

Experiences of Diversity, Inclusion, and Belonging among Postgraduate Health Sciences Research Students at an Australian University: A Qualitative Study

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Abstract

Postgraduate research students have poorer mental health than the general community. Improving their experiences of diversity, inclusion, and belonging at university may bolster their overall wellbeing and reduce poor mental health outcomes. The aim was to explore postgraduate research students' views on diversity, inclusion, and belonging, to understand how these experiences impact their mental health and wellbeing, and to identify ways to improve their experiences. Thirty-one postgraduate research students (aged 24-68 years, $M = 35.78$ years, $SD = 10.38$; 69% female), enrolled in health sciences degrees at a research-intensive Australian university, completed either an online qualitative survey or participated in a focus group. Content analysis was undertaken to identify core themes. The three main content areas included: diversity (promoting diversity, staff and student training), inclusion (support from supervisors and peers, support in the perinatal period) and belonging (social isolation, suggestions to improve a sense of belonging). Most participants had not received training in diversity, inclusion and belonging, and identified this as an important area of need. Strategies to reduce isolation may potentially improve students experience of inclusion and belonging.

Keywords: qualitative, student, diversity, inclusion, belonging, postgraduate research

1. Introduction

Understanding higher degree by research students experiences of diversity, inclusion and belonging is important to inform strategies to improve their well-being. In Australia, while postgraduate research enrolments have remained relatively stable for domestic students, they have increased by 6.2% for international students (Universities Australia, 2022) While these trends point to increases in student diversity, concerns about student experience of inclusion and belonging have been documented, particularly in relation to student mental health and wellbeing (Ryan, Baik, & Larcombe, 2022).

Postgraduate research students tend to have poorer mental health outcomes compared to the general population. A meta-analysis found that Doctor of Philosophy (PhD) students had significantly higher stress compared to population norms (Hazell, Chapman, Valeix, Roberts, Niven, & Berry, 2020). Other studies have identified that

significant proportions of PhD students are experiencing poor wellbeing, are at risk of developing a mental health disorder, or are currently experiencing a mental health disorder (Byrom, Dinu, Kirkman, & Hughes, 2022; Evans, Bira, Gastelum, Weiss, & Vanderford, 2018; Levecque, Anseel, De Beuckelaer, Van der Heyden, & Gisle, 2017). Universities and educators should prioritise understanding issues including diversity, inclusion and belonging which may inform points of intervention to prevent and reduce psychological distress for postgraduate students.

In understanding risk and protective factors of psychological distress and poor mental health, evidence suggests that experiences of belonging may be important. For example, post-doctoral nursing students experience of an isolating program increased their intent to leave (Volkert, Candela, & Bernacki, 2018). In contrast, a sense of belonging was a key protective factor for students' mental health and wellbeing (Hazell et al., 2020). Sense of belonging occurs on a continuum from low (isolation) to high (strong social support) (Gable & Bedrov, 2022). Understanding students' experiences of their sense of belonging in the university environment may clarify potential points of intervention for universities to target.

Diversity and inclusion may also be relevant to understanding factors that may influence postgraduate research student wellbeing. For example, higher education students who identify as non-majority, including minorities of race/ethnicity, sexuality or sexual identity, and ability, have been reported to be at greater risk of feeling isolated (Taff & Clifton, 2022). Evidence from other settings suggest that increased diversity improves experiences of inclusion. For example, in the workplace, including academia, diversity has many beneficial impacts on experiences of inclusion (Kamerlin, 2020). However, diversity is insufficient to ensure inclusion (Tienda, 2013). As Tienda (2013) argued, diversity is a necessary prerequisite for inclusion, but "integration must be deliberately cultivated" (p.470). Therefore, understanding students' perceptions on diversity and inclusion could point to where that integration is lacking and potential targets for intervention by universities in the future to improve student wellbeing.

Many universities in the last decade have been actively seeking methods to improve the well-being of higher degree by research students (e.g., Hargreaves, deWilde, Juniper, & Walso, 2017; Mackie & Bates, 2019). The drive to improve student well-being is based on an understanding of the well-documented association between higher degree by research studies and increased anxiety, depression, and burnout (e.g., Barreira, Basilico, & Bolotonyy, 2018; Levecque et al., 2017). In an attempt to understand higher degree by research students' well-being, Ryan et al. (2022) conducted a study of 595 students enrolled at a research-intensive Australian university. The aim was to identify through a survey potential areas that could be targeted by the university to improve student well-being through an open-ended survey which was analysed with thematic analysis. Several themes were identified that relate to diversity, inclusion, and belonging, including fostering culture and community, integrated support services, increased supervision training, and more opportunities to engage and network with peers. The authors concluded that higher degree by research students "indicated that they looked to each group [community, supervisors and peers] for distinct experiences: a sense of inclusion and belonging from the research community, care and empathy from supervisors, and social support and stress relief from peers" (p. 877). It is not clear from previous research to what degree other experiences of diversity, inclusion, and belonging (e.g., related to gender identity, or culture), may interact with higher degree by research students' wellbeing and mental health. Further research is required to understand the views of higher degree by research students in universities experiences of diversity, inclusion, and belonging and their recommendations of how to improve these areas. This is important as one strategy that may help universities to understand how to foster a culture and specific methods to target to improve well-being of postgraduate research students.

The aim of the study was to identify the views of postgraduate research students regarding diversity, inclusion, and belonging, and provide recommendations to university management about how to improve students' experiences. The following research questions were explored: 1) What do postgraduate research students understand about diversity, inclusion, and belonging in academia? 2) To what extent are postgraduate research students given instruction, information, and training in diversity, inclusion, and belonging in their research? 3) How supported do postgraduate research students from diverse backgrounds feel by the university? and 4) What areas were identified for improvement in creating a culture that promotes support for diversity, inclusion, and belonging for postgraduate research students?

2. Method

The study was a qualitative study using convenience sampling. This was a qualitative investigation into experiences of diversity, inclusion, and belonging among students enrolled at Curtin University, Australia in 2023. The research was approved by the Curtin University Human Research Ethics Committee (HRE-2023-0310). Students were recruited through an online flyer distributed via the student guild, coordinators of higher degree by

research studies in each of the schools within the Faculty of Health Sciences (Population Health including areas such as psychology and public health; Nursing; Allied Health; and the Medical School), and via word-of-mouth recruitment from supervisors and a co-author who is a recently completed PhD student.

2.1 Participants

There were 38 postgraduate research students in Health Sciences at Curtin University who started an online survey expressing their interest in completing either an open-ended online survey or a focus group on diversity, inclusion, and belonging. However, seven had incomplete registration forms and did not contribute data. Curtin Health Innovation Research Institute (CHIRI) and enAble Institute, are research institutes within Curtin University. This research project was developed by a joint working party of the two institutes with the purpose of informing understanding of student experiences to improve their wellbeing. The flyer contained a QR code for the person to scan if they wished to participate, which linked to an online information and consent form completed prior to participation. Prospective recruits also had the option to email their interest in the study to receive further information, including participant information and consent form via an email to a research assistant.

Data for the online survey was collected from June to August 2023 via Qualtrics. After providing informed consent, participants were asked a series of demographic questions and whether they were interested in participating in a focus group. If participants selected 'yes' the survey ended and they were directed to contact the research assistant to participate in a focus group. If participants selected 'no' they were directed to answer the open-ended survey questions (see Table 1).

Table 1. Questions asked to understand experiences of diversity, inclusion and belonging

1. What is your understanding of diversity, inclusion and belonging in academia?
2. What does diversity, inclusion and belonging mean to you as a higher degree by research student?
3. Can you describe any examples of training or information you have received about diversity, inclusion and belonging as a higher degree by research student?
4. Can you describe what a typical HDR student looks like to you?
5. Can you think back to a time when you felt supported (or not) as a higher degree by research student and describe the experience?
6. What do you think influences how supported higher degree by research students from diverse backgrounds feel?
7. What challenges might a higher degree by research student from a diverse background face?
8. What are your specific recommendations for how your research institute (Curtin Health Innovation Research Institute/enAble Institute) could improve diversity, inclusion and belonging experiences?
9. Practically, what would you like Curtin University to do differently, or new strategies to implement?
10. What are some key factors or challenges that need to be considered in creating a culture that promotes support for diversity, inclusion and belonging for higher degree by research students?
11. How do you see the future of diversity, inclusion and belonging for higher degree by research students at Curtin University?
12. What is your 'top tip' to improve diversity, inclusion and belonging for higher degree by research students at Curtin University?

*Note. Question numbers 3, 5, 7, 9 and 12 were presented in an online survey, all 12 questions were asked in the online focus group, and only question number 5 was asked in the face-to-face focus group.

One focus group was held online via MS Teams, and the second face-to-face focus group was held on the university campus. The groups were facilitated by co-authors, who included one who was a casual research assistant on this project who is a current PhD student at Curtin University, a PhD student at Curtin University, and another co-author who is a postdoctoral researcher who recently completed a PhD. Both focus groups were conducted within a two-week period in June and July 2023, and lasted for approximately one hour. Participants were required to sign a consent form to participate in the focus groups. The focus groups were audio-recorded, and then transcribed into a de-identified transcript which was stored securely on the Curtin University research drive.

2.2 Measures

Questions asked of participants in the online survey and through a semi-structured interview during the focus groups (Table 1) were aimed at understanding their experiences of diversity, inclusion, and belonging as a higher degree by research student. Feedback was sought on the draft of questions from a small group of current Curtin University health sciences higher degree by research students and the questions were refined based on their feedback, before being used in the study.

2.3 Data Analysis

We used conventional content analysis to analyse findings from the focus groups and online questions (Hsieh & Shannon, 2005). The content analysis was conducted jointly by co-authors Egan and Colledge-Frisby. To engage in reflexivity (Berger, 2015), because the data analysis could be influenced by the prior knowledge and experiences (Denzin & Lincoln, 2008) of these co-authors as staff members of Curtin University we reflected on our positionality in the research. Colledge-Frisby is an early career research staff member at Curtin University and cisgender woman. Egan is a cisgender woman who is a senior researcher at Curtin University and has supervised numerous PhD students at the university.

3. Results

The final sample consisted of 31 higher degree by research students in health sciences (24-68 years, $M = 35.78$ years, $SD = 10.38$; 69% female), representing 7% of the 443 enrolled and eligible students. Of these, 20 participated in the short answer survey questions and 11 participated in either an online ($n = 5$), or a face-to-face focus group at Curtin University ($n = 6$). There were missing data on all demographic variables except gender, where 69% stated they were women, 31% men, and none of the participants did not identify with a gender, or considered themselves non-binary. Of the participants that answered the remaining demographic variables, most were domestic students (i.e., Australian citizens; 83%), with 4% stating they were international students. However, it should be noted that there were at least five students who attended the face to face and online focus groups who talked about their experiences as international students. There were similar numbers of students who identified English as their first language (50%), and for those whom English was a second language (47%). Most participants were of a European cultural background (43%), other cultural backgrounds included Asian (24%) and African (15%). Finally, 13% identified as a member of the LGBTQIA+ community.

As seen in Table 2, content analysis of the focus group data and survey responses identified overall content areas relating to diversity (promoting diversity, staff and student training), inclusion (support from supervisors and peers, support in the perinatal period), and belonging (social isolation and suggestions to improve a sense of belonging). There was overlap between these areas with frequent discussion of diversity, inclusion and belonging across each area represented in Table 2.

Table 2. Summary of content areas of students' experiences of diversity, inclusion and belonging

Diversity	Promoting diversity Staff and student training
Inclusion	Support from supervisors and peers Support in the perinatal period
Belonging	Social isolation Suggestions to improve a sense of belonging

3.1 Diversity

Overall, students reported many positive experiences with diversity as a postgraduate research student, but also noted a need for further training specifically around cultural awareness. There were also some participants who described areas where they thought experiences of diversity could be improved by the university. The needs of international students understanding of local cultural norms and expectations was one example of an area mentioned by students as a potential target to improve their experience.

3.1.1 Promoting Diversity

Students made several suggestions for system-level change to improve diversity and inclusion. Several participants agreed that the university should make efforts to increase staff diversity:

"I think ensuring there are people from diverse backgrounds in the faculty helps, particularly if they are seen to be welcomed and appreciated for themselves".

Participants described a “lack of understanding” from staff about the needs of international students. This related to “different cultures. Financial challenges if you are an international student. Less opportunities at university due to different cultural understandings.” Others extended this lack of understanding to unique circumstances, such as: “international students might have more financial struggles as they have more time pressure to complete their PhD”.

One participant suggested providing international students with training:

“Curtin University can help to have introductory courses in just basic social etiquette and language for international students so that we can know what’s expected and what’s not, and it’s not interpreted that we’re trying to defy or be rude”.

Other suggestions for improving diversity were to “schedule a once per month international cuisine night of foods from across the globe” and “Celebrating all New Years for all cultures that exist at Curtin University.”

3.1.2 Staff and Student Training

A specific area that was discussed by many participants relating to diversity was regarding whether they had received training specifically in diversity, inclusion, and belonging. Of the 20 students who responded to the question about training or information they may have received about diversity, inclusion, and belonging, only 20% reported receiving specific training and the remainder had not. Examples of training included cultural understanding of Aboriginal and Torres Strait Islander peoples of Australia and one participant had engaged in training for gender and sexual diversity. However, this training was offered to them as a staff member rather than as a higher degree by research student. Most focus group participants said they had received no training in this area and that the onus was on them to seek this information:

“I don't recall any training or anything of that sort ... for the lack of a better word, the burden of advocacy was a lot on my part to sort of seek out any resources or information.”

One area that was discussed by several participants, in particular international students, was relating to a need to improve understand of cultural diversity. To improve their experience of diversity, inclusion, and belonging, some international students recommended that training should be provided to them in terms of cultural expectations in Australia, for example:

“... it was very shocking to me to see that it's mostly you got to go figure this out kind of situation as well as an international student coming into a new culture. You're also ill prepared to face that culture, so coming here, language, values, communication, everything is different... I'm always worried about saying the wrong thing.”

Several participants also suggested that training should be provided for leadership and academic staff at the university. Responses suggested that cultural training should be offered across a range of cultural backgrounds, in addition to training in understanding Aboriginal and Torres Strait Islander culture. One participant suggested:

“Make supervisors more responsible for GEDI [gender equity diversity and inclusion], provide compulsory training.”

3.2 Inclusion

3.2.1 Support from Supervisors and Peers

Participants reported their experiences of support, or lack of support, from supervisors and other students as critical in a sense of inclusion at university. Many participants reported positive experiences of a sense of belonging and support, particularly from supervisors. For example, two participants noted positive experiences:

“Compared to other universities, I think Curtin values diversity and inclusion and I felt very supported till this day. My supervisors and Curtin staff/students are welcoming.”

“Everyone from my direct supervisors to other people I have had contact with on the phone at Curtin University or communicate with via e-mail, have always made me feel well supported. I always get the impression that the people involved in the higher degree by research programmes at Curtin understand that it's difficult and it's isolating and it's there's a lot of unknowns for the students, so everybody always communicates in a really nice, supportive way.”

A minority of people interviewed shared contrasting negative experiences of support, stating *“I don't think I have ever felt like that [supported] by the uni, only from other higher degree by research friends”*. Although, some felt their supervisory team was supportive but the broader university support systems were insufficient, leaving them isolated:

“I had excellent supervisors, but in terms of the wider Curtin University and even the [student] Guild or other

people, it was like I was all by myself. I didn't get emails. I didn't get check-ins. There were no special programmes. It was just you're out there and figure it out on your own type of thing."

"I was trying to wrack my brain as to what other types of support we have [apart from supervisors] and I can't really think of any".

3.2.2 Support in the Perinatal Period

An interesting area of discussion by several participants relating to the area of inclusion was their experiences as a higher degree by research student during the perinatal period. There were conflicting experiences about support received for students managing parental leave, with concern that this would impact diversity of students. Someone described being "... constantly supported by my supervisors completing my PhD while raising three young children. As well as my chairperson when I needed maternity leave". In contrast, other participants described insufficient support during the perinatal period:

"While on the RTP [research training program] scholarship I have birthed two children. Due to being a fulltime student I was unable to access government PPL [paid parental leave]; RTP mat[ernity] leave is short and only one period of leave provided. On campus there is no space provided for breastfeeding mothers, meaning I had to pump in open plan offices or in a toilet."

Similarly on the topic of a lack of support for women who are higher degree by research students in the perinatal period, another respondent said:

"[when returning from parental leave] you might go part-time because you're looking after a child and ... when you're on a part-time stipend, [it] will be taxed. As opposed to when you do it full-time and it's not taxed. So it seems like an oversight within the ATO [Australian Taxation Office] that has just not been considered...and then it's not covering childcare, so it's meaning that a lot of my friends are having to take on extra paid work in order to, you know, just make ends ... this disproportionately affects PhD students, in particular women who are having babies."

One participant suggested that "spaces and support provided for mothers of young children" may improve inclusivity of students with children. In summary, a particular area of need identified by several participants to improve inclusion was improving experiences during the perinatal period as a higher degree by research student.

3.3 Belonging

Participants largely spoke about their experiences of a sense of social isolation as a higher degree by research student and discussed ways to improve a sense of belonging to decrease isolation.

3.3.1 Social Isolation

A common experience described was that of isolation which impeded a sense of belonging. For example, one student described about completing their research project:

"It definitely feels like you are just sort of out off in the wilderness doing your own thing."

Students suggested that reaching out to their supervisory team helped alleviate feelings of isolation:

"I said [to my supervisors] 'I'm really feeling like I'm getting depressed because I feel very isolated' ... and they actually went and talked to people who they felt ... had similar backgrounds or were international students and arranged that group meeting so that I could talk to people. And it was so sweet and considerate. And that helped."

Students described their peer groups are a source of support to manage isolation, although this was not available to everyone:

"I've been very much by myself with this. I work full-time, so I'm a part-time student and I don't have any lab groups or other people specifically related to the topic area I'm studying".

Some international students noted the difficulty of COVID-19 related border closures and being unable to return to study on campus, which adversely impacted their mental health, describing:

"I had excellent level supervisors, but in terms of the wider university and even the guild or other people, it was like I was all by myself. It was very depressing. It was very isolating. It was very devaluing, and I'm really upset about it, to be honest. But I am grateful for the supervisors I had who were with me every step of the way. But there needed to be more active consideration of people who were stranded aboard [by the university]."

3.3.2 Suggestions to Improve a Sense of Belonging

Some students made suggestions to improve student experience of belonging, and reduce isolation. These included to "increase opportunities for social belonging by holding social events" and "provision of more networking

opportunities/social events - having a time dedicated to getting to know others rather than relying on incidental communication opportunities can be helpful for building a social support network.”

Other suggestions included spaces on campus to improve higher degree by research students’ sense of community and collaboration:

“Create opportunities for collaboration with fellow students. Having groups and spaces where people can get together, particularly for those just starting their HDR studies as this is the time when you find people similar to you who are going through the same thing, as you go along the different projects become more diverse and you have less in common but if you formed connections at the start you’d have a group you could remain in contact with and check in.”

4. Discussion

The aim of this study was to understand higher degree by research student experiences of diversity, inclusion, and belonging. Students commonly described social isolation as a major barrier to belonging during their candidature and that this contributed to their poor mental health. While students with parenting responsibilities had varied experiences, some believed that the research program was not conducive to their needs during the perinatal period. Overall, students felt supported by their supervisory teams and peers; however, this was not always available to people. Recommendations for improving diversity, inclusion, and belonging included: cultural, and other diversity, training for staff and students; improve diversity among staff, and for the university to create opportunities for students to meet and collaborate.

Isolation was one of the most prominent topics discussed across the focus groups and survey responses. As with the general Australian population during the COVID-19 pandemic (Egan, McEvoy, Wade, Ure, Johnson, Gill, Greene, Wilker, Anderson, Mazzucchelli, Brown, & Shafran, 2021), some students described remote learning as adversely impacting their mental health, particularly international students. While remote learning has made it easier for students to enrol and participate in university degrees (Wojciechowski & Palmer, 2005), it is important to foster a sense of belonging and community for individuals during their research programs. While “zoom fatigue” and other elements of a remote learning environment might impact the experience of students (Zamora, August, Fossee, & Anderson, 2023), it is increasingly important to adapt current programs to improve engagement for students online. Creating university policies that ensure higher degree by research students are engaging with their peers through online check-in groups, or by connecting students who are geographically close to one another, may help foster belonging for international and remote students (Zamora et al., 2023).

Most students identified a lack of administrative, peer, or supervisory support as their primary source of isolation during their candidature. Administrative support appeared to be lacking for some parents and people with other caring responsibilities. Providing flexible enrolment arrangements for students on parental leave, or who have returned to study after parental leave, and offering spaces for breastfeeding and childcare, may improve inclusion for parents. Critically this lack of support and feelings of isolation contributed to experience of poor mental health. While supervisor training is compulsory, the inconsistency in experience we identified may indicate that the training is insufficient to ensure all students are supported, or that it needs to be broadened to cover more nuanced circumstances (e.g., for international students). However, the majority of students reported that they felt very supported, so targeting the students without this experience will be important.

There is a need to connect current students to existing resources. Some of the suggested recommendations on how to improve diversity, inclusion and belonging are currently offered at Curtin University. This indicates that there is a disconnect between the services available to the students and their awareness of them. Future work might focus on how best to bring these resources to the students that need them most.

Finally, a major discussion point was the offering of staff and student training to improve understanding of diverse backgrounds. Only a minority of students had participated in any training related to this topic, and primarily this related to Aboriginal cultural awareness. Like other Australian universities, Curtin University has a large and increasing contingent of international students (Universities Australia, 2022). Providing opportunities for growth and learning in cultural diversity for staff and students is required to develop the necessary skills to build and maintain supportive relationships within the university. The ability to build respectful and supportive relationships with peers and supervisors may improve sense of belonging for international and minority students (Due, Zambrano, Churs-Hansen, Turnbull, & Wiess, 2015).

5. Limitations

There were several limitations of our study. First, although it is not a goal of qualitative research to generalise, it may be useful for future research to examine higher degree by research students across other areas of study beyond

health sciences, to examine if there is a difference in views in other study areas. Further, our results are within the context of an Australian university, and some responses were related to the unusual conditions of border closures during the COVID-19 pandemic. Therefore, some results may be relevant to experiences during this unique time. The sampling for this study was not targeted, so participants may not have been varied in terms of sexuality, socioeconomic status, gender identity, and other diverse factors that may have enriched the experiences described.

6. Conclusion

While most students felt generally positive about their experience of diversity, inclusion, and belonging at university, we identified that social isolation and cultural awareness could be targeted to improve experience in this area. Certain sub-groups, namely parents and international students, identified unique circumstances that indicates more support and resourcing was required to improve their inclusion and sense of belonging. Similar to the literature, we recommend that universities implement processes to identify higher degree by research students who do not have adequate support, and ensure that existing resources are promoted and accessible to students who may benefit from them (Levecque et al., 2017; Mackie & Bates, 2019; Ryan et al., 2022). Further research is required to address ways to improve higher degree by research students experiences of diversity, inclusion, and belonging to determine whether this can improve their mental health and well-being.

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Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Obtained.

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The data that support the findings of this study are available from the corresponding author upon reasonable request and subject to Institutional approvals.

Data sharing statement

No additional data are available.

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