

JCU Postgraduate Research Experience Questionnaire (PREQ) Summary Report – 2024

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1.0 Introduction

Every year recently completed Higher Degree by Research candidates are invited to take the Postgraduate Research Experience Questionnaire (PREQ), which is part of the nation-wide Graduate Outcomes Survey and is published within the Quality Indicators for Learning and Teaching (QILT). These surveys are administered by the Social Research Centre on behalf of Universities Australia.

This report summarises the results of the JCU PREQ as part of the 2022 and 2023 Graduate Outcomes Surveys (GOS).

These surveys reflect the experience of graduates who completed the requirements for a Higher Degree by Research between March 2021-February 2022 (2022 GOS) and March 2022-February 2023 (2023 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. 2014 – 2021). The lag time in results typically means that the survey is most useful for identifying trends over time and sectoral patterns. The analysed data are provided by QILT to JCU via the Reporting & Analytics Office who prepared this report.

Analyses revealed statistically significant difference in level of satisfaction between JCU and the Sector for satisfaction on the 'Supervision' scale and some statistically significant differences at an item level, as well as some differences in satisfaction between discipline groups at JCU.

2.0 Results

2.1 The Survey

The PREQ itself consists of 1 item relating to "Overall Satisfaction" and a further 33 items which roll up into 7 scales as defined below:

Overall Satisfaction Item

Asks the graduate to indicate their level of overall satisfaction with their completed research. (1 item)

Supervision Scale

Evaluates the accessibility and quality of research degree supervision. (6 items)

Intellectual Climate Scale

Measures the learning community and conditions provided by the institution, and whether the graduate felt that their department had made efforts to integrate them into the academic community. (5 items)

Skill Development Scale

Assesses the extent of generic analytical and communication skill development. Such skills include the ability to transfer knowledge, apply analytical techniques to new situations, solve problems, plan work, and communicate effectively in writing. (8 items)

Infrastructure Scale

Asks the student about the quality of learning infrastructures such as space, and equipment and finance and whether resource requirements were met during their period of research. (5 items)

Thesis Examination Process Scale

Evaluates whether the examination process was timely, fair and satisfactory, and how satisfied the student was with thesis examination. (3 items)

Goals and Expectations Scale

Measures the clarity of learning structure, requirements and standards, and whether supervisors and others frame learning with appropriate pedagogical structures and expectations. (3 items)

Industry Engagement Scale

Asks the student about the applicability of their skills, professional connections, and opportunities to work on “real-world” problems all outside the university sector. (3 items)

The PREQ asks graduates to indicate for each of the 33 items, their agreement to statements on a five-point Likert scale. Each statement is a positive statement about the HDR experience e.g., “I had good access to the technical support I needed”. For the item-level analyses in this report, the following numbers were assigned to the Likert scale points: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree. A higher score indicates a more positive experience. Scale-level data is provided in a simplified form: “in agreement” and “not in agreement”. “In agreement” includes “agree” and “strongly agree” responses.

For the purposes of this report, the data for 2022 and 2023 were combined due to the relatively small number of responses for JCU (see Table 1). The data were filtered to reflect the Tableau workbook version of the data that is reported on the QILT website¹ in which 158 of JCU’s responses were included in the analysis. As a percentage of the total number of completions in 2022 and 2023, JCU’s valid response rate was 66%.

Table 1: Number of respondents and response rates.

	2022		2023		Total	
	Respondents	Sample	Respondents	Sample	Total respondents	Response rate
JCU Valid Responses	67	106	91	133	158	66%
Sector Valid Responses (not JCU)	5,872		6,107		11,979	

Table 2 below shows the proportions of respondents in different demographic groups within JCU and across the sector. JCU had a slightly higher proportion of international and full-time respondents than the sector.

Table 2: Proportions of HDR respondents within JCU and across the sector, based on international status, study load and gender (2022-2023).

	Domestic	Overseas	Full-time	Part-time	Female	Male
JCU	0.60	0.40	0.82	0.18	0.59	0.41
Sector	0.61	0.39	0.75	0.25	0.52	0.48

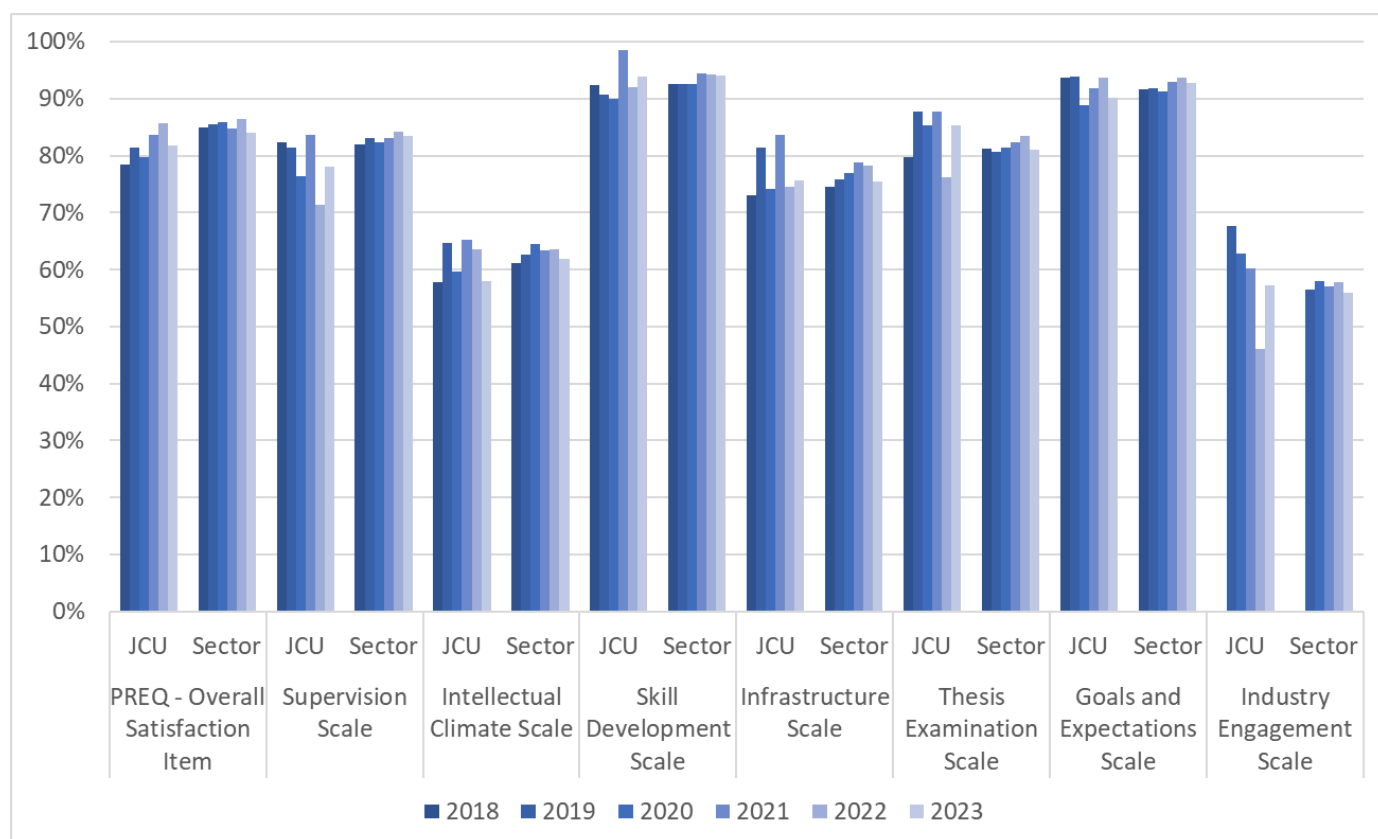
¹ Filters included the following: Online completions of the survey only, study level = ‘Postgraduate research’ and ‘Flags records used in the analysis of QILT data’ = ‘Graduate’ and ‘Second course in double degree’ only.

2.2 Analysis

2.2.1 Scale Level Comparison of JCU vs Sector

The times series of the proportion of “satisfied” graduates each year, from 2018 to 2023 is shown in Figure 1. Overall satisfaction of JCU’s HDR graduates had been steadily increasing since 2018 but fell in 2023. Satisfaction in three scales, the Supervision, Thesis Examination and Industry Engagement scales have decreased sharply in 2022 before recovering in 2023. The low number of survey participants for JCU may contribute to the fluctuating satisfaction values. Viewing the data in this way is informative in that large-scale changes in satisfaction over a long period of time are easily able to be analysed and compared to the trends in these data across the sector.

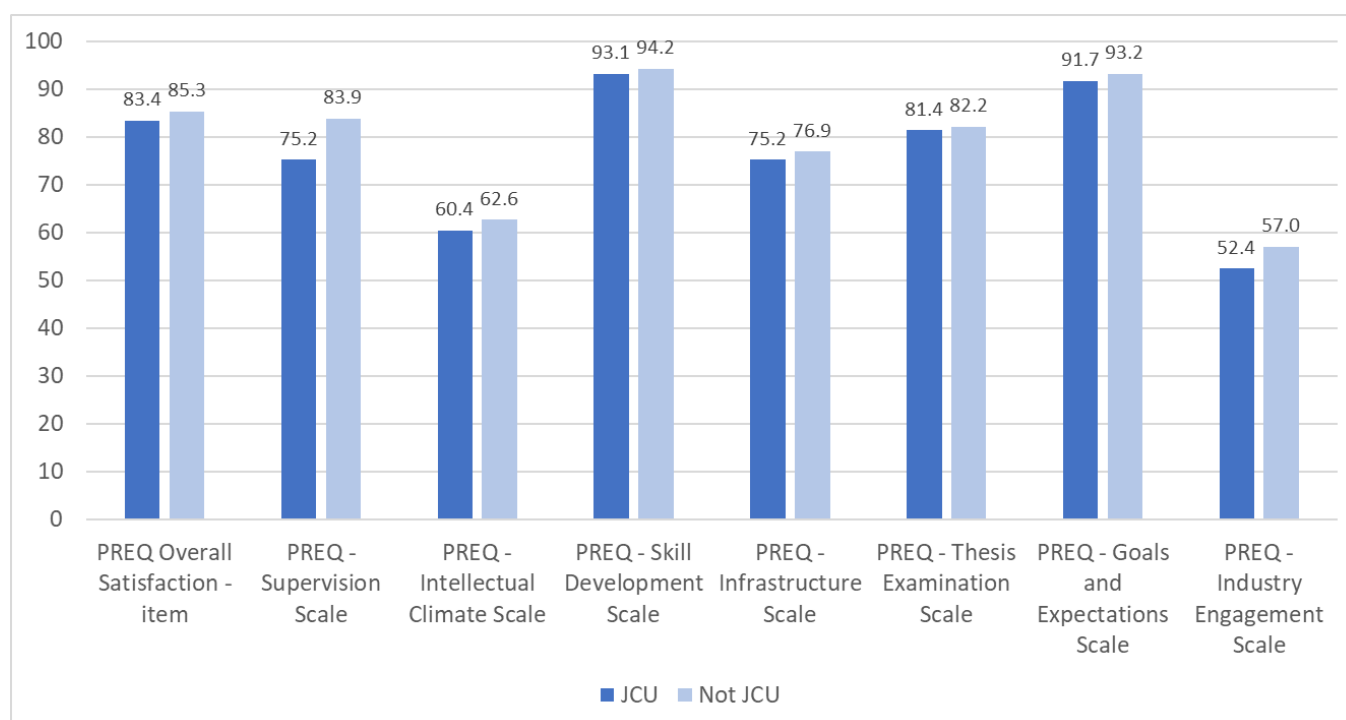
Figure 1: Time series showing satisfaction for JCU graduates against satisfaction for whole sector graduates 2018-2023. The Percentage satisfaction represents the proportion of respondents indicating they were “in agreement” with the positive statements* of the survey.



*Responses are taken as positive when the respondent indicates they ‘agree’ or ‘strongly agree’ with a statement in the questionnaire

A series of one-way ANOVA tests were used to examine if there were statistically significant differences between JCU and the rest of the sector at the scale level. The first analyses examined whether there were statistically significant ($p < 0.05$) differences between JCU and the sector on the PREQ scales and the Overall Satisfaction item. The data from 2022 and 2023 were combined due to the small sample size from JCU. Figure 2 shows the average satisfaction values across 2022 and 2023 for JCU vs Sector. One statistically significant difference was found at the PREQ scale level in this analysis, with JCU being less satisfied on the Supervision Scale.

Figure 2: Average satisfaction levels for each PREQ Scale for JCU and the Sector, 2022 and 2023



2.2.2 Comparison of Demographic Groups at the Scale Level – JCU vs Sector

The dataset contained the following demographic and academic context variables which were used to test whether there were statistically significant differences in responses at the scale level between JCU and the Australian sector:

- Study mode (internal/external)
- Attendance mode (full time/part time)
- If from non-English speaking background
- Citizenship (Overseas/domestic)
- Gender
- Indigenous/non-indigenous
- Disability/no disability

Overseas students and those studying Natural and Physical Sciences at JCU were less satisfied overall than similar students across the sector. Overseas students at JCU were less satisfied than overseas students across the sector on every scale except Thesis Examination. Natural and Physical Science students were also less satisfied than equivalent students across the sector in the Infrastructure and Industry engagement scales. Consistent with the finding that the JCU result for satisfaction on the supervision scale was significantly below the sector, the other significant differences between JCU and the sector students were all on this scale with JCU Engineering students, those without a disability, males, internal, non-indigenous and full-time students all being less satisfied with supervision than their sector counterparts. The only other difference between JCU and the sector at the item level was JCU students with a disability were less satisfied with their Industry Engagement.

Table 3: Differences in satisfaction rates between JCU and the sector by demographics and academic context. (Orange highlight = JCU less satisfied than sector counterparts. All else = no significant difference in satisfaction.)

	Overall Satisfaction Item	Supervision Scale	Intellectual Climate Scale	Skill Development Scale	Infrastructure Scale	Thesis Examination Process Scale	Goals and Expectations Scale	Industry Engagement Scale
Citizenship: Overseas								
Broad FoE: Natural and Physical								
Broad FoE: Engineering and Related								
Disability: No								
Disability: Yes								
Gender: Male								
Attendance Mode: Internal								
Indigenous: No								
Attendance Type: Full Time								

2.2.3 Comparison between discipline groups within JCU

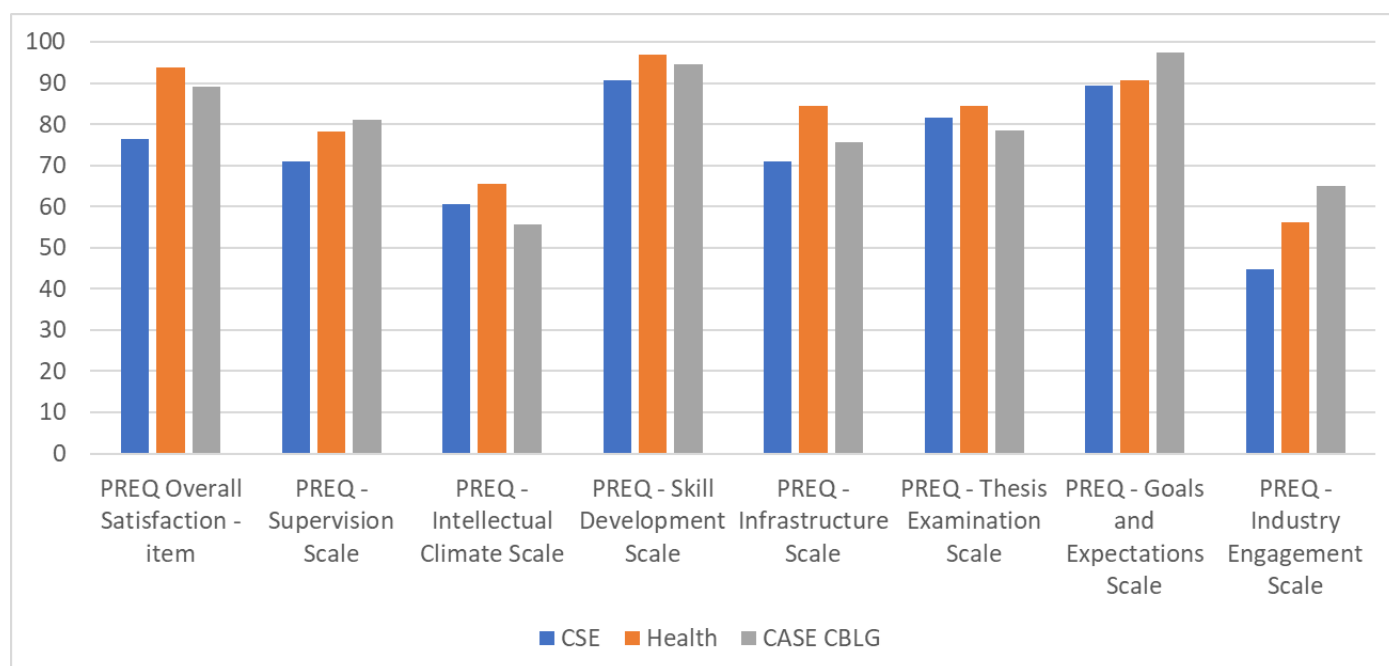
To better understand graduate satisfaction in different parts of the university the data was analysed according to three broad groups, where there were sufficient responses to make the analysis meaningful for the 2022-2023 data.

The three subgroups for this analysis were:

- Colleges of Medicine and Dentistry, Healthcare Sciences, and Public Health Vet and Molecular sciences (CMD/CHS/CPHMVS n=34)
- College of Science and Engineering (CSE) n=85
- College of Arts, Society and Education and College of Business, Law and Governance (CASE/CBLG) n=39

A series one-way ANOVA tests were run to determine whether there was a statistically significant difference in satisfaction between graduates within the three discipline groups. The only significant difference found was for the Overall Satisfaction item (see Figure 3) where CSE graduates were less satisfied than the other two groupings.

Figure 3: Percentage satisfaction of CMD/CHS/CPHMVS, CSE and CASE/CBLG JCU graduates at the scale level (2022-2023).



2.2.4 Item-level comparison JCU vs sector

Tests for differences in all items (individual questions) between JCU and graduates across the sector showed JCU graduates were more satisfied that they had improved their problem-solving skills. JCU graduates were less satisfied than the sector on several other items outlined in Table 4).

Table 4: Differences between JCU and the sector on survey items

Item question	Satisfaction
My research further developed my problem solving skills (SDS)	JCU graduates more satisfied than sector counterparts
The department provided opportunities for me to become involved in the broader research culture (ICS)	JCU graduates less satisfied than sector counterparts
I was given good guidance in topic selection and refinement (SC)	
My supervisor(s) provided helpful feedback on my progress (SC)	
The research environment in the department or faculty stimulated my work (ICS)	
I received good guidance in my literature search (SC)	
I had opportunity to work on research problems with businesses, governments, communities or organisations outside the university sector (IES)	

2.2.5 Item-level comparison of discipline groups within JCU

The JCU data were then interrogated at the level of the individual item making up the scales. for each of the discipline groups of CSE, Health and CASE/CBLG. This highlighted statistically significant differences in satisfaction at the item level (Table 5). Statistically significant differences were found on several individual items with CSE students the lowest scoring in each instance.

Table 5: Differences between JCU discipline groups CASE/CBLG, CSE, and Health on survey items

Item question	Satisfaction
I improved my ability to plan and manage my time effectively (SDS)	CASE/CBLG less satisfied than Health counterparts
I developed an understanding of the standard of work expected (GES)	CSE less satisfied than Health counterparts
I had good access to the technical support I needed (IS)	
A good seminar program for postgraduate students was provided (ICS)	
I received good guidance in my literature search (SC)	
As a result of my research, I feel confident about tackling unfamiliar problems (SDS)	
I developed my understanding of research integrity (SDS)	

3.0 Recommendations and Conclusions

This report compares the satisfaction of HDR graduates from JCU in 2022 and 2023 with those of the entire sector. There were two statistically significant differences in the levels of satisfaction of JCU HDR Graduates and Sector HDR Graduates at the scale level of the survey, with JCU students having lower ratings of satisfaction with 'Supervision'. The discipline group analysis of the JCU PREQ data provides a useful starting point for considering contextual and demographic differences within these study areas that may be influencing student satisfaction, as well as differences that should be noted when considering interventions to improve the student experience.