

Higher Degree Students (HDR) during COVID-19: Disrupted Routines, Uncertain Futures, and Active Strategies of Resilience and Belonging

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ABSTRACT

The wellbeing of higher degree research (HDR) students, or postgraduate students during the COVID-19 pandemic has been of concern. In Australia, international students have queued for food parcels, while headlines report stark drops in international enrolments and the financial bottom line of universities. We undertook a pilot study using ethnographic interview methods to understand the lived experiences of current international and domestic HDR students at an Australian university in Melbourne, from June to August 2020 (n=26). In this paper, we discuss domestic and international students' experiences during the pandemic. International HDR students faced similar challenges to domestic students, but experienced further stressors as temporary migrants. We discuss their experiences in relation to resilience, understood as a relational and collective quality. We suggest that institutions develop policies and programmes to address resilience and build students' sense of belonging and connection, informed by how students cope with challenges such as COVID-19.

Keywords: COVID-19, challenges, resilience, belonging, higher degree by research students, graduate students

Prior to the global COVID pandemic, Australia was a popular destination for international students in the Western English-speaking world and the third most popular international education destination in the world – with Melbourne making up the second most popular Australian city for international students (Studies in Australia, 2020). People in the city of Melbourne endured two sustained lockdowns in 2020 with curfews and travel restrictions. People living in Victoria were only allowed outside their homes for an hour a day for exercise, for instance and within a 5 km radius with working and studying from home the norm. The impacts of the COVID-19 global pandemic on international education in Australia have largely centred the concerns of stakeholders (e.g., institutions and governments) and higher education commentators. Their focus has been on the loss of income from undergraduate international student enrolments curtailed by cross border bans and restrictions. More marginal, have been the voices of higher degree research (HDR) students (e.g., Masters by Research and PhD students) – also known as graduate students - and concerns about their wellbeing. This deficit is possibly due to two interrelated issues: the smaller numbers of international HDR students who comprise less than a third of international students, and the more immediate economic concerns that decreased numbers of full-fee paying international students pose.

To better respond to the impacts of COVID-19 for the HDR student community, we undertook a pilot study using ethnographic interview methods to understand the lived experiences of both current international (n=9) and domestic (n=17) HDR students, across all departments of a university in the Australian city of Melbourne. Data collection for this study took place from June to July 2020 which coincided with the first lockdown.

The results of the pilot study reveal that international HDR students faced similar challenges to domestic students during the first half of 2020, such as struggling to work from home, disruption of routines, and managing feelings of anxiety and vulnerability. However, the lived experiences and worries of international students start to take different paths from domestic students because of their temporary migrant status. To cope with the challenges and stresses posed by the COVID-19 global pandemic, international HDR students rely on their support networks both within and outside, which are based on their identities and experiences as international students (in the university) and national/cultural affiliations (outside the university).

In this paper, we share findings from the study and outline both domestic and international students' experiences during the pandemic. This provides a useful discussion between the two groups and we mobilize resilience as a productive framework for discussing international students' capacities for wellbeing and support. We conclude by focusing on the implications of this research for universities, HDR student support services and other stakeholders.

LITERATURE REVIEW

The challenges of the COVID-19 pandemic for international students

The lived experiences of international students - whether they are postgraduates or undergraduates in public or higher education institutions, or students undertaking Diploma courses in post-secondary colleges - have been muddled, disrupted, and continue to be in a state of flux. As the COVID-19 pandemic has progressed, students report facing heightened and new vulnerabilities as they encounter unforeseen challenges brought about by the social, economic, cultural and political uncertainties of the COVID global pandemic. Temporary migrants in Australia, including international students, have experienced xenophobia, and financial, food and housing insecurity, including the loss of financial support from both employment in Australia as well as their families in their home countries (Berg & Farbenblum, 2020). While the Australian Government encouraged temporary migrants and international students to return home in early April 2020 (Gibson & Moran, 2020), many did not or were unable to leave Australia as flights were unavailable or unaffordable, or there were restrictions on travelling to their home or transit countries due to border closures (Berg & Farbenblum, 2020). International students living in Melbourne were especially challenged as government restrictions and 'lockdown' measures extended over multiple months. While these efforts contributed to managing the pandemic, they compromised students' opportunities for work which were already limited as Australian government support packages excluded temporary migrants from accessing salary support through their employers or through welfare programs.

Identifying as international students

Although the pandemic brought new and intensified challenges, studying overseas is already a challenging endeavour for international students. Almost always physically separated from their families and in countries which are, on different levels, linguistically, culturally, socially and even politically different to what they are used to, international students often resort to creative yet practical strategies in order to cope with everyday life overseas. Moreover, international students are different from Australian residents (both citizens and permanent residents) because they are transient (Gomes, 2019). Hence their social and cultural connections and emotional and personal investment in the host nation are remarkably different from that of permanent immigrants, as are the strategies which they are required to adopt. A way in which international students adapt to their new host country environment is by identifying themselves clearly and proudly as international students - their strongest temporary identity (Gomes, 2017, 2019).

In her work on transient migrants and identity, Gomes (2017, 2018) discusses how international students in Australian and Singapore identify themselves and use their self-perceived identities to navigate and negotiate life in transience. She notes that while international students have multiple permanent (e.g., nationality) and temporary identities, these identities become dominant at different times – for

example, a Christian international student's identity as Christian becomes more pronounced when they are in church. However, for international students, their strongest and most dominant identity while overseas is that of being international students. While this is a temporary identity, being an international student is the identity which defines their existence and purpose while in the host country. Identifying as international students, for instance, allowed students to deal with perceived notions of racism and xenophobia. For example, international students in Australia dealt with these issues by telling themselves that they were 'better' than domestic students by virtue of them living and studying overseas (Gomes, 2020, p. 935). Here international students felt that they were more worldly than domestic students because they were living in a country other than their own. This was in comparison to their domestic student peers who they felt did not go anywhere by studying in Australia.

Identity, regardless of whether it represents existing identities (e.g., nationality), newly created identities (e.g., as international students) or both, is reinforced by current social networks (Eve, 2002, 2010). In their study of Chinese nationals living temporarily in Singapore, Leong and Ward (2000) observed that their respondents would 'often seek security through solidarity with in-group members' who they revealed were co-nationals rather than Singaporeans. In this and several other studies, international students surround themselves with people who strengthened their particularly dominant identities at the time (Castells, 1997; Gomes, 2015).

Social networks as support networks

International students are drawn to one another because of their status as students living in a foreign country. Most often they make friends with other international students who they have met in their courses, at formal and informal orientation activities and events when they first arrive, at their workplaces, in the places where they live, through introductions (e.g., friends of friends) and through interest groups such as church groups. International students feel that only others in similar situations would be able to understand the issues they are going through while living overseas, such as the emotional factors of being away from home and the practical issues connected with living in Australia. For example, finding suitable accommodation in terms of affordability, safety and nearness to campus or place of work, opening a bank account and convenient places to shop for groceries and essentials (Gomes, 2017, 2018). While international students still keep in touch with the friends they left behind in their home country, the international student friends they make in Australia are significant to them for that period of time while they are foreign students precisely because of their shared experiences. Sinanan and Gomes (2020, p. 687) explain that these "transient friendships" may endure while students are studying and tend to be oriented to practical, instrumental and purpose-related concerns. This does not suggest that they are not significant or emotional relationships, but that they are more likely "in the now" given their transient migrant status.

Self-perceived identities as international students lead students to forming international student parallel societies which allow them to create a sense of

belonging *in* the host nation yet not *to* the host nation (Gomes, 2017, pp. 149-179). On the one hand, this is due to disconnections international students make with local society and culture (e.g., difficulties making friends with locals such as domestic student peers) but on the other hand, is also a result of international students turning to those in the same socio-economic and occupational situation as them (Gomes, 2017). In other words, an international student who is from Indonesia will only have other Indonesian students in their social circle and not co-nationals who are *not* fellow international students.

Resilience, belonging, connection and international students

While there are wide-ranging studies that conceptualize resilience across a variety of disciplines. For example, engineering, transport, ecology, human and cultural geography, sport studies, health, psychology and child and studies (Ploner, 2017), what really is resilience? Resilience, from one perspective, is the ability of a system - whether individual, ecological, organizational, or material - to successfully recuperate from shocks (Yue, 2018). Within the intersections of education, psychology, child and youth studies, the study of resilience often focuses on the emotional, mental and social strategies children and young people use to overcome their poor or traumatizing early childhood home, family and social experiences (Ploner, 2017, p. 428). In contrast, resilience for international students is confined to academic adaptability (Ploner, 2017, p. 429), culture shock for new international students, and encouragingly, their negotiations of racism (Edwards, 2009; Shield, 2004), gender (Morales, 2008), social class (Bryom & Lightfoot, 2013), sexual orientation, mental health or disability (Anderson & Burgess, 2011). The crux that underpins these studies is that an individuals' positive emotional and psychological characteristics, such as self-confidence or problem-solving, provide the basis for resilience (Ploner, 2017).

Both belonging and connection are understood to influence or act as protective factors for students' capacity for resilience. This social approach shifts resilience from an internal or individual characteristic to a social quality or a relational capacity. For example, survey research of German international and refugee students in higher education suggests that wellbeing was compromised by social exclusion, whereas feeling a sense of belonging within a course cohort was a source of resilience (Grüttner, 2019). This mirrors research with other population groups, such as studies of medical education students, refugee children, and participants of youth adventure education, where belonging is found to enhance resilience (McKenna et al., 2016; Pieloch et al., 2016; Scarf et al., 2016). In this study, belonging and connection offer a useful framework for understanding students' experiences as well as the similarities and differences between international and domestic students during the pandemic.

METHOD

The interdisciplinary research team was commissioned by the university's graduate research office to undertake ethnographic research to explore current HDR students' experiences of belonging and connection in the context of the

COVID-19 pandemic. The individual, ethnographic interviews used in this study were chosen to develop rich understandings of the challenges facing HDR students. Ethnographic methods focus on everyday experiences, culturally-embedded practices, and especially the interconnected nature of individual lives and the ecologies and environments in which they exist (O'Reilly, 2012). Ethnography allows affective and complex descriptions by participants to provide evocative narratives rather than statistical 'big data'. Moreover, by focusing on narrative as a way that we make sense of the world, ethnography helps us to gain insights about people's motivations and meanings and how these relate to their experiences in the world. The flexibility of individual ethnographic interviews allowed the research team to engage compassionately with students to establish a dialogic supportive relationship for exploring these sometimes-difficult issues. While all interviews were conducted online due to isolation and physical distancing requirements, as they occurred in situ (their place of residence), respondents shared a great detail about their living situations and everyday lives.

We recruited through internal university channels, as well as HDR-related social media accounts and group e-mail lists and formal and informal newsletters. HDR students from the creative arts, media and social sciences were especially keen to participate, so the research team actively targeted students from science, health, business and law to increase their participation. From June to August 2020, the research team interviewed 26 participants in total for 30 to 60 minutes, using digital video platforms. Overall, 17 domestic and nine international students participated, with two studying in business and law, nine in science, health or engineering, and 15 in the arts, social sciences, media or education-related disciplines. Notably, given the closure of the university's physical campus, 10 students were completing research in laboratory or creative studio settings. International students' home countries included Argentina, Chile, China, Ecuador, Pakistan, Russia, Saudi Arabia, Turkey and Vietnam. At the time of their interviews, eight international students were in Australia, and one studying remote, offshore. We have not provided a breakdown of demographics, including gender, beyond this to maintain participants' confidentiality. All participant names in this paper are pseudonyms.

During the interviews, HDR students were asked to share their experiences of studying during the COVID-19 pandemic, as well as how they understand and experience belonging or connection in the context of their research degree. We asked participants about the resources and practices that supported their studies, how they managed to maintain or transform these during the pandemic, and what might help them to feel more connected, including digital media resources and opportunities for formal and informal social engagement, both in general and specific to the pandemic.

The video interviews were audio-recorded and professionally transcribed. As some students were concerned about maintaining their confidentiality, they were able to review their transcripts for accuracy and edit information they did not want included in the team's analyses. No participant was interviewed by a member of the research team who was their research supervisor or from their research centre or team. Following analysis of the interviews, two reports were disseminated (De

Souza et al., 2020; Richardson et al., 2020) and recommendations were developed for the university's graduate research office.

RESULTS AND DISCUSSION

Belonging and connection for HDR students varied. Most participants described both positive and challenging experiences of studying during the pandemic, which were often highly dependent upon their role/s at the university (e.g., some participants were both staff and HDR students), as well as their level of engagement with peers, supervisors and the broader university both prior and during the pandemic. In our analyses, we found two broad groups of issues pertinent to this paper: issues general to HDR students (both domestic and international) pertaining to working from home and the uncertainty of their academic futures; and issues specific to international students (e.g., being transnationally separated from family who are back in home countries with less developed healthcare systems than Australia), including their experiences and their strategies to manage their challenges. The results in this study differ with emerging ones outside Australia which specifically look at psychological stress (e.g., Browning et al.'s (2021) study of university-going students in the United States of America who, compared to the general population, experienced elevated levels of substance abuse, eating disorders, depression and anxiety).

General challenges and issues for HDR students during the pandemic

For all HDR students interviewed, studying during the pandemic was challenging. Themes discussed by students related to working from home and how this disrupted their routines and sense of community with their peers and the university, and how they understood their future as increasingly precarious and uncertain.

Working from home and disrupted routines

Finding a work/life balance – a challenge HDR students typically faced prior to the pandemic – had become stressful for HDR students while working from home (WFH). WFH issues included poor internet access, not having a dedicated space to study, increased carer responsibilities (e.g., home-schooling children), increased noise (e.g., whether due to children or housemates), and in some instances, living with fellow HDR students which made it difficult to focus on their own research or find respite from studying or discussing their progress. Those undertaking research that required specific equipment, physical access or resources were uncertain, frustrated and worried about when they could return to their on-campus laboratories or studios or on-site research fields.

Not working on campus disrupted students' routines as they lost not only time and space to work on their research but supportive structures and practices including travelling to the university, talking with other research students and switching between different tasks (e.g., talking with a supervisor over coffee, writing to a set time period in the office, talking to interviewees on the phone, conducting experiments in the lab etc). For example, Peter (domestic) echoed

what many students shared: “I think probably the hardest thing [about WFH] has been trying to find a routine of some sort, just because it gets constantly disrupted”. Similarly, Sharon (domestic) reflected on what happens without a community of practice and a routine, indicating at the beginning she was “productive in a kind of manic way” but over time began to feel “totally unproductive”.

To address these disruptions, HDR students adopted workarounds like using headphones and rotating schedules, and sometimes simulated pre-COVID-19 practices such as Andrew’s strategy:

I take myself for a little walk before I start work for the day to give myself the impression of having a commute. And I found that actually works a lot better, but having that academic environment is something that I really miss.

Alternatively, unlike most participants, Eytha (international) reflected that “the situation has some advantages” as well as disadvantages; working from home gave her more time to study as she was not travelling almost two hours each day to and from the university. However, productivity decreased for the majority of HDR students, and this has impacted on their pace of study and increased their anxiety related to their research progress milestones.

Although COVID-19 had disrupted routines, some students did stress that the timing of the pandemic and university’s lockdown was fortunate due to where they were in their research process. For some, this was an opportunity to “restore and reset”. For example, Carol (domestic) experienced “the most enormous bit of luck” as she had decided against her supervisors’ suggestion that she take a break over summer, and instead completed her data collection before restrictions were imposed. Similarly, other students described feeling fortunate or grateful that they had completed a milestone, fieldwork, experiments or art making and were preparing to write their theses just as the university closed. For some, the first weeks of university closure were restorative, allowing them to withdraw from the demands of studying to reconnect with their families, friends, pets and hobbies. This offered reprieve from both the demands of the HDR journey and the uncertainty of the pandemic.

Uncertain futures and precarious work

Many postgraduates are in precarious employment circumstances, such as casual retail and hospitality work, or casual university teaching, which have been significantly impacted by the imposition of pandemic restrictions and related cost-cutting measures. This precariousness has impacted on the wellbeing of HDR students in several ways. For some, the loss of a job or reduction in hours had resulted in heightened anxiety about their ability to support themselves and their families, such as Pam (domestic), a single parent who lost her job due to COVID-19 and was now going through her savings in order to support herself and her children while studying.

Other students felt that the university supported them as HDR students, but as casual tutors they were treated disrespectfully and with a lack of concern, such as being informed via email that contracts would be reduced or not renewed with little or no notice. Several participants also spoke of the additional hours they needed to work in care-related jobs, which meant applying for extensions or leave of absence, adding to their stress about their research progress.

Outside of the uncertainty and precariousness of immediate work situations and their economic and emotional impact, students were also concerned about their future career prospects, particularly in light of the Australian Government's changes to fees and funding in the arts and humanities. As one example, Alex (domestic) was worried about the broader challenges faced by academics and creative practitioners in precarious employment, and how this would impact her and others' studies, especially as her supervisors' workloads had significantly increased.

The effect of the pandemic on the university sector in Australia also affected students' motivation, sense of self-efficacy and their perception of the value of their contribution to society. The broader context of higher education in Australia and internationally contributed to students feeling anxious, stressed or uncertain about the relevance of their academic work and future plans. For example, Donna (international) was "extremely unmotivated" and struggling to "find positivity." She was concerned that although she was still employed as a university staff member at the time of her interview, that this would change in the future and disrupt her plans to complete her self-funded PhD research.

Specific challenges and issues for international HDR students during the pandemic

International HDR students faced similar challenges as those of domestic students, including managing feelings of vulnerability, frustration and emotional distress due to the impact of the global pandemic. However, these feelings were exacerbated by a sense of cultural isolation and lack of extended family close by. International HDR students shared with us how they faced difficulties undertaking research and writing, and described how living arrangements posed diverse challenges exacerbated by their status as HDR students *and* as temporary migrants. We share the themes that were common between these international students and acknowledge that grouping these students together may seem to homogenize their experiences. However, it was important to us that we protected their confidentiality, given the relatively small sample size, and do not individually identify their home countries. Where differences were identified between international students, these related more often to the cultures within their disciplines (e.g., student cultures within media and communication in comparison to computer science cultures).

Working from home and disrupted routines

Several international students explained they were both living and studying mostly in their bedrooms as they were in share arrangements with larger households. They explained that this situation often felt claustrophobic and was

not conducive for study. For example, Esther shared accommodation with other people in a small abode which made it difficult to concentrate on work. Migi described that she struggled to spend enough time outside, as her accommodation did not offer an outside space, and as a consequence she developed a Vitamin D deficiency.

Managing time effectively was particularly difficult for international students juggling parenting or carer duties without familial or community support. Olivia explained that she balanced her writing between caring for her children and assisting them with home schooling, in part because her extended family were not in Australia. She established a strict schedule for herself, her partner and children to ensure her research could progress. She noted that her husband cared for the children while she worked on her thesis. Describing her daily routine, she said:

I need to manage my time. I separate my time in four parts a day. First, I will wake up around 5.00am and I will be writing until 9.00am, and when my kids wake up, I need to guide them to study online until 1.00pm... After 1.00pm they can play with each other – I have two kids – and I continue with writing until 6.00pm, and then have dinner and play with kids. When they go to sleep, I spend one or two hours reading.

While these experiences are not distinct from those of many domestic students, they demonstrate the limited resources international students are able to call on when managing home-study, including the capacity to call on family or other relationships to attend to care-taking responsibilities or the flexibility that larger or less populated accommodation might offer. International students may choose accommodation based on proximity to a university campus which limits their choices, or decide to lease a share house or a home stay arrangement because of financial and social considerations (e.g., budget, walking to campus) that constrains their capacity for study (Obeng-Odoom, 2012).

Negotiating institutions in and outside Australia

For several of the international students we interviewed, their lived experiences and concerns were directly impacted by their temporary migrant status. Many were unable to tap into the same support structures as domestic students (e.g., JobKeeper, payments via employers while turnover is reduced from COVID-19 impacts, and JobSeeker, welfare payments while unemployed) primarily because of their visa status and were therefore very concerned about their immediate finances. Esther, for instance, had lost her job as a tutor and was anxious about her financial situation. She had been applying unsuccessfully for various grants from the university and from the Victorian Government specifically for international students.

Some international HDR students were still residing in their home country, either having flown home before the borders closed or were unable to make it back to Australia before entry restrictions were imposed. New international student Maria started her degree in April and had been feeling lost:

...I feel like I'm missing a lot of things, and I don't have any idea of a lot of things. This is my feeling. Although I ask my supervisor, one of my supervisors, if I ask something, he answers me straight away. But I'm feeling that I'm missing some information.

Maria explained that being newly enrolled as a remote student at the university, she had not been able to establish a strong connection to the institution or to her peers. While there were online workshops made available to her as a new student, she had not participated in most of them due to family care responsibilities and different time zones. Maria was hoping to utilize counselling support services offered by the university but struggled to navigate the phone-based system to book in and was uncertain if these services were offered at appropriate times.

As with domestic students, some international students were also concerned about the uncertainties of employment after the completion of their degrees. They reflected on the impact of COVID-19 on the higher education sector which has resulted in job losses and hiring freezes, both in Australia and beyond.

Extending care to 'home'

Most of the international HDR students who took part in this pilot study came from countries with less developed healthcare systems than Australia, and understandably were worried about the families they left behind. Maria (studying remotely) said that it "felt like a tsunami" was approaching as infection numbers and death rates in her country continued to rise. At the time of the interview, Ali's wife was expecting their first child, but she had returned to their home country in South Asia where she will be giving birth without him. Ali's wife initially accompanied him to Australia, but he was concerned for her safety and arranged for her to return home earlier in the year. Conversely, one student who shared a flat in Australia with her brother, had relatively few concerns about her own wellbeing, as the presence of in-person family support seemed to alleviate the stresses brought on by COVID-19. For some candidates like Jordan with family in other countries, there was the issue of caring from a distance:

I'm worried about them. I'm worried about if I'm even going to see them, when am I going to see them? And it stresses me out and I question more why I'm not with my family now and why I'm even doing a PhD really.

Belonging, connection and relationships

International students demonstrated resilience by proactively relying on support networks both within and outside their university. These networks, or "anchors" (Sinanan & Gomes, 2020), were often built up over the course of their study in Australia and had been integral to their identity as international students (within the university) and based on their national/cultural affiliations (outside the university). These relationships may be transient and extend to students' time as HDR students at the university but are nonetheless critical. Many students noted that they provided emotional support to their friends and peers in these different

networks. Students who frequently participated in more informal student-initiated groups spoke very positively about the experience and the way it increased their sense of belonging. Olivia, for example, said that her relationships with her peers had improved during COVID-19, as they all recognized the importance of supporting and listening to each other during this difficult time. Together, her online peer group problem-solved and helped each other with administrative milestones (such as the university's COVID-19 student support form), which she said contributed greatly to her "feeling happy" about her progress despite the challenges.

Digital media and technologies offered important ways to connect before and during studying in Australia, and this was especially critical during the pandemic. Esther explained that she participates in an informal WhatsApp group with other postgraduates across the university which she had found useful, before and during the pandemic, in helping her feel a sense of community. The nature of the support varied from intimate topics to practical information:

...[The WhatsApp group] was really probably the best initiative through all my candidature because honestly, you can ask anything, and you can always get support. People share very intimate situations like I have depression, or I have worries about my family battling...or, I don't know how to apply for a leave of absence, I'm an international student, how you do it guys? Or, do you know where I can get my project printed?

For Lucy, WeChat allowed her to connect with her parents and grandparents in her home country, particularly when they were concerned about reports of racism in Australia. She described how platforms like WeChat allowed her to reassure her family that, in her experience, "everything is good, people are friendly" and how she was familiar with this digital communication:

...it's not such a big change because we used to use WeChat to video conference and if they want to watch their grandson. So, they're just a little bit worried because they read some news about things happening here and that's the only source they can get, you know, so they try to conference with us, are you okay? Are you good?

Early social experiences in Australia often shaped students' connection and sense of belonging as they progressed through their studies. International students in this study described having sought out connection with other HDR students studying at their institution from their home country before coming to Australia. As one example of this, prior to coming to Australia, Ali proactively made friends with international students at the university who were from his hometown, so that he had a support network waiting for him. Ali shared that his supervisor had taken him out for lunch when he arrived in Australia and reflected that relationships take time and change over time:

...[feeling a sense of] belonging means a lot because I have left my country and feel a complete stranger to this culture. So, I started to explore different options and to make new friends. And that's where to

get started, with my supervisors and with other international students who come from my hometown...I got to know them and with the passage of time, of course, I wanted to extend my social circle and to get to know people from different backgrounds, from different places, from different countries and make friendships with them.

Ali also had a communal support network outside the university which he relied on. He identified that “now I'm at a stage of paying it back by extending my support and help to other people who need me or if I could be of some help.”

International students distinguished between different types of care and connection undertaken by their peers, supervisors, colleagues and the broader university system. For example, Donna was able to access support from her supervisors regarding specific research challenges, and generalized care from the university's suite of services:

I feel that the university is helping me, directly, but my supervisory team, that's more a one-to-one relationship, and you build that over the years. They have been extremely supportive of me. The school is also doing some forms of support. I use the counselling services that the university provide.

Some international students expressed a sense of belonging, not through their degree programs, but through employment at the university (primarily in teaching-related roles). Both Donna and Esther said they felt a sense of purpose and belonging as members of staff. For example, although Esther felt the university had been supportive, she was struggling with finances as she lost her job as a casual tutor at the end of first semester, with no prospect of re-employment in semester two. She also missed the sense of belonging that teaching provided and the deep connections she had to her students.

CONCLUSIONS

While some of the experiences of international students mirrored those of their domestic peers, findings from the interviews stressed the significant challenges international students experience. In response, the international students in this study both endured these challenges but more importantly described strategies of resilience that were often social and collective in nature. Practices that produced or engaged students' belonging with and to their peers, other HDR students, their supervisors, the university, and other social networks were critical in supporting students and reinforcing their capacity for resilience.

A social approach to resilience shifts from an internal characteristic to something both produced by and acting on social connections. This aligns to Grüttner's (2019) research where wellbeing is enhanced by students' sense of belonging. We can see this in how international students prepare for studying in Australia by building and relying on social networks prior to coming to the university, as well as how they “give back” to others through their academic career. At the same time, resilience was compromised by students' social

relationships and responsibilities, including how they were excluded by public social supports in Australia (e.g., government funding) or how care extended to others outside their immediate, physical environment. Institutional support that acknowledges and addresses these social relationships and responsibilities is critical for students' successful academic outcomes but also boosting their sense of belonging, and in turn, their resilience. Understanding resilience as a social, collective quality reframes international students' issues and better engages with the social, familial and community challenges they face.

We acknowledge that this study took place during the early months of the COVID-19 pandemic with results reflecting the global and personal confusion and desperation caused by this international crisis. Future research might fruitfully consider how have higher degree students – both international and domestic – adjusted to the impacts of the pandemic and how have they built resilience to the challenges of a COVID-normal era? How have institutions and governments responded to assist university students navigate through the post-pandemic era? Would the challenges documented in this study be similar or obsolete a year after COVID-19 first affected the world or have new challenges emerged because of the sustained period of time COVID-19 has been around? We suggest that other studies might productively extend the sample size of this study, particularly the number of international HDR students studying remotely, and offer a research design that incorporates multiple interviews with students over a longer period of time.

RECOMMENDATIONS

We suggest recommendations specific to the institution at the centre of this study, highlighting areas of concern within the ambit of this particular organisation. However, the recommendations listed provide areas for learning for higher education institutions not only within Australia but beyond to better support HDR students during times of crisis but also as normalized practice in the post-pandemic era.

Communication science

There is a need for clear and concise communication during the pandemic, around the processes and procedures for HDRs, supervisors and HDR coordinators. This will help HDRs feel confident that support structures and services are in place and easily accessible. For instance, international students such as Maria who are studying remotely in their home country would feel a greater sense of belonging to her peers in the institution and more confident navigating the institution's digital campus (i.e. the online academic and support offerings). Likewise, better communication would also ensure that both domestic and international students studying in the host country themselves feel a similar sense of belonging and connectivity to the institution and its broader academic and HDR community.

Co-designing curriculum options and the digital pivot for future workforces

The pandemic has impacted upon how PhDs can be conducted, and how expectations around the PhD journey need to be calibrated. Co-designing alternative options with students (i.e. hybrid PhD by publication, micro-credentials) will help empower them to reframe their PhD projects. More PhD-specific upskilling resources and conversations around work futures would enhance students' sense of efficacy and hopefulness. Both domestic and international students who worry about their futures post-graduation thus would benefit from complementary skills beyond research to increase their employability.

Transition new international HDR students by closely brokering and pairing/introducing them to both established international and domestic HDR students

This will help those unfamiliar with the institution and the host country/city transition better. This personal approach might be more effective and thus motivate students to make use of the institution's graduate research school, personal development and research workshops and webinars. This will assist with facilitating a sense of connectivity and belonging for incoming students by leveraging established HDR students' institutional and host country knowledge. At the same time, this pairing of incoming and established HDR students allows the latter to feel a sense of purpose by assisting newer students with their transition to the institutional environment and, for international students, the broader host country setting. This approach may allow students to role model resilience and strategies for navigating uncertainty and addressing challenges such as managing time and stress.

Higher Degree Research Futures

The pandemic has radically transformed the present and future of postgraduate degrees. This challenge presents an opportunity for reinventing postgraduate degrees for future workforces focused on agility, creative and strategic thinking for not only the institution this research was based at but higher education institutions in general:

Supervision reimaged through digital media

Reimagining supervision as virtual where supervisors and HDR students are both able to communicate and exchange ideas despite lack of face-to-face interactions might become a reality. This would allow international students unable to cross transnational borders during a global crisis, for instance, to still have access to education. How might the digital be used in creative and innovative ways beyond Teams and Zoom? How could mobile media apps in Augmented Reality (AR) be deployed to create critical pedagogy and enhance belonging? Currently digital media provide connection but not belonging.

- *Partner institution (international HDR students)*: In the case of international students, the institution might rethink collaborations with other partner institutions where practice-based research can be taken

remotely under the guidance of supervisors based at the institution. Additionally, the institution might also consider extending relationships with current offshore partner education providers to include the use of their facilities.

- *Joint supervision with partner institutions (international HDR students):* Joint supervision with supervisors in partner institutions overseas might be a consideration for international HDR students who are unable to go to host countries.

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