 items, the tool measures students preferred online caring behaviours (strongly agree to strongly disagree). A total scale score was calculated by summing the 24 item scores, and a previously demonstrated good reliability with a Cronbach's alpha of 0.83 (Sitzman, 2010).

Part four of the survey collected students' satisfaction with online learning through a pre-developed tool by Surahman and Sulthoni (2020) (Surahman & Sulthoni, 2020, pp. 121–2). The tool uses a Likert scale for 19 items to measure the students perceived 'satisfaction with process, self-satisfaction, satisfaction with lecture services and satisfaction with the availability of supporting technology' (strongly agree to strongly disagree). The scale has previously demonstrated high reliability with a Cronbach's alpha of 0.87 (Surahman & Sulthoni, 2020).

The final part of the survey collected data relating to student's likelihood to complete their degree and the impact of COVID-19 on their study/desire to become a nurse/midwife. A sliding scale to indicate participants' likelihood to complete the degree and become a nurse/midwife ('likelihood to complete' and 'likelihood to enter the nursing/midwife workforce- rating 0–10) and open-ended questions to explore the impact of COVID on the study and a desire to become a nurse were included (see Table 1).

2.4 | Data analysis

Descriptive statistics were undertaken using SPSS version 25 (IBM SPSS Inc., Armonk, NY, USA). Summary univariate (means, percentages, standard deviation and confidence intervals where possible) was used to describe participants demographics and Likert survey responses (means, standard deviations) and bi-variant analyses to describe the difference between participant characteristics and Likert responses. Correlation analysis using Pearson's correlation was used to assess the direction and strength of the association between participants demographics and Likert responses and subscale

TABLE 1 Open-ended questions.

	Questions
20	Has the pandemic changed your desire to become a nurse/midwife- if so, how?
21	Has the pandemic increased your anxiety in choosing nursing/midwifery as a career- if so, how?
22	Can you identify what has made it more difficult or what has helped you academically during the pandemic [2019–2021]?
23	Can you identify what has made it more difficult or what has helped to make you feel more prepared for clinical practice during the pandemic [2019–2021]?

and scale scores (*p*-value of < .05 was considered statistically significant). Textual responses to open-ended questions were analysed using a thematic analysis approach as outlined by Clarke and Braun (2017) (familiarization with data-textual responses were read and re-read, codes identified, codes grouped into themes, themes were defined and reviewed, and consensus reached between two researchers for validity). Textual responses were also quantified by allocating an ordinal numeric to codes and yes/no (yes = 2, no = 1) responses to the questions to allow for percentages to be determined. Codes were allocated numerically by theme (nursing identity = 1, health care system = 2 and Learning = 3) and codes within themes (Nursing identify – secure career = 1, adaptability = 2, caring profession = 3, culture = 4, other = 5; Health care system – work environment = 1, staff well-being = 2, patient care = 3, other = 4; Learning – connection = 1, acquisition = 2, accessibility = 3, risk = 4, other = 5).

2.5 | Ethical considerations

Approval was obtained by the University of New England's Human Research Ethics Committee (HREC) (HE-22-125) to conduct this research (August 2022–August 2023). Additional ethical approval (including reciprocal approval) was obtained from all other participating universities (*n* = 10). In addition, permission was obtained from institutes/faculties/schools to advertise the research project in student learning management systems (LMS). To avoid perceived coercion, advertisements to participate were not attached to learning material and administration staff were used for posting recruitment advertisements. The invitation to participate was not advertised or linked to any course material, and researchers involved in the study were not directly involved in advertisement for recruitment to avoid potential perceptions of coercion. A copy of the Information Sheet for participants was included on the first page of the survey. Informed consent was implied if students chose to continue to complete the survey.

3 | RESULTS

A total of 305 participants accessed part 1 of the survey and read the information sheet; 291 of these consented to participate in the survey. Of the 291, only 250 participant responses were deemed valid for inclusion in data analysis. To be deemed valid respondents were required to complete both part one and two (demographics) and commence part three of the survey. Out of the 250, 196 participants responded to the open-ended question in Part five.

The largest number of participants were enrolled at metropolitan universities (*n* = 100, 40%), with 32.4% enrolled at rural/regional universities (*n* = 81) (27.6% did not provide a location) (see Table 2). Most participants were enrolled in a Bachelor of Nursing degree (90%), commencing between 2019 and 2021 (58%) and enrolled in their 2nd year of study (46%) at the time of survey completion. Students were primarily mature age with a mean age of 32 (51%),

TABLE 2 Student demographics.

	N	%
University		
Metropolitan	100	40
Regional/Rural	84	34
No response	66	26
Year first enrolled		
Before 2019	8	3
2019–2021	144	58
After 2021	86	34
Year of program		
1st year	51	20
2nd Year	115	46
3rd year	73	29
Other	11	4
Working hours/week		
0	44	18
1–10	28	11
11–20	61	24
21–30	58	23
31+	59	24
Gender		
Female	215	86
Male	32	13
Non-Binary/other	2	1
Undergraduate degree		
Nursing	225	90
Midwifery	3	1
Dual program	5	2
Not currently enrolled	5	2
Graduated	12	5
Enrolment pathway		
Mature age	126	51
School leaver	61	24
EN	49	20
International	11	4
Status of enrolment		
Active FT	162	65
Active PT	66	26
Leave	10	4
Completed	11	4
Age (Mean 32 [SD 11.6])		
Under 20	45	18
21–25	57	23
26–30	23	9
31–35	34	14
36–40	30	12
41–45	18	7
46–50	16	6
Over 50	27	11

enrolled full-time (64.8%), female (86%) and working in paid employment for more than 21 h a week (47%) (see Table 2).

Pedagogy of caring and satisfaction: The reliability of the perceptions of caring measure ($\alpha = .90$) and the score for the satisfaction scale ($\alpha = .90$) was assessed using Cronbach's Alpha. Table 3 reports the student's perception of the importance of instructor behaviour during online learning. Seven items reported a median of 4 indicating a large majority of students believing the item to be moderately to extremely important. These items relate to the clarity and detail of instructions, clear due dates, detailed calendar, timeliness of responding to student inquiries, providing opportunities for student questions, specific individual feedback and respect for the learning process. Three items scored a median below 3 indicating that a large majority of students felt the behaviour was 'somewhat', to, 'not important', and four items were clearly identifiable as 'not important' to students (sharing of personal interest/hobbies, sharing

personal images, emails outside course page, responding during the weekend).

Table 4 reports the students' satisfaction with online learning and satisfaction with online technology support. Students endorsed satisfaction with online learning for six of the items, that compared face-to-face interaction, online experience, independent learning, technology used and flexibility. Most students reporting dissatisfaction with online learning on three items of engagement, time required for online learning and the available resources for online learning. There was no correlation between students' responses to satisfaction with online learning and perceived caring behaviours ($r = .08$ $p = .23$) and no statistical significance noted comparing student demographics to student satisfaction or caring behaviours.

The open-ended question responses in the survey expanded participants responses to the survey questions. This provided the research team with more detailed information on students' actual experience with online learning, satisfaction with learning, how

TABLE 3 Online caring–instructor behaviour.

	N	Median	Extremely important		Moderately important		Somewhat important		Not important		No response	
			N	%	N	%	N	%	N	%	N	%
Responding within 24 h	234	4	125	50	80	32	22	9	7	3	16	6
Responding weekends	235	2	31	12	53	21	71	28	80	32	15	6
Addressing student challenges	234	3	78	31	74	30	54	22	28	11	16	6
Remedies for challenges with on line learning	234	3	79	32	111	45	33	13	11	4	16	6
Belief in success	235	3	87	44	94	38	40	16	14	6	15	6
Clear instructions and due dates	235	4	184	74	41	16	8	3	2	1	15	6
Detailed calendar	235	4	171	68	48	19	15	6	1	0	15	6
Instruction on social behaviours	235	3	92	37	77	31	53	21	13	5	15	6
Instruction on online communication with students	235	4	119	48	72	29	36	14	8	3	15	6
Face-to-face meeting with students	233	3	100	40	73	29	42	17	18	7	17	7
Zoom meeting with students	233	3	101	40	80	32	38	15	14	6	17	7
Scheduled telephone availability	234	3	94	38	73	29	45	18	22	9	16	6
Email outside course page	234	3	78	31	62	25	45	18	49	20	16	6
Q&A for students questions only	233	4	130	52	74	30	22	9	7	3	17	7
Virtual office hours for chats	233	3	87	35	80	32	52	21	14	6	17	7
Personal introduction to the lecturer	233	3	67	27	82	32	54	22	30	12	17	7
Shares self/image or posts	234	1	22	9	30	12	64	26	118	47	16	6
Shares hobbies/interests	232	2	17	7	28	11	79	32	108	43	18	7
Professional experience	234	3	51	20	87	35	74	30	22	9	16	6
Praise and encouragement	234	3	64	26	67	27	79	32	24	10	16	6
Individual emails with supportive feedback	234	3	84	34	84	34	49	20	17	7	16	6
Individual specific feedback	234	4	133	53	73	29	23	9	5	2	16	6
Enthusiasm for learning	234	3	115	46	84	34	31	12	4	2	16	6
Respect for learning process	234	4	130	53	76	30	25	10	3	1	16	6

TABLE 4 Students satisfaction.

	N	Median	Strongly agreed		Agreed		Disagree		Strongly disagree		No response	
			N	%	N	%	N	%	N	%	N	%
Satisfaction with online learning												
Satisfied with online compared to face to face	249	3	43	17	114	46	70	28	22	9	1	0.4
Satisfied with online experience	248	3	45	18	115	46	72	29	16	6	2	1
Satisfied with online independent learning	249	3	73	29	132	53	34	14	10	4	1	0.4
Satisfied with online participation required	249	3	39	16	128	51	64	26	18	7	1	0.4
Satisfied with online engagement	248	2	18	7	54	22	109	44	67	27	2	1
Satisfaction with technology used in online learning	249	3	35	14	160	64	42	17	12	5	1	0.4
Satisfaction with time required for online learning	248	2	42	17	72	30	103	41	31	12	2	1
Satisfaction with available resources online	248	2	28	11	83	33	108	43	29	12	2	1
Satisfaction with flexibility of online learning	247	3	112	45	109	44	18	7	8	3	3	1
Satisfaction with technology support												
Easy to use	250	3	79	32	155	62	14	6	2	1	–	–
Solve tech issues	250	3	53	21	149	60	41	16	7	3	–	–
Access to tech support	249	3	47	19	157	63	40	16	5	2	1	0.4
Internet connection	250	3	76	30	135	54	32	13	7	3	–	–
Software support	249	3	60	24	136	54	38	15	15	6	1	0.4

COVID-19 impacted their learning journey and how students experience impacted their intention to complete their degree and enter the nursing workforce. Figure 1 represents the themes, subthemes and codes for qualitative data (textual response).

While students reported overall satisfaction with online learning, textual responses identified three key areas of learning and clinical placement impacted during the pandemic. Connection (n=32, 16.3%) and knowledge/skill acquisition (n=49, 25%) affected learning, while not being able to practice clinical skills impacted preparation for clinical placement (n=63, 32.1%).

Moving to online learning during the pandemic increased some student's isolation and made them feel less connected with staff– '*The lecturers do not contact you to see how you are going. Online students feel like they are invisible' (RP169)*. This was made worse if the student felt the teaching staff were unsupportive, lacked understanding/empathy, or were difficult to reach- '*The educators aren't very understanding or helpful especially in challenging times' (RP155)*. Some participants reported feeling isolated and alone, '*the online learning has made it more difficult, less social- cannot form relationships and so it's a very isolated experience' (MP57)*. In some cases, decreased connectedness impacted students' engagement and motivation to learn, and participants reported strategies they used to maintain their motivation.

'Initially I did struggle to adapt to online learning but I was determined not to fail at university as I dreaded going back to full-time work in the hospitality industry and so I applied myself and found ways to regularly connect with peers online. I was fortunate to make a few friends at university before the pandemic set in and restrictions came into play. We all stuck together and motivated each other to keep going. It was initially difficult to motivate myself to do the work from home as when you attend university in person you are somewhat forced to do the work' (P23).

In addition, technology issues, '*technology can be unreliable (P116)*', access to internet, '*stable internet connection sometimes makes it hard (P215)*', and increased numbers of student in the online environment increased communication issues which compounded student sense of isolation.

'Online learning can be challenging if the lecturer has poor microphone or video quality, and it is more difficult to ask questions and gain understanding as more people are in the "class" vs in an actual class it is more personal' (P26).

'While I loathed online studying and not going to the lectures (I barely watched online lectures), having less time in the labs was difficult as nursing is very much "doing" course, so I felt we got short-changed by having lab time halved' (P82).
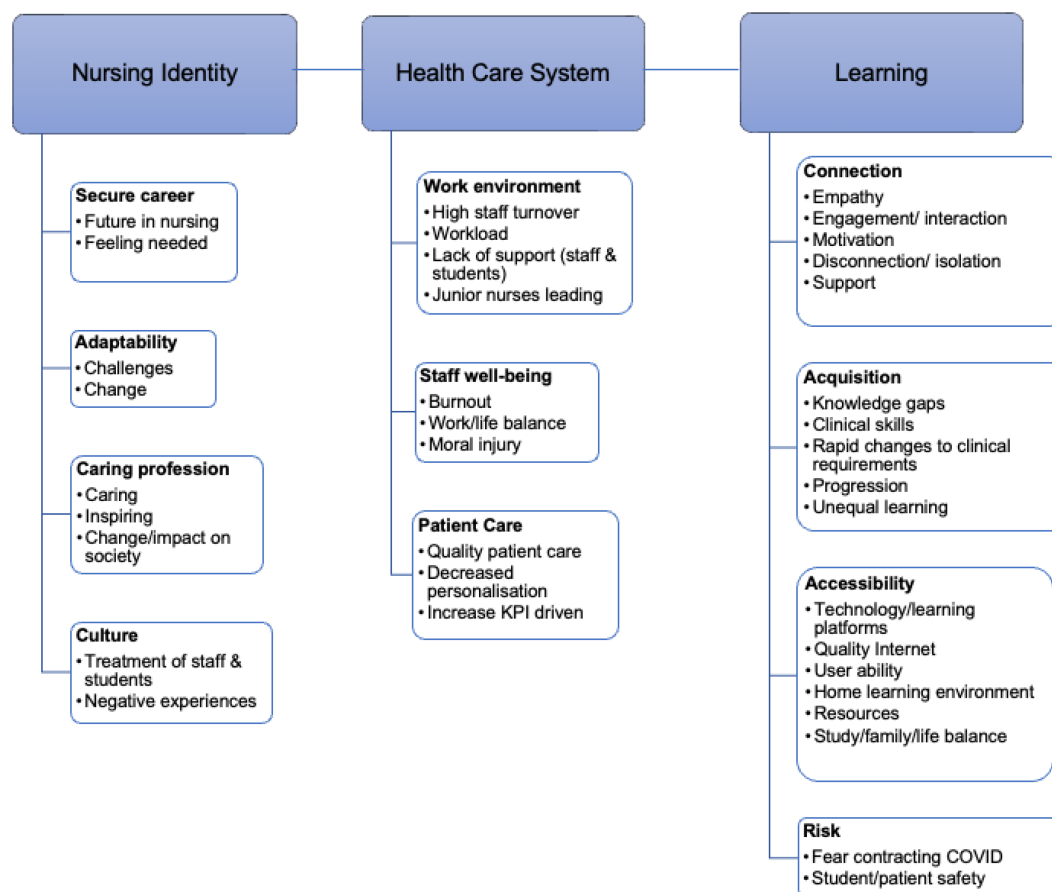
FIGURE 1 Qualitative themes.

Students recognized an inability to practice skills, lack of interactive or engagement with learning, difficult home environments for study, reduced contact with staff, larger online tutorial classes, a sense of being self-taught and constant changes due to lockdowns impacted their learning. This resulted in large gaps in knowledge, lack of foundational skills and decreased confidence in performing clinical skills.

'Online classes were not adequate, too short, not interactive enough, lots of time wasted. I found face to face classes helped me with my studies during this period, and when cut short it negatively impacted my studies and my understanding of course content' (P59).

'I feel I have not been taught the right skills to manage[in] the nursing workforce and have been rushed through the degree with many gaps' (P8).

'Online learning has made the course more difficult- I had to learn how to do basic nursing cares online and this was not acceptable as going into clinical practice I had no idea how to do these simple skills such as bed making and manual handling' (P83).

Students identified they felt more prepared for clinical placement when they were able to practice clinical skills or had experience working in the healthcare sector. Students who were unable to practice clinical skills or didn't learn the clinical skills in a face-to-face physical environment felt less prepared, anxious and stressed about upcoming clinical placements.

'Not having a lot of face-to-face time to practice skills has made placements more difficult as you don't feel very confident and nurses don't have time to teach and support you a lot' (P199).

During the beginning of the pandemic, there was not enough support for students going on their first placement. We had no practice in clinical skills which made our experience on placement more difficult' (P83).'

Several students indicated that although they couldn't practice skills prior to placement, additional resources, such as videos and interactive workshops/tutorials where they could ask questions, helped their preparedness.

'difficult having our practice lab times shorten so less time to practice clinical skills. Good thing was there

were good videos provided which I could watch 10s of times to prepare for the clinical' (P82).

Impact of COVID-19 pandemic on completion of degree and entering the workforce: Overall, most students stated they were likely to complete their undergraduate degree ($n = 192$, $M = 90$, range 0–100) and become a nurse or midwife ($n = 192$, $M = 88$, range 8–100). There was no statistical difference between overall satisfaction score, gender, or age for both likelihood measures. Despite the student's overall satisfaction with online learning and their intention to complete the degree, COVID-19 still appeared to have a negative impact on students' intention to enter the nursing workforce.

Overall, 50% ($n = 101$) of students reported the pandemic did not change their desire to become a nurse or midwife. Conversely, 27% ($n = 53$) reported a change in desire, which was related to negative experiences (86.8%). The majority of the responses were related to the health care system ($n = 48$, 24.5%) and nursing identity ($n = 48$, 24.5%). Healthcare systems were seen to have an impact on students' desire to become a nurse:

> 'I have much less interest going into the nursing workforce as a ward nurse. During the pandemic, I have seen how nurses were (and still are) not supported by the system/government but were still expected to perform' (P229).

Students perceived that nurses focus was on organizational key performance indicators (KPI's), which reduced the quality of patient care and personalization of care

> 'Overworked and understaffing plus all the new "mandatory" paperwork removes us from actually caring holistically for our pts. It's now a business enterprise designed to protect itself' (P100).

> 'Nursing [since COVID-19] is now [more] KPI driven not patient centred care based' (P188).

Students felt that nurses/midwives were trying to provide the best possible care in a 'broken system',

> 'During the pandemic, I felt like moral injury was very high amongst healthcare professionals. This is especially true for registered nurses working in the wards & critical care, in which nurse-patient ratios and contracting COVID highly impacted the care patients receive. There is a sense of hopelessness experienced… you feel like you are doing your very best but it's not enough and you end up self-doubting your abilities, even though it is primarily a systematic failure of provision of support from the government and the hospital organisation itself' (P84).

In addition, issues within the health care system effected staff well-being. Students reported an awareness of the impacts on staff well-being, including, work–life balance, burnout, exhaustion, stress, lack of support (government, staff, staff to students) and excessive workloads (patient ratios, overtime, increased pressure environment).

> 'The pandemic has seen health resources nationally increase dramatically in addition to what was already an overburdened system strongly linked to an aging population. This flowed onto nurses and midwives in terms of overtime hours required, higher patient ratios and increased workplace stress, which combined to lower morale, workplace enjoyment and conditions. Unfortunately, many nurses felt unsupported by management and the government when this occurred and the small bonus offered post the pandemic felt like hush money to keep employers quiet about the deteriorating conditions in the profession, particularly in public hospitals and regional hospitals' (P12).

Negative Identity included secure career, caring profession and the culture of nursing.

> 'I was considering studying nursing before the pandemic began. The pandemic further inspired me to enrol and start studying because I really wanted to be able to help people who were struggling both mentally and physically. I want to be in a position to make a difference to people during challenging health events and being a nurse is a primary way to do that' (P31).

Students felt there would always be jobs for nurses, which makes it a secure career decision. However, a negative culture in nursing (how staff treat one another and students) and current state of the health care system was impacting the nursing identity and students desire to become a nurse/midwife.

> 'I realised the Nursing culture is very poor. Will finish Nursing and move on to paramedicine or medicine perhaps' (P128).

> 'I think I'd rather go work at Aldi' (P246).

Students' responses indicated that 49% had no increase in anxiety ($n = 96$), while 36% reported an increase anxiety about becoming a nurse/midwife due to the pandemic. There were two key themes identified and most responses related to work environment ($n = 39$, 19.9%) and risk ($n = 25$, 12.8%). Increasing anxiety about becoming a nurse/midwife was linked to an unhealthy work environment which resulted in negative impacts on patient care, staff turnover

(junior nurses leading, decreased confidence, staff shortage), staff well-being (burn out, poor treatment staff, poor physical and mental health) and staff workload (increased policy, increased pressure, no annual leave). Students also reported a lack of support (either for them while on clinical placement or for nurses working on the ward).

> 'The number of nurses that has left the industry due to burn out and lack of support from (State retracted) Health and government in general has left me question my capability to work as a nurse in an acute area. Would I be able to physically and mentally carry out my responsibilities if another pandemic were to happen? Is it even worth the sacrifice to my physical and mental health given the lack of financial and structural support from the government in general?' (P86).

Students identified there was an increased risk of infection and infecting others while working as a nurse, which increased their anxiety.

> 'Yes, it made me realise just how much nursing is a high-risk career due to the exposure to numerous infectious diseases.' (P85).

4 | DISCUSSION

This study explored the impact the COVID-19 pandemic had on nursing/midwifery students' learning experiences during the pandemic restrictions, and if instructor caring behaviours had an impact on their learning experiences. Student intention to enter the healthcare workforce was also investigated. There are several key findings from this study that may be relevant for future delivery of undergraduate health education, students transition to practice and health care workforce retention. Our findings suggest that the rapid changes to off-campus learning led to feelings of loneliness and isolation that were exacerbated by uncaring pedagogy. Uncaring pedagogy in this context was experienced through actions such as lack of contact with academic staff, feeling as though they were invisible to academic staff, that their experiences and distress were not recognized, a lack of understanding for the situation the students' found themselves in, and a lack of support and empathy. Jones et al. (2020) previously reported the importance of educator caring behaviour in enhancing the student experience of online study. Educators who continue to deliver online learning for nursing students need to develop strategies to help students feel supported and engaged in the online environment.

Factors such as providing clarity and detail of instructions, clear due dates, detailed calendar timelines, timeliness of responding to student inquiries, providing opportunities for student questions, specific individual feedback and respect for the learning process reflected a pedagogy of caring for students. Where there was a pedagogy of caring, students were somewhat more satisfied with online learning during COVID-19 despite the significant issues with knowledge/skill acquisition and barriers to the learning process. Specifically, students reported how technology/internet issues impacted the learning experience, how disconnectedness and lack of caring pedagogy increased disengagement in the learning process, and how the inability to practice clinical skills during online learning resulted in a perceived decreased clinical readiness and confidence. In addition, the students reported feeling less prepared for practice and identified how clinical staff were unable to provide additional guidance and support due to increased workloads and stress.

Findings indicated that students were generally satisfied with the online mode of delivery, despite some clear dissatisfaction with engagement, lack of available resources and barriers to the learning process (access to quality internet and appropriate equipment, reliable online learning platforms, technological competency). These findings are supported by previous studies (Adesuyi et al., 2023; Goodwin et al., 2022; Hu et al., 2022; Irwin & Coutts, 2020), with additional barriers identified, including distractions in the home environment, mental health, pressures on financial resources (Barrot et al., 2021), the impact of the physical learning environment (Keser Aschenberger et al., 2023), screen fatigue (Hu et al., 2022), time management and competing priorities (Goodwin et al., 2022).

This study reported barriers to the learning process, including access to quality internet and appropriate equipment, reliable online learning platforms and technological competency. Previous research supports similar findings (Ligita et al., 2022; Rasheed et al., 2020). Ligita et al.'s (2022) study reported how changing to online teaching requires digital technologies, including video conferencing, online forums, multimedia programs and devices and a greater reliance on learning management systems and other platforms for synchronous and asynchronous learning (Ligita et al., 2022). Ensuring academics were skilled in using the array of contemporary digital technologies for teaching was vital to ensure quality student learning and engagement, and flexible programs for delivering high-quality materials for teaching required familiarity with technology, user-friendly infrastructure and digital interfaces for both students and staff (Ligita et al., 2022; Rasheed et al., 2020). However, support for the three stakeholders; academics, students and Universities is needed for this to be successful. Furthermore, universities need to invest in contemporary technological infrastructure and online learning platforms that are regularly upgraded to grow the opportunities for flexible online learning in the hybrid and blended context and need to employ technical expertise and instructional designers to develop and sustain the digital environment (Riess et al., 2023).

In this study, students promoted the need for connection and support to enable feeling prepared for practice and being able to connect with education providers, which, for some, was made more difficult when delivered in an online environment after experiencing face-to-face learning. Connectedness is integral to a caring pedagogy, and previous research supports these findings highlighting the impact connectedness has on learning and maintaining the mental health and well-being of students (Usher et al., 2023; Van Bewer, 2023). Connection and support for nursing/midwifery

students are among the most salient factors in retention and are related to the educational providers ability to deliver tailored services, including support strategies that meet student's social, personal and academic needs like academic writing support (Liu et al., 2023). Most universities provide academic writing support through centrally located skills academic writing advisors, who often have no content expertise, and therefore, the experience of support is not necessarily as useful for students (Christensen et al., 2019). Student satisfaction around support can lead to retention concerns, and student success and retention are complex, particularly for regional nursing students (Hamshire et al., 2017). Thus, students may benefit from support that is discipline specific.

Van Bewer's (2023) study linked connectedness with skill acquisition by focusing on the impact of COVID-19 on Indigenous nursing students. They reported 'learning losses' where students had lost the opportunity to connect critical knowledge with skills acquisition and offered evidence of a complicating factor of lack of compassion from education staff about the struggles students were experiencing. These findings are supported by the results of this current study, which highlighted there were issues with skill acquisition, and the inability to practice clinical skills decreased both readiness for practice and confidence in clinical settings. These findings support Goodwin et al.'s (2022) results, which reported an inability to practice clinical skills and limited interactivity impacted students' skill and knowledge acquisition, decreasing their confidence during the COVID-19 pandemic. The factors may impact graduates' transition to practice with the COVID-19 pandemic reportedly exacerbating the challenges graduate nurses experience as they transition to the role of a registered nurse (Bani et al., 2023; Blanco et al., 2023; Crismon et al., 2021). These challenges include a lack of support, an increased workload and a theory-to-practice gap (Matlhaba & Khunou, 2022). Graduate nurses were also placed in complex and unfamiliar situations for which they were not prepared but expected to navigate (Grande et al., 2021). This adds additional stress to graduates leading to increased levels of psychological distress (Matlhaba & Khunou, 2022), highlighting the need for additional support and resources for graduate nurses/midwives transitioning to practice. In addition, Powers et al. (2022) identified several areas of development for new graduates following the pandemic including, clinical reasoning and prioritizing care, managing multiple patients, communication and technical skills. To ensure that these graduate nurses/midwives can effectively integrate into the healthcare workforce, it is essential to provide targeted and robust support mechanisms to support quality healthcare and optimal patient outcomes. Health services' staff need to be aware of the implications of these findings. New graduates impacted by the rapid move to online learning will need additional support to help them build confidence and overcome their concerns around preparedness for practice. Additional support may include extended time with preceptors/mentors, opportunities for clinical reasoning and skill development, in conjunction with psychological support programs (Powers et al., 2022).

The results of this study raise noteworthy concerns about nursing/midwifery student's desire to remain in the profession. The findings from this study suggest that students' desire to become a nurse/midwife has both strengthened in terms of recognition of the value of the role of nurses/midwives in society but reduced by the realities and challenges of the role within the context and limitations of the healthcare system. These results are consistent with international research findings of nursing students reduced desire to enter the profession (Lin et al., 2021; Sihvola et al., 2023). In addition, the findings from this study reported increased anxiety about being a nurse/midwife, as COVID-19 had inhibited their ability to learn the core skills and increased their risk of entering the nursing profession unprepared due to COVID-19. These findings support previous research, identifying reduced quality of care and decreased job satisfaction for nurses since the pandemic (Sihvola et al., 2023; Whiteing et al., 2023) and highlighting important nursing workforce considerations for future investigation. These are important outcomes of the study that highlight important nursing workforce considerations that must be considered in the future to enhance the attractiveness of nursing as an occupation and ensure new graduates are supported when they enter the practice environment.

Implications for Practice

Connection, engagement and isolation where key factors identified by participants in this study which impacted the learning experience, which could be considered when developing and delivering online learning. In addition, support for nursing/midwifery students to develop the skills and confidence and overcome barriers posed by COVID-19 is a priority for nurse/midwifery educators. Attention must be given to the transition of graduate nurses and midwives impacted by the pandemic to support their professional career development, reduce anxiety and retain a workforce that can remain resilient to future healthcare challenges. At a systemic level, healthcare needs to be funded adequately to provide a healthy and sustainable workplace for nurses and midwives that promotes a positive environment and occupational health and safety. More broadly, the nursing and midwifery professions need to be recognized and heralded for their contribution to healthcare. Given the global shortage of nurses in the workforce (Lin et al., 2021) and identified low rates of intention to continue in nursing (Sihvola et al., 2023), training competent, confident, connected and engaged students who intend to practice and remain in the nursing/midwifery professions is imperative for healthcare worldwide.

Limitations

There are inherent limitations with this study that need to be considered therefore generalizing the findings from this study should be done with caution. Cross-sectional surveys are a snapshot of the current situation and prevent inferences between caring pedagogy and satisfaction with online learning. Due to the small sample size, only descriptive statistics were undertaken. Rapid changes due to

the impact of the COVID-19 pandemic on learning delivery, progression through degree, clinical placement and social isolation may have increased students' negative experiences and may have affected their responses to the scale questions and open-ended questions used in this survey. In addition, the pandemics' impact on face-to-face education began to ease in 2022–2023 with some universities bringing back variations of on-campus study, which may also have affected our findings. However, participants consisted mostly of 2nd and 3rd year students and newly graduated nurses who commenced study or were enrolled in a degree between 2019 and 2021; the peak of the impact of the COVID-19 pandemic on undergraduate nursing/midwifery learning delivery. Data was collected from 10 universities in Australia, which may reduce the impact of the limitations discussed.

5 | CONCLUSION

The findings from this study highlight several key findings; connection, engagement and isolation are key factors that impact nursing students online learning experiences and connections are integral to a caring pedagogy. In addition, graduates entering the workforce feel less prepared due to changes in education delivery during COVID-19 impacting their level of clinical skills, confidence and ability to practice as new graduate nurses/midwives. Supporting nursing/midwifery students to develop the skills and confidence, and overcome barriers posed by COVID-19 is a priority for nurse/midwifery educators in the clinical environment. Attention must be given to the transition of graduate nurses and midwives impacted by the pandemic to support their professional career development and to retain a workforce that can remain resilient to future healthcare challenges. More research is needed to improve online learning for nursing/midwifery students and to support their transition to practice. Additionally, educators need to strive to find ways to provide authentic learning experiences that connect and engage students in the learning process and the learning environment, especially in the absence of face-to-face learning.

AUTHOR CONTRIBUTIONS

Study design R. J., K. U., D. J. & K. R.; Ethical Approval R. J., K. U., K. R., M. F., P. C., S. M., A. M., C. W., C. M., L. L. & M. H.; Data collection R. J., M. F., P. C., S. M., A. M., C. W., C. M., L. L. & M. H.; Data Analysis R. J., K. R., M. F., K. U. & D. J.; Manuscript preparation; R. J., D. J., K. U., K. R., M. F., M. H., L. L., F. W., P. I., P. C., S. M., C. W. & N. W. All authors have met the authorship criteria and agree with the submission and content of this manuscript.

CONFLICT OF INTEREST STATEMENT

The authors declare there are no conflicts of interest.

PEER REVIEW

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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