

# JCU Postgraduate Research Experience Questionnaire (PREQ) Summary Report – 2023

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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 2021 and 2022 Graduate Outcomes Surveys (GOS).

These surveys reflect the experience of graduates who completed the requirements for a Higher Degree by Research between March 2020-February 2021 (2021 GOS) and March 2021-February 2022 (2022 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 no statistically significant difference in level of satisfaction between JCU and the Sector at a scale level, although there were some statistically significant differences at an item level. There were also some statistically significant differences in satisfaction between demographic groups both at JCU and across the Sector.

## 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 2021 and 2022 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 website<sup>1</sup> in which 144 of JCU’s responses were included in the analysis. As a percentage of the total number of completions in 2021 and 2022, JCU’s valid response rate was 62%.

**Table 1: Number of respondents and response rates**

	2021		2022		Total	
	Respondents	Sample	Respondents	Sample	Total respondents	Response rate
<b>JCU Valid Responses</b>	77	108	67	126	144	62%
<b>Sector Valid Responses (not JCU)</b>	5,952	9,065	5,979	9,148	11,931	66%

(Sector data from GOS Methodological Report 2021 and 2022: <https://www.qilt.edu.au/resources?survey=GOS&type=Reports>)

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 (2021-2022).**

	<i>Domestic</i>	<i>Overseas</i>	<i>Full-time</i>	<i>Part-time</i>	<i>Female</i>	<i>Male</i>
<b>JCU</b>	0.54	0.46	0.78	0.22	0.56	0.44
<b>Sector</b>	0.63	0.37	0.70	0.30	0.51	0.49

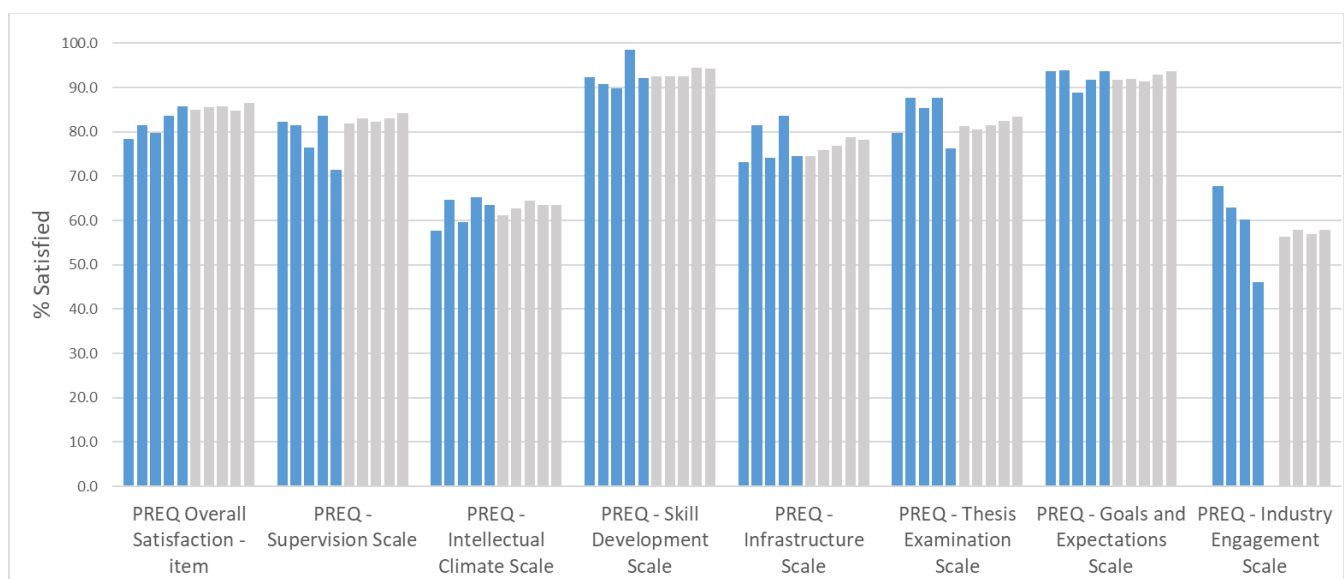
<sup>1</sup> Filters included the following: Online completions of the survey only, study level = ‘Postgraduate research’ and ‘Flags records used in the analysis of QILT data’ = ‘Graduate’ and ‘Second course in double degree’ only.

## 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 2022 is shown in Figure 1. Overall satisfaction of JCU’s HDR graduates has been steadily increasing since 2018. Satisfaction in three scales, the Supervision, Thesis Examination and Industry Engagement scales have decreased sharply in 2022. The low number of survey participants for JCU may contribute to the fluctuating satisfaction values. The sector response rates are not available for 2021 and 2022 data, but in 2020 approximately 5600 responses were received across the sector, with only 89 of those being from JCU. 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.

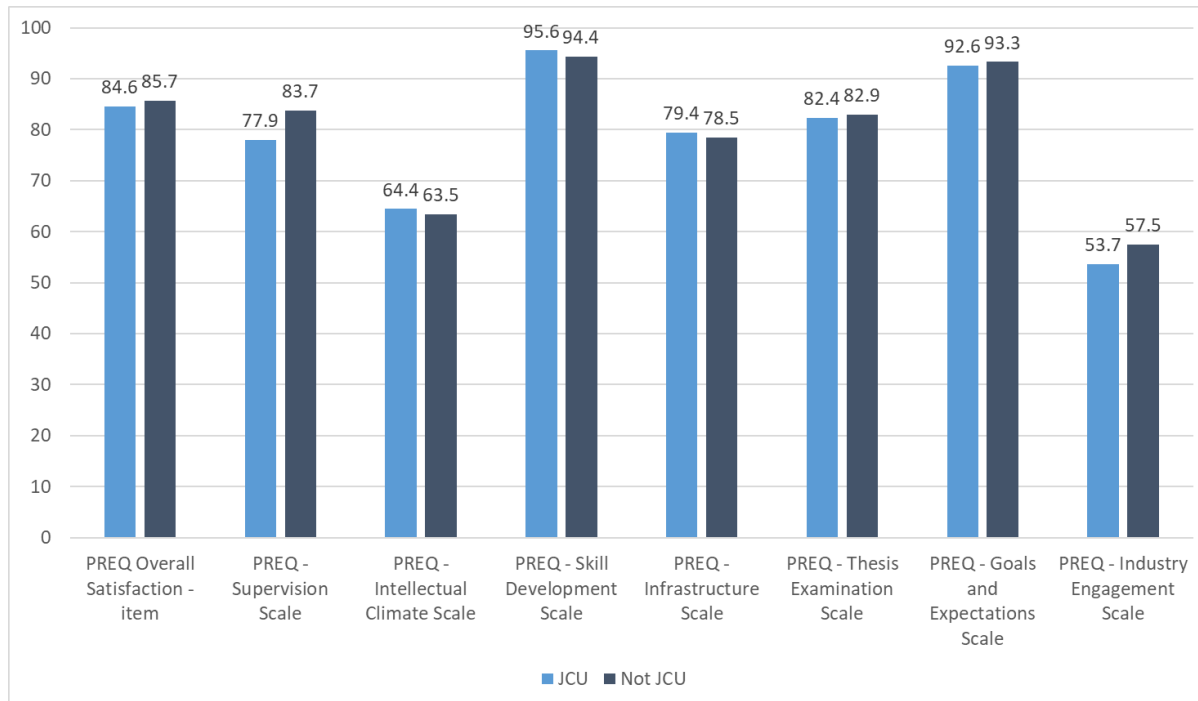
**Figure 1: Time series showing satisfaction for JCU graduates (blue) against satisfaction for whole sector graduates (grey) 2018-2022. The Percentage satisfaction represents the proportion of respondents indicating they were “in agreement” with the positive statements\* of the survey.**



\*Responses are taken as “satisfied” 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 Overall Satisfaction item. The data from 2021 and 2022 were combined due to the small sample size from JCU. Figure 2 shows the average satisfaction values across 2021 and 2022 for JCU vs Sector. No statistically significant differences were found at the PREQ scale level in this analysis.

**Figure 2: Average satisfaction levels for each PREQ Scale for JCU and the Sector, 2021 and 2022**



### **2.2.2 Comparison of Demographic Groups within JCU and the Sector at Scale Level**

The dataset contained the following demographic and academic context variables which were used to test whether there were statistically significant differences in responses within JCU and across the entire 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

Statistically significant differences in satisfaction were found for the above groups in the following PREQ scales across the sector (Table 3):

- Part-time, domestic, female graduates and those identifying as having a disability, or who have English as their first language, are less satisfied overall, and on multiple scales.
- External graduates were less satisfied than their internal or multimodal counterparts on the Intellectual Climate and Infrastructure scales.
- Indigenous candidates were less satisfied on the Skills Development scale only.

**Table 3: % satisfaction by scale between different types of students across the sector. Demographics highlighted red/green are those where a significant difference in satisfaction was found, with red being less satisfied and green being more satisfied.**

Category	PREQ Overall Satisfaction - item	PREQ - Supervision Scale	PREQ - Intellectual Climate Scale	PREQ - Skill Development Scale	PREQ - Infrastructure Scale	PREQ - Thesis Examination Scale	PREQ - Goals and Expectations Scale	PREQ - Industry Engagement Scale
Female	84.16	82.03	59.84		75.49	82.01		54.09
Male	87.22	85.31	67.38		81.77	83.83		60.95
Internal			64.14		78.93			
External			51.21		72.58			
Multi-modal			63.44					
Non-indigenous				94.42				
Indigenous				89.16				
English speaking	84.33	82.82	60.39		75.59	82.06	92.40	55.37
Non-English speaking	89.30	85.89	72.02		86.71	85.22	95.80	63.09
Domestic	83.84	82.75	58.24	93.80	73.48	82.04	92.14	54.53
Overseas	88.83	85.18	72.65	95.39	87.40	84.42	95.34	62.48
No disability	85.96	83.83	63.93	94.51	79.00	83.16	93.44	57.78
Disability	79.41	79.80	54.46	91.68	69.31	77.43	90.69	49.90
Full-time	86.48	84.19	66.32	94.76	81.82		94.07	
Part-time	83.72	82.32	57.03	93.50	71.04		91.57	

### 2.2.3 Comparison between discipline groups within JCU

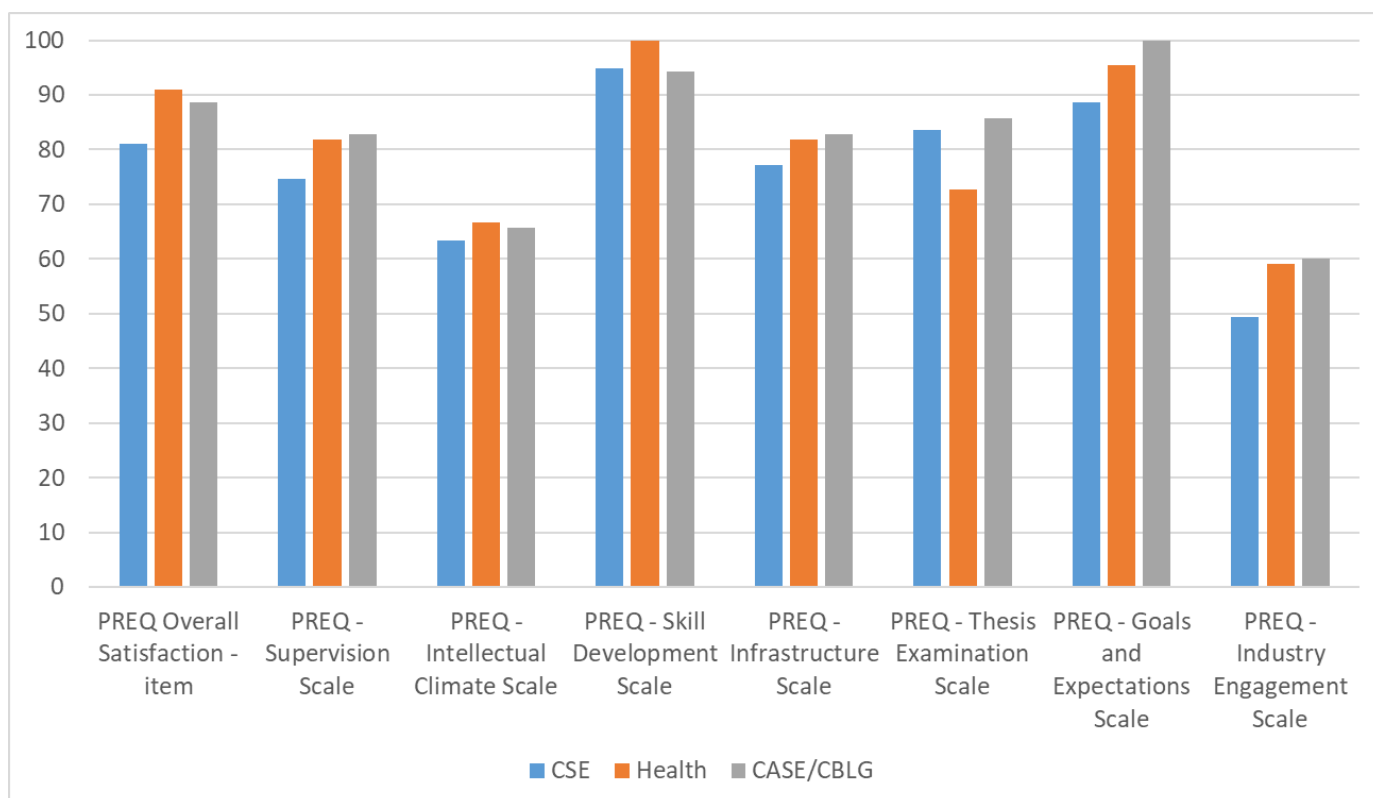
To better understand graduate satisfaction in different parts of the university the data was analysed according to three broad groups, where there were sufficient responses to make the analysis meaningful for the 2021-2022 data.

The three subgroups for this analysis were:

- Colleges of Medicine and Dentistry, Healthcare Sciences, and Public Health Vet and Molecular sciences (CMD/CHS/CPHMVS, formerly DTHM) n=22
- College of Science and Engineering (CSE) n=79
- College of Arts, Society and Education and College of Business, Law and Governance (CASE/CBLG) n=35

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. No significant differences were found at the scale level or for the Overall Satisfaction item (see Figure 3). No statistically significant differences were found on individual items either.

**Figure 3: Percentage satisfied of CMD/CHS/CPHMVS, CSE and CASE/CBLG JCU graduates at the scale level (2021-2022).**



### 2.2.4 Item-level comparison JCU vs sector

Tests for differences in all items (individual questions) revealed several statistically significant difference between JCU and graduates across the sector showed JCU graduates were more satisfied that:

- I had access to a suitable working space (IS)
- The department provided opportunities for social contact with other postgraduate students (ICS)
- I improved my ability to communicate information effectively to diverse audiences (SDS)

JCU graduates were less satisfied than the sector that:

- I received good guidance in my literature search (SC)

### **2.2.5 Item-level comparison of demographic groups within JCU**

The JCU data were then interrogated at the level of each individual item making up the scales, for each of the demographic groups above showing statistically significant differences in satisfaction at the item level (see Table 4.)

Across the individual items, the majority of significant differences in satisfaction were between domestic and international graduates, with domestic candidates being less satisfied than international candidates on 4 items.

It is difficult to draw conclusions around the satisfaction of indigenous graduates compared to non-indigenous, and graduates with disabilities compared to those without disabilities due to low survey completion numbers for these groups. For this reason, these demographic groups are not included in Table 4.

## **3.0 Recommendations and Conclusions**

This report compares the satisfaction of HDR graduates from JCU in 2021 and 2022 with those of the entire sector. There were no statistically significant differences in the levels of satisfaction of JCU HDR Graduates and Sector HDR Graduates at the scale level of the survey. 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.

The survey data also highlighted differences in levels of satisfaction for demographic groups across the sector and within JCU for select items in the survey. These variations for certain demographic groups provide a useful baseline for investigating ways to improve the HDR experience at JCU. Indeed the initial stages of this work was completed in 2021 with the HDR Candidature Experience Report, which presents survey and interview data from current JCU HDRs and explores in depth the issues highlighted in the PREQ. The report also outlines specific recommendations for improving the HDR experience. The report can be found at:

[https://www.jcu.edu.au/\\_data/assets/pdf\\_file/0010/1959049/HDRCandidatureExperienceReport\\_Appendices\\_2022.pdf](https://www.jcu.edu.au/_data/assets/pdf_file/0010/1959049/HDRCandidatureExperienceReport_Appendices_2022.pdf)

**Table 4: Item level comparison of demographic groups within JCU (2021-2022). Demographics highlighted red/green are those where a significant difference in satisfaction was found, with red being less satisfied and green being more satisfied.**

		English speaking background	Non-English speaking background	Domestic	Overseas
OS	Overall, I was satisfied with the quality of my higher degree research experience (OS)	3.99	4.39		
General Expectation Scale	I developed an understanding of the standard of work expected (GES)				
	I understood the required standard for the thesis (GES)				
	I understood the requirements of thesis examination (GES)				
Intellectual Climate Scale	The department provided opportunities for social contact with other postgraduate students (ICS)				
	I was integrated into the department's community (ICS)			3.48	3.87
	The department provided opportunities for me to become involved in the broader research culture (ICS)				
	A good seminar program for postgraduate students was provided (ICS)				
	The research environment in the department or faculty stimulated my work (ICS)				
Industry Engagement Scale	I am confident that I can apply my skills outside the university sector (IES)				
	I had opportunities to develop professional connections outside the university sector (IES)				
	I had opportunity to work on research problems with businesses, governments, communities or organisations outside the university sector (IES)				
Infrastructure Scale	I had access to a suitable working space (IS)				
	I had good access to the technical support I needed (IS)				
	I was able to organise good access to necessary equipment (IS)				
	I had good access to computing facilities and services (IS)			4.01	4.34
	There was appropriate financial support for research activities (IS)				
Supervision Scale	Supervision was available when I needed it (SC)				
	I was given good guidance in topic selection and refinement (SC)				
	I received good guidance in my literature search (SC)				
	My supervisor(s) made a real effort to understand difficulties I faced (SC)				
	My supervisor(s) provided additional information relevant to my topic (SC)				
	My supervisor(s) provided helpful feedback on my progress (SC)				
Skills Development	My research further developed my problem solving skills (SDS)				
	I improved my ability to communicate information effectively to diverse audiences (SDS)				



	I developed my skills in critical analysis and evaluation (SDS)				
	I improved my ability to plan and manage my time effectively (SDS)				
	As a result of my research, I feel confident about tackling unfamiliar problems (SDS)				
	I improved my ability to design and implement projects effectively (SDS)				
	I developed my understanding of research integrity (SDS)				
	I gained confidence in leading and influencing others (SDS)			3.68	4.12
Thesis Examination on Scale	The thesis examination process was fair (TES)				
	I was satisfied with the thesis examination process (TES)			4.05	4.39
	The examination of my thesis was completed in a reasonable time (TES)				