HDR Candidate Experience Survey Report

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Contents

Executive summary

This report summarises the results of a project investigating the experience of current Higher Degree by Research (HDR) candidates at JCU. The need for this project arose from considering the results of the 2019 and 2020 Postgraduate Research Experience Questionnaire (PREQ), which is part of the Graduate Outcomes Survey (GOS).

Survey data were collected from current JCU HDR candidates (n=289) based on the PREQ instrument and findings, providing insight into the contemporary experience of the HDR program. Interview data were also collected (n=15) to further unpack the survey results and provide a more nuanced picture of current needs of HDR candidates.

These data were used to inform recommendations for experience improvement strategies for current and future candidates.

Overview: survey results

In response to the statement, "*Overall, I am satisfied with the quality of my higher degree research experience thus far*", 73% of the candidates answered *Agree* or *Strongly agree*. When we asked why the candidates rated their overall experience this way, "supervision" and "support" were the most frequently mentioned ideas; the candidates' experience of supervision and support heavily influence how they see their overall experience.

Most candidates were very pleased with the supervision they have received. In response to both supervision items, 83% of candidates were satisfied, with far more candidates responding *Strongly agree* than *Agree*. Most of the improvements to supervision the candidates suggested are related to increasing advisor capacity to invest time in the candidate.

Satisfaction with learning community was lower (54%) among HDR candidates than satisfaction with other aspects of the HDR experience. Also, more candidates agreed that they felt part of a community with their HDR peers than feeling part of their department's broader community. Female, external and domestic candidates were significantly less satisfied with their experience of learning community than male, internal and international candidates respectively.

When asked about their opportunities for skills development and training, 76% of candidates were satisfied with their training opportunities overall, 75% felt better prepared as a researcher, but fewer (60%) felt better prepared for their career. The most common suggestions for improving skills development opportunities were specific training opportunities from which the candidate would benefit, especially training around careers and employability. The same gap in candidates' understanding of their employability outside the university sector is reflected in the responses to questions about industry engagement opportunities.

Difficulty seeking and receiving information about candidature (and admin processes associated with candidature) was an issue made evident across several sections of the survey. Some candidates mentioned these things explicitly, while others implied them through responses that showed incorrect expectations or beliefs about what is available to them as HDR candidates.

College specific survey results

The survey results indicated variation between colleges in the level of satisfaction of their candidates for each of the questions in the survey. The level of overall satisfaction for each college ranged from 88% to 63%.   Colleges have been provided with the detailed college comparative data and their college survey results where the number of responses exceeded 10.

Overview: interview results

The areas "support" and "learning community" were investigated further via candidate interviews.

Despite their diverse experiences, the interviewees had the following shared understandings or experiences of "support" in their candidature:

- Responsive and accessible advisors
- Peer connections - normalising the experience of doing a PhD or MPhil
- Peer connections - contact with HDRs who are "one step ahead"
- Being able to readily access information about candidature or related processes, and navigate administration
- Personal circumstances are understood and accommodated

The interviewees' experiences of learning community showed the importance of the candidates' own initiative in forming connections with other researchers. However, "opportunities to connect" often served as a platform for candidates to go on and initiate connections. Four types of repeatedly mentioned connection opportunities were:

- Regular college or discipline-level online gatherings
- Platforms for casual online communication
- Shared learning opportunities
- Workspace proximity/shared lunch areas

The first three listed connection opportunities were available to candidates regardless of whether they were working on- or off-campus.

Identified areas for improvement

From the areas of need made evident by the survey and interview results, we considered strategies to improve the HDR experience for current and future candidates.

Support:

- Share with advisors and ADREs the importance of the supervisory role – particularly being accessible and responsive – in the overall candidate experience.
- Continue the process of reviewing and restructuring information access and communication with candidates.

Learning community:

- Share with relevant staff how they can help offer candidates opportunities to connect.
- Empower candidates to build their own learning communities.

Skills development, employability, and industry engagement:

- Help candidates better visualise the jobs or industries that require advanced research skills.

- Empower candidates to build their employability during their candidature and better understand the value of their skills outside the university sector through sharing alumni stories.

Finally the survey results have indicated a need to continue to work to ensure equal access to external or remotely located, female, and part-time time candidates which is consistent with the PREQ survery.

Introduction

This report summarises the results of a project investigating the experience of current Higher Degree by Research (HDR) candidates at JCU. The need for this project arose considering the results of the 2019 and 2020 Postgraduate Research Experience Questionnaire (PREQ), which is part of the Graduate Outcomes Survey (GOS). The PREQ reflects the experience of graduates who completed the requirements for a Higher Degree by Research between March 2018-February 2019 (2019 GOS) and March 2019-February 2020 (2020 GOS) across the Research Education sector in Australia. Results are therefore reflective of those enrolled in Doctoral candidature in the preceding 4-8 years (approx. 2012 – 2019). The lag time in results typically means that the PREQ is most useful for identifying trends over time and sectoral patterns.

The results of the 2019 and 2020 PREQ showed no statistically significant differences in the levels of satisfaction of JCU HDR Graduates and Sector HDR Graduates at the scale level of the survey. However, JCU graduates had statistically significantly lower scores in few cases at the item level. The PREQ data also highlighted differences in levels of satisfaction for demographic groups within JCU for select items in the survey. International candidates were consistently more satisfied than domestic candidates, male candidates more than females, and full-time candidates more than those studying part-time. Within JCU, some differences in satisfaction were also identified between broad discipline groups (DTHM, CSE and CASE) on individual items.

While these data are useful in providing a picture of trends and sectoral patterns, these results may not reflect the current HDR experience at JCU. Additionally, while the PREQ data identifies areas where groups of candidates may be less satisfied than others, it provides no indication of why these differences may be occurring or what could be done to improve the experience of current candidates.

The project outlined in this report involved collecting survey data from current JCU HDR candidates based on the PREQ instrument and findings, providing insight into the contemporary experience of the HDR program. Interview data were also collected to further unpack the survey results and provide a more nuanced picture of current needs and expectations of HDR candidates.

Results and recommendations specific to colleges or groups of candidates will be compiled and shared with the relevant staff to guide experience improvement strategies for candidates in those groups.

Results

Survey respondent demographics

All HDR candidates were invited to take the survey which was open across August to September of 2021. At the closure of the survey, 289 JCU HDR candidates submitted responses; 36% of the enrolled HDR cohort (n=806) at the time of the survey. Respondents were required to answer all closed survey questions, however responding to open-ended questions was optional. Therefore, the quantitative results shown include responses from all 289 participants, whereas qualitative results are a summary only of the candidates who chose to respond to those questions. For each open-ended question, the number of candidates who submitted no response or responded "N/A" (or similar) will be indicated.

The demographics of the survey cohort is compared to that of the whole JCU HDR cohort in Figures 1-8 below, showing that the survey cohort is largely reflective of the wider HDR cohort.
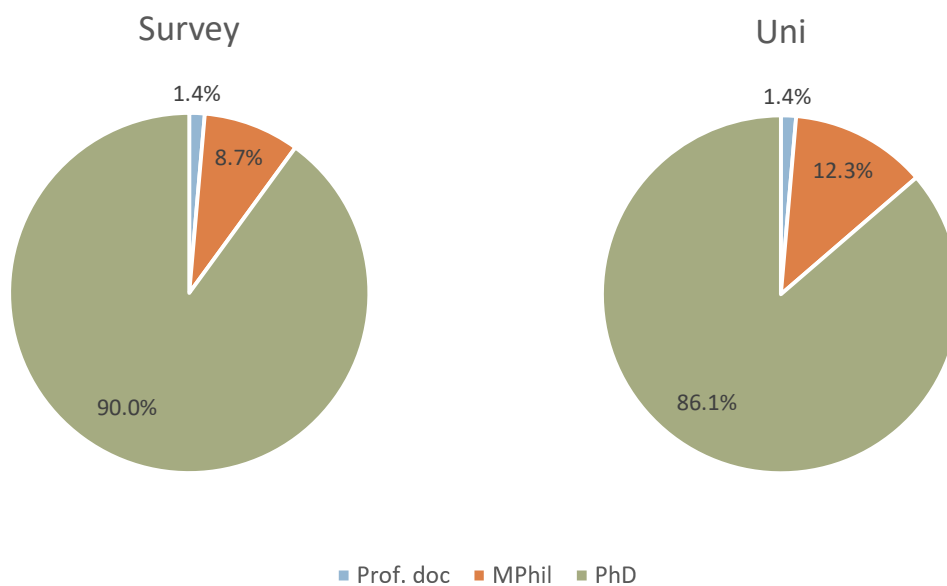
Figure 1 – Program enrolled. Charts show percentage of survey participants (left) and JCU HDR candidates (right) enrolled in a PhD, Professional Doctorate or MPhil.
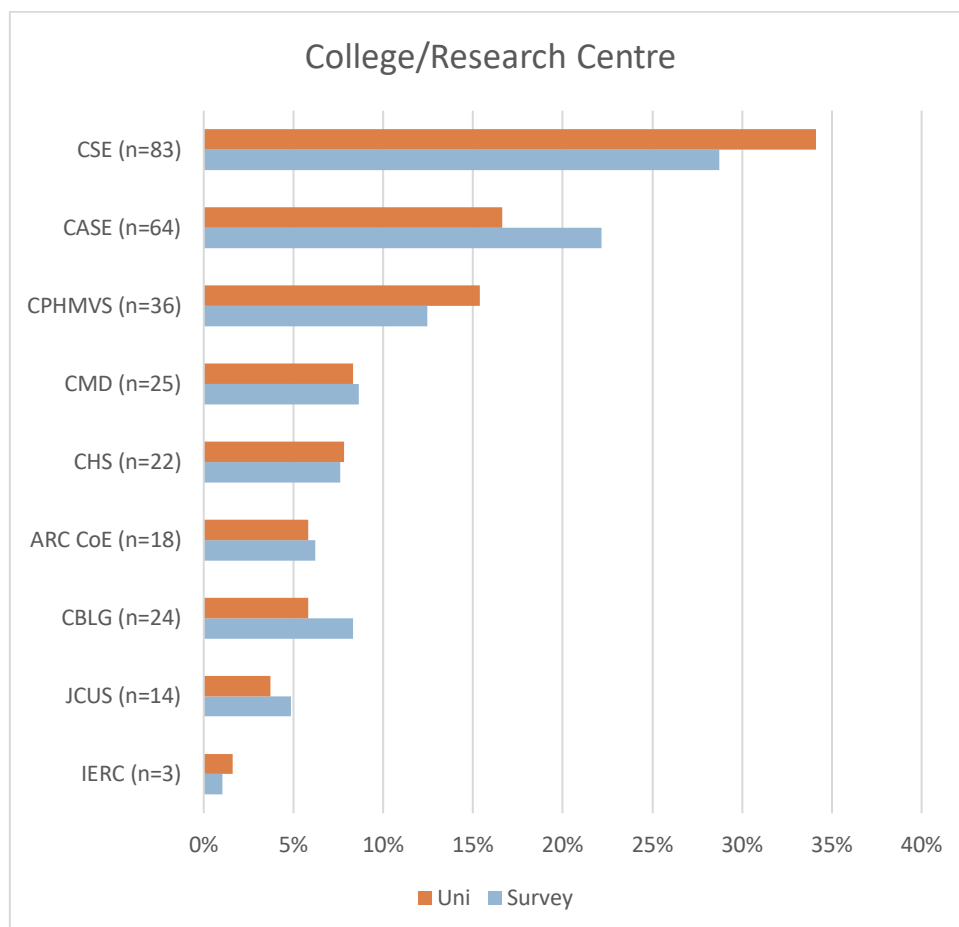
Figure 2 – College or Research Centre. Chart shows percentage of survey participants (blue) and JCU HDR candidates (orange) enrolled in each college or research centre. N-values apply to the number of survey participants in each college or research centre.

Survey   Uni

24.9%   19.6%

75.1%   80.1%
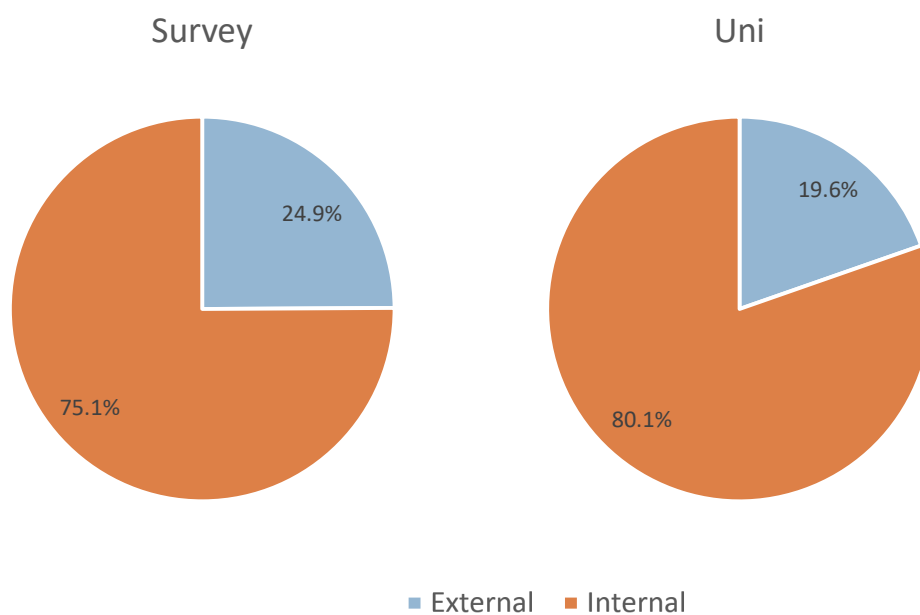
■ External   ■ Internal

Figure 3 – Study mode. Charts show the percentage of survey participants (left) and JCU HDR candidates (right) studying internally and externally.

Survey   Uni

27.0%   37.1%

73.0%   62.9%
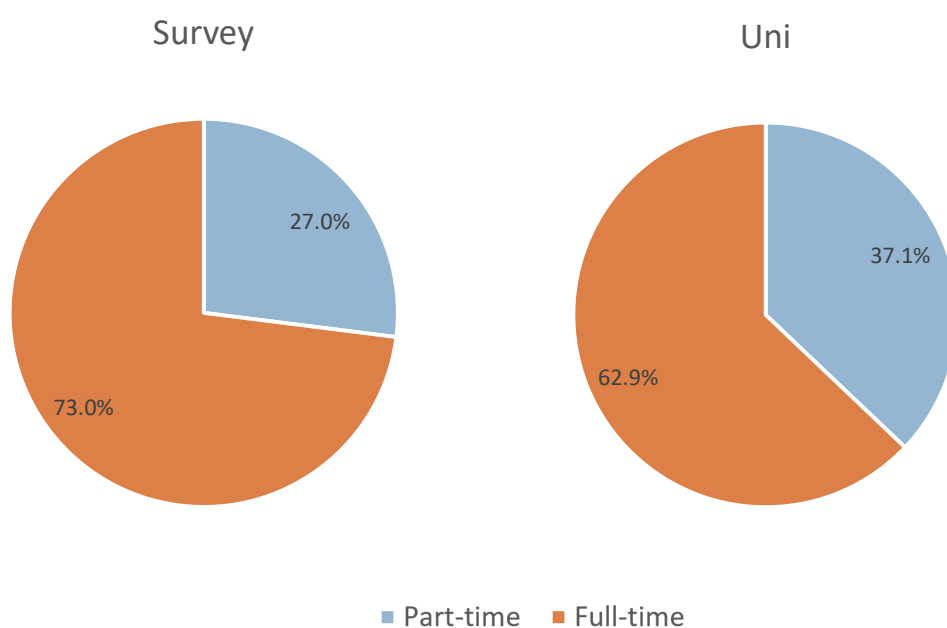
■ Part-time   ■ Full-time

Figure 4 – Study load. Charts show the percentage of survey participants (left) and JCU HDR candidates (right) studying full-time and part-time.

Survey

Uni

41.5%

58.5%

36.3%

63.7%

■ International ■ Domestic
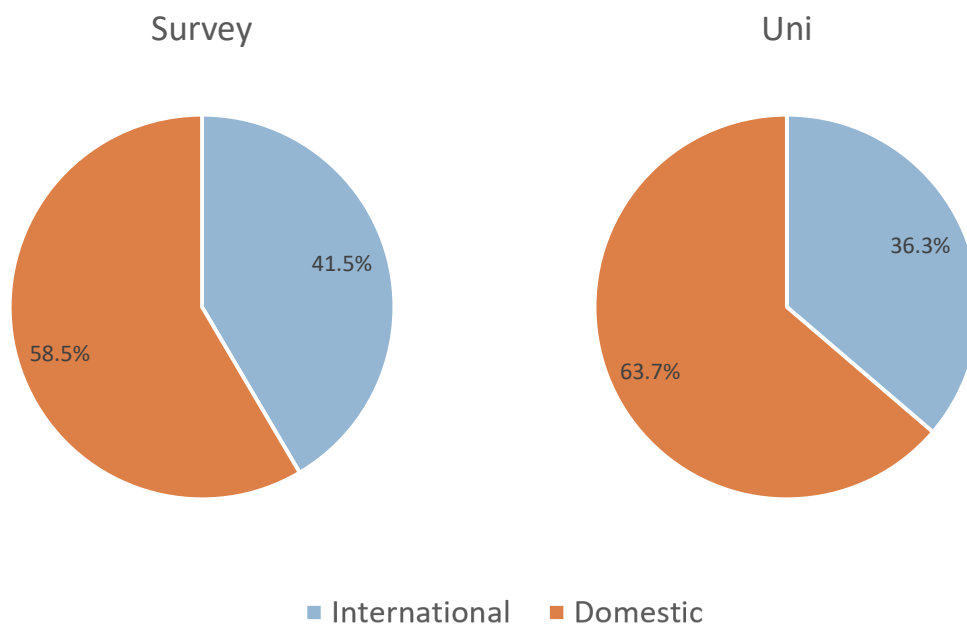
Figure 5– International/domestic status. Charts show the percentage of survey participants (left) and JCU HDR candidates (right) who are currently Australian citizens or permanent residents (domestic) and those who are not (international).

Survey

Uni

3.5%

33.6%

63.0%

41.5%

58.5%

■ Female ■ Male ■ Prefer not to answer
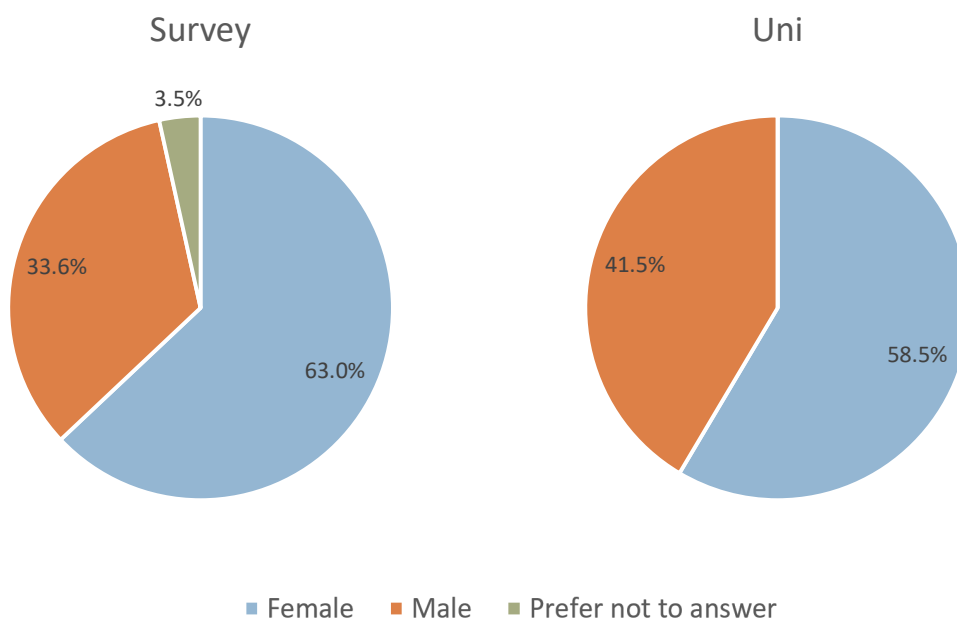
Figure 6– Gender. Charts show the percentage of survey participants (left) and JCU HDR candidates (right) who identify as male or female. The survey also provided a "Prefer not to answer" option.

Survey

Uni

- Confirmation ■ Mid-candidature ■ Pre-completion ■ Yet to complete any of the above milestones
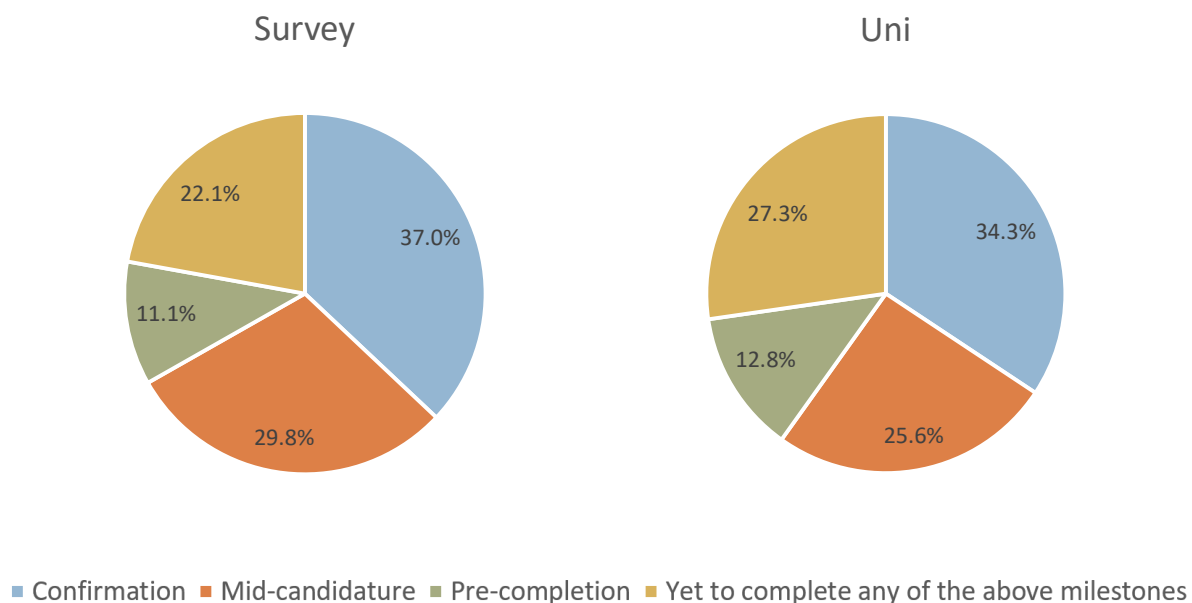
Figure 7 – Stage of Candidature. Charts show the percentage of survey participants (left) and JCU HDR candidates (right) who have successfully completed Confirmation, Mid-candidature, Pre-completion or are Yet to complete any of the above milestones.

Survey

Uni

- DTHM Cohort doctoral studies program ■ AIMS@JCU ■ AITHM ■ None of the above
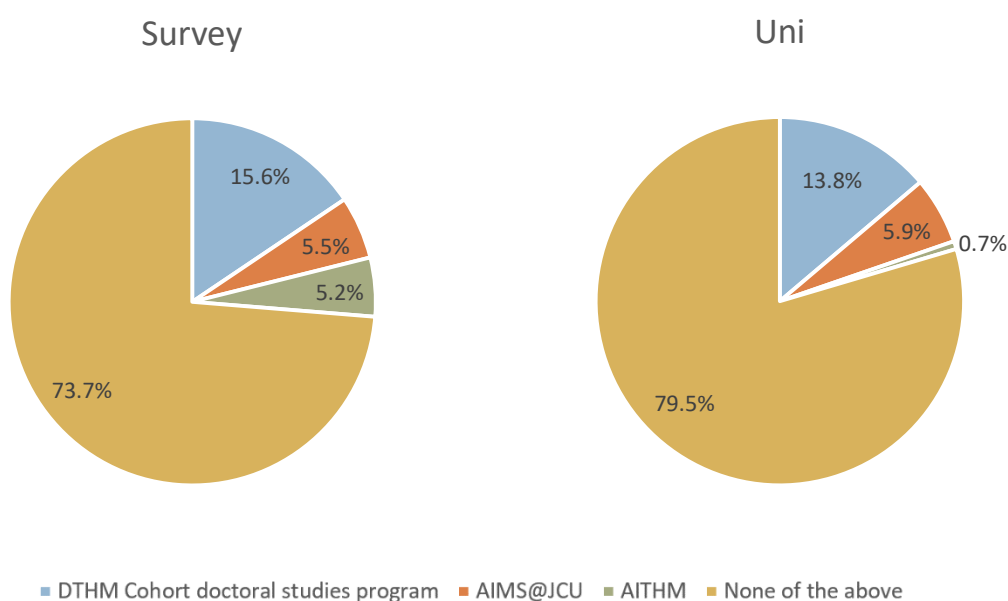
Figure 8 – Cohorts and groups. Charts show the percentage of survey participants (left) and JCU HDR candidates (right) who are a part of the DTHM Cohort doctoral studies program, AIMS@JCU, AITHM or None of the above.

Overall Experience

Conclusions

The first survey questions about candidate experience were regarding overall satisfaction. Most candidates (73%) indicated they were satisfied with their overall HDR experience thus far. This is a lower level of overall satisfaction than JCU graduates indicated in the PREQ (81%). This difference may be due to the PREQ participants reflecting on their HDR experience retrospectively, while the participants of the current survey are at various stages of their candidature. The only statistically

significant difference in overall satisfaction between demographic groups was between male and female candidates, with males more satisfied. This is consistent with the PREQ.

When we asked the candidates what informed their rating of their overall HDR experience, supervision and support were the two most frequently mentioned themes (or informers) of both a positive or negative overall experience. This suggests that if a candidate has a positive supervision experience or feels supported in their candidature, they are likely to view their overall experience positively. Conversely, if a candidate has a negative supervision experience or feels unsupported, they are likely to view their overall experience negatively.

Some factors only informed a negative experience: COVID impact and response, administration, and communication with the university. This indicates that the candidates expect each of these areas to run smoothly. When this does not occur, these factors contribute to the candidate viewing their overall experience negatively.

Quantitative results summary

In line with the PREQ, we wanted to ask candidates how they were feeling about their HDR experience overall. In response to the statement, "*Overall, I am satisfied with the quality of my higher degree research experience thus far*", 73% of the candidates answered *Agree* or *Strongly agree* (n=211). Frequencies of responses to this item are shown in Figure 9 below.
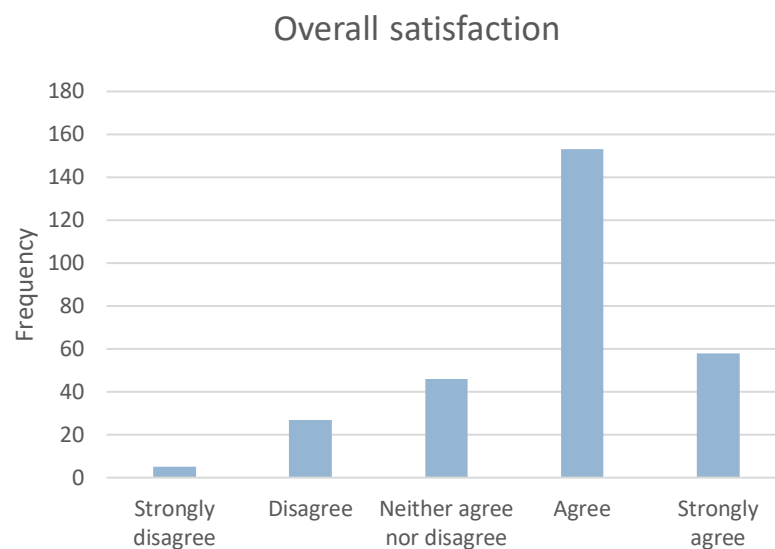
Figure 9 – Overall satisfaction. Chart shows candidate responses to the statement, "Overall, I am satisfied with the quality of my higher degree research experience thus far".

To determine whether some groups of candidates were more satisfied with their overall HDR experience than others, responses between different groups of candidates were compared. The only statistically significant difference between groups was between male and female candidates, with males more satisfied with their overall experience. This result is consistent with the findings of the PREQ. Additionally, the PREQ showed that international candidates were statistically significantly more satisfied with their overall experience than domestic candidates. In our current survey, international candidates did score slightly higher than domestic candidates, but the difference was not statistically significant.

Qualitative results: Why did you rate your overall experience this way?

Immediately following the overall satisfaction item, we asked the candidates, "Why did you rate your overall experience this way?" to better understand what informed candidates' perception of their HDR experience overall – what aspects of their experience were front-of-mind.

All 289 candidates responded to this question. Most ideas in the responses expressed a clear positive or negative sentiment, so the results described below are split into informers of a positive experience and informers of a negative experience. Many responses included both sentiments, so the positive and negative parts of the response were coded accordingly. Given 73% of candidates indicated in the previous item that they were satisfied with their overall experience, a disproportionate number of candidates listed negative aspects of their experience in response to the current item. This appears to be because many candidates who indicated they were satisfied with their experience overall (i.e., responded "agree" to the previous question) were justifying why they did not respond "strongly agree". Some responses were not clearly positive or negative and were coded as "neutral" (n=7), and ~10% of responses did not include enough information to be coded (n=31). The full results of the thematic analysis are shown in Appendix 3. Below is a summary of the main findings.

The two most mentioned informers of a positive experience were supervision (n=83) and support (n=66). The theme "support" was mentioned four times more than the next most frequently mentioned theme ("skills development and training", n=16). This suggests that if candidates have a positive supervisor experience and feel supported throughout their candidature, they are likely to consider their experience positive overall.

The informers of a negative experience were more diverse than those of a positive experience. The most mentioned themes were supervision (n=27) and support (n=24), as we would expect if these factors strongly informed a positive experience. However, not all themes of a negative experience had positive experience counterparts (e.g., COVID impact and response, administration, and communication). This indicates that if the candidates had, for example, a negative experience with administration, this may impact how they view their overall experience. However, if a candidate were to have a positive experience with administration, this is unlikely to contribute to how they perceive their experience overall.

So, we could conclude that if candidates have a positive or negative experience of the following, this is likely to affect how they view their overall HDR experience (in a positive or negative way, respectively).

- Supervision
  "*I have great supervisors*" (R030)
  "*I feel that there has been a mismatch with my supervisor. Perhaps they thought the project was something different to what I thought it was*" (R014)
- Support
  "*I have had an amazing support system from the college, GRS and my advisory team.*" (R085)
  "*The department however have done all they can to wipe their hands clean of helping me in any way.*" (R043)
- Skills development, PD, and training
  "*Excellent program structure with focus on providing critical research skills*" (R037)
  "*I find the system of compulsory professional development a little hard to navigate and I cannot seem to find a way of keeping track of what I have done to date.*" (R199)
- Resources and facilities

"*Equipment and facilities are readily available for use.*" (R151)
"*Sometimes resources are not advertised clearly or made available across colleges.*" (R062)

- Learning community
  "*Great community where I learn, collaborate, find support and opportunities.*" (R267)
  "*As an external student I have found it very difficult to experience the collegial connections that may have better supported my research.*" (R164)

If candidates have a negative experience of the following, this is likely to affect their overall experience negatively. However, a positive experience of these things is unlikely to positively affect their overall experience.

- COVID impact and response
  "*The situation with Covid-19 pandemic is affecting my progress. I have changed my study design and method of data collection.*" (R071)
- Administration
  "*Administrative work is very time consuming*" (R181)
- Communication with the university
  "*Better communication to HDR students would be appreciated, feels that we are left out of conversations which affect us.*" (R065)

Responses to this item could also be used to explain why there may be differences in overall satisfaction between groups of candidates. Since male candidates were statistically significantly more satisfied with their overall experience than female candidates, we investigated whether some informers of experience were mentioned more frequently by males compared to females, and vice versa.

The following indicator of a positive overall experience was mentioned more frequently by male candidates than female candidates:
- Feeling like they are progressing towards completion

The following informers of a negative experience were mentioned more frequently by female candidates than male candidates:
- COVID impact on HDR experience
- Issues with administration
- Feeling isolated or lacking collegial connections

College results

There was some variation in overall satisfaction between the colleges, ranging from 88% satisfaction 63% (percentages based on number of candidates who responded "*Agree*" or "*Strongly agree*").

Supervision

Conclusions

The majority of HDR candidates at JCU are very pleased with the supervision they have received. The percentage satisfaction (83%) is consistent with the Sector percentage satisfaction found in the PREQ. Also congruent with the PREQ, there were no statistically significant differences in satisfaction found between demographic groups. Experience of supervision is one of the main informers of overall experience, so although percentage satisfaction within the survey cohort is very high, the candidates' suggestions for improvement should be taken seriously.

In suggesting improvements related to access to supervisor time, candidates acknowledged that their supervisors were busy with teaching and service, and felt that compromised time available for

supervision. Repeatedly, candidates felt that their supervisor/s were too busy to fulfil their supervisory activities or that their supervisor's contact with them was insufficient. Other suggestions indicate that some candidates may not have realistic expectations of their supervisor/s or the university. For example, several candidates were disappointed that their supervisor was not an expert in the candidate's field of research or felt that they were not given enough guidance in the early stages of their project.

Satisfaction with supervision varied between colleges. Most suggestions for improvement from candidates from less satisfied areas were related to improved communication, increased supervisor engagement, increased accountability for supervisors and better support for candidates when supervision issues arise.

Quantitative results

We were interested in finding out whether the candidates were satisfied with the supervision they had received thus far, so we asked the candidates to rate their agreement with the following statements:

- I am satisfied with my supervisory team.
- Supervision is available when I need it.

Responses to these items were the most positive of all the aspects of experience we probed. In response to both items, 83% of candidates answered *Agree* or *Strongly agree*, with far more candidates responding *Strongly agree* (n=157, 153) than *Agree* (n=82, 88), as shown in Figure 10 below.
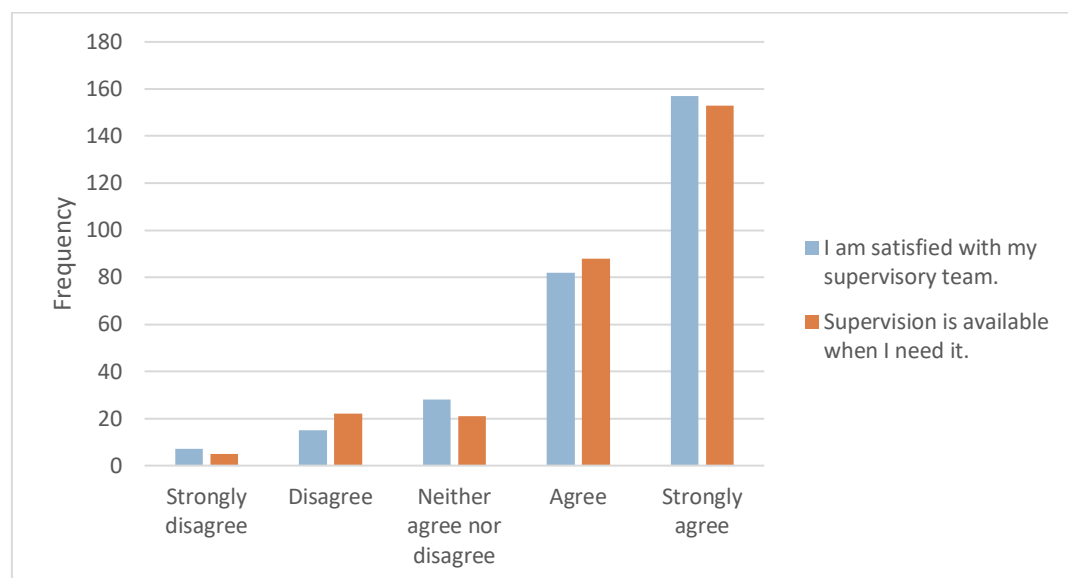
Figure 10 – Supervision satisfaction. Chart shows candidate responses to the statements, "I am satisfied with my supervisory team" (blue) and "Supervision is available when I need it" (orange).

Consistent with the results of the PREQ, we found no statistically significant differences in satisfaction around supervision between groups of candidates.

Qualitative results: What could be improved about the supervision you have received?

The responses to this question reflected the fact that most candidates were satisfied with their supervision. When asked what could be improved about the supervision they had received, 171 candidates responded "N/A" or "nothing" (the survey indicated that if the candidate felt nothing

could be improved, they should respond with either of these). Additionally, 14 candidates responded with positive comments about their supervisor/s. Responding to this question was optional, yet only 14 of the 289 candidates who completed the survey provided no response.

Several interrelated themes emerged from the candidates' responses, providing a big-picture view of how the candidates believe supervision could be improved. Some of the themes, while distinct from one another, allude to a common underlying issue. For example, issues with supervisor commitment and engagement are likely due to issues with supervisor capacity. These themes were kept distinct from one another in the analysis because the primary improvement identified by the candidates in their responses was different. Table 1 below defines each theme and shows the number of candidate responses that mentioned each theme. The full results of the thematic analysis are shown in Appendix 3

Table 1 – Themes of responses to the question "What could be improved about the supervision you have received?" Table shows theme, number of candidates who mentioned each theme, a descripton of the theme according to what the candidate wants to see improved, and illustrative respondent quotes.

Theme	The candidate wants to see improvement in…
Contact **n=31**	Communication or meetings they have with their supervisor/s. "*Replying to emails and improved communication*" (R248) "*let [the candidate] know when they could receive feedback, and give a quicker turnover when editing manuscripts*" (R146)
Supervisor capacity **n=13**	Supervisor/s having more time or energy to engage in supervisory activities (the supervisor/s may be willing, but are *unable*). "*They need more time. Very busy people.*" (R030) "*I have to keep pestering my supervisors for help when I need it. They are quite busy themselves, so I understand, but it sometimes pushes my deadlines back.*" (R119)
Supervisor-research area matches **n=11**	The process of finding a suitable supervisor for their project, or support from the university when they have secured a supervisor who is unsuitable for their project. "*There is a lack of available academics in my area of research*" (R041) "*Ensure expertise from supervisory panel meets student's needs and research topic*" (R099)
Supervisor commitment and engagement **n=11**	Their supervisor/s' *willingness* to engage in supervisory activities and honouring the commitment made to the candidate. "*One supervisor provides exemplary support; the secondary supervisor is less helpful.*" (R120) "*More commitment from other supervisor. If not able to commit/allot time, one should not accept supervisory role altogether*" (R249)
Support and accountability around supervision **n=9**	The university holding supervisors accountable for their actions and properly supporting the candidate when issues arise with their supervisory team. "*More checks and balances might need to be put in place to protect students who feel they can't speak out because of the power differential*" (R125)

	"Supervisors being held accountable for their lack of compliance with GRS procedures and stipulated timelines. It's not always the student." (R223)
Direction and guidance n=9	The amount or quality of guidance their supervisor/s have given on their research. *"More guidance/concrete advice in early stages (conceptual framework development) and for research methodology"* (R084) *"Familiarising more with JCU arrangements, rules and regulations"* (R192)
Supervisor-candidate relationship n=9	The relationship they have with their supervisor/s. This includes issues with role clarity, candidates feeling afraid to discuss issues. *"A clear understanding of the roles of the primary supervisor and the candidate."* (R184) *"Compassion"* (R237)

While most JCU candidates have had a positive experience of supervision, it is important to consider how supervision can be improved, especially since it is a factor that heavily informs candidates' perception of overall experience.

College results

There is some variation in supervision satisfaction between candidates in different colleges, ranging from 96% to 64% for the question about candidate satisfaction with their supervisory team, and 100% to 58% for the question about whether supervision was available when needed.

Learning community

Conclusions

Experience of learning community, or "intellectual climate" as it is named in the PREQ, is an important contributor to overall satisfaction for HDR candidates. The results (below) show much variation in experience between candidates of different demographic groups and colleges. Therefore, from these results, we can determine what may be working well to facilitate a positive experience of learning community and what may be leading to a negative experience.

Satisfaction with learning community was lower (54%) among HDR candidates than satisfaction with other aspects of the HDR experience. This is consistent with the PREQ results over the past several years (2019-2020 average for JCU candidates was 62% on the Intellectual Climate scale). In our current survey, more candidates agreed that they felt part of a community with their HDR peers than feeling part of their department's broader community.

Our qualitative results show that for many candidates, a positive learning community experience involves:

- Feeling supported as a researcher;
- Having social support/collegiality;
- Opportunities to meet and socialise with other researchers; and
- Cohort groups.

Overall, candidates suggested that the following would improve their experience of learning community:

- More on-campus opportunities to meet and socialise;
- Changes in social attitudes and culture; and
- More interaction with researchers, both staff and HDRs, beyond the immediate research group. –.

Addressing these suggestions, particularly the last one, will likely lead to candidates feeling more integrated into their department's broader research community.

Female, external and domestic candidates were statistically significantly less satisfied with their experience of learning community than male, internal and international candidates respectively. Female, external and domestic candidates appear to have similar needs, as all three groups particularly appreciate the cohort groups and feeling a sense of collegiality and camaraderie. All three groups mentioned the following improvements for their experience of learning community:

- Bridging the gap between academic staff and candidates
- Fostering more online connections
- Opportunities to meet outside of business hours

Experience of learning community varies considerably between colleges. Positive experiences within colleges with higher learning community satisfaction included opportunities to meet and learn with fellow candidates, a culture of collaboration and skill-sharing, and candidates feeling supported as researchers. Some barriers to a positive learning community experience in colleges with lower satisfaction ratings include a lack of diversity/inclusivity or a lack of friendliness, a lack of opportunities to socialise face-to-face or to meet outside business hours.

Quantitative results

We were interested in understanding whether the candidates feel part of a learning community as they undergo their doctoral/masters research, so we asked them to rate their agreement with the following statements:

- I feel part of a learning community with other doctoral/masters research students.
- I feel involved in my department's broader research culture.

Just over half of the candidates responded Agree or Strongly Agree to the first item, and 40% responded Agree or Strongly Agree to the second, as shown in Figure 11. These "Learning community" items correspond to the Intellectual Climate scale on the PREQ, on which candidate satisfaction has been consistently low over several years.
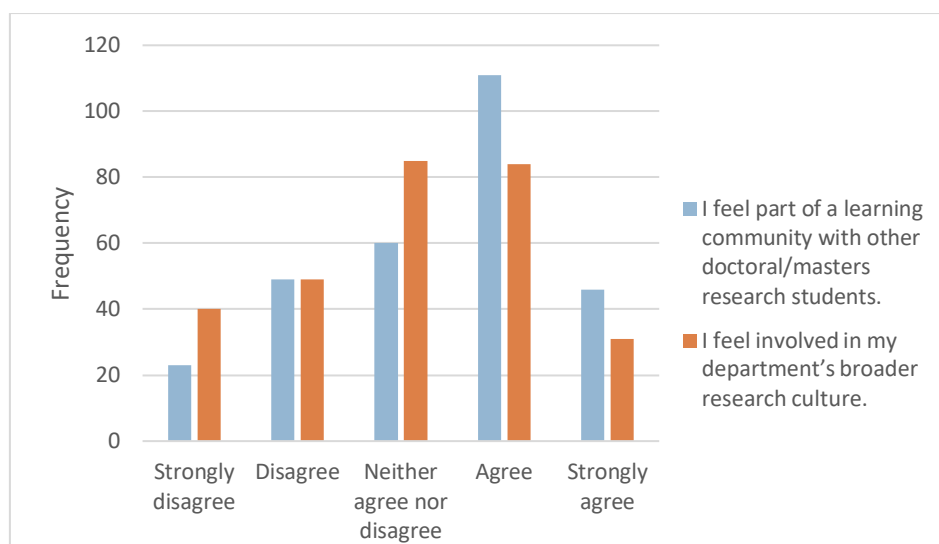
Figure 11 – Learning community satisfaction. Chart shows candidate responses to the statements, "I feel part of a learning community with other doctoral/masters resarch students" (blue) and "I feel involved in my department's broader research culture" (orange).

The Intellectual Climate scale on the PREQ was where there were the most consistent statistically significant differences in satisfaction between groups of candidates, as shown in Table 2 below. The results from our current survey are shown alongside the PREQ results for comparison. Not all Intellectual Climate items on the PREQ had corresponding items in our current survey.

Table 2 – Comparing statistically significant differences in learning community satisfaction of the JCU graduands who completed the 2019 or 2020 PREQ and candidates who completed our current HDR Candidate Experience Survey.

Candidate groups	JCU graduates in the PREQ	HDR Candidate Experience Survey
Male vs female	Males significantly more satisfied	Males significantly more satisfied
Domestic vs international	International significantly more satisfied	International scored slightly higher (not a statistically significant difference)
Full-time vs part-time	Full-time significantly more satisfied	No differences – FT and PT scored the same
Internal vs external	No significant differences	Internal significantly more satisfied

Qualitative results: What has been good about the learning community you've experienced so far during your research degree?

The purpose of this question was to get a picture of a positive experience of intellectual climate for an HDR candidate. The themes that emerged from the candidates' responses are defined in the table below. The first four listed themes were frequently mentioned (n=53, 39, 29 and 28 respectively) and reflect what a positive experience of learning community looks like for many candidates.

Table 3 – Themes of responses to the question "What has been good about the learning community you've experienced so far during your research degree?" Table shows theme, number of candidates who mentioned each theme, a descripton of the theme according to the positive aspect of learning community identified by the candidate, and illustrative respondent quotes.

Theme	The positive aspect of learning community identified by the candidate is…

Support as a researcher **n=53**	Their learning community (peers, lab group, staff) has supported the candidate and assisted in their learning and growth as researcher. *"My lab is also highly supportive, and I have been able to ask for help from them and schedule numerous calls."* (R066) *"Group chats where people help each other regarding different analyses, coding or else"* (R185)
Social support, collegiality and friendship **n=39**	Their learning community (primarily peers) has given the candidate a sense of belonging, friendship and shared experience. *"I am not alone in learning the "up's and down's" of the research experience."* (R054) *"Catching up informally with other students within the college"* (R259)
Formal opportunities to meet with other students **n=29**	Specific events, both in-person and online, have allowed the candidate to meet with other HDRs. *"Weekly coffee meetings / research catch ups"* (R083) *"Turning up at seminars and checking in/ networking"* (R204)
Cohort experiences **n=28**	Learning community experienced in the context of cohort groups (listed at the start of the survey) or colleges. *"The Cohort program has been the best. It is a great opportunity to network with other HDR students, obtain professional development and write."* (R069) *"I would say I feel part of the AIMS@JCU learning community - they do a great job to support students which is wonderful."* (R279)
Learning opportunities **n=9**	The candidate has learnt from others through being part of a community. *"Everyone has diverse backgrounds and skills"* (R005) *"I have improved my statistical analyses skills thanks to my peers"* (R265)
University staff facilitating community **n=6**	JCU staff have worked to better involve the candidate in community. *"The DTES administration and Cairns GRS staff supporting our community here"* (R116)
Supervisor-facilitated opportunities **n=4**	Their supervisor has connected the candidate with others, or with opportunities to meet other researchers. *"I had a chance to connect with my supervisors' academic network and joined in various academic activities"* (R162)

Importantly, many candidates did not respond with positive comments about their learning community; 81 candidates responded "N/A" or "nothing", 20 gave negative comments about their learning community, 16 said they had not engaged in a learning community, and 15 provided no

response. A further 10 candidates did not provide enough information in their responses to code. The candidates' inability to describe a positive aspect of their learning community experience suggests that learning community is an important area of need for research students at JCU.

Qualitative results: What could be improved about the learning community you are experiencing during your research degree?

The purpose of this question was to identify how candidates felt their experience of learning community could be improved. 110 candidates responded "N/A" or "Nothing" and 20 provided no response to this question. Few candidates maintained that they were not involved in a learning community (n=9), that they were unsure how their experience could be improved (n=7) or provided responses that either lacked enough information to code or indicated the candidate misunderstood the question (n=18). A further seven candidates did not explain how the learning community could be improved but outlined how their experience of learning community has been or is being negatively impacted by COVID.

The remaining responses show some areas of need identified by the candidates. Overall, the candidates want more opportunities to connect e.g. through social events, learning opportunities, online, or through workspaces conducive to community. The candidates also want increased cohesion between groups of researchers e.g. with other candidates in other lab groups, disciplines or colleges, with academic staff, and with stakeholders beyond the university. The themes emerging from the responses are shown in the table below, alongside representative quotes. Theme descriptions are not provided here as the themes are more straightforward and are best illustrated by respondent quotes.

Table 4 – Themes of responses to the question "What could be improved about the learning community you are experiencing during your research degree?" Table shows theme, number of candidates who mentioned each theme (frequency), and illustrative respondent quotes.

Theme	Frequency
On-campus social opportunities for candidates *"More social events would improve the community feel of the HDR experience."* (R078) *"Holding gatherings and events or organising some activities by the college that students could meet each other and make friends. Especially the ones who work alone".* (R192)	31
Changes in social attitudes or culture *"My discipline feels very insular, other HDR students and staff seem only interested in their own projects and so opportunities to engage with others or develop skills together are often limited."* (R108) *"Would be good if there is equality in the group and less sexist jokes."* (R231)	17
Opportunities to meet researchers beyond department or college *"The HDR experience feels very department dependent. I socialise and network regularly with the other HDR students in my research group, but that's about it. There is no real drive to have a larger learning community which would include the whole department."* (R007) *"I notice some students are very isolated in CSE. I think across college networking, wellbeing and educations events could be very helpful. These need to be broadly advertised among HDRs".* (R062)	13

Learning opportunities where candidates can meet "*Developing more chained workshops that would create a learning community. People who have similar interest, or trying to develop similar skills would often meet in those workshops and a community would be created*" (R133) "*Journal club*" (R225)	13
Workspaces and infrastructure to facilitate community "*Maybe a kind of dashboard that has all research students listed with a general description of stuff they do. that way you can find others who do something similar to you and can actually build up a peer support team*" (R103) "*More centralised office space with other HDR candidates*" (R126)	7
Bridging the gap between academic staff/department and candidates "*I like interacting with people from all levels, to find personalities that vibe with mine, so less 'PhD cohort' and more 'researchers/students in general' could be supported*" (R285)	7
Stronger connection to college "*College should have a welcome for new HDR students.*" (R065)	6
Opportunities to meet outside of business hours "*Studying part-time means that I am not on campus and as a result have not connected with any colleagues. Although there are opportunities, I work full time, so they don't suit.*" (R114)	6
Fostering online connections "*JCU helping to foster online relationships for external students would be great with Twitter of Facebook*" (R002)	5
Roles for staff "*Supervisors and academics taking more of a role in facilitating a research community. Often this task is left up to individual students alone and often academics have a number of interpersonal issues with other students and staff that only serve to hinder a learning community.*" (R015)	5
Changes in workload culture "*We all have different priorities and capacities to participate so I'm not really sure that could be improved much.*" (R210)	4
Forging connections beyond the university "*Get students on networking events together to prepare for employment*" (R260)	3

Understanding differences in learning community experience between groups of candidates

The results of the above two open-ended questions can be used to understand why there may be differences in satisfaction between groups of candidates, as shown in Table 2.

Internal candidates were statistically significantly more satisfied with their learning community than external candidates.

What is good about learning community for internal candidates in particular?

- Learning opportunities shared with other researchers
- Feeling supported as a researcher

What do external candidates find helpful for learning community?
- Cohort experiences, especially DTHM

What might external candidates want to improve about their experience of learning community?
- Bridging the gap between academic staff and candidates
- Fostering more online connections
- Opportunities to meet outside of business hours

Male candidates were statistically significantly more satisfied with their learning community than female candidates.

What is good about learning community for male candidates in particular?
- A community that is helpful when it comes to my research

What does a positive learning community experience look like for female candidates in particular?
- Cohort experiences, particularly DTHM and within colleges
- Organised events (e.g. seminars and workshops) with other candidates
- Sharing collegiality and camaraderie with other researchers

What might female candidates want to improve about their experience of learning community?
- Bridging the gap between academic staff and candidates
- Fostering more online connections
- Opportunities to meet outside of business hours

International candidates were more satisfied with their learning community than domestic candidates (difference not statistically significant).

What is good about learning community for international candidates in particular?
- Organised events (e.g. seminars and workshops) with other candidates
- Community that is helpful when it comes to my research

What does a positive learning community experience look like for domestic candidates in particular?
- Cohort experiences, particularly DTHM and within colleges
- Helpful university staff
- Social support, particularly collegiality and camaraderie

What might domestic candidates want to improve about their experience of learning community?
- Bridging the gap between academic staff and candidates
- Opportunities to meet outside of business hours
- Stronger connection to college

It is interesting to note here that, in each case, the less-satisfied group of candidates (female, external, domestic) had similar recommendations for improving learning community.

College results

There is some variation in satisfaction with their learning community between candidates in different colleges, ranging from 79% to 41% for the question about whether a candidate feels they

are part of a learning community, and 64% to 28% for the question about whether candidates feel involved in their department's broader research culture.

Skills development and training

Conclusions

JCU HDR candidates are largely satisfied with their overall opportunities for skills development and training (76%) and feel better prepared as researchers as a result (75%). However, fewer candidates feel better prepared for their careers from the training they have received (60%). These scores are low compared with the satisfaction of JCU graduates on the PREQ Skill Development scale (90%). As with previous results, this difference may be due to the PREQ respondents evaluating their experience retrospectively.

International and external candidates were statistically significantly more satisfied with their overall skills development opportunities than domestic and internal candidates respectively. Additionally, male candidates were statistically significantly more satisfied than female candidates that they felt better prepared for their career as a result of their training. The differences in satisfaction between international/domestic and male/female candidates were also shown in the PREQ results.

When asked what could be improved about their skills development opportunities, many candidates mentioned training opportunities in specific areas, especially in careers and employability. Further, many candidates felt that the training made available to them was not relevant, either in content or depth of content, and expressed a desire for more specialised skills-based training.

The suggestions of less-satisfied groups (domestic, internal, female candidates) for improving skills development and training varied between groups with no clear patterns emerging.

When comparing satisfaction between colleges, there was less variation between colleges on overall skills development and preparedness as a researcher, but more variation on the career preparedness item.

Quantitative results

As done in the PREQ, we wanted to ask the candidates about the opportunities for skills development and training they had received so far in their research degree. Of the 289 candidates who responded, 76% (n=219) were satisfied with their training opportunities overall (answered *Agree* or *Strongly agree*), 75% (n=216) feel better prepared as a researcher, and 60% (n=173) feel better prepared for their career.
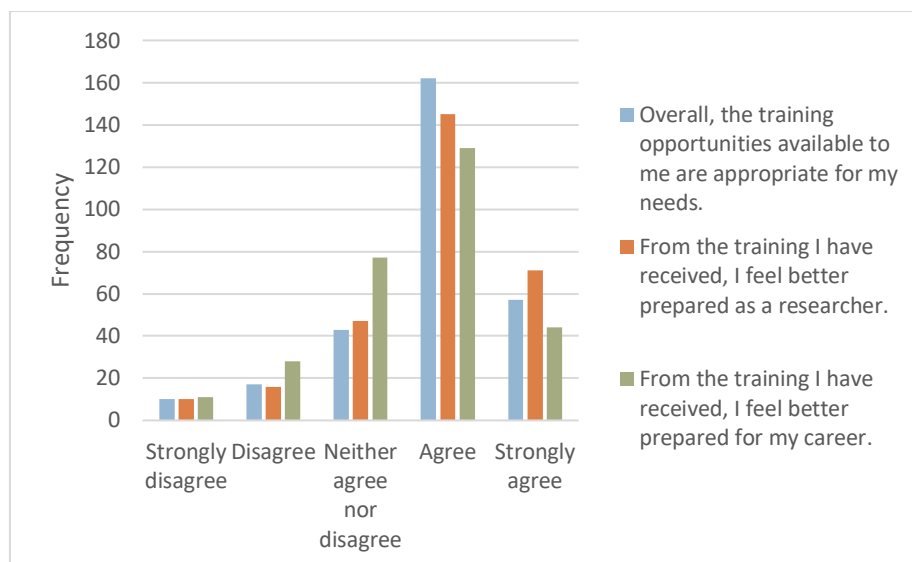
Figure 12 – Skills development and training satisfaction. Chart shows candidate responses to the statements, "Overall, the training opportunities available to me are appropriate for my needs" (blue); "From the training I have received, I feel better prepared as a researcher" (orange); and "From the training I have received, I feel better prepared for my career" (green).

There were some differences in satisfaction between groups of HDR candidates. With overall skills development and training, international candidates were statistically significantly more satisfied than domestic candidates, and external candidates more than internal. For feeling better prepared as a researcher and for their career, male candidates were statistically significantly more satisfied than female candidates.

The difference in satisfaction between international/domestic and male/female candidates was also shown in the PREQ results. However, the PREQ also showed that full-time candidates were more satisfied than part-time candidates but no difference between internal and external candidates.

Qualitative results: What could be improved about the skills development opportunities you received during your research degree?

The aim of this question was to gauge why some candidates might not be satisfied with their experience of skills development and training during their research degree. One hundred and eleven candidates responded either "N/A" or "nothing" and 12 candidates provided positive comments about their skills development opportunities, indicating that many candidates were satisfied with the opportunities available to them. 19 provided no response, seven did not provide enough information to code their response and six candidates were unsure of what could be improved.

Many candidates responded to this question with specific training opportunities from which they would benefit (n=42). The most common suggestions were for training around careers and employability (n=17), rather than skills relating to research or thesis writing. This may have been prompted by the previous question, which asked whether the candidates felt better prepared for their careers from the training they had received. Comments on the relevance of the training content available to HDRs was the next most frequently mentioned theme (n=40). While this theme included suggestions that training opportunities were more diverse or more relevant to a candidate's specific field of research, over half of the responses within this theme indicated that the level or depth of the training provided was inappropriate for HDR-level research (n=12) or that more specialised skill-based training would be helpful (n=11).

Several candidates suggested improvements around training delivery (n=29), administration of the professional development program (n=18) and accessibility of skills development opportunities (n=9). Candidates also expressed an interest in more industry engagement opportunities (n=5) and a desire for JCU academic staff to further support and facilitate skills development in the HDR cohort (n=4). Each of these themes are illustrated by example quotes below.

Table 5 – Themes of responses to the question "What could be improved about the skills development opportunities you received during your research degree?" Table shows theme, number of candidates who mentioned each theme (frequency), and illustrative respondent quotes.

Theme	Frequency
Requests for specific training opportunities "More training to get us ready for the workplace." (R080) "I think we should receive some training on how to conduct good literature reviews." (R148)	42
Comments around relevance of training content "More higher-level stats courses, not just standard intro to R courses." (R010) "More in-depth, field specific training rather than overall research skills that is applicable to all research fields." (R037)	40
Comments around training delivery "The compulsory components of RD7003 could potentially be better presented as an in-person course. Currently I feel as though they are to tick a box and aren't conducive with learning." (R078) "The courses aren't all run at the right times in my research. I think they could run more frequently or the recordings should be available for when I actually need them." (R)	29
PD administration "I feel the technical classes offered are always a bit hard to get bookings. Sometimes it is already fully booked within sometime of available online." (R141) "The opportunities are not always advertised… once they have been done, it is difficult to find a record of them" (R199)	18
Improving accessibility to skills development opportunities "More free courses for beginner researchers" (R226)	9
Industry engagement opportunities "More training opportunities with industries especially international students" (R206)	5
Support from academic staff for skills development "I am not sure how it's done, but the system would work a lot better if we had academics on side. As it stands, most supervisors are begrudging professional training and not encouraging students to participate or even giving them the time to meaningfully participate. I'm not sure how we get them on board, but I think it would massively improve the experience." (R125)	4

Understanding differences in skills development experience between groups of candidates

The results of the above open-ended question can be used to understand why there may be differences in satisfaction between groups of candidates.

External candidates were statistically significantly more satisfied with their overall skills development and training than internal candidates.

What might internal candidates want to improve about skills development and training?
- Improving relevance of training content, particularly level or depth of content
- More face-to-face training
- Improving accessibility to skills development opportunities
- More industry engagement opportunities

International candidates were statistically significantly more satisfied with their overall skills development and training than domestic candidates.

What might domestic candidates want to improve about skills development and training?
- Issues with training delivery (general)
- More opportunities for coursework, rather than one-off workshops
- Improving PD administration
- More IT and software training opportunities
- Better support from academic staff for skills development

Male candidates were statistically significantly more satisfied with their training - as a researcher and for their career - than female candidates.

What might female candidates want to improve about skills development and training?
- More training relevant to my field of research
- Issues with training delivery (general)
- Improving accessibility of skills development opportunities

College results

There is some variation in satisfaction with skills development between candidates in different colleges, ranging from 93% to 66% for the question about whether the training opportunities available are appropriate for candidate needs, 93% to 66% for the question about whether candidates better prepared as a researcher based on the training they have received, and 89% to 41% for the question about whether candidates better prepared for their career based on the training they have received.

Physical infrastructures

Conclusions

Most candidates were satisfied with their access and quality of physical infrastructures for their research. Percentage satisfaction on these items (72%) was similar to satisfaction on the PREQ Infrastructure scale (77%). Male candidates were statistically significantly more satisfied that they were able to access the infrastructures needed for their research than female candidates. This difference is also reflected in the PREQ results.

Quantitative results

We wanted to know whether the candidates were satisfied with the accessibility and quality of physical infrastructures used for their research. The survey question clarified that physical infrastructures include workspace, equipment, resources, and finances. 72% (n=208) of candidates were satisfied with their access to physical infrastructures (responded *Agree* or *Strongly agree*) and 64% (n=185) were satisfied with the quality of physical infrastructures available to them (see Figure 13).
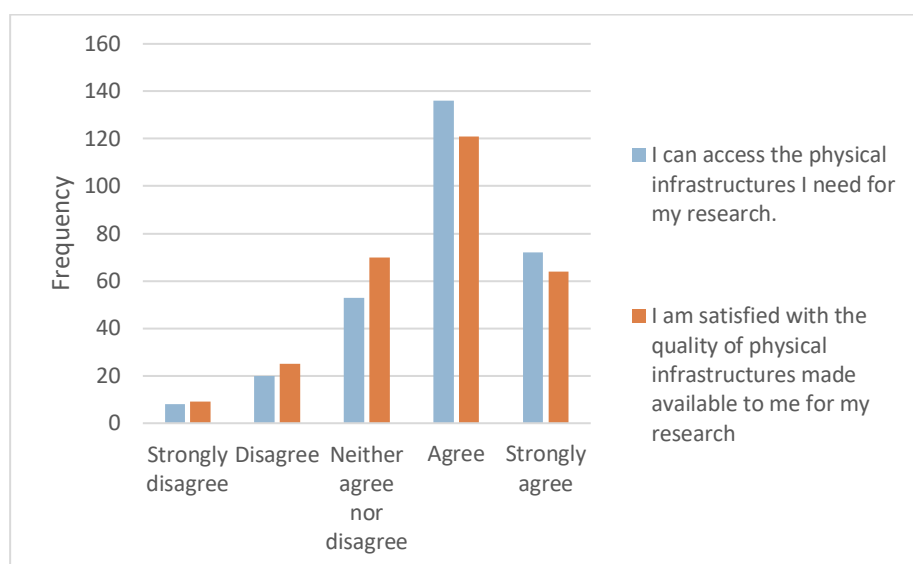
Figure 13 – Physical infrastructures satisfaction. Chart shows candidate responses to the statements, "I can access the physical infrastructures I need for my research" (blue) and "I am satisfied with the quality of physical infrastructures made available to me for my research" (orange).

The PREQ Infrastructure Scale was the basis for these items in our current survey, although the questions on our current survey are fewer and broader in scope than those in the PREQ. 78% of JCU graduates were satisfied on the PREQ Infrastructure scale.

On the PREQ item level, there were statistically significant differences in satisfaction on several items between domestic and international candidates, and between full-time and part-time candidates (international and full-time candidates were more satisfied). Additionally, male candidates were more satisfied that they were "able to organise good access to necessary equipment" compared to female candidates.

While the differences between domestic/international and full-time/part-time candidates were not reflected in the results of our current survey, we did find that male candidates were statistically significantly more satisfied that they could access the physical infrastructures they need compared to female candidates.

College results

There is some variation in satisfaction with physical infrastructures between candidates in different colleges, ranging from 89% to 50% for the question about whether the physical infrastructure needed for their research can be accessed by candidates, and 80% to 41% for the question about whether candidates are satisfied about the quality of the physical infrastructure provided.

Industry engagement

Conclusions

Most candidates in the survey cohort were either dissatisfied with their opportunities for industry engagement or felt that industry engagement was not relevant for them (23% were satisfied). This stands in contrast with the PREQ results, where 65% of JCU graduates were satisfied on the Industry Engagement scale.

This difference in results may be due to the target population of the PREQ being graduates and that of our current survey being current HDRs – industry engagement opportunities may arise later in candidature. However, this difference may be due to some issues with the survey question. We asked only one closed and one open-ended question regarding industry engagement, whereas the PREQ asked several, more specific closed questions that helped the respondents better define industry engagement and evaluate their experience. Additionally, the questions in our current survey imply that the university should be providing such opportunities for candidates, rather than facilitating candidates' own search of opportunities to engage with industry.

As found in the PREQ, there were no differences in satisfaction with industry engagement between demographic groups.

When asked what could be improved about their opportunities for industry engagement, most candidates responded by simply saying they wanted more opportunities, not detailing what these would be. Several candidates explained that they would like to feel better equipped to approach industry, with a better understanding of how to approach potential employers, what skills employers want and why it is worth forming connections outside the higher education sector at all. Here, candidates expressed a similar sentiment to those who wanted more careers and employability skills development opportunities. Most of the remaining responses indicated that candidates want engaging with industry to be a simpler task, for example, through more JCU-industry connections, more relevant internship opportunities and forging more connections with researchers outside the university.

Quantitative results

Industry engagement items were added to the PREQ in 2019. As workers with higher research degrees are increasingly being employed outside the university sector, JCU is working towards facilitating more industry engagement opportunities for HDR candidates. We were interested in understanding how current candidates feel about their opportunities for industry engagement, what has been good, and what they would like to see improved. In the survey, the following description of industry engagement was provided: "This includes building professional connections, working on real-world problems outside the university sector, and seeing how your research skills apply outside the university sector."

Only 23% (n=67) of the candidates were satisfied with their opportunities for industry engagement. One in five respondents selected "N/A" for this item (see Figure 14).
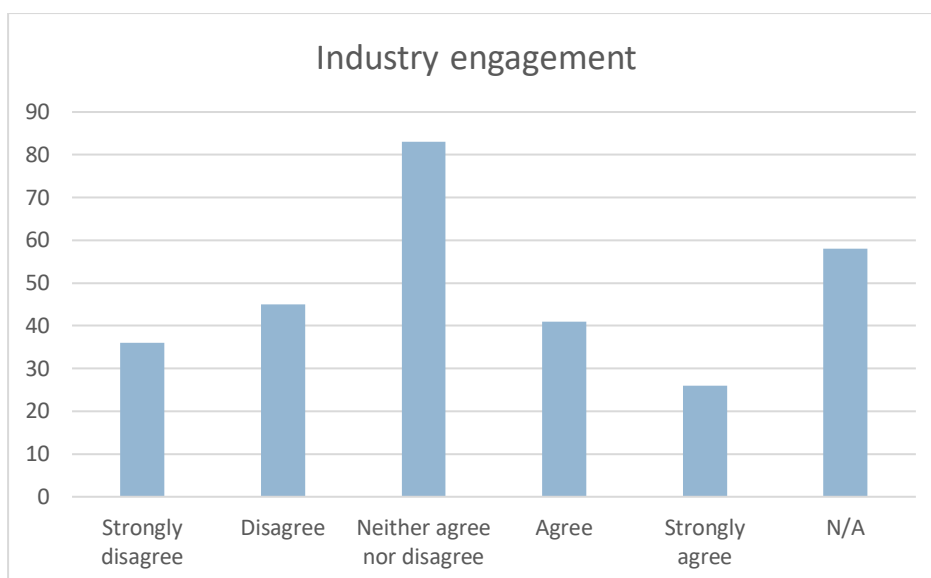
Figure 10 – Industry engagement satisfaction. Chart shows candidate responses to the statements, "I am satisfied with the opportunities I've been given for industry engagement".

Both the closed and open-ended responses to this question suggest that the definition of industry engagement is unclear among the HDR candidates. The PREQ showed 65% of JCU graduates were satisfied on the industry engagement scale – higher than the sector average of 57%. Respondents to the PREQ were given more structure in evaluating their experience of industry engagement through being asked to respond to the following statements.

- I am confident that I can apply my skills outside the university sector
- I had opportunities to develop professional connections outside the university sector
- I had opportunity to work on research problems with businesses, governments, communities, or organisations outside the university sector

Similar to the results of the PREQ, this current survey showed no statistically significant differences in satisfaction with industry engagement between groups of candidates.

Qualitative results: What has been good about your opportunities for industry engagement?

This question was designed to show where or how HDR candidates are having positive industry engagement (IE) experiences. Most respondents answered "N/A" or "Nothing" (n=123 and n=34), 26 provided no response and four did not provide enough information to code. A further 40 candidates provided negative responses, for example, indicating that they have not yet had any opportunities for IE (n=23), that IE is not relevant for them (n=5) or that it is too early in their candidature to say (n=4).

The remaining candidates (who responded indicating a positive industry engagement experience) approached the question from various angles. The themes of these responses are described in Table 6 below.

Table 6 – Themes of responses to the question "What has been good about your opportunities for industry engagement?" Table shows theme, number of candidates who mentioned each theme, a descripton of the theme according to the positive aspect of industry engagment experience identified by the candidate, and illustrative respondent quotes.

Theme	The positive aspect of industry engagement experience identified by the candidate is…

Making connections with people in industry n=24	Meeting people in industry via e.g., networking events, supervisor's connections, conferences, peers. "*Workshops through QCIF and eResearch centre, allowing me to meet with industry partners in the field of bioinformatics.*" (R061) "*Through my supervisory team and the other staff in the faculty I have made good connections*" (R102)
Means by which I have engaged with industry n=11	The program, partnership or grant that enabled the candidate to engage with industry (little further description about what the IE opportunity was). "*I've really valued the partnership between the Centre of Excellence and WorldFish.*" (R159) "*Supported by the Hospital through a SERTA grant has been a substantial enabler for quick progress and momentum*" (R122)
I initiated industry engagement opportunities myself n=9	That the candidate has initiated their own opportunities (little further description about what the IE opportunity was). "*I have made my own external connections to the industry*" (R237)
Working on real-world problems n=6	Opportunities to conduct or share research with stakeholders that will have a "real-world" impact. "Industry engagement has allowed me to work on project that can have direct impact on the ground." (R267)
Feeling more equipped to engage with industry n=4	How the candidate feels that they have learnt skills or gained understanding that will better help them engage with industry in the future. "*Data collection experiences taught me about how to engage with industry and marketing my research.*" (R112)
Outcomes from industry engagement n=4	What engaging with industry has led to for the candidate. "Experiencing research communities and methods outside of academic/university setting." (R124)
Industry engagement opportunities n=4	General comments about IE "opportunities" (little other information given). "*They are on offer*" (R057)
Changed perspectives on research outside the university sector n=2	Engaging with industry has changed the way the candidate thinks about their skills or their research. "*They are the people I think about when I am getting lost in the theory. I think, what would they need to take away from my study? It refocuses me on the applied value of my research.*" (R282)

Qualitative results: What could be improved about your opportunities for industry engagement?

The purpose of this question was to understand why many candidates were not satisfied with their experience of industry engagement. Of the 289 survey respondents, 116 candidates responded "NA", 14 responded "Nothing", 25 provided no response, 11 provided responses that lacked enough detail to code and 4 responded indicating they were unsure. A further eight candidates responded saying either that their opportunities for IE had been limited due to COVID or that it was too early in their candidature to comment.

The most common theme of recommendations for improving IE was general comments about IE opportunities (n=48). These responses did not detail what such opportunities would look like, but rather about the availability and nature of these "opportunities" in a general sense. Of these responses, 27 indicated they simply wanted more IE opportunities. This makes sense, given that in response to the previous survey question (What has been good about your opportunities for industry engagement?), 21 candidates specifically said they had not had any opportunities for IE.

The second most common theme of recommendations for improving IE was training and equipping candidates for engaging with industry (n=14). This theme included helping candidates to understand why IE is beneficial, training on how to approach and share research with workers in industry, hearing about different career paths and understanding what potential employers seek in employees.

Overall, the remaining responses indicated the candidates' want IE to be a part of their HDR experience that is simpler and easier to navigate. This would be achieved through further opportunities to meet other researchers (n=12), more internship opportunities (n=9), improving IE accessibility (n=9, particularly through better advertising of opportunities n=5), supervisors better facilitating IE for their candidates (n=7), JCU better supporting IE for HDRs (n=7), and more JCU-industry linkages (n=6).

Table 7 – Themes of responses to the question "What could be improved about your opportunities for industry engagement?" Table shows theme, number of candidates who mentioned each theme (frequency), and illustrative respondent quotes.

Theme	Frequency
Industry engagement opportunities (general) *"There has been no industry engagement so having some would be an improvement."* (R005) *"More arts focus /links at JCU"* (R070)	48
Training candidates to engage with industry *"I am sure there are opportunities out there, but it would be good to show us how to access them, or go about initiating contact.*" (R151) *"Information sessions organised by the industry will better help us understand what they would expect from us when we graduate."* (R254)	14
Opportunities to meet other researchers *"More professional networking events"* (R078) *"Perhaps getting linked with other university researchers in the same field"* (R157)	12
Internships	9

"More paid internships, also for internationals, would be very beneficial." (R040)	
Improving IE accessibility *"Better promotion of the industry placement opportunities etc."* (R)	9
Supervisors facilitating IE *"Again, supervisors need to be on board so that there isn't always a clash of competing demands. My supervisor never supported any of it, so I was always struggling to do it secretly in the background and I suspect that's not uncommon."* (R125)	7
JCU better supporting IE for HDRs *"A united front of engaging with different industry players and sectors led by the university, rather than the current approach of relying on individual researchers to secure their own engagement arrangements."* (R163)	7
JCU-industry linkages *"For JCU to better connect with industry like Department of Agriculture and Fisheries - they are extremely good at collecting samples (fish in my case) but not often the money to do all the research that is required, and JCU has plenty of students and researchers with money that can benefit from the large samples collected by sectors such as the government."* (R009)	6

College results

Satisfaction with industry engagement was low across all colleges/research centres, however there was some variation in satisfaction ranging from 39% to 13%.

Areas of need identified through survey results

The results of the HDR Candidature Experience Survey have made clear several areas of need for specific groups of candidates and for the HDR cohort altogether. The three main areas of need and our specific aims to improve the HDR experience are outlined in Table 8 below.

Table 8 – Areas of need identified from survey and specific aims for improving the candidate experience within each area. While we expect all candidates to benefit from the aims, groups of candidates who have shown greater need in each area are listed as benefiting groups.

Area of need	Specific aims: we want the candidates to…	Benefiting groups
Skills development, employability, and industry engagement	Know the opportunities for skills development available to them	Internal and female candidates
	Be aware of what sort of opportunities they will have to seek out themselves and where they should look for these	
	Have a better understanding of the skills they are developing as researchers, and what sort of careers they may be able to pursue	Whole cohort, particularly CASE, CSE, CPHMVS.
	Feel confident to approach workplaces outside the university sector so that they can line up opportunities for collaboration, sharing research, work experience/internships and employment	Whole cohort
Learning community	Connect with their colleagues socially through accessible and enjoyable social events	Whole cohort

		Form a support network with other researchers using similar methods or studying similar topics	
		Be able to connect well online – both socially and as researchers	External, female, and part-time candidates
		Form collegial connections with staff	
		Connect with their colleagues through outside-of-business-hours events	
Support		Be supported in their research by committed advisors	Whole cohort
		Be supported when they have issues with their advisory team	
		Be supported in navigating administration/university processes	Female and domestic candidates
		Be supported in accessing resources, equipment, or funding	CHS candidates
		Be supported in understanding their employability and seeking out opportunities to engage with industry	CBLG and CASE candidates
		Be supported in accessing the trainings they need for their preparation as researchers and for their careers.	External and female candidates

Questions for interviews – further unpacking areas of need

To develop suitable strategies to address the "support" and "learning community" areas of need, we required more information from the candidates. Below is an explanation of why collecting interview data about each of these areas is necessary, followed by a list of research questions which helped frame the interview question set as shown in Appendix 4. "Skills development, employability, and industry engagement" was not investigated further through candidate interviews as suitable strategies to address this area were clear from the survey data, compared to strategies to address "support" and "learning community".

Support

Our results showed that feeling "supported" is an important informer of a positive experience for candidates. Conversely, feeling unsupported strongly informed feeling dissatisfied with their overall HDR experience. Throughout the survey, candidates often felt that they could not access support when they needed it (e.g. through a learning community, their supervisor, through being able to access training or resources). While "support" was mentioned or implied frequently by the candidates, our results do not show clearly what "support" means to the candidates or what this looks like. This was a useful line of questioning to pursue in interviews. If we can unpack the idea of "support" in the candidate experience, we can tailor strategies for improvement to achieve this for the candidates.

The following research questions were used to frame interview questions about support:

- What does it look like for candidates to feel "supported" by different people/groups within the university?
- Do candidates know where to go for support? Do they use the support systems available to them?
- How can we build candidates' confidence to reach out for support when issues arise?

Learning community

The survey results showed how the candidates' experience of learning community could be improved. The needs of some candidates are clearer in this case, since the groups of candidates who were less satisfied – external, female, and domestic candidates – responded similarly to the open-ended questions about learning community. All three of these groups particularly appreciated cohort groups and a sense of collegiality and camaraderie as positive aspects of their learning community experience. All three mentioned they would like to see improvement in the following more frequently than their respective demographic counterparts:

- Bridging the gap between academic staff and candidates
- Fostering more online connections
- Opportunities to meet outside of business hours

Due to the complexities of the social situations described by the candidates, we should be careful to avoid making assumptions about what may help improve candidates' experience of their learning community. Therefore, it was important that we ask the candidates more specific questions about what facilitates a positive experience of learning community and what barriers prevent their engagement.

The following research questions were used to frame interview questions about learning community:

- What makes for a good social event? Why might candidates not attend a social event? How can social events be made more available or appealing to candidates?
- How can groups of candidates (who are using similar research methods or studying similar topics) be formed? How has this happened in the past? What do online interactions within existing groups look like?
- What do effective opportunities for candidates to connect online look like? How can this be replicated for other groups of candidates?
- In what circumstances do candidates connect with staff? How can these connections be facilitated, particularly for candidates who are not often on-campus?
- How can more out-of-business-hours events be made available to candidates?

Interview results

Fifteen current HDR candidates participated in individual interviews via Zoom. Full interview methods can be found in the Interview Methods section and the final interview question set in Appendix 4. Since all willing participants were interviewed, some demographic groups are over- or under-represented among the interviewees. Specifically, the interview cohort lacks college diversity – all but one of interviewees were from either CSE, CASE or JCU Singapore. All interview participant demographic information is shown in Table 9 in the Interview Methods section.

Support

To better understand what the candidates mean by "support" in their survey responses, we asked interview participants about:

- What support means to them as an HDR candidate
- Specific situations where they have felt supported or unsupported during their candidature, by certain groups (advisory team, other researchers, their college, and the university)
- Where they go for support with certain issues (administrative processes, advisory team issues, and accessing resources or equipment)

Five main ideas about support were mentioned repeatedly by the interviewees. These are discussed below and illustrated through quotes from the candidates. This list is not exhaustive of all ideas mentioned by all candidates, but rather gives an indication of shared understandings and experiences of support.

1. Responsive and accessible advisors

When asked, "what does support mean for you as an HDR candidate," 11 of the 15 interviewees mentioned their advisory team. The candidates discussed several aspects of advisor support, however, the most frequently mentioned idea was that they felt supported when their advisors were accessible and responsive. Consistent with the survey results, the interviewees felt that this aspect of the candidate-advisor relationship could either make or break their overall experience. The following quotes demonstrate the importance of having a responsive and accessible advisory team.

> "It means to have relatively easy access to my supervisors, so that, if I run into a problem, I can contact them in a relatively short time frame to get that sorted… that easy access and also a regular access with my supervisors is really vital for me." (Participant F)

> "My supervisors are fantastic. Every now and then they remind me: anytime you need to contact us, here's our phone number, here's our email, contact me anytime." (Participant J)

> "[Support] at the Supervisor level, for example, to have responsive supervisors who get back to you quickly, who show genuine interest in what you're doing and who are enthusiastic and encouraging… I think it's fair to say, given the mess of the last two years, if I'd had a poor supervisor or someone who is disinterested or just unkind, I don't think I'd still be here in the program." (Participant D)

> "That's my biggest bugbear: that I don't get feedback within a reasonable time. So, you know, you imagine writing a thesis so you go on and write another hundred thousand words and then you find out everything you just did is wrong because you didn't know way back at the fork in the road that you're on the wrong track, if that makes sense. (Participant B)"

2. Peer connections - normalising the experience of doing a PhD or MPhil

The interviewees often mentioned the importance of connecting with fellow HDR candidates, particularly in normalising the HDR experience and assuring the candidates that they are not alone. While some mentioned the benefits of being in contact with peers conducting research in a similar field to them, the interviewees felt supported by fellow HDRs regardless of research area, since the support was through sharing the experience of being an HDR candidate. This is illustrated in the following quotes.

> "But every time I join [the monthly HDR meeting], I enjoy it because I know I'm not alone. There are people in similar progress situations, yet to hit their milestone, or busy with ethics applications… This is an official, kind of, stop for us to really get to know each other and know that we are not alone, we are in a community." (Participant C)

> "Just to know that there's someone else in the same space who's trying to do something similar, it's really helpful. And also to know that this struggling mightily as well, just like you are, it sort of makes for a feeling of comradeship." (Participant F)

> "[Support from] my peer network at university, to have other HDR students, that we can all cry on each other's shoulders or celebrate our wins together, or just feel like this is normal, this too you will get through, and this phase of feeling like you don't know what you're doing

is completely normal! You know, that stuff. That's also really important for surviving." (Participant K)

3. Peer connections - contact with HDRs who are one step ahead

Another way the interviewees often felt supported by their HDR peers was through receiving help from candidates who were further along in their candidature. When asked about who they would go to for help with administrative processes, the majority of interviewees said they would first go to their peers. This peer-to-peer support is shown in the below quotes.

"Other candidates are probably like the best resource for [navigating administrative processes], because there are people who have, like, if you're going through your mid-candidature, there will be someone who's done it two months before you and so they're sort of more up to date with what the requirements are." (Participant G)

"In preparing the confirmation seminar - I think that's one of the biggest sources of stress for starting PhD students - and the thing that saves most of us is that other students that have gone through it offer support in figuring out what exactly you have to get done, what paperwork needs to be done, where you can find it, who you can go and talk with. I felt supported in how they heard my countless practice talks and gave feedback. And we have like group chats in our floor where we offer, kind of, data support and all things logistics and personal life, like how can I set up my first risk assessment? Oh, don't worry, I'll show you." (Participant H)

"I think the first stop off for help [with administrative processes] I would get is from fellow HDRs, if they have experienced something similar, and how did they solve it. So, that's going to be my first, kind of, port of call." (Participant C)

4. Being able to readily access information about candidature or related processes, and navigate administration

Several candidates shared that not being able to find information about their candidature or difficulty in navigating administrative processes is a big stressor for them and other HDRs they know. This is consistent with the survey results, which showed that administration was a common informer of a negative overall experience. The interviewees described how feeling "unsupported" in this area was often due to the cumulative effect of several experiences of difficulty finding information about their candidature, or finding administrative processes harder than they should be. A common example was that candidates often found the professional development program, especially recording their progress, difficult to navigate. Further examples are illustrated in the below quotes.

"I also think that, in terms of navigating the website, for example, for particular aspects of support, it can be difficult sometimes to readily find them… When you come in at the beginning, it is really quite overwhelming, and it is really quite difficult to find entry points to guide you in a bit more of a supportive way, I guess you could say, in accessing that information." (Participant N)

"A lot of this information, I have to ask around. It's not that I'm expecting to be spoon-fed, but it would save a lot of time if we had an information package, so we can say, "ah, if I need to get that done, these other people to contact, look into it" rather than me, not really knocking on doors, but asking my fellow HDRs, "how do I get this done, what are the resources I can make use of?" (Participant C)

"Support from the GRS for me would be providing clear, easy to follow outlines of what's expected from us as candidates, in terms of meeting our requirements, completing our forms, being able to understand how and when to submit forms, access to up to date, accurate forms… Responsive communication and organized communication would be another thing… I think there's a lot to manage as an HDR student, but when the systems are not well-organized and streamlined so that it's easy to start to learn them and understand them, it becomes a burden… It's overwhelming when it shouldn't be! It should be something that's supporting us, right?" (Participant K)

"I know we all do the mandatory orientation, but I would say that that doesn't really teach you anything you need to know about doing your PhD, especially for you know, like using riskware like using the workplace health and safety software for field trips, doing grants and stuff like that. That's all stuff that like JCU runs, but they don't tell you how to do it." (Participant G)

"I feel like the navigating the confirmation of candidature procedure was bit confusing at times and I didn't feel properly supported. I think that's partly because of the very confusing information that's on the JCU website. For instance, when I was planning the date for my confirmation of candidature, there were forms on the JCU website saying that the students had to complete the confirmation by six months, and then on the same page I could find a form saying that the information will not be done before six months, but had to be done before 12 months. And when asking different people, I'd get a different answer to the question. So that felt like there was not much support." (Participant H)

5. Personal circumstances are understood and accommodated

When asked about situations where they felt supported, the interviewees frequently shared stories of times in their candidature where their personal circumstances were understood and accommodated by their advisory team, their college or the GRS. Examples of these situations where candidates felt well-supported are shown in the following quotes.

"I had to… leave Australia, because of personal matters, a family member passed and [my advisory team] were super supportive in how they acknowledge that family was very important for me, and let me take leave to go and be with my family… I wouldn't expect PhD advisors to be doing that, but mine do that and I'm very grateful." (Participant H)

"CoC is pretty important for a person who's joined an HDR degree, especially when you've heard that there are only two chances in which you can pass, only two chances, right… During that time, I was actually, like I said, my parents were shifting. I didn't have enough time to actually do my literature review on time… If it was not for JCU Singapore actually helping me out during that time, even though they just extended the deadline for me, allowing me to extend the deadline was a major, major lifeline for me." (Participant I)

"I was being asked to attend a training on academic writing, or something… in the middle of some heavy workload in my preparation for my CoC. So, I was looking at the description of the content… and was feeling, well, maybe I don't need that, that's more for people who have not written any major academic work and I've had my fair share of that in the past. So, I was raising that with the organizer of the course and they said, "yes, that would be all right, if your advisor thinks you can skip it." Then so you get the support: I just talked to my primary advisor and he said, "yes, of course, I don't think you need that." And I think,

"phew!" As simple as that, so I need to do less of the bureaucracy I need to go through by just simply calling him up or shoot him an email… So I feel really supported." (Participant C)

"Just being, sort of, culturally aware of where different students come from and their circumstances… a lot of people have not been able to go back and see their families or reunited with their families. So, be aware of that and how that affects different walks of life, and especially when you're doing your PhD… just being aware of those different nuances of the situation is what I mean by support." (Participant O)

Likewise, candidates felt unsupported when their extenuating circumstances were not acknowledged, or not responded to appropriately by the university, as illustrated below.

"I hit that four-year point September next year, so I wasn't eligible for any of the COVID scholarship type stuff that they had on offer. I understand that money doesn't grow on trees, but even just to know that I can submit late and not be financially penalized, because we have been told, if we're late, we have to pay, I think, four grand I think that's per semester or something. It's what we were told in induction. And that's really stressful to know that, you know, obviously I've lost so many months of productive work time…" (Participant D)

Participant D went on to explain that they would have felt better supported if the university had means of identifying candidates extensively impacted by COVID, and were contacted by the university to inform them of what support could be offered. As shown in the quote above, Participant D would have felt better supported if they were given certainty about not being penalised for late submission.

Learning community

The 15 interviewees described diverse experiences of learning community. Some felt very connected with other researchers, while others seemed quite isolated. Importantly, spending time on-campus was not the main factor determining whether a candidate felt well-connected. While only three interviewees were technically external, many internal candidates have spent time working remotely over the past two years. The results discussed below do not include all aspects of learning community probed in the interviews. Instead, these results describe principles of forming learning community that arose from the interviewees' stories. Therefore, the results discussed below are, in the most part, relevant for all candidates, regardless of the time they spend on-campus.

Opportunities to connect

The experiences of learning community shared by the interviewees showed the importance of the candidates' own initiative in forming connections with other researchers. However, the opportunities to connect, discussed below, often served as a platform for candidates to go on and initiate their own connections. These opportunities gave the candidates an idea of who their fellow researchers were, what they were currently working on, and provided common ground for the candidate to initiate further conversations. Four types of repeatedly-mentioned connection opportunities are described below, through interviewee quotes.

1. **Regular college or discipline-level online gatherings**

"I've also been incredibly fortunate to be included, once we went on to zoom for things, one of the departments, the history department, which I'm not part of, but they were having morning teas on zoom all through COVID, and so I was able to join in with that and that became really important source of support and just friendship and, you know, sometimes it was serious,

sometimes it was just fun. And so I've made some really important connections through that." (Participant D)

"Every time I joined [the college gathering], I enjoy it because I know I'm not alone. There are people in about similar progress situation, yet to hit their milestone, or busy with ethics applications. So, I know, okay, if I run into this problem, I can talk to him or talk to her. That's pretty helpful actually." (Participant C)

"We are doing monthly catch-ups in our lab. So, during that time we'll introduce ourselves, we welcome any new HDR students if they joined recently, and give a one-minute intro for like what we are doing, what we are working on, which discipline or department we came from. So, introducing ourselves and introducing the new HDR students and making them feel comfortable and just like- and sharing you know where we are in the PhD journey, just like a chit chat. It's very informal." (Participant L)

"Because I started my PhD during COVID, in the beginning, I did feel very like isolated because we weren't allowed to go into campus so I kind of just didn't know anyone, and on a week-to-week basis it really was just me doing things from home and I didn't know my community. But [ADRE] was organizing these twice monthly morning teas for all the new HDR people to get on zoom and meet each other and chat. And that was like such a huge part of getting me through the beginning of my PhD during the COVID pandemic." (Participant M)

2. **Platforms for casual online communication**

"We are on WhatsApp, and we update one another, you know, on our progress, and we have chats. So, and I reach out, I can connect very well with one or two. Especially when I have certain questions, I can reach out to them for help, you know, even like claims on Concur, if you don't know [how to use it] it can take up a lot of time. So they helped me. We went on zoom and then we actually do that together." (Participant A)

"I'm the only one in my topic area in the whole uni, so I don't have like a cohort in that sense. However, I have made friends with… other creative arts students. And we actually connect a lot on Facebook, and we just message each other if we've got questions because we're all at different points along the path, or just to cheer each other on. So that's been really good. There isn't an official university pathway to connect with people as an external student… The very first connection happened when another female lecturer from my, sort of, general department… knew of a big Facebook group that they have, so she got me hooked in with people, and so then I was able to make some friends sort of that way." (Participant D)

3. **Shared learning opportunities**

"I think these [Shut Up and Write] sessions are essential for every HDR student because they need to produce output… half of the time they have to write and show what they did, right… For that half day, we can just focus on writing, which can improve our productivity. I mean, it can attract students to come and sit, write, work in a group, and they can chit chat during breaks, small breaks, which can both work, you know we can improve our productivity, plus we can have some networking." (Participant L)

"The HDR conference… last year was a really excellent vehicle to regain a sense of shared research passion, if you like, and also that peer-to-peer support that you need when you're trying to figure out how your research might be developing when you're looking at what other people are doing… It was a very collegiate atmosphere, so the peer-to-peer learning and support

that I personally received through that event was incredible and can't be underestimated… The fact that you could actually interact or listen to academics who weren't anywhere in your advisory orbit, or whatever, or weren't people you were having to coursework as part of your degree and listen to a lecture or something, it was just really excellent to have that opportunity to get that academic professional support in the context of that gathering." (Participant N)

"I did do the SKIP program last year, which I know they've changed it now into a writing module, but I think those sorts of group learning opportunities are just really invaluable and great. They are actually what allows you to get to know people, you get some familiarity with people, and if you want to deepen any of those relationships, particularly around sort of similar research areas or shared interests, then that's just a really good way of getting to know people." (Participant N)

"I used to really enjoy Shut Up and Write, quite a bit. So much so, that I'm actually thinking of restarting it, despite being in [home country] with the time difference, at least once a week with one of my lab groups because it's such a helpful, sort of, tool to even meet people online, and you know, have a chat and have a community to work with." (Participant O)

4. **Workspace proximity/shared lunch areas**

"If there is a new candidate… the person comes around with [College ASO] and meets the people in the office. It's less of a formal introduction and more, "meet this person, meet this person, meet this person." So then we can get to know: this person is an HDR candidate, this person is an HDR candidate. So, it's nice because it's like an organised form of introduction which is quite good because I got to meet the current candidates when I started and hear "this person is from this place, this person is from your country." So, it's kind of an icebreaker, you get to know, oh, we have something in common and start off conversations." (Participant E)

"I feel lucky that in the Science Place where we are, it's a pretty, to some degree, close community of students, and I feel like the common lunch areas that merges many labs has helped in that regard, so I do feel supported by the broader PhD community." (Participant H)

To repeat, these opportunities serve to introduce candidates to their fellow researchers, and provide a first connection point, from which the candidate can reach out to further establish the connection. While workplace proximity and shared lunch areas are not available to candidates who are off-campus, the remaining three types of connection opportunities are available to candidates regardless of where they are working. In the examples of shared learning opportunities above, note that Participant N is an external candidate, and Participant O, although previously on-campus, is now working from overseas.

Candidate initiative

Candidate connections with non-HDR researchers were sometimes facilitated by opportunities similar to those described above, but are clearer examples of the importance of candidate initiative in forming connections. The quotes below illustrate the candidates' experiences of reaching out to other researchers.

"[The researchers I've connected with] were really just staff who I met through group events like morning tea, or even induction when I went out for that. Yeah, so I think it would be really unusual to just message or email a staff member and go, "hi, let's have coffee," but if you've already met them in a group setting it becomes so much easier, because then you can be like "Oh, you were talking about this, I'd love to hear more about that." (Participant D)

"The first couple [of researchers I connected with] were through articles that I found, and you can imagine there's not that many articles written about [topic] it's a very, very niche area. But a couple of published in 2019 and I looked at them and I thought I'll give [the author] a ring… over the last couple of years we've got a good rapport going on and we exchange ideas." (Participant B)

"I told my peer I was stuck on this, and they said, "Hey [candidate's name], why don't you approach this person? She's very good." I have actually shared my sentiment with a few [academics] that I am more comfortable sharing with, and they have the time for me to talk about my project." (Participant A)

"[I might contact a researcher about] particular questions around a particular theory that they may have published on, or, you know, may have a particular expertise in, but it's very specific that where I would go to someone who's not facilitated, either through my advisory panel, but it's someone that I would have already met face to face, so I'm just not going to bomb them. Hopefully, they will know who's asking the question." (Participant N)

"It can be really nerve wracking to front up to somebody and say, "Hi, I really love your work". You feel a bit like a fan girl, but at the same time, all of the people that I've done that with, I've either had the opportunity to work with them subsequently, or they've been really important in terms of my network and providing me with knowledge and encouragement and support when I've least expected it." (Participant K)

A note on on-campus social events

We asked the interviewees about social events they have enjoyed throughout their candidature. Some of these are described as "opportunities to connect" above. However, on-campus gatherings solely intended for socialization and enjoyment (that have nothing to do with research) were not discussed above. This was because many interviewees said there had been very few – if any – of these events recently due to COVID; the candidates rarely *formed* connections through these events; and such events are not accessible to candidates who are not based on-campus.

This does not mean just-for-fun, on-campus social events are not of value. Interviewees who took part in recent events found them enjoyable and a good de-stressor, while getting to know their HDR peers better. Several interviewees within CSE appreciated that the College encouraged them to organise their own social events and provided SSAF funds to do so.

Strategies for improvement

From the areas of need made evident by the survey and interview results, we considered strategies to improve the HDR experience for current and future candidates. Below is a discussion of these strategies, within the areas (as shown in Table 8): (This is not a complete list, further strategies will develop over time and with the addition of college strategies when they are developed.)

- Skills development, employability, and industry engagement
- Support
- Learning community

Skills development, employability, and industry engagement

The survey results revealed that many candidates are unsure of how their research skills were useful outside the university sector, or of what their career path might look like following graduation. In response, we plan to:

- **Help candidates better visualise the jobs or industries which require advanced research skills.** This might be be achieved through providing candidates access to job-searching software such as PostAc, which uses artificial intelligence to help candidates navigate the job market for research graduates. From this, we expect the candidates will also develop a clearer idea of where they could look for industry engagement opportunities during their candidature. This might also be improved by subscription to the new unlimited e-Grad School licence that gives HDRs access to career-oriented training from a high quality provider.
- **Empower candidates to build their employability during their candidature and better understand the value of their skills outside the university sector through sharing alumni stories.** Alumni would be invited to submit video responses to key questions about their career path and how they developed their employability during their candidature. Through hearing and identifying with these stories, we expect that candidates will gain confidence and be more proactive in seeking out training and industry engagement opportunities.

Support

The survey results made clear that "support" heavily influenced how candidates felt about their overall experience. Through the interview results, we have a clearer picture of what support means to the candidates. In response, we plan to:

- **Share with advisors and ADREs evidence of the influence that they personally have – particularly being accessible and responsive – in the overall candidate experience.** The candidate stories shared through both the survey and interviews would be helpful in doing this.
- **Continue a process of reviewing and restructuring information access and communication with candidates** through:
  - Continuing to review the content and structure of information provided to candidates. This process has begun with the provision of online milestone-management guidance documents specific to both doctoral and MPhil candidatures.
  - Reviewing the structure and content of the GRS website. This process has already begun as a collaboration between staff from both GRS and Marketing.
  - Running all RD7003 Professional Development processes through SkillsForge. This has been approved for implementation by the Digital Advisory Committee and procurement is underway.
  - Beginning an investigation into the communication and information access systems currently operating for undergraduates within JCU and for research students at other universities with the aim of applying what works across to HDRs where applicable

Peer connections were also an important aspect of support. Recommendations regarding these will be discussed in the Learning Community section below.

Learning community

From the survey results, we could see that learning communities were influential in candidates' overall experience, yet satisfaction with learning communities was low. Through the interviews, we gained a better understanding of how candidates benefit from being part of a learning community, and that "opportunities to connect" and candidate initiative both play important roles in forming learning communities. In response, we plan to:

- **Share with relevant staff how they can help offer candidates opportunities to connect**
  - **Share with colleges and advisors how candidates have benefited from regular college or discipline gatherings.** Encourage those who are currently organising such gatherings to continue and encourage others to consider if a regular gathering could work well for their college/department/lab group. Offer the following advice regarding these gatherings:
    - Allow for casual conversation and sharing of experiences – consider what group size would best facilitate this.
    - Provide a way for candidates to get in touch with each other afterwards (simple as seeing the email addresses in the calendar invite).
    - Consider online gatherings rather than in-person, depending on what makes the meeting most accessible to those invited. If most candidates are on-campus, consider alternating between in-person and fully online gatherings to include candidates working off-campus.
    - Invite relevant academics or professional staff that will be helpful for candidates to know
    - Extend the invitation to HDRs who may not be part of the discipline area, but would benefit from the community, nonetheless.
  - **Consider the role HDR ambassadors could play in helping candidates communicate in more casual online settings** (e.g. Facebook groups, group chats). Ambassadors could know which groups currently exist and help candidates get in contact with the candidate running the group.
  - **Encourage advisors or college staff to introduce incoming candidates to other researchers in/near their workspace.**
- **Empower candidates to build their own learning communities**
  - **Share with candidates stories of how alumni built their own learning communities.** Invite alumni to record video responses to key questions about how they formed connections with other researchers during their candidature, how the connections benefited them both during candidature and since graduating.
  - **Educate advisors on the benefits of research communities and how to build them**. The Coordinator HDR Advisor Development is preparing an Advisory Practices and Resources to Build Research Communities page, including links to examples of available networks and scholarly articles on the benefits of different types of communities.

References

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Centers for Disease Control and Prevention (2014) Cognitive interviewing. URL: https://www.cdc.gov/nchs/data/washington_group/meeting5/wg5_appendix4.pdf

Methodology

Survey design

The JCU HDR Candidature Experience Survey was designed to yield results comparable to the PREQ, while offering the candidates several opportunities to further describe their experience through open-ended questions. In line with the PREQ scales, this survey invited candidates to reflect on their experience overall and on the following aspects:

- Supervision
- Learning community (termed "intellectual climate" in the PREQ)
- Skills development and training
- Physical infrastructures
- Industry engagement

For each of these categories, candidates were asked to rate their agreement with 1-3 statements about that aspect of their HDR experience thus far. Additionally, the candidates were asked what could be improved about each aspect of their experience, except physical infrastructures. We chose not to ask open-ended questions regarding physical infrastructures because this is an area of the HDR experience that is very dependent on the individual candidate. Therefore, we cannot reasonably expect to improve candidates' experience of physical infrastructures from the results of surveying a sample of the whole HDR cohort.

The survey also asked candidates what has been good about their experience of learning community. This is because this area showed the most variation in experience between demographic groups in the PREQ and we were eager to understand what a positive learning community experience looked like for candidates. The same was asked regarding industry engagement as the PREQ showed JCU candidates were more satisfied with their experience of industry engagement than candidates across the sector.

Questions corresponding to the PREQ Goals and Expectations scale and Thesis Examination scale were not included in the current survey since items within these scales applied primarily to graduates, rather than current candidates.

As this survey was anonymous, the candidates were also asked some questions about themselves and their candidature. This information was collected so that the experience of different groups of candidates could be compared, and so that specific feedback could be given to the Colleges and cohort groups within JCU.

Finally, the candidates were asked if they would be willing to further share their experience in an interview, again with the incentive of a point towards the Leadership and Initiative component of RD7003. Candidates who indicated they were willing were provided with directions on who to contact to express interest without having their own email address linked to their survey responses.

Survey testing

Prior to releasing the survey, a draft of the survey was tested and modified to ensure each question would be easily understood. Three candidates from each college/research centre were randomly selected and invited to partake in a survey pre-test interview, with the incentive of a point towards the Leadership and Initiative component of RD7003. Of the candidates who were contacted, three responded and were willing to partake in a pre-test interview.

The interviews were conducted over Zoom. The interviews were conducted as cognitive interviews based on the procedure outlined by the Center for Disease Control and Prevention National Centre of Health Statistics (2014). After the candidate was asked each question as written in the survey, the interviewer noted the following:

- Did the respondent need you to repeat any part of the question?
- Did the respondent have any difficulty using the response options?
- Did the respondent ask for clarification or qualify their answer?

Then, to determine whether the candidate understood the survey question as intended, the interviewer asked the open-ended follow-up probe: why did you answer that way? Further cognitive probes were asked based on the candidate's answer.

If this process showed that the candidate did not understand the survey question as intended, or the candidate indicated that the response options were not suitable, the question was modified accordingly. This was an iterative process, with modifications made after each pre-test interview. After the third pre-test interview, we were satisfied that the questions were clear and yielding the information we were seeking. For the final version of the survey, see Appendix 1.

Survey distribution

The final version of the survey was distributed by email to all currently enrolled HDR candidates on 26 August 2021 (see Appendix 2 for full email). Candidates who completed the survey were able to enter a draw to win one of three available $100 gift cards. At the end of the survey, the candidates were asked to follow a link to a separate form where they could enter their email address and be part of the draw, without having their identity associated with their survey responses.

A week and a half after the survey was initially released, the candidates were all sent an email reminding them to complete the survey. Over the following week and a half, candidates were also contacted by their ADREs, further encouraging them to complete the survey. The survey was closed on 16 September 2021.

Quantitative analyses

The response options for all closed survey questions allowed candidates to rate their agreement with each statement on a five-point Likert scale. The responses of different groups of candidates were compared to identify any statistically significant differences in satisfaction between groups (e.g. domestic/international, full-time/part-time, male/female, internal/external). To do this, the responses were converted to the following values:

- Strongly disagree = 1
- Disagree = 2
- Neither agree nor disagree = 3
- Agree = 4
- Strongly agree = 5

From here, a mean 'score' for each group and each question was calculated. To determine whether there were any statistically significant differences in satisfaction between groups of candidates, mean scores were compared via a series of independent-sample t-tests. Differences in mean scores were considered statistically significant if the t-test yielded a p-value less than 0.05.

Qualitative analyses

Developing themes and sub-themes from responses to open-ended questions

The responses to the open-ended questions were analysed using the constant comparative method described by Locke (2001). Via this method, "concepts are developed that account for perceived patterns in sets of data observations; each concept is indicated by a set of empirical observations" (Locke, 2001, p.45). In the case of this analysis, "data observations" are ideas expressed in a candidate's response and "concepts" are called themes and sub-themes. The aim of the analysis is to

accurately represent all ideas in response to each open-ended question through a series of themes and subthemes.

The four stages of Locke's (2001) method were conducted iteratively throughout the analysis for each open-ended question. These stages were to compare incidents applicable to each category, integrate categories and their properties, delimit, and write.

The process described in Stages 1 and 2 were conducted using NVivo 12. Prior to this, the raw survey responses were prepared by creating a transcript for each candidate's responses (each transcript included all responses from that individual). These transcripts were imported into NVivo as cases.

Identifying themes or sub-themes mentioned more frequently by specific groups of candidates

We were interested to see how different groups of candidates (domestic/international, full-time/part-time, male/female, internal/external, college) responded differently to the open-ended questions. By doing this, we could potentially identify reasons why a particular group may be less satisfied than another, along with areas that could be addressed to improve the experience of that group of candidates.

Demographic data of each candidate was linked to their response as a "case attribute" in NVivo. Themes/sub-themes were highlighted as being of importance/requiring further consideration for a demographic group when the proportion of that demographic group indicating that theme was at least double the other group's proportion amongst respondents.

This two-fold difference in proportions is arbitrary as a cut-off value but is helpful since it would be inappropriate to test for statistical significance in this situation as the themes/sub-themes are a result produced by researcher coding, rather than raw data. For ease in the Results section, themes/sub-themes with at least a two-fold difference in proportions between groups are simply said to be "mentioned more frequently" by a specific group.

Interview methods

Question set design

We conducted interviews to further unpack the idea of "support" for HDR candidates and to gain a clearer understanding of what their learning communities look like and how such communities form. An explanation of why these areas were addressed via interviews is included in the section Questions for interviews – further unpacking areas of need, followed by research questions to frame interview questions. From these research questions, an interview question set was drafted and tested through a pilot interview with an HDR candidate. The pilot interview showed that the draft question set was largely successful in addressing our questions about support and learning communities, however some redundant or confusing questions were removed. The final question set is shown in Appendix 4.

Initially, interview data was to be collected through a combination of individual interviews and focus groups. However, due to the success of the individual pilot interview in prompting in-depth reflection on the participant's own experience, we decided to conduct individual interviews only. Since the final question set was similar to the draft set, the pilot interview results were included in the Interview Results section.

Participant invitation

All candidates who indicated they were willing to partake in an interview at the end of the HDR Candidature Experience Survey were invited to participate via email. The invitation included a Participant Information Sheet and Consent Form (Appendices 5 and 6) for the candidates to read, sign and return to the interviewer, if they choose to participate. Fifteen candidates accepted the invitation and returned their Consent Forms accordingly.

Conducting interviews

The interviews were conducted in a semi-structured format, meaning that the interviewer would ask additional, non-leading clarifying questions as required to aid the interviewees in responding to the initial question. All interviews were conducted via Zoom and recorded. Zoom's audio transcript function was used to generate rudimentary transcripts for each interview. These transcripts were edited to match the interview audio recordings word-for-word. All transcripts were anonymised and details that could be used to identify the candidate were removed.

Table 9 - Interview participant demographics

Participant	Program	College	Groups	Study mode	Study load	Gender	Australian citizen or permanent resident
A	PhD	JCU Singapore	None of the above	Internal	Full-time	Female	No
B	PhD	CPHMVS	DTHM cohort program	External	Part-time	Male	Yes
C	PhD	JCU Singapore	None of these groups	Internal	Full-time	Male	No
D	PhD	CASE	None of the above	External	Full-time	Female	Yes
E	PhD	CSE	None of the above	Internal	Full-time	Male	No
F	PhD	CASE	None of the above	Internal	Full-time	Male	Yes
G	PhD	CSE	None of the above	Internal	Full-time	Female	Yes
H	PhD	CSE	None of the above	Internal	Full-time	Male	No
I	PhD	JCU Singapore	None of the above	Internal	Full-time	Male	No
J	PhD	CASE	None of the above	Internal	Full-time	Female	Yes
K	PhD	CSE	AIMS@JCU	Internal	Part-time	Female	Yes
L	PhD	CSE	None of the above	Internal	Full-time	Female	No
M	PhD	JCU Singapore	None of the above	Internal	Full-time	Female	No
N	MPhil	CASE	None of the above	External	Full-time	Female	Yes
O	PhD	CSE	None of the above	Internal	Full-time	Female	No

Data analysis

The researcher was familiarised with the interview data through conducting the interviews and through the transcription process.

The interview data were analysed in a pragmatic way (the results of the analysis were to inform strategies for improving the candidate experience) by identifying the principles of support and learning community underlying the candidates' diverse experiences. Identifying these principles was an important step in the process of developing recommendations that would be beneficial to the wider HDR cohort, as illustrated via Figure 15 below.

| Diverse experiences of the 15 interviewed candidates | → | Underlying principles of support and learning community | → | Strategies for improvement, applicable to the wider HDR cohort |
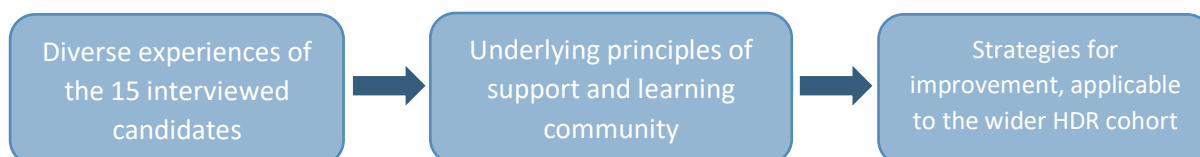
Figure 15 – Visual overview of the interview data analysis process.

To identify the principles underlying the interviewees' experiences of feeling supported or unsupported, the researcher asked the question of the data: "What about this situation is making the candidate feel supported/unsupported?" The answer to this question (according to the researcher) was added as an annotation on the transcript, alongside the relevant quote. Quotes that illustrated the underlying principle were highlighted in the transcript.

Similarly, to identify the principles underlying the interviewees' learning community experiences, the questions were asked: "What does this experience tell us about how learning communities are formed?" and "Why did the candidate find this experience of learning community positive/beneficial?" Again, the answers to these questions were recorded on the transcript and relevant quotes were highlighted.

Underlying principles identified in several candidates' responses were described and illustrated with interview quotes in the Interview Results section. Principles that were only identified in one candidate's responses were excluded from the results section, as these are less likely to be reflective of the wider HDR cohort's experience than principles repeated by several interviewees.

Appendix 1 – Survey Instrument

Higher Degree Research Candidate Experience Survey

Thank you for being willing to take part in this survey. It will take you about 10 minutes to complete. This is an anonymous survey – your identity will never be associated with your responses. Data collected through this survey will be used by the Graduate Research School solely for the purpose of improving the experience of current and future Higher Degree Researchers. Upon completing this survey, you will have the option to enter a draw to win one of three available $100 International gift cards.

Section 1 - Candidature information

First, we'd like to collect some general information about you and your candidature. This is so we can identify levels of satisfaction experienced by particular groups. Your name or student number will never be linked to the information you give us.

Which program are you enrolled in?

- PhD
- Professional Doctorate
- MPhil

Please select your college below.

- College of Healthcare Sciences
- College of Medicine and Dentistry
- College of Public Health, Medical and Vet Sciences
- College of Science and Engineering
- College of Business, Law and Governance
- College of Arts, Society and Education
- ARC Centre of Excellence for Coral Reef Studies
- Indigenous Education and Research Centre
- JCU Singapore

Do you belong to any of the following groups?

- DTHM Cohort doctoral studies program
- AIMS@JCU
- AITHM
- None of the above

What is your current study mode?

- Internal
- External

What is your current study load?

- Full-time
- Part-time

What is your gender?

- Female
- Male
- Prefer not to answer

Are you currently an Australian citizen or permanent resident?

- Yes
- No

What was the last milestone you successfully completed?

- Confirmation
- Mid-candidature
- Pre-completion
- Yet to complete any of the above milestones

Section 2 – Overall satisfaction

We're interested to know about your overall experience as a higher degree (doctoral or masters) researcher.

Please rate your agreement to the below statement.

Overall, I am satisfied with the quality of my higher degree research experience thus far.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Why did you rate your overall experience this way?

[Open-ended response]

Section 3 – Zooming in

Now we are going to ask you about specific aspects of your higher degree research experience. We are hoping to better understand how satisfied you are with your experience, what has worked well, and what could be improved.

Please feel free to keep your responses to the open-ended questions brief. Some short sentences or a few dot-points is plenty.

Please rate your agreement with the following statements about the **supervision** you have received so far in your research degree.

I am satisfied with my supervisory team.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Supervision is available when I need it.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

What could be improved about the supervision you have received?

If you feel nothing could be improved, please answer "nothing" or "N/A".

> [Open-ended response]

Please rate your agreement with the following statements about the **learning community** you have experienced so far in your research degree.

I feel part of a learning community with other doctoral/masters research students.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

I feel involved in my department's broader research culture.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

What has been good about the learning community you've experienced so far during your research degree?

If you feel that nothing has been good, please answer "nothing" or "N/A".

> [Open-ended response]

What could be improved about the learning community you are experiencing during your research degree?

If you feel nothing could be improved, please answer "nothing" or "N/A".

> [Open-ended response]

Please rate your agreement with the following statements about your **skills development opportunities** during your research degree.

This includes opportunities to develop skills through conducting your research project, along with additional professional development activities.

Overall, the training opportunities available to me are **appropriate for my needs**.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

From the training I have received, I feel better prepared **as a researcher**.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

From the training I have received, I feel better prepared **for my career**.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

What could be improved about the skills development opportunities you received during your research degree?

If you feel nothing could be improved, please answer "nothing" or "N/A".

[Open-ended response]

Please rate your agreement with the following statements about **physical infrastructures** made available to you for your research.

Physical infrastructures include workspace, equipment, resources and finances.

I can **access** the physical infrastructures I need for my research.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

I am satisfied with the **quality** of physical infrastructures made available to me for my research.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Please rate your agreement with the following statement about **industry engagement**.

This includes building professional connections, working on real-world problems outside the university sector, and seeing how your research skills apply outside the university sector.

I am satisfied with the opportunities I've been given for **industry engagement**.

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- N/A

What has been good about your opportunities for industry engagement during your research degree?

If you feel that nothing has been good, please answer "nothing" or "N/A".

    [Open-ended response]

What could be improved about your opportunities for industry engagement during your research degree?

If you feel nothing could be improved, please answer "nothing" or "N/A".

    [Open-ended response]

Section 4 - Willingness to participate in a focus group interview

The focus group interviews will be approximately an hour long and will be conducted via Zoom with 5-7 other research students and a facilitator. All responses from the interviews will be anonymised. From all students willing to participate, the Graduate Research School will purposefully select which students are interviewed to ensure we are hearing the experiences of a diverse group of students. Those selected for a focus group **will earn one point** towards the Leadership and Initiative category of RD7003 Professional Development.

Would you be willing to participate in a focus group interview to further share your experience and provide feedback on how the experience of research students can be improved?

- Yes, I am willing to participate in a focus group
- No, thank you

[If candidate responds "Yes" to previous item] Thank you for being willing to participate in a focus group interview

Please email Sophie Hubbard at sophie.hubbard@jcu.edu.au indicating your willingness. This email will not be linked to your survey responses.

Please remember to click "Next" to finish the survey.

Section 5 – Enter the draw to win one of three $100 international gift cards

Because you have completed this survey, **you can enter a draw to win one of three available $100 International gift cards**. To enter, please follow the below link to a separate form where you can

enter your email address. Because this is a separate form, your email address cannot be linked to your survey responses.

https://forms.office.com/r/71dfgiScQV

Please remember to click "Submit" to finish the survey.

Entry to potentially win one of three available $100 international gift cards

Thank you for completing the Higher Degree Research candidature experience survey.

Please enter your JCU email address below if you would like to enter the draw to win a gift card.

[Open-ended response]

Appendix 2 - Survey Invitation

Subject: Candidature experience survey

Dear Candidate,

The Graduate Research School (GRS) wants to help improve your experience in your research degree. We are eager to hear about your experience thus far as a Higher Degree Research candidate and hear about how your experience could be improved.

Higher Degree Research candidature experience survey

The survey linked below is anonymous and will take you about 10 minutes to complete. Please take the time to complete the survey in the next week.

https://forms.office.com/r/8ptKGBaadw

All candidates who complete the survey will be given the opportunity to **enter a draw to win one of three available $100 international gift cards**. There will be an option at the end of the survey for you to enter this draw by submitting your JCU email address into a separate form. This will ensure that your email address is not linked to your survey responses.

How will the information I share be used?

The GRS will use the information collected in this survey to:

- Gauge how satisfied candidates are with their research degree experience.
- Work towards interventions to improve the experience of the Higher Degree Research cohort, or specific groups of candidates who require additional support.
- Provide specific feedback to the Colleges about how they can best support their candidates.

Your responses will never be used for any other purposes and will never be linked with your name or student number.

Focus group interviews

Towards the end of the survey, you will be given the option to participate in a focus group interview. We understand that each candidate's individual circumstances are complex and cannot be fully captured in a survey, so we are eager to hear more of your experience in an interview context.

The focus group interviews will be approximately an hour long and will be conducted via Zoom with 5-7 other research students and a facilitator. All responses from the interviews will be anonymised. From all students willing to participate, the Graduate Research School will purposefully select which students are interviewed to ensure we are hearing the experiences of a diverse group of students. **Those selected for a focus group will earn one point towards the Leadership and Initiative category of RD7003 Professional Development.**

If you are willing to participate in a focus group interview, please complete the survey, select the option indicating you are willing to participate, and email Sophie Hubbard at sophie.hubbard@jcu.edu.au (these contact details will also be linked in the survey).

Thank you in advance for helping us improve the research degree experience for you and for future candidates.

Kind regards,

Appendix 3 = Qualitative Results

Q: Why did you rate your overall experience this way?

I have had a **positive** experience…

Theme name	Subtheme name	Number of candidates who mentioned subtheme/theme	
With my supervisor(s) because…	I am happy with their supervision overall.	45	83
	They are supportive.	35	
	They are available.	3	
	They are skilled in my area of research.	2	
	They are respectful.	1	
	They are understanding.	1	
With support…	From my college (or research centre).	15	66
	Because I generally feel supported.	13	
	From the GRS.	13	
	From the university.	10	
	From staff.	9	
	Because I've been assisted with enquiries.	4	
	From other candidates in my cohort.	2	
	From my college dean or ADRE.	2	
	Through COVID.	2	
	Because I know where to find it.	2	
	From the library.	2	
	Because my research group is helpful.	1	
	Around academic issues.	1	
With skills development, PD, and training because…	I'm pleased with the skills development offerings available to me.	7	16
	I have developed skills.	5	
	The training I have received has been high quality.	2	
	I have completed the required PD hours.	1	
	These opportunities are continuing via Zoom.	1	
With resources and facilities because…	The facilities I use are of good quality.	9	16
	The resources I need are available.	4	
	The funding or financial support I need is available.	2	
	The resources available to me are good quality.	2	
With my cohort group…	DTHM Doctoral Cohort Program.	9	13
	AIMS@JCU.	3	
	AITHM.	1	
With interacting with other researchers because…	I feel welcome.	3	8
	The community is good.	2	
	I've been given opportunities to meet other researchers.	2	
	I have developed collegial connections.	1	
	Overall	27	
	Because I am progressing well towards completion.	15	
	Because I am happy with the degree program offered	7	

	by the university.		
	Because I am enjoying my research project.	6	
	Because I enjoy the self-directed, flexible nature of research degree.	4	
	Because I am learning new things.	2	
	Because my project is back on track after COVID.	2	
	Because I appreciate the flexibility of working externally or online.	2	
	Because of the balance in types of work within my project.	1	
	Because I've been given clear guidance through each milestone.	1	
	Because the science is excellent.	1	
	Because of the high academic standards.	1	
	Because of the great induction materials for new candidates.	1	
	Because of the highly qualified staff.	1	

I have had a **negative** experience…

Theme name	Subtheme name	Number of candidates who mentioned subtheme/theme	
With my supervisor(s) because…	I am unhappy with their supervision overall.	7	27
	They lack time or have been unavailable.	5	
	They lack understanding of my subject area.	5	
	They do not support me well.	4	
	I've had communication issues with them.	3	
	They are slow to give feedback on my work.	2	
	They haven't given me enough guidance.	2	
	They acted unethically.	2	
	They were removed.	1	
	They are ill-equipped to advise me well.	1	
	It was difficult to find one.	1	
With support…	From the GRS.	9	24
	Because I generally feel unsupported.	3	
	For candidates pursuing an academic career.	2	
	Because the university's services were not helpful.	2	
	Because I was not assisted with supervisor issues.	2	
	From my department.	1	
	For mental health.	1	
	For navigating processes.	1	
	From the university.	1	
	For navigating my HDR experience as a parent.	1	
	Because it was difficult to find help.	1	
	As an external student.	1	
Because COVID impacted…	My HDR experience.	8	18
	My research.	6	
	My research timeline and this was not understood by	2	

	others.		
	My situation and I was not supported through this.	1	
	My opportunities to meet other candidates.	1	
	The security of my financial support.	1	
With administration because…	With administration because	6	16
	There is too much of it.	4	
	There is a lack of clarity around JCU HDR processes.	3	
	Administration has been poor.	2	
	I have not been supported with paperwork.	1	
	The admin website is unclear.	1	
With my learning community because…	I lacked collegial connections.	5	16
	I felt isolated.	4	
	I wasn't part of a cohort.	2	
	There is little collaboration between research groups.	2	
	I had limited face-to-face time as an external candidate.	1	
	I lacked social interaction.	1	
	I didn't hear about events since I'm not part of a lab group.	1	
With communication because…	Communication with HDRs is often unclear.	5	15
	There is a lack of communication within my college or department.	2	
	I had negative interactions with staff.	2	
	Communication from GRS was poor.	2	
	Communication from management around teaching is poor.	1	
	Online communication was disorganised.	1	
	Program information is difficult to find.	1	
	We are not reminded when fees are due.	1	
With skills development, PD, and training because…	I am unhappy with the quality of the PD courses.	2	13
	It is hard to navigate which PD courses I have done or need to do.	2	
	PD takes too much time.	1	
	Valuable skills are not taught as part of the PD program.	1	
	There was a lack of training opportunities available earlier in my candidature.	1	
	The PD program lacks additional cultural awareness opportunities.	1	
	I felt pressured to complete the induction programme.	1	
	I was confused about the mandatory training.	1	
	More PD would improve my experience.	1	
	There should be more training for commencing students around processes.	1	
	I'd prefer if the PD was not mandatory.	1	
With resources and funding because…	The equipment or resources I needed were lacking.	3	9
	I couldn't get the funding I needed.	2	
	Tuition is unreasonably expensive.	1	
	Resources are not advertised clearly across colleges.	1	
	SSA fees are expensive.	1	
	I have limited access to the equipment I need.	1	

	Because the HDR experience is difficult to navigate.	4	
	Because the experience has been generally challenging	3	
	Because milestones are difficult to navigate.	3	
	Because of the challenges of being overseas.	3	
	Because guidelines (general) are unclear.	2	
	Because of poor professionalism from academic staff.	2	
	Due to unforeseen obstacles in my candidature.	2	
	Because I didn't get a proper orientation experience.	1	
	Because I haven't been encouraged to attend conferences.	1	
	Because the course quality is poor.	1	
	Because of my excessive teaching load.	1	
	Because I've had trouble getting ethics approval	1	
	Because of the long time between submission of work and receipt.	1	
	Because I didn't have enough time to prepare for confirmation.	1	
	Due to challenges of studying externally.	1	
	Due to poor online delivery.	1	
	Because there are limited opportunities for post-grads to work for their college.	1	
	Because part-time students working full-time are not catered for.	1	

Q: What could be improved about the supervision you have received?

The table below defines each theme according to the area in which the candidate would like to see improvement.

Theme	The candidate wants to see improvement in…
Contact	Communication or meetings they have with their supervisor/s.
Supervisor capacity	Supervisor/s having more time or energy to engage in supervisory activities (the supervisor/s may be willing, but are *unable*).
Supervisor-research area matches	The process of finding a suitable supervisor for their project, or support from the university when they have secured a supervisor who is unsuitable for their project.
Supervisor commitment and engagement	Their supervisor/s' *willingness* to engage in supervisory activities and honouring the commitment made to the candidate.
Support and accountability around supervision	The university holding supervisors accountable for their actions and properly supporting the candidate when issues arise with their supervisory team.
Direction and guidance	The amount or quality of guidance their supervisor/s have given on their research.
Supervisor-candidate relationship	The relationship they have with their supervisor/s. This includes issues with role clarity, candidates feeling afraid to discuss issues.

The supervision I have received could be improved through…

Theme name	Subtheme	Number of candidates who mentioned theme/subtheme	
NA		101	
Nothing		70	
Contact	Improved communication from my supervisors	7	31
	More frequent feedback	6	
	More regular meetings with my supervisors	3	
	More face-to-face time with my supervisors	3	
	More contact with my supervisor	2	
	More ease in organising meetings	2	
	More casual communication from my supervisors	2	
	Supervisors being more responsive	2	
	More time with my secondary advisor	1	
	Better access to my supervisors - they have left the state	1	
	Supervisor meetings (general)	1	
	More whole-panel discussions about my project	1	
	My supervisor initiating communication with me	1	
	Clearer communication around supervisors' varying expectations	1	
Supervisor capacity	Supervisors being less busy or having more time for candidates	13	13
	Supervisors being less burnt out	1	
Supervisor-research area matches	More available supervisors in my research area	4	11
	University ensuring supervisors have expertise on the research topic	3	
	A supervisor who suits my project	2	
	A supervisor who is experienced in my research area	2	
	Easier ways to find a suitable supervisor	1	
Supervisor commitment and engagement	All members of my supervisory team being engaged in supervision activities	6	11
	Improved supervisor commitment to candidate	3	
	Supervisors being more engaged	2	
Support and accountability around supervision	More accountability for supervisors	4	9
	Better support mechanisms (general)	2	
	More GRS support	1	
	Accountability around research quality	1	
	Ensure supervisors don't take credit for students' work	1	
	University checking in with candidates regarding supervision	1	
Direction and guidance	More guidance on directions for research	3	9
	More guidance from supervisors in early stages	2	
	More direction around writing and reading tasks	1	
	Guidance in JCU procedures	1	
	Having a clear picture of thesis journey from beginning	1	
	Better quality feedback	1	
Supervisor-	Greater clarity around supervisor and candidate roles	4	9

candidate relationship	Being able to discuss issues with my supervisor and be heard	2	
	More compassion	2	
	Training for advisors so they can work better with more diverse students	1	
	Consistency in supervisory team throughout candidature	4	
	Opportunities to meet supervisors in other departments	2	
	More experienced supervisors	1	
	More diversity in my supervisory team	1	
	My supervisor initiating opportunities for teaching experiences	1	
	Less GRS pressure to approach supervision in a prescribed way	1	
	Having fewer advisors	1	
	More structure	1	

Q: What has been good about the learning community you've experienced so far during your research degree?

The themes that emerged from the candidates responses are defined in the table below:

Theme	The positive aspect of learning community identified by the candidate is…
Support as a researcher	Their learning community (peers, lab group, staff) has supported the candidate and assisted in their learning and growth as researcher.
Social support, collegiality and friendship	Their learning community (primarily peers) has given the candidate a sense of belonging, friendship and shared experience.
Formal opportunities to meet with other students	Specific events, both in-person and online, have allowed the candidate to meet with other HDRs.
Cohort experiences	Learning community experienced in the context of cohort groups (listed at the start of the survey) or colleges.
Learning opportunities	The candidate has learnt from others through being part of a community.
University staff facilitating community	JCU staff have worked to better involve the candidate in community.
Supervisor-facilitated opportunities	Their supervisor has connected the candidate with others, or with opportunities to meet other researchers.

Results

Theme name	Subtheme name	Number of candidates who mentioned subtheme/theme	
	N/A	58	
	Nothing	23	

	I have not engaged in a learning community	16	
Support as a researcher	My community has been supportive (general)	22	53
	My community has been helpful (general)	8	
	I've had opportunities to collaborate with peers	5	
	I've received support via a Facebook group or group chats	4	
	My lab group or department has been helpful	2	
	I've been able to share resources with others	2	
	My community provides motivation	2	
	I've had discussions with other students	2	
	We share knowledge within my lab group	2	
	I've connected with students from other disciplines	2	
	I've been a part of candidate-initiated groups	2	
	I've worked with others on experimental design	2	
	I've been supported by HDRs who are further along in their candidature	1	
	External mentors and supervisors have contributed to my research	1	
Social support, collegiality and friendship	People I've met have been friendly	8	39
	Being around others who are going through the same experiences as me	8	
	Collegiality and camaraderie with other HDRs	7	
	I've experienced a strong sense of community	5	
	My community is social	3	
	I'm around likeminded people	2	
	My lab group/department has been welcoming	2	
	Informal gatherings with peers	2	
	I have made friends	1	
	Other students are inclusive	1	
Formal opportunities to meet with other students	Organised events, seminars and workshops	10	29
	Regularly meeting with peers	6	
	Opportunities to meet with other students (general)	6	
	Zoom courses (general)	2	
	Peer writing group	2	
	Staff facilitated social events	1	
	Professional development courses	1	
	Social events	1	
	Reading group	1	
Cohort experiences	**DTHM Doctoral Cohort Program**	**17**	28
	- Positive cohort experience (general)	5	
	- Feeling part of a community	3	
	- Networking and PD	2	
	- Cohort weeks	2	
	- Meeting other students	2	
	- Conference presentations	1	
	- Online study groups	1	
	- Learning about new research areas and methods	1	
	Colleges	**7**	
	- Monthly CASE Zoom meeting	2	

	- Support and collegiality from CASE HDR cohort	2	
	- CBLG efforts to involve external students	1	
	- CPHMVS HDR meetings	1	
	- Monthly CBLG catch-up	1	
	AIMS@JCU	**5**	
	- Positive experience with AIMS (general)	4	
	- Sharing experiences with AIMS cohort	1	
Learning opportunities	I learnt more about research from my peers	6	9
	Opportunities for learning (general)	3	
University staff facilitating community	Admin staff have been helpful	2	6
	Postgrad Centre services	1	
	Staff supporting HDR community	1	
	Regular GRS updates	1	
	Involvement of HDRs in faculty meetings or presentations	1	
Supervisor-facilitated opportunities	I've been able to connect with people in my supervisor's network	1	4
	My supervisor has invited me to be part of department projects	1	
	My supervisor informs me of workshops and conferences	1	
	My supervisor has cultivated a cohesive research group	1	
	Networking opportunities (general)	3	
	Multicultural environment	1	
	Interdepartmental connections	1	
	Effective online communication makes me feel involved	1	
	Zoom meetings (general)	1	
	Helpful student mentor early in candidature	1	
	Opportunities to share my research	1	
	Feel freedom to ask questions	1	
	Option to participate in Honours course	1	

Q: What could be improved about the learning community you are experiencing during your research degree?

My experience of learning community could be improved through…

Theme	Sub-theme	Number of candidates who mentioned sub-theme or theme	
On-campus social opportunities for candidates	More opportunities to meet and socialise with other candidates	18	31
	More face-to-face interactions (general)	5	
	Candidate-led social events	3	
	More activities or events (general)	2	
	More on-campus contact for cohorts	1	

	Facilitating external candidates meeting on-campus	1	
	More events in Mt Isa	1	
Changes in social attitudes or culture	A more inclusive and diverse workplace	4	17
	Less clique-iness in social groups	2	
	More open communication	2	
	Being able to share experiences or hardships with others	2	
	Researchers developing greater interest in others' work	2	
	Change of attitude around abilities	1	
	Culture of learning from one another	1	
	Greater integrity (general)	1	
	Increased friendliness	1	
	More open learning community	1	
Opportunities to meet researchers beyond department or college	More interaction with researchers beyond immediate research group	6	13
	Inter-college workshops or groups	3	
	Flexibility to find and work with other researchers doing similar work	2	
	More integration between colleges or centres	1	
	More diversity in topics discussed	1	
Learning opportunities where candidates can meet	More PD courses or training opportunities	8	13
	Conferences and seminars	2	
	Groups for students to share ideas	2	
	Journal club	1	
Workspaces and infrastructure to facilitate community	A tool for candidates to identify other candidates in a similar research area	2	7
	Situating candidate workspaces near other researchers of same discipline	2	
	Spaces for Cairns students to meet	1	
	Making offices available on weekends and holidays	1	
	Update of postgrad centre facilities	1	
	Have lab group members situated in same workspace	1	
Bridging the gap between academic staff/department and candidates	Less segregation between candidates and academics	2	7
	Connections to more staff in my research area	2	
	Opportunities to meet other researchers in the department	2	
	Candidates more involved in college's research agenda	1	
Stronger connection to college	More connection to college community	2	6
	More college support for international candidates	1	
	Cohort for CSE	1	

Theme	Sub-theme		
	College welcome for new students	1	
	Connection to college as an external student	1	
	Opportunities to meet outside of business hours	6	
Fostering online connections	University fostering online connections between external students	3	5
	Connecting part-time or external students with learning community	1	
	More support for external students	1	
Roles for staff	Support for inappropriate behaviour	3	5
	Staff supporting community	2	
Changes in workload culture	Increased capacity to participate in events	1	4
	Time available for collaborative projects	1	
	Less pressure to attend all seminars etc.	1	
	Less pressure on research output - more freedom to meet others	1	
Forging connections beyond the university	More networking events	2	3
	More industry linkages	1	
	Better advertising of research opportunities		
	More researchers in the discipline		
	Face-to-face orientation for new candidates		
	More connections within social sciences		

Q: What could be improved about the skills development opportunities you received during your research degree?

Theme	Sub-theme	Number of candidates who mentioned theme/sub-theme	
Requests for specific training opportunities	Careers and employability	17	42
	Research methods and communication	7	
	IT and software trainings	6	
	Social sciences	6	
	Natural sciences and engineering	4	
	Candidature and procedures	3	
Comments around relevance of training content	Level or depth of content was inappropriate	12	40
	More specialised skill-based workshops	11	
	More training relevant to my field	5	
	More relevant courses (general)	2	
	Diversity in research software trainings	2	
	Asking candidates what they want training on	1	
	Opportunities for department-specific skills development	1	
	More diversity in programming courses offered	1	
	Wider range of workshops (general)	1	
	Opportunities for HDRs to share their	1	

	skills with each other		
	More practical training (general)	1	
	More stats courses available throughout the year	1	
	Pre-candidature induction training	1	
Comments around training delivery	More face-to-face training	9	29
	More opportunities for coursework, rather than one-off workshops	4	
	Offering PD sessions outside of business hours	3	
	More hands-on training	3	
	Methodology courses available online	1	
	More options for external students	1	
	Smaller groups for training	1	
	Fewer discussions with peers in sessions	1	
	More candidate involvement in training sessions	1	
	Presenters more considerate of candidates' varying familiarity with content	1	
	Work-integrated learning opportunities	1	
	More frequently run courses to suit different research stages	1	
	Access to courses offered outside of JCU	1	
	Continue moving towards online learning options	1	
PD administration	Make PD non-compulsory	3	18
	Better advertising of available opportunities	2	
	Improved organisation of specific PD courses	2	
	Fewer PD hours required	2	
	More support around planning PD pathways	2	
	Make training available to candidates on request	2	
	Recording courses in-system	1	
	More PD sessions aside from degree requirements	1	
	Records of completed hours lost	1	
	More availability in technical PD workshops	1	
	Improvements to PD website	1	
	Clearer record of completed training sessions	1	
Improving accessibility to skills development opportunities	More free courses	3	9
	Subsidised access to analytical equipment	1	
	Grants for training opportunities	1	
	More flexibility	1	

	Ensure uni continues to fund essential courses	1	
	Financial assistance (past 3-year mark) for conferences	1	
	Training for international students	1	
Industry engagement opportunities	More interaction with industry	1	5
	Paid internship opportunities for international students	1	
	Industry placement opportunities	1	
	Industry training for international students	1	
	More diversity in internship opportunities	1	
Support from academic staff for skills development	Support and encouragement to upskill	1	4
	Employ more post-docs who are available to train candidates	1	
	More workshops run by JCU academics	1	
	Getting academics on-side for PD	1	
	Need more PD (general)	2	
	Teaching opportunities	2	
	Writing retreat opportunities	1	
	Compulsory attendance at CoC and Green Bag presentations	1	

Q: What has been good about your opportunities for industry engagement?

Theme	Subtheme	Number of candidates who mentioned theme/subtheme	
Negative	I haven't had any opportunities for industry engagement	21	40
	Industry engagement is not relevant for my situation	5	
	Too early in candidature to say	4	
	I'm yet to take up any IE opportunities	3	
	There are few IE opportunities	3	
	There aren't any IE opportunities appropriate for me	2	
	Told that there is no time for IE in a PhD	1	
	Unsure of whether there are opportunities for IE	1	
	IE has been limited due to uni admin processes	1	
Making connections with people in industry	Industry connections made through supervisor	7	24
	I have made connections through faculty staff	3	
	Networking with professionals in industry	2	

	Connecting with people in industry (general)	2	
	Meeting stakeholders	2	
	Engaging industry community through sharing research on social media	1	
	Made connections with industry which have helped my research	1	
	Networking opportunities provided through QCIF and eResearch Centre workshops	1	
	Getting to know and work with people in local industry	1	
	Getting to know and work with people in local industry	1	
	Networking through strategic groups and discussions	1	
	Connections through peers	1	
	Uni society-run student meet industry events	1	
	Connections though JCU masterclass	1	
	Connections through contributing to external conferences	1	
Means by which I've engaged with industry	Science engagement work through partnership with non-profit	1	11
	Links with TUH	1	
	Industry partners	1	
	Integrating with the health service	1	
	Opportunities through AIMS partnerships	1	
	Partnership between ARC and WorldFish	1	
	Support through SERTA grant	1	
	APR internship program	1	
	Industry-initiated IE	1	
	Teaching opportunities through industry partners	1	
	Internship (general)	1	
	I initiated IE myself	9	
Working on real-world problems	Presenting results of applied project to stakeholders	3	6
	Opportunities to apply research in the real world	2	
	Opportunities to connect with real-world problems	1	
Feeling more equipped to engage with industry	Data collection experiences taught me how to engage with industry	1	4
	I have been shown how my skills are transferable	1	

	Supervisor gave advice on how to engage with industry	1	
	Skills for writing a CV	1	
Outcomes from IE	Opportunities engage with industry have led to scholarships and recognition	1	4
	Experiencing research and research community outside of the university	1	
	Opportunities for interdisciplinary study	1	
	Developed science communication skills through IE	1	
IE opportunities (general)	Opportunities are available	1	4
	Good opportunities (general)	1	
	Industry opportunities (general)	1	
	Opportunities to work with industry internationally	1	
Changed perspectives on research	Understanding what is required in the field	1	2
	Shows me the real-world value of my research	1	
	Opportunity to plan a conference	1	
	Presentations from potential employers	1	

Q: What could be improved about your opportunities for industry engagement?

My experience of industry engagement (IE) could be improved through…

Theme	Subtheme	Number of candidates who mentioned theme/subtheme	
Industry engagement opportunities (general)	More opportunities (general)	27	48
	More relevant/diverse opportunities	13	
	IE opportunities for international students	3	
	College-led opportunities	2	
	More workshops (general)	1	
	More structured opportunities	1	
	More GRS-led opportunities	1	
	Abroad experiences	1	
	More engagement throughout project, not just end	1	
	More opportunities outside work hours	1	
Training candidates to engage with industry	Understanding the benefits of engaging with industry	3	14
	Equipping candidates to approach industry	3	
	Opportunities to hear from industry about career paths	2	
	Understanding what industry employers want for employees	2	

	Training on communicating research to lay audience	1	
	Seeing options for future employment	1	
	Understanding what workers in industry do	1	
	Hearing career paths of previous candidates	1	
	Providing candidates opportunity to see bigger picture of research	1	
Opportunities to meet other researchers	Opportunities to meet with people doing similar research	5	12
	Networking sessions	4	
	Having staff network with students	1	
	Opportunities to visit other research institutions	1	
	More academic conferences	1	
Internships	Internship opportunities (general)	5	9
	Paid internships for international candidates	2	
	More diversity in internship opportunities	2	
Improving IE accessibility	Better advertising	5	9
	Making IE more accessible for candidates (general)	1	
	Streamlining processes for sharing research	1	
	Simplifying ethics processes to allow for IE	1	
	Funding to attend conferences	1	
Supervisors facilitating IE	Supervisors helping to facilitate IE	6	7
	Supervisors introducing candidates to researchers	1	
JCU better supporting IE for HDRs	Support from JCU for IE (general)	4	7
	More support from Building One	1	
	More integration with JCU Connect, connecting HDRs with industry	1	
	Making IE part of the HDR course	1	
JCU-industry linkages	Access to organisations relevant to my field	3	6
	More industry links (general)	1	
	JCU-government research collaborations	1	
	Better collaboration to provide opportunities for external candidates	1	
	Collaborative research	3	
	More clinical training	1	
	Teaching opportunities for international candidates	1	

Appendix 4 – Interview Questions

HDR candidature experience interview script

Introduction

Thank you for participating in this interview and in the survey a few months ago. I'm Sophie and I'm working as a Project Officer for the Graduate Research School. I'm looking forward to our discussion today.

To give you some context for the questions I'll be asking: the goal of the Candidature Experience Project is, firstly, to identify areas of need among the HDR candidates and secondly, to find ways to address those needs and improve the experience of the relevant candidates. The results of last years' survey have shown us several areas of need among candidates and finding a way to address some of these needs is fairly straightforward. However, in other situations, we've found areas of need, but the way forward is unclear – these are the areas where we're keen to get further input from you.

"Supported" candidates

The first area was "support" in your candidature. The written responses to the survey showed that many candidates felt positively about their overall experience because they felt "supported" by various people/groups within the university. On the other hand, feeling unsupported often informed a negative experience overall. Throughout the survey, candidates often felt that they could not access support when they needed it. "Support" is clearly important, so we'd like to know a bit more about what "support" means to you and what this looks like practically. Do you have any questions about this before we start?

- For you, what does it mean to be "supported" as a HDR candidate?

Now I'm going to ask you about situations where you have felt "supported" throughout your candidature.

- Could you please describe a situation where you felt supported in your candidature? What about these situations made you feel supported?
- Advisory team
- Other researchers
- College/research institute
- The university

Now I'm going to ask the opposite: about situations where you felt unsupported.

- Could you please describe a situation where you felt unsupported in your candidature? What about these situations made you feel unsupported?
- Advisory team
- College/research institute
- The university

Now I'm going to ask a couple more questions about where/who you go to for support with various issues.

- Say you were having issues with administrative processes/paperwork relating to your research or your candidature. Who/where would you go for support?

- Say you were having issues with your advisory team. Who/where would you go for support?
- Say you're having trouble accessing the resources or equipment you need for your research. Who/where would you go for support?

Learning community

We're going to move away from discussing support and start talking about your learning community. The results of the survey showed us some areas where your experience of a learning community during your candidature could be improved. However, because interactions within a learning community are complex, we wanted to ask you some more specific questions about what creates a positive learning community experience for you, and what does not. Do you have any questions about this?

First, I'm going to ask some questions about social events within the university, since these were mentioned frequently in the written responses to the survey. Let's start with some questions about social events.

- What sort of social gatherings – formal or casual – have you enjoyed throughout your candidature?

Now let's talk about connecting with other HDR candidates.

- Are you in contact with other candidates who are using similar research methods to you or studying similar topics?
- Are you in contact with other candidates studying in different fields to you?
- How did you get in touch with these researchers (if beyond your immediate research group)?
- How have you benefited from being in contact with these researchers?
- Do you interact with these researchers online? If so, how does this communication occur?
- Have you been able to connect with other researchers online? How did you get in touch with them? How do you usually communicate?

- Do you feel that any non-HDR researchers (within or beyond JCU) are part of your learning community?
- How were you able to connect with these researchers?
- Are you able to keep in touch with these researchers while you're not on-campus? What does this look like?

Finally, many candidates indicated on the survey that they aren't able to participate in HDR events or activities unless they are outside of business hours.

- Is this the case for you? If so:
- What sort of events/activities would you reasonably be able to participate in? E.g. regular gatherings of candidates in a similar field, one-off social events.
- When (and how often) would you reasonably be able to participate?

They are all the questions I have for you. Is there anything you'd like to add?

Thank you again for sharing your experiences with me.

PARTICIPANT INFORMATION SHEET

HDR Candidature Experience Project

Sophie Hubbard: Project Officer, Graduate Research School, James Cook University. Email: sophie.hubbard@jcu.edu.au

Lauretta Grasso: Manager, Graduate Research School, James Cook University. Email: lauretta.grasso@jcu.edu.au.

Christine Bruce: Dean, Graduate Research School, James Cook University. Email: deangrs@jcu.edu.au.

18/01/2022

Dear Candidate,

Thank you for considering participating in this project. The goal of this project is to better understand the experience of current PhD and MPhil candidates at JCU and to improve the HDR experience considering the results.

How can I participate?
With your consent, your contribution in the project will involve participating in a Zoom-facilitated and recorded interview (individual *or* focus group) that will take approximately 45 minutes to complete. The interview will involve answering questions about your experience as an HDR candidate, specifically about your avenues for support and your learning community. You are under no obligation to participate in the interview.

What are the risks to me of participating?
Your participation in this research is entirely voluntary and you are free to withdraw from participating at any time. Your identity will be kept confidential and no identifying information about you or your responses will be released. If you choose to withdraw, all identifiable data collected up to that point will be excluded and deleted. While you will not be asked overly personal or invasive questions in the interview, reflecting on past experiences can be painful for some. If you wish to access support following the interview, we invite you access the Counselling and Wellbeing Services available to JCU students and staff (Counselling Services - JCU Australia).

What are the benefits to me of participating?
Your reflections on your HDR experience will be used to help improve the experience of current and future candidates. Your participation will also earn one point towards the Leadership and Initiative category of RD7003 Professional Development.

How will the data be managed and used?
We wish to record your interview and require your consent to do so. We will manage all collected interview data. All recordings and transcripts will be securely stored by the GRS and made available only to the staff listed above.

Prior to the interview, we also wish to collect some information about you and your candidature.

This information was previously collected anonymously through the HDR Candidature Experience Survey and is listed below.

- Which program you are enrolled in (PhD, Professional Doctorate, or MPhil)
- Your college
- Whether you are a part of the DTHM Cohort doctoral studies program, AIMS@JCU, AITHM, or none of these groups
- Your current study mode (internal or external)
- Your current study load (full-time or part-time)
- Your gender
- Whether you are currently an Australian citizen/permanent resident

We ask for this information for two reasons: firstly, because our survey data shows that the needs of different groups of candidates vary, and we want to further understand how to improve the experience of specific groups; secondly, to provide targeted feedback to colleges and cohort groups within the university.

Your name will be used only to link this information with your interview responses. Once this has been done, all data you provide will be anonymized. Sophie Hubbard, a Project Officer working for the GRS, will be the only person in this project who knows your identity.

The data you provide will be managed and held as strictly confidential, and any potentially identifiable information (e.g., names of advisors or departments) will be removed from any data that are released. We will ask for extended consent to use the data. This means we are asking to use the data in later projects that are related to this project.

Results of the project will be presented in a report which will be shared with the JCU research education community and will be made publicly available on the GRS website. This report and a summary of the findings and recommendations will be shared with you via email at a later date.

How do I get started?
If you wish to participate in an interview, please email Sophie Hubbard (sophie.hubbard@jcu.edu.au) who will arrange and conduct the interview.

Thank you in anticipation,

JCU Graduate Research School

Appendix 6 – Interview Consent Form

PARTICIPANT CONSENT FORM - INTERVIEW

HDR Candidature Experience Project

Sophie Hubbard: Project Officer, Graduate Research School, James Cook University. Email: sophie.hubbard@jcu.edu.au

Lauretta Grasso: Manager, Graduate Research School, James Cook University. Email: lauretta.grasso@jcu.edu.au.

Christine Bruce: Dean, Graduate Research School, James Cook University. Email: deangrs@jcu.edu.au.

18/01/2022

I have read and understood the information sheet about this project and any questions I have asked were answered to my satisfaction.

I consent to participating in the interview (individual or focus group). I also consent to the interview being recorded.

I understand that all data collected and reported will be de-identified.

I agree to participate in the project, realising that I may withdraw from the study at any time and may request that all traces of my interview participation are deleted from the project's records. I understand that my decision whether or not to participate in this study will not prejudice my future relations with JCU.

All information that I provide will be kept strictly confidential. I agree to extended use of the data, such that it may be used in later projects that are related to this project.

I agree that research data provided by me or with my permission during the project may be included in a report presented to the JCU research education community and made publicly available on the GRS website.

Yes ☐   No ☐

Signed…………………………………………   Date……………………………………………

Name…………………………………………   Email……………………………………………

Thank you for your interest in participating in this project.

If you have any further enquiries please contact:

Sophie Hubbard (sophie.hubbard@jcu.edu.au)