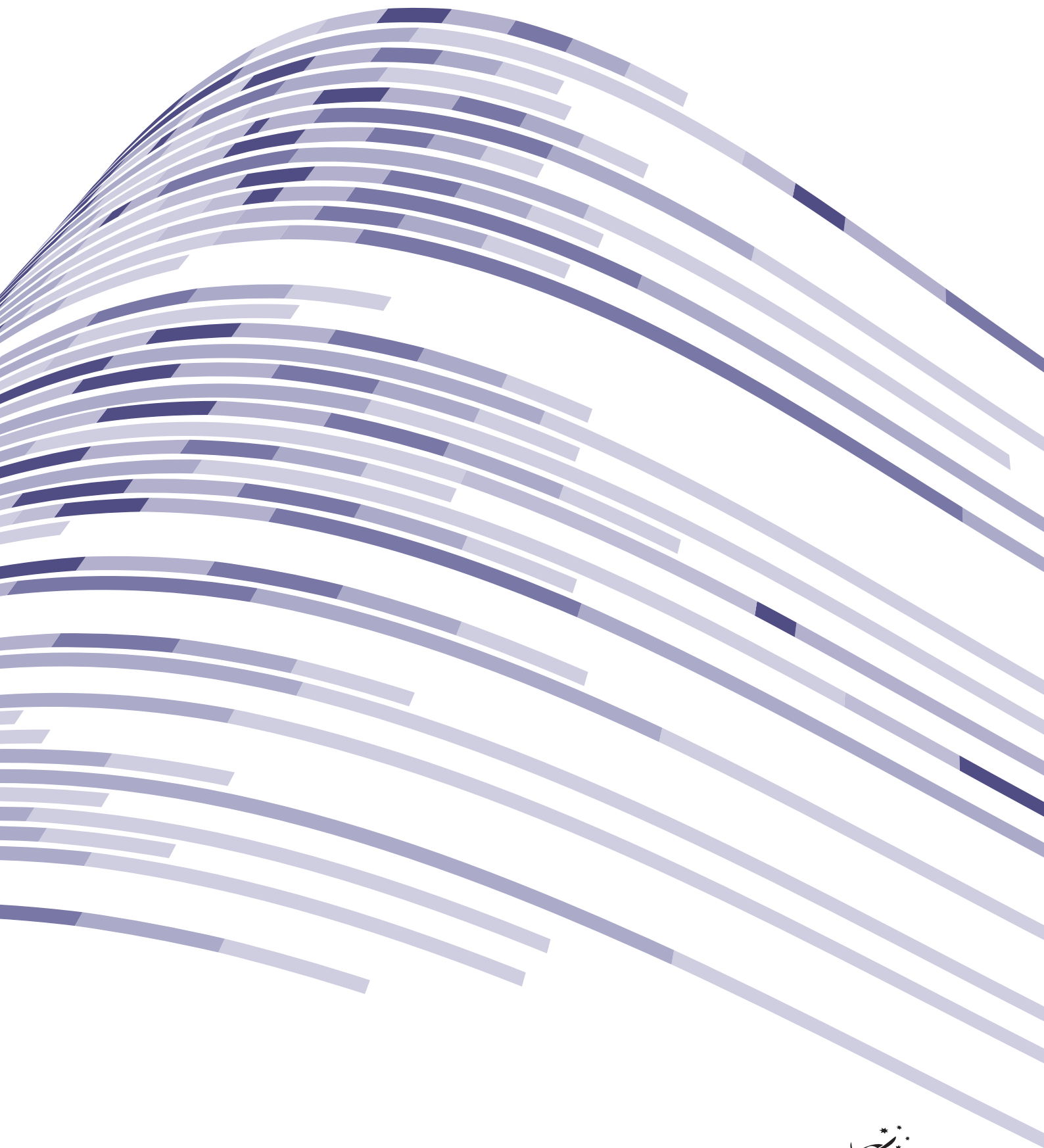


# POSTGRADUATE RESEARCH EXPERIENCE 2012

A report on the experience of recent higher degree  
research graduates





# Postgraduate Research Experience 2012

A REPORT ON THE EXPERIENCE OF RECENT  
HIGHER DEGREE RESEARCH GRADUATES



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## INTRODUCTION

“A total of 41 higher education providers participated in the 2012 survey.”

Welcome to *Postgraduate Research Experience 2012*, the 13th edition of the annual report into the research experience perceptions of doctoral and masters graduates who completed a research degree from an Australian higher education institution in 2011 and subsequently provided a response to the 2012 Postgraduate Research Experience Questionnaire (PREQ). In the PREQ, which is administered approximately four months after course completion, respondents are asked to rate the extent to which they agree or disagree with 28 Likert-type items constituting six summated rating scales and a single-item overall satisfaction indicator. The qualities of the postgraduate research experience measured by the PREQ are summarised in Table 1.

Like the other reports of the 2012 Australian Graduate Survey (AGS), only essential content has been included in order to provide a more accessible report that can be comprehended at a glance. A collection of supplementary tables and figures that present PREQ results in much more detail can be downloaded from [www.graduatecareers.com.au/Research/ResearchReports/PostgraduateResearchExperience](http://www.graduatecareers.com.au/Research/ResearchReports/PostgraduateResearchExperience). These tables and figures are denoted by letters instead of numbers throughout this report. In addition, the final section of this report delves into the PREQ data to investigate in detail one issue that may be of interest to researchers, administrators and policymakers in Australian higher education. In the 2012 report, this is the influence of a change in supervision arrangements on PREQ scores.

**Table 1: Qualities of the postgraduate research experience measured by PREQ**

Title	Focus	Items
Supervision	the accessibility and quality research degree supervision	6
Intellectual Climate	the learning community and conditions provided by the institution	5
Skill Development	the extent of generic analytical and communication skill development	5
Infrastructure	the quality of learning infrastructures such as space, equipment and finance	5
Thesis Examination	whether the examination process was timely, fair and satisfactory	3
Goals and Expectations	the clarity of learning structures, requirements and standards	3
Overall Satisfaction	overall satisfaction with the recently completed degree	1

# 1.0

## INTERPRETING PREQ RESULTS

By convention, PREQ item and scale statistics are reported using a -100, -50, 0, 50 and 100 reporting metric that corresponds to the five-point response format. The PREQ response format also includes a *does not apply* category, which graduates can mark if they feel that a particular item is not relevant to their postgraduate research experience. Responses in this category are excluded from the calculation of item and scale statistics. In addition, mean percentage agreement and mean percentage broad agreement scores are presented throughout this report. Mean percentage agreement scores reflect the distribution of responses in the *agree* and *strongly agree* response categories and can therefore be interpreted as the proportion of responses that fall within these categories. Mean percentage broad agreement scores reflect the mean distribution of responses in the *neither agree nor disagree*, *agree* and *strongly agree* response categories and may be interpreted accordingly.

While the PREQ is conducted as part of a national graduate census, the extent of non-response to the survey means that it is reasonable to consider the secured responses to be a sample of the overall higher degree research graduate population. As has been recommended in previous editions of this report, differences in PREQ scores of five points or more may be considered to be of practical interest because they represent a difference of at least a fifth of a standard deviation. It is important to bear this in mind when interpreting the results presented in this report and in the supplementary tables and figures. No historical figures are presented for 2001 because no survey took place in this year.

As the PREQ is a complex instrument with a history stretching back more than a decade, a detailed discussion of its properties is beyond the scope of this summary report. Readers are directed to pre-2010 editions of *Postgraduate Research Experience*, which contain a detailed overview of the PREQ (e.g. GCA & ACER, 2010).

# 2.0

## PREQ RESPONDENT CHARACTERISTICS

“... more than 70 per cent of respondents graduated from four broad fields of education ...”

AGS questionnaires containing the PREQ were distributed to 7,399 higher degree research graduates and 4,809 valid responses were returned, which represents a national PREQ response rate of 65.0 per cent. This was up from 60.7 per cent in 2011, and is the highest annual response rate in the history of the survey.

A total of 41 higher education providers participated in the 2012 survey. Institutional PREQ response rates ranged from 19.0 per cent to 100.0 per cent, with a median institutional response rate of 66.7 per cent. Institutional PREQ response rates are presented in Table A.

The distribution of PREQ respondents across key demographic and contextual groups is presented in Table 2, stratified by qualification level. These figures show that more than 70 per cent of respondents graduated from four broad fields of education: natural and physical sciences (22.7 per cent), society and culture (22.4 per cent), health (14.9 per cent), and engineering and related technologies (12.3 per cent). Two-thirds of respondents (66.4 per cent) funded their research studies through an Australian Postgraduate Award (APA) or via the Research Training Scheme (RTS), while a further 28.4 per cent paid domestic or international fees. Just 5.4 per cent of respondents funded their studies through the HECS system.

In all, 70.4 per cent of respondents studied full time, with full-time attendance more common amongst research doctoral respondents (72.7 per cent). The majority of respondents studied internally (74.1 per cent), while similar proportions studied either externally or through mixed-mode study (14.2 per cent and 11.7 per cent, respectively). These response patterns are generally similar to those observed in the 2011 survey.

The demographic composition of the PREQ sample was also consistent with recent surveys. Females accounted for 51.4 per cent of respondents, and 67.6 per cent of respondents were aged 40 years or under. In total, 76.9 per cent of respondents were Australian citizens or permanent residents at the time of the survey, while 33.6 per cent of respondents were from a non-English speaking background. Only 3.1 per cent of respondents identified themselves as having a disability. A large majority of respondents had undertaken paid work in their final year of study (73.1 per cent). Following course completion, 60.7 per cent and 23.0 per cent of respondents were employed full time and part time, respectively, whereas 16.3 per cent were not in paid work at the time of the survey. Research doctoral respondents were more likely than research masters respondents to be in full-time work, whereas the reverse was true for part-time work and no work.



**Table 2: 2012 PREQ respondent characteristics**

	Research masters		Research doctorate		All research graduates		
	n	%	n	%	n	%	
Broad Field of Education	Natural and Physical Sciences	112	14.8	960	24.2	1,072	22.7
	Information Technology	17	2.2	141	3.6	158	3.3
	Engineering and Related Technologies	104	13.7	477	12.0	581	12.3
	Architecture and Building	11	1.5	45	1.1	56	1.2
	Agriculture, Environmental and Related Studies	34	4.5	156	3.9	190	4.0
	Health	116	15.3	589	14.9	705	14.9
	Education	63	8.3	217	5.5	280	5.9
	Management and Commerce	28	3.7	254	6.4	282	6.0
	Society and Culture	125	16.5	931	23.5	1,056	22.4
	Creative Arts	148	19.5	189	4.8	337	7.1
Means of financing study	HECS paid upfront	12	1.6	46	1.2	58	1.3
	HECS deferred some or all	33	4.5	155	4.0	188	4.1
	International fee-paying student	151	20.6	770	19.7	921	19.9
	Australian fee-paying student	81	11.1	311	8.0	392	8.5
	APA or RTS research student	455	62.2	2,621	67.2	3,076	66.4
Main attendance type	Mainly full time	440	58.4	2,864	72.7	3,304	70.4
	Mainly part time	313	41.6	1,077	27.3	1,390	29.6
Main attendance mode	Internal (on-campus)	511	68.0	2,970	75.2	3,481	74.1
	External (distance)	130	17.3	539	13.7	669	14.2
	Mixed mode (internal and external)	111	14.8	438	11.1	549	11.7
Sex	Male	365	48.2	1,926	48.6	2,291	48.6
	Female	393	51.8	2,030	51.3	2,423	51.4
	Unknown	0	0.0	4	0.1	4	0.1
Graduate age	40 or under	492	65.3	2,688	68.1	3,180	67.6
	Over 40	261	34.7	1,261	31.9	1,522	32.4
Permanent resident of Australia	Yes	595	78.5	3,033	76.6	3,628	76.9
	No	163	21.5	925	23.4	1,088	23.1
Main language spoken at home	English	481	66.9	2,495	66.3	2,976	66.4
	Other	238	33.1	1,266	33.7	1,504	33.6
Disability identification	Yes	35	4.7	109	2.8	144	3.1
	No	713	95.3	3,825	97.2	4,538	96.9
Paid work during your final year	Yes	550	73.2	2,874	73.1	3,424	73.1
	No	201	26.8	1,060	26.9	1,261	26.9
Paid work status	In full-time work	317	42.3	2,520	64.2	2,837	60.7
	In part-time work	229	30.5	848	21.6	1,077	23.0
	Not working	204	27.2	557	14.2	761	16.3

# 3.0

## NATIONAL TRENDS IN POSTGRADUATE RESEARCH EXPERIENCE

“All scales have exhibited an upward trend over the past five years ...”

Summary statistics for each PREQ scale are presented in Table 3. For each scale, the number of valid scores (n), means (X), medians (M) and standard deviations (s) are presented for scale scores, based on the -100 to 100 reporting metric described in Section 2, and mean agreement figures.

There is considerable variation in mean scale scores and agreement percentages. Mean scale scores range from highs of 74.5 and 70.6 for Skill Development, and Goals and Expectations, respectively, to a low of 36.8 for Intellectual Climate. The same maxima and minima are observed when mean agreement percentages are considered. Because the PREQ scales represent different aspects of the postgraduate research experience, it is inadvisable to make direct comparisons across the scales. It is interesting, however, to note the qualities of the research experience with which graduates expressed less agreement than others. It is also of value to note the standard deviation figure, as this illustrates the spread of scores from the mean. A smaller standard deviation indicates that scores are grouped tightly around the mean, while a larger standard deviation indicates that there is a wide dispersion of scores.

These standard deviation figures tend to be fairly consistent over time, and are largest for the Overall Satisfaction and Thesis Examination scales. Conversely, the Skill Development, and Goals and Expectations scales tend to be the most consistent.

Trends in mean percentage agreement scores for the years 1999 to 2012 are shown in Figure 1. All scales have exhibited an upward trend over the past five years; however all of these shifts were small in magnitude. The largest upward change over this period was observed for Supervision, which itself was only 2.8 percentage points. It is likely that the steep upward trend observed for some scales between 2005 and 2006 is related to changes in the format and administration of the AGS, and does not necessarily reflect a real improvement in research experience perceptions.

**Table 3: 2012 PREQ scale descriptive statistics**

	n	Scale score			Mean agreement		
		X	M	s	X	M	s
Supervision	4,685	55.2	66.7	44.0	79.3	100.0	30.7
Intellectual Climate	4,457	36.8	40.0	45.4	65.7	80.0	35.1
Skill Development	4,656	74.5	80.0	30.1	93.9	100.0	17.8
Infrastructure	4,394	50.8	50.0	40.5	77.8	90.0	29.3
Thesis Examination	4,688	55.9	66.7	46.1	82.0	100.0	29.9
Goals and Expectations	4,692	70.6	83.3	33.7	92.9	100.0	21.0
Overall Satisfaction	4,681	60.4	50.0	46.8	86.2	100.0	34.5

Descriptive statistics and response category percentages for the 28 Likert-type items underpinning the seven PREQ scales are presented for all respondents in Table 4. This table presents, for each item, the number of responses (n), mean (X), median (M), standard deviation (s), mean percentage agreement (PA), mean percentage broad agreement (BA), the distribution of responses across the six response categories (strongly disagree (SD), disagree (D), neither agree nor disagree (U), agree (A), strongly agree (SA) and not applicable (NA)), and the percentage of unplanned missing data (UP). Response category percentages may not sum precisely to 100 due to rounding errors.

In addition, item mean percentage agreement figures are presented in Figure 2 to visually illustrate the variation in the items comprising each scale and the mean agreement to the discrete phenomenon tapped by each scale. The items have been sorted within their respective scales by mean percentage agreement.

Research graduates tend to agree least with the statements represented by items PREQ23 ('The research ambience in the department or faculty stimulated my work'), PREQ09 ('I was integrated into the

department's community') and PREQ16 ('The department provided opportunities for me to become involved in the broader research culture'). These items, all components of the Intellectual Climate scale, relate to the forms of research support provided by academic departments that are intended to help students integrate their work into the broader research community. Conversely, the highest item mean percentage agreement figures are observed for PREQ14 ('My research sharpened my analytic skills'), PREQ10 ('I learned to develop my ideas and present them in my written work') and PREQ06 ('My research further developed my problem-solving skills'), all three of which reflect graduates' perceptions of their own skill development. These items also exhibited the least variation between respondents. Interestingly, the most variation was observed for PREQ25 ('The examination of my thesis was completed in a reasonable time'). Near-identical results were obtained from the 2011 survey. Together, these results suggest that, while graduates generally have a positive view of their postgraduate research experience as an exercise in skill development, many did not feel a part of the research community during their time at university.

Multi-year trends for each item are presented in Figures A to G, with each figure corresponding to a PREQ scale. It is important to keep in mind that the measurement provided by these individual items is not as reliable as that provided by the summated rating scales.

The PREQ distinguishes between two distinct forms of missing data: not applicable responses (NA), where graduates select the *does not apply* category on the response format if they feel that a particular item is not relevant to their own postgraduate research experience, and unplanned missing data (UP), which are due to simple item-level non-response. As shown in Table 4, the highest level of NA response was observed for PREQ12 ('I was able to organise good access to necessary equipment'), whereas the lowest level of NA response was recorded for PREQ28 ('Overall, I was satisfied with the quality of my higher degree research experience'). This finding is logical: while research graduates from many disciplines would not have required the use of specialised equipment to undertake their research, every graduate could comment on their overall experience. Levels of UP missing data were very low across all 28 items, ranging from 0.0 per cent (PREQ28) to just 0.5 per cent (PREQ19).

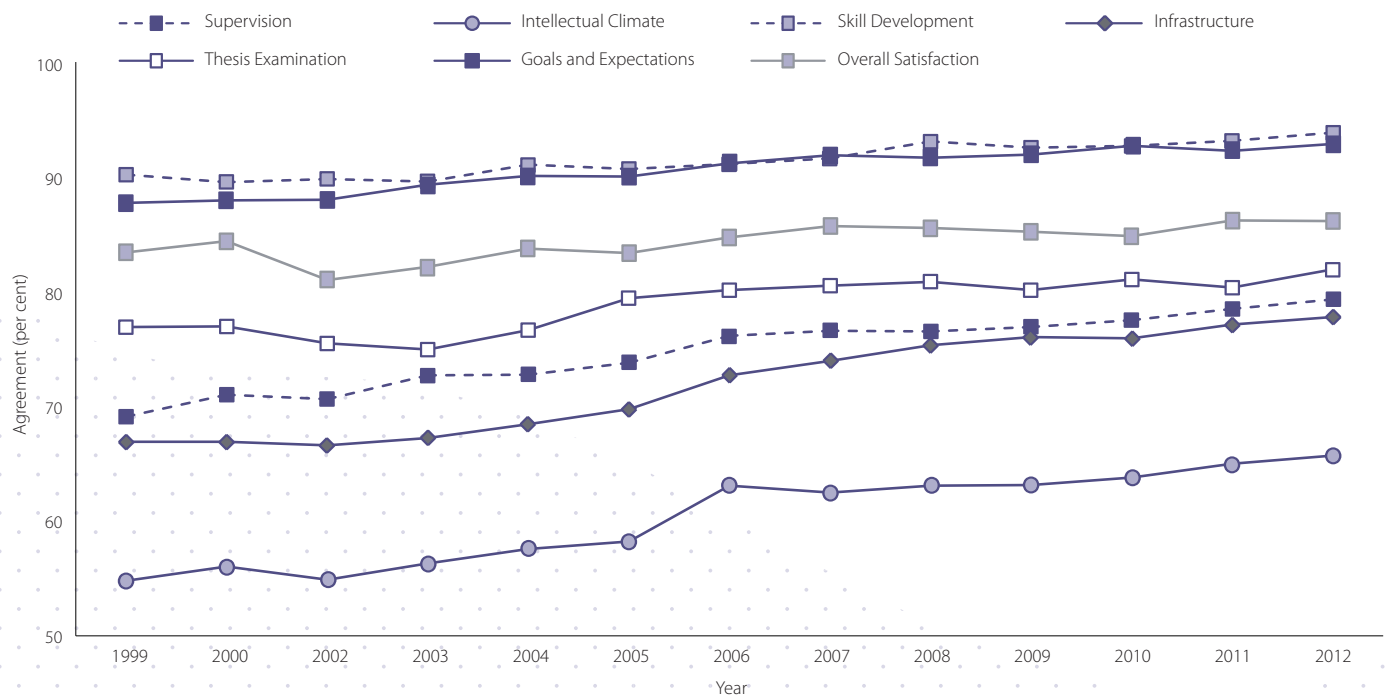


Figure 1: 1999 to 2012 PREQ scale mean percentage agreement scores



**Figure 2:** 2012 PREQ scale and item mean percentage agreement scores

**Table 4: 2012 PREQ item descriptive statistics and response category percentages**

Scale	Label	Item	Descriptive statistics					Response category percentages						Missing data	
			n	X	M	s	PA	BA	SD	D	U	A	SA		NA
Supervision	PREQ01	Supervision was available when I needed it	4,696	65.3	100.0	49.1	86.0	91.6	2.3	6.1	5.6	30.9	55.1	0.1	0.1
	PREQ07	My supervisor/s made a real effort to understand difficulties I faced	4,659	60.3	100.0	53.0	81.6	90.5	3.5	5.9	8.8	29.5	51.6	0.7	0.1
	PREQ13	My supervisor/s provided additional information relevant to my topic	4,674	57.5	50.0	51.0	81.6	91.1	3.1	5.8	9.5	35.9	45.4	0.4	0.1
	PREQ17	I was given good guidance in topic selection and refinement	4,602	44.6	50.0	54.1	72.8	87.5	4.0	8.3	14.5	39.0	32.5	1.7	0.2
	PREQ21	My supervisor/s provided helpful feedback on my progress	4,667	62.9	100.0	50.4	84.4	91.9	3.1	5.0	7.4	31.8	52.4	0.3	0.3
	PREQ24	I received good guidance in my literature search	4,642	40.7	50.0	53.6	69.3	86.8	3.8	9.3	17.4	40.0	28.9	0.7	0.3
Intellectual Climate	PREQ05	The department provided opportunities for social contact with other postgraduate students	4,528	46.6	50.0	51.8	74.7	88.9	3.2	7.8	14.2	41.5	32.7	0.6	0.2
	PREQ09	I was integrated into the department's community	4,495	34.6	50.0	56.6	63.7	83.2	4.7	11.9	19.0	36.5	27.2	0.8	0.2
	PREQ16	The department provided opportunities for me to become involved in the broader research culture	4,563	34.2	50.0	56.3	64.0	83.4	5.0	11.5	19.3	37.8	26.0	0.5	0.1
	PREQ22	A good seminar program for postgraduate students was provided	4,519	38.4	50.0	54.8	67.2	85.6	4.2	10.0	18.1	38.6	28.1	1.0	0.2
	PREQ23	The research ambience in the department or faculty stimulated my work	4,426	29.4	50.0	57.1	58.3	82.6	5.8	11.4	23.9	33.9	23.3	1.6	0.2
Skill Development	PREQ06	My research further developed my problem-solving skills	4,668	77.5	100.0	34.9	94.9	98.1	1.1	0.7	3.2	32.1	62.8	0.2	0.2
	PREQ10	I learned to develop my ideas and present them in my written work	4,673	75.6	100.0	34.5	95.3	98.2	1.0	0.9	2.9	36.6	58.5	0.1	0.2
	PREQ14	My research sharpened my analytic skills	4,659	79.1	100.0	33.6	95.9	98.3	0.9	0.6	2.5	31.0	64.7	0.2	0.2
	PREQ20	Doing my research helped me to develop my ability to plan my own work	4,653	72.7	100.0	37.1	92.7	97.8	1.1	1.1	5.1	36.6	55.9	0.3	0.2
	PREQ26	As a result of my research, I feel confident about tackling unfamiliar problems	4,647	67.7	50.0	38.3	90.4	97.7	1.2	1.1	7.2	41.8	48.2	0.5	0.2
Infrastructure	PREQ03	I had access to a suitable working space	4,391	60.2	50.0	50.8	84.1	91.0	3.2	5.6	6.7	35.1	47.6	1.8	0.4
	PREQ08	I had good access to the technical support I needed	4,569	47.5	50.0	51.2	75.1	89.3	2.9	7.7	13.9	41.5	33.5	0.4	0.1
	PREQ12	I was able to organise good access to necessary equipment	4,364	56.1	50.0	45.9	82.2	93.5	1.9	4.3	10.8	42.5	37.1	3.3	0.1
	PREQ18	I had good access to computing facilities and services	4,437	54.2	50.0	50.0	80.3	90.7	2.6	6.6	10.1	39.9	39.8	0.9	0.3
	PREQ27	There was appropriate financial support for research activities	4,490	35.6	50.0	59.5	66.4	81.8	6.3	11.5	14.9	36.5	29.1	1.7	0.3
Thesis Examination	PREQ02	The thesis examination process was fair	4,678	68.2	100.0	44.2	90.1	94.9	2.5	2.6	4.7	36.2	53.6	0.3	0.1
	PREQ15	I was satisfied with the thesis examination process	4,673	58.5	50.0	51.6	84.0	90.8	3.9	5.4	6.8	37.8	46.1	0.2	0.2
	PREQ25	The examination of my thesis was completed in a reasonable time	4,674	41.0	50.0	64.0	71.8	80.9	8.6	10.4	9.1	33.5	38.0	0.3	0.1
Goals and Expectations	PREQ04	I developed an understanding of the standard of work expected	4,678	70.9	100.0	37.7	93.2	97.1	1.2	1.7	3.9	40.4	52.6	0.2	0.3
	PREQ11	I understood the required standard for the thesis	4,666	72.0	100.0	38.6	92.8	96.7	1.2	2.1	3.8	37.0	55.6	0.3	0.3
	PREQ19	I understood the requirements of thesis examination	4,656	69.0	50.0	37.8	92.6	97.1	1.2	1.8	4.4	43.1	49.2	0.4	0.5
Overall Satisfaction	PREQ28	Overall, I was satisfied with the quality of my higher degree research experience	4,681	60.4	50.0	46.8	86.2	93.2	2.7	4.1	7.0	42.1	44.1	0.0	0.0

# 4.0

## THE INFLUENCE OF COURSE CHARACTERISTICS

“... it is not advisable to make direct comparisons across the scales, as each reflects a different quality of the postgraduate research experience.”

This section presents PREQ scale descriptive statistics stratified on the basis of different course characteristics, including qualification level, broad field of education (BFOE), detailed field of education (DFOE) and attendance type. Additional stratifications by means of financing study and attendance mode are presented in Tables B and C, respectively. As noted earlier, it is not advisable to make direct comparisons across the scales, as each reflects a different quality of the postgraduate research experience. The point of reference for each mean percentage agreement figure is either the corresponding figure for another contextual group or for the whole sample.

Mean percentage agreement figures over the period 1999 to 2012 are presented in Table 5, stratified by qualification level. With the exception of scores on the Supervision scale in 2002, 2004 and 2010, research doctoral graduates have higher levels of mean agreement than research masters graduates across all PREQ scales. This result may be attributable to the more extensive and deeper nature of the doctoral research experience.

Mean percentage agreement figures across the ten BFOE from the 2012 PREQ are presented in Table 6, stratified by qualification level. It is clear from this table that mean percentage agreement levels for

**Table 5:** 1999 to 2012 PREQ scale mean percentage agreement scores by qualification level

		1999		2000		2002		2003		2004		2005	
		%	n	%	n	%	n	%	n	%	n	%	n
Research masters	Supervision	66.9	658	69.6	600	70.7	618	71.8	671	72.8	703	72.1	611
	Intellectual Climate	47.8	629	46.7	542	51.0	539	49.7	612	51.8	643	52.6	561
	Skill Development	86.2	659	85.2	622	87.8	624	85.2	665	87.5	699	89.0	600
	Infrastructure	58.5	609	57.2	478	61.7	503	60.6	583	61.9	605	63.0	529
	Thesis Examination	75.7	651	75.1	627	73.7	633	72.2	661	74.5	708	75.2	606
	Goals and Expectations	82.6	657	81.4	622	82.2	632	84.0	668	86.3	708	85.0	610
	Overall Satisfaction	79.2	580	79.6	646	78.8	619	78.3	667	80.2	702	78.0	609
Research doctorate	Supervision	70.0	1,549	71.5	1,502	70.5	1,658	73.1	1,899	72.8	2,336	74.2	2,387
	Intellectual Climate	58.0	1,502	59.3	1,456	56.3	1,545	58.6	1,791	59.2	2,206	59.6	2,247
	Skill Development	91.9	1,556	91.8	1,574	90.6	1,689	91.1	1,892	92.1	2,325	91.1	2,359
	Infrastructure	70.5	1,461	71.2	1,371	68.1	1,484	69.4	1,747	70.3	2,147	71.3	2,206
	Thesis Examination	77.4	1,559	78.3	1,599	76.1	1,714	75.9	1,904	77.3	2,348	80.5	2,388
	Goals and Expectations	89.8	1,559	91.0	1,591	90.2	1,729	91.2	1,907	91.2	2,348	91.3	2,393
	Overall Satisfaction	85.2	1,555	86.9	1,608	81.8	1,696	83.5	1,890	84.8	2,339	84.7	2,378

each scale vary considerably by BFOE and qualification level. While research doctoral graduates tend to be more positive about their postgraduate research experience than research masters graduates at the overall level, there are numerous exceptions when these figures are examined by BFOE.

Research masters graduates from the field of architecture and building exhibited higher levels of mean agreement on every PREQ scale with the exception of those related to Intellectual Climate and Infrastructure. In addition, research masters graduates from the fields of agriculture, environmental and related studies, health, education, and management and commerce had higher mean percentage agreement scores than

research doctoral graduates on four scales. Research doctoral graduates from the fields of engineering and related technologies, and creative arts exhibited higher levels of mean agreement than research masters graduates on every scale. These results are presented graphically in Figures H to Q.

Since aggregations at the BFOE level hide much of the detail that is of interest to individual schools, faculties and academic departments, mean percentage agreement figures for the 30 largest NFOE for research masters and research doctoral graduates are presented in Tables 7 and 8, respectively. Both tables are sorted in descending order of response numbers. These 30 NFOE account for 82.1 per cent of all research masters

respondents and 82.3 per cent of all research doctoral respondents.

From Table 9, it can be seen that part-time research students tend to have lower mean agreement scores than full-time research students, with the largest differences observed on the Infrastructure and Intellectual Climate scales. Considering that part-time research students would likely spend less time on campus than their full-time counterparts, this finding is expected. It is also consistent with recent surveys. Part-time research students gave a higher mean agreement figure than full-time research students on the Supervision scale, although the difference was small in magnitude.

2006		2007		2008		2009		2010		2011		2012	
%	n	%	n	%	n	%	n	%	n	%	n	%	n
75.6	702	74.2	747	74.3	660	75.5	733	77.8	614	76.8	653	78.2	750
58.5	648	58.1	694	57.3	616	59.6	676	61.6	569	61.3	618	62.0	706
87.4	694	87.8	748	89.9	658	89.6	728	90.0	607	89.6	647	91.9	741
67.9	628	68.1	656	68.6	577	70.1	639	72.9	550	71.1	571	74.0	681
76.3	686	76.9	743	78.2	655	76.5	722	77.5	614	77.7	650	79.1	749
85.7	698	86.5	746	85.9	662	87.1	728	89.8	613	88.9	649	89.0	753
81.0	696	80.6	753	80.0	660	80.2	731	81.1	614	82.0	651	83.4	751
76.3	2,521	77.2	2,866	77.0	2,968	77.2	3,231	77.5	3,242	78.8	3,450	79.5	3,935
64.3	2,380	63.6	2,713	64.4	2,824	63.9	3,052	64.2	3,079	65.7	3,284	66.4	3,751
92.2	2,506	92.6	2,852	93.8	2,947	93.2	3,204	93.2	3,218	93.8	3,416	94.2	3,915
74.0	2,338	75.4	2,670	76.7	2,774	77.3	3,033	76.5	3,025	78.2	3,235	78.5	3,713
81.2	2,523	81.5	2,875	81.4	2,951	80.9	3,228	81.7	3,245	80.9	3,451	82.5	3,939
92.7	2,532	93.3	2,883	93.0	2,970	93.0	3,236	93.2	3,242	92.9	3,449	93.6	3,939
85.7	2,511	87.0	2,873	86.8	2,952	86.4	3,227	85.5	3,235	87.0	3,442	86.7	3,930



**Table 6:** PREQ scale mean percentage agreement scores by broad field of education

		Natural and Physical Sciences	Information Technology	Engineering and Related Technologies	Architecture and Building	Agriculture, Environmental and Related Studies	Health	Education	Management and Commerce	Society and Culture	Creative Arts
Research masters	Supervision	76.0	82.4	71.9	87.9	84.3	82.2	84.9	87.5	75.1	76.4
	Intellectual Climate	71.1	65.0	65.2	61.0	65.3	62.8	51.9	72.2	61.3	53.9
	Skill Development	92.1	96.5	91.0	92.7	89.7	96.3	93.8	88.6	93.4	87.7
	Infrastructure	80.3	75.0	77.5	80.0	78.7	80.8	74.5	85.2	69.3	60.0
	Thesis Examination	84.4	88.2	78.0	100.0	81.4	82.2	78.5	78.6	76.2	73.2
	Goals and Expectations	91.4	96.1	87.6	100.0	93.1	91.2	91.5	89.3	89.1	82.4
	Overall Satisfaction	81.3	76.5	83.7	90.9	85.3	91.3	88.7	88.9	82.1	76.0
Research doctorate	Supervision	74.9	88.6	79.4	80.5	78.7	80.8	84.1	83.9	80.3	78.4
	Intellectual Climate	69.3	69.8	69.5	64.1	63.5	70.3	61.6	69.8	61.3	57.1
	Skill Development	94.5	95.0	95.6	89.0	94.8	95.3	93.3	92.4	93.6	93.3
	Infrastructure	81.6	83.2	83.5	80.6	77.7	80.0	71.3	82.6	73.3	66.8
	Thesis Examination	82.5	85.1	83.9	77.8	81.3	82.9	81.5	83.9	82.0	80.0
	Goals and Expectations	93.1	96.2	95.2	93.3	95.5	94.6	92.7	91.4	93.3	91.4
	Overall Satisfaction	84.8	92.9	88.6	79.5	86.4	89.6	86.5	88.1	86.1	80.9



**Table 7: 2012 PREQ mean percentage agreement scores for the 30 largest narrow fields of education for research masters graduates**

	n	Supervision	Intellectual Climate	Skill Development	Infrastructure	Thesis Examination	Goals and Expectations	Overall Satisfaction
Visual Arts and Crafts	68	80.2	54.8	86.5	61.5	76.2	81.6	77.9
Studies in Human Society	54	77.9	58.1	92.7	62.2	75.5	89.5	81.1
Biological Sciences	45	77.0	74.8	93.8	80.3	80.7	92.6	82.2
Performing Arts	44	79.8	58.3	88.7	58.1	65.9	81.0	83.3
Teacher Education	33	82.3	47.7	91.0	67.7	79.2	89.9	81.3
Electrical and Electronic Engineering and Technology	29	69.5	63.4	94.3	80.0	86.2	92.9	82.8
Medical Studies	26	77.6	60.2	98.5	78.5	75.6	74.4	84.6
Communication and Media Studies	25	62.3	42.2	88.3	59.5	78.7	80.7	56.0
Other Natural and Physical Sciences	22	80.3	65.0	91.4	78.0	87.9	95.5	81.8
Nursing	21	85.7	63.4	92.0	67.6	74.6	93.7	90.5
Curriculum and Education Studies	19	84.2	54.1	95.8	79.7	77.2	94.7	94.7
Public Health	19	84.4	63.2	97.9	83.8	86.0	98.2	94.7
Civil Engineering	19	89.1	79.5	97.9	89.7	84.2	96.5	100.0
Mechanical and Industrial Engineering and Technology	18	72.2	62.4	89.4	71.9	76.9	90.2	88.9
Process and Resources Engineering	18	74.1	63.1	90.0	78.1	87.0	88.9	88.9
Philosophy and Religious Studies	17	66.9	57.5	91.8	67.0	76.5	77.5	64.7
Environmental Studies	16	77.1	57.3	80.0	67.1	79.2	91.7	81.3
Physics and Astronomy	16	67.7	65.4	91.3	85.0	91.7	91.7	81.3
Language and Literature	12	74.2	65.5	94.5	71.4	87.9	88.9	90.9
Other Health	11	83.3	62.0	98.2	91.8	81.8	93.9	90.9
Rehabilitation Therapies	10	88.9	50.8	97.8	94.3	88.9	96.3	100.0
Health (not elsewhere classified)	10	81.7	78.0	93.3	98.0	93.3	96.7	100.0
Agriculture	10	96.3	72.2	100.0	95.6	83.3	93.3	90.0
Chemical Sciences	10	78.3	80.0	94.0	84.4	83.3	90.0	80.0
Behavioural Science	9	66.7	62.2	93.3	67.5	63.0	90.7	77.8
Architecture and Urban Environment	9	88.9	63.8	91.1	77.5	100.0	100.0	88.9
Earth Sciences	9	66.7	57.8	86.7	77.1	79.2	85.2	66.7
Business and Management	8	85.4	51.4	85.0	76.3	58.3	75.0	75.0
Mathematical Sciences	8	79.2	76.9	87.5	71.4	83.3	79.2	87.5
Political Science and Policy Studies	7	81.0	71.4	94.3	82.1	76.2	81.0	100.0

**Table 8: 2012 PREQ mean percentage agreement scores for the 30 largest narrow fields of education for doctorate graduates**

	n	Supervision	Intellectual Climate	Skill Development	Infrastructure	Thesis Examination	Goals and Expectations	Overall Satisfaction
Biological Sciences	467	74.6	68.7	94.8	80.0	81.7	93.6	84.7
Behavioural Science	214	77.6	58.3	93.4	74.2	80.0	93.7	84.0
Medical Studies	212	82.0	74.9	95.4	85.6	85.1	94.7	92.0
Studies in Human Society	203	78.6	59.4	92.4	67.8	83.7	93.9	84.7
Electrical and Electronic Engineering and Technology	193	79.9	67.6	94.8	83.6	83.9	95.0	86.5
Business and Management	138	81.4	64.5	92.1	80.2	83.3	89.5	83.9
Chemical Sciences	131	72.5	70.0	95.5	81.0	84.0	93.8	85.5
Other Natural and Physical Sciences	126	74.5	69.2	97.4	82.9	82.0	95.4	87.2
Language and Literature	117	83.8	64.9	93.6	74.5	81.0	94.2	85.5
Process and Resources Engineering	98	81.0	71.6	96.3	84.3	83.3	94.4	90.7
Physics and Astronomy	96	81.4	73.8	90.9	86.6	86.6	93.1	86.3
Public Health	95	82.4	74.5	94.9	81.5	78.0	95.0	86.0
Curriculum and Education Studies	87	82.7	61.3	92.3	68.2	82.9	91.5	84.9
Computer Science	85	89.9	68.7	95.1	84.7	84.7	95.7	92.9
Environmental Studies	78	80.5	62.8	94.2	81.3	79.9	96.6	87.0
Teacher Education	77	84.2	61.9	93.8	76.5	82.7	93.9	86.8
Communication and Media Studies	72	87.0	61.1	95.0	72.2	83.3	94.4	85.9
Economics and Econometrics	69	80.7	70.1	93.9	87.7	81.4	92.2	88.4
Political Science and Policy Studies	67	79.9	57.7	94.8	73.3	79.6	89.6	83.6
Philosophy and Religious Studies	66	76.9	60.7	93.6	69.8	80.5	88.4	89.4
Law	66	86.5	72.8	94.7	73.3	83.3	93.9	95.2
Rehabilitation Therapies	64	83.3	59.1	97.2	68.2	85.9	95.6	88.9
Earth Sciences	64	72.0	66.9	90.6	82.3	79.2	90.1	79.4
Mathematical Sciences	64	78.0	70.6	94.9	85.0	85.9	87.0	87.3
Civil Engineering	59	81.0	81.0	96.6	82.0	87.9	96.6	89.5
Society and Culture (not elsewhere classified)	58	82.1	55.3	92.3	69.6	84.2	94.2	82.5
Other Health	57	81.5	64.4	93.9	77.5	87.5	94.6	89.5
Agriculture	46	70.1	60.5	93.8	70.8	83.0	91.9	80.0
Other Society and Culture	45	80.4	53.2	97.7	74.3	88.9	97.0	91.1
Health (not elsewhere classified)	44	78.2	70.2	92.6	75.9	80.3	92.4	88.6

**Table 9: 1999 to 2012 PREQ scale mean percentage agreement scores by attendance type**

		1999		2000		2002		2003		2004		2005		2006	
		%	n	%	n	%	n	%	n	%	n	%	n	%	n
Full-time students	Supervision	67.9	1,449	70.5	1,285	70.7	1,185	73.7	1,348	73.0	1,531	74.1	1,732	76.2	1,979
	Intellectual Climate	57.3	1,431	58.3	1,273	56.3	1,124	58.3	1,303	60.0	1,501	61.4	1,685	65.1	1,919
	Skill Development	91.0	1,448	90.6	1,341	90.7	1,198	90.3	1,343	92.3	1,523	91.7	1,705	91.9	1,968
	Infrastructure	70.9	1,418	71.2	1,230	69.4	1,114	70.9	1,281	71.6	1,483	74.0	1,668	75.9	1,912
	Thesis Examination	76.7	1,447	77.8	1,347	76.1	1,211	76.3	1,347	76.6	1,534	79.9	1,728	80.3	1,975
	Goals and Expectations	87.8	1,448	89.3	1,341	89.2	1,218	90.2	1,350	90.6	1,535	91.4	1,730	91.9	1,986
	Overall Satisfaction	83.1	1,445	86.1	1,357	80.4	1,201	83.9	1,339	84.2	1,529	85.4	1,715	85.6	1,967
Part-time students	Supervision	71.3	765	71.7	815	70.4	1,083	71.6	1,183	72.7	1,433	73.4	1,215	76.1	1,233
	Intellectual Climate	50.2	708	51.6	721	53.2	951	53.9	1,065	54.5	1,280	53.6	1,075	59.5	1,099
	Skill Development	88.8	774	88.9	854	88.8	1,107	88.7	1,175	89.7	1,422	89.3	1,204	89.9	1,221
	Infrastructure	59.1	658	60.5	618	62.8	864	62.6	1,016	65.1	1,204	63.1	1,017	66.8	1,045
	Thesis Examination	77.2	769	76.8	877	75.0	1,126	73.2	1,179	76.7	1,443	78.9	1,216	80.0	1,223
	Goals and Expectations	87.5	774	86.7	871	86.9	1,133	88.1	1,186	89.5	1,442	88.3	1,222	90.0	1,233
	Overall Satisfaction	84.0	776	82.9	899	81.8	1,104	79.9	1,180	83.3	1,434	80.6	1,221	83.5	1,229
		2007		2008		2009		2010		2011		2012			
		%	n	%	n	%	n	%	n	%	n	%	n		
Full-time students	Supervision	76.1	2,231	76.8	2,307	76.4	2,562	77.4	2,631	78.3	2,848	79.2	3,281		
	Intellectual Climate	64.7	2,182	66.4	2,261	64.8	2,491	66.1	2,568	66.9	2,780	67.7	3,210		
	Skill Development	92.3	2,223	94.2	2,292	92.9	2,535	93.2	2,605	93.5	2,826	94.2	3,267		
	Infrastructure	76.9	2,161	78.3	2,242	78.7	2,490	78.9	2,548	79.6	2,768	80.5	3,194		
	Thesis Examination	81.4	2,229	81.2	2,286	80.3	2,548	80.8	2,628	80.1	2,845	82.2	3,287		
	Goals and Expectations	92.7	2,239	92.5	2,304	92.5	2,556	92.7	2,624	92.3	2,842	93.2	3,288		
	Overall Satisfaction	87.1	2,232	87.5	2,296	85.8	2,556	86.1	2,621	86.4	2,839	86.7	3,281		
Part-time students	Supervision	77.7	1,304	75.9	1,300	78.0	1,389	77.8	1,211	79.0	1,236	79.6	1,380		
	Intellectual Climate	58.5	1,148	56.6	1,159	59.7	1,225	58.2	1,068	60.2	1,103	60.4	1,223		
	Skill Development	90.5	1,300	91.3	1,292	91.9	1,384	91.7	1,206	92.5	1,218	93.0	1,365		
	Infrastructure	68.2	1,089	69.2	1,091	70.5	1,169	68.7	1,015	70.6	1,019	70.5	1,176		
	Thesis Examination	79.8	1,311	80.0	1,299	79.9	1,389	81.8	1,216	81.2	1,237	81.4	1,377		
	Goals and Expectations	90.7	1,312	90.1	1,307	90.9	1,395	92.9	1,216	92.3	1,237	92.0	1,380		
	Overall Satisfaction	83.4	1,317	81.9	1,295	84.2	1,389	82.2	1,213	85.7	1,235	84.8	1,376		

# 5.0

## THE INFLUENCE OF RESPONDENT CHARACTERISTICS

“... male research graduates had higher mean percentage agreement scores than female research graduates on all seven PREQ scales ...”

This section presents PREQ scale descriptive statistics for different respondent groups, including ones based on sex, age group, permanent resident status, final year work status, and labour market activity at the time of the survey.

As shown in Table 10, male research graduates had higher mean percentage agreement scores than female research graduates on all seven PREQ scales, with the largest differences recorded on the Supervision, Intellectual Climate, Overall Satisfaction and Infrastructure scales. Examining the results from the previous six survey rounds, it is noteworthy that males have consistently given higher mean scores than females on these same four scales.

Research graduates aged 40 years and under gave higher mean percentage agreement scores than their counterparts aged over 40 years on six of the seven PREQ scales, with Supervision the only exception (Table 11).

The largest such differences were observed on the Infrastructure and Intellectual Climate scales, which is consistent with the last few years of the survey. Notably, the difference in terms of Overall Satisfaction is only marginal between the two age groups under examination.

Table 12 demonstrates that research graduates who were overseas residents at the time of the survey are generally more positive about their postgraduate research experience than Australian residents, and have been since the inception of the PREQ. In 2012, the largest differences were observed on the Intellectual Climate and Infrastructure scales. Conversely, the difference between groups on the Skill Development scale was only small in magnitude, which is also true over the long term.

**Table 10:** 1999 to 2012 PREQ scale mean percentage agreement scores by sex

		1999		2000		2002		2003		2004		2005	
		%	n	%	n	%	n	%	n	%	n	%	n
Males	Supervision	69.8	1,187	71.6	1,173	72.0	1,103	74.0	1,254	74.9	1,475	73.9	1,495
	Intellectual Climate	56.0	1,147	57.2	1,115	56.4	1,005	57.1	1,180	59.6	1,384	60.6	1,401
	Skill Development	89.7	1,191	90.2	1,217	90.2	1,121	89.4	1,250	90.5	1,473	91.3	1,468
	Infrastructure	71.3	1,111	71.4	1,048	68.6	962	70.0	1,151	71.5	1,350	72.2	1,369
	Thesis Examination	77.3	1,192	76.2	1,232	75.2	1,139	75.1	1,254	75.9	1,489	79.3	1,487
	Goals and Expectations	88.5	1,194	88.0	1,225	88.0	1,152	89.6	1,258	90.0	1,489	89.9	1,495
	Overall Satisfaction	85.2	1,193	86.6	1,244	82.5	1,118	84.5	1,247	85.7	1,479	84.6	1,485
Females	Supervision	68.3	1,030	70.1	929	69.2	1,173	71.5	1,313	70.7	1,563	73.8	1,500
	Intellectual Climate	53.5	994	54.2	882	53.5	1,079	55.6	1,219	55.6	1,464	56.0	1,404
	Skill Development	90.9	1,034	89.7	981	89.5	1,192	89.8	1,304	91.6	1,550	90.1	1,488
	Infrastructure	61.9	968	62.5	800	64.5	1,025	64.5	1,176	65.5	1,401	67.3	1,363
	Thesis Examination	76.5	1,028	78.8	994	75.7	1,208	74.8	1,308	77.3	1,566	79.6	1,504
	Goals and Expectations	86.8	1,031	88.6	990	88.1	1,209	89.1	1,314	90.2	1,566	90.1	1,505
	Overall Satisfaction	81.5	1,030	82.5	1,016	79.6	1,197	79.9	1,306	81.8	1,561	82.1	1,499

2006		2007		2008		2009		2010		2011		2012	
%	n	%	n	%	n	%	n	%	n	%	n	%	n
76.9	1,560	79.1	1,671	79.4	1,745	79.2	1,948	78.5	1,806	80.1	1,998	81.2	2,272
63.0	1,464	65.2	1,580	65.3	1,652	65.0	1,829	65.3	1,712	66.2	1,898	67.4	2,175
90.7	1,549	92.1	1,665	93.5	1,739	92.8	1,935	92.1	1,790	93.1	1,983	94.6	2,253
73.7	1,442	76.8	1,538	77.9	1,608	78.2	1,820	77.8	1,687	78.8	1,862	79.2	2,154
78.8	1,548	80.9	1,677	80.2	1,743	81.6	1,942	80.8	1,806	80.0	2,001	82.4	2,276
90.9	1,564	92.9	1,682	92.1	1,754	92.2	1,952	92.0	1,805	92.7	2,007	93.2	2,272
85.3	1,555	88.8	1,678	87.6	1,744	87.5	1,949	86.7	1,803	88.4	1,996	87.7	2,276
75.4	1,663	74.5	1,877	73.8	1,876	74.7	2,007	76.7	2,038	76.9	2,101	77.6	2,409
63.1	1,564	60.1	1,762	61.1	1,782	61.4	1,890	62.4	1,924	63.9	2,000	64.1	2,278
91.5	1,651	91.2	1,870	92.7	1,859	92.3	1,988	93.3	2,023	93.2	2,076	93.2	2,399
71.7	1,524	71.5	1,725	72.9	1,738	74.0	1,843	74.3	1,876	75.5	1,940	76.4	2,236
81.4	1,661	80.7	1,876	81.4	1,856	78.8	1,999	81.3	2,041	80.7	2,096	81.6	2,408
91.4	1,666	91.2	1,882	91.3	1,871	91.8	2,003	93.3	2,038	91.9	2,087	92.5	2,416
84.2	1,652	83.0	1,883	83.6	1,861	83.0	2,000	83.2	2,034	84.1	2,093	84.7	2,401

**Table 11: 1999 to 2012 PREQ scale mean percentage agreement scores by age group**

		1999		2000		2002		2003		2004		2005	
		%	n	%	n	%	n	%	n	%	n	%	n
40 years and under	Supervision	67.9	1,385	69.6	1,187	70.5	1,370	72.6	1,552	70.9	1,834	72.9	1,805
	Intellectual Climate	55.9	1,359	56.6	1,174	56.6	1,289	56.4	1,493	58.6	1,773	60.1	1,745
	Skill Development	91.6	1,391	90.2	1,234	90.8	1,389	90.9	1,547	92.1	1,829	92.0	1,792
	Infrastructure	69.5	1,362	69.9	1,128	69.1	1,272	70.1	1,472	70.7	1,750	71.9	1,727
	Thesis Examination	76.8	1,387	77.1	1,244	75.6	1,393	74.8	1,546	76.5	1,837	79.7	1,801
	Goals and Expectations	87.9	1,390	88.1	1,245	87.8	1,403	89.5	1,552	89.6	1,839	89.8	1,811
	Overall Satisfaction	83.4	1,391	83.9	1,255	80.5	1,383	83.3	1,543	83.1	1,832	84.3	1,798
Over 40 years	Supervision	71.6	769	73.4	725	70.6	906	73.0	1,018	75.6	1,204	75.2	1,184
	Intellectual Climate	53.2	721	55.7	655	52.2	795	56.1	910	55.9	1,075	55.3	1,055
	Skill Development	87.5	771	89.2	767	88.3	924	87.6	1,010	89.4	1,194	88.6	1,158
	Infrastructure	61.6	660	63.8	558	61.8	715	62.2	858	64.7	1,001	66.1	1,001
	Thesis Examination	77.4	770	78.0	778	75.3	954	75.1	1,019	76.8	1,218	79.2	1,184
	Goals and Expectations	88.0	772	88.6	766	88.3	958	88.9	1,023	90.8	1,216	90.4	1,183
	Overall Satisfaction	83.9	769	85.5	798	81.8	932	80.3	1,014	84.7	1,208	82.0	1,180

**Table 12: 1999 to 2012 PREQ scale mean percentage agreement scores by permanent resident status**

		1999		2000		2002		2003		2004		2005	
		%	n	%	n	%	n	%	n	%	n	%	n
Australian resident	Supervision	68.3	1,936	69.5	1,808	69.3	1,927	71.9	2,235	72.1	2,657	72.7	2,620
	Intellectual Climate	53.7	1,865	54.2	1,712	53.1	1,756	55.2	2,088	56.3	2,490	57.1	2,447
	Skill Development	89.9	1,944	89.5	1,895	89.5	1,959	89.5	2,223	90.9	2,645	90.2	2,584
	Infrastructure	65.3	1,806	65.6	1,568	64.7	1,665	66.3	2,013	67.3	2,393	68.4	2,376
	Thesis Examination	76.8	1,939	77.3	1,928	74.8	1,992	75.3	2,231	76.7	2,672	79.4	2,619
	Goals and Expectations	87.4	1,944	87.8	1,911	87.2	2,002	89.2	2,240	89.8	2,674	89.7	2,625
	Overall Satisfaction	82.7	1,942	83.9	1,953	80.2	1,955	81.1	2,225	83.0	2,660	82.6	2,614
Overseas resident	Supervision	75.3	277	80.1	287	77.6	342	78.6	330	77.5	378	81.4	375
	Intellectual Climate	62.8	272	65.3	278	65.3	320	63.6	311	66.2	356	66.1	358
	Skill Development	92.7	277	92.8	295	92.2	345	90.4	329	92.3	376	93.8	372
	Infrastructure	77.7	269	78.0	275	75.8	315	72.8	313	76.6	355	78.9	356
	Thesis Examination	77.3	277	77.9	293	79.3	346	72.7	329	76.3	380	80.3	372
	Goals and Expectations	89.6	277	91.4	296	93.0	350	89.8	330	92.2	378	92.8	375
	Overall Satisfaction	88.8	277	90.0	299	85.5	351	89.3	327	88.9	377	89.2	370

2006		2007		2008		2009		2010		2011		2012	
%	n	%	n	%	n	%	n	%	n	%	n	%	n
74.2	1,905	75.3	2,155	75.7	2,329	76.1	2,526	76.6	2,451	78.2	2,685	78.7	3,165
64.9	1,842	63.8	2,095	64.2	2,265	63.8	2,454	65.3	2,380	66.5	2,624	67.2	3,086
92.1	1,891	92.9	2,149	94.3	2,311	93.3	2,504	93.6	2,431	93.8	2,663	94.5	3,146
74.7	1,842	76.2	2,091	76.5	2,231	77.2	2,438	77.5	2,373	79.1	2,597	79.9	3,075
79.9	1,887	80.8	2,147	80.7	2,304	80.2	2,509	80.5	2,451	79.7	2,682	82.7	3,162
90.4	1,900	92.0	2,154	91.7	2,326	91.8	2,522	92.0	2,447	92.0	2,677	92.9	3,164
84.1	1,888	86.0	2,158	86.0	2,320	85.4	2,521	85.2	2,444	86.6	2,671	86.3	3,158
78.9	1,317	78.7	1,392	78.0	1,291	78.4	1,424	79.2	1,387	79.1	1,409	80.5	1,504
60.2	1,185	60.3	1,246	60.9	1,167	61.9	1,260	61.0	1,251	61.9	1,269	62.1	1,355
89.7	1,308	89.7	1,385	90.9	1,286	91.2	1,414	91.3	1,377	91.9	1,391	92.5	1,494
69.3	1,123	69.9	1,171	72.9	1,114	73.9	1,220	72.9	1,184	72.8	1,200	72.7	1,304
80.4	1,321	80.8	1,405	81.0	1,294	80.2	1,427	82.2	1,390	81.7	1,410	80.6	1,510
92.2	1,329	91.9	1,409	91.7	1,298	92.2	1,428	94.1	1,390	92.9	1,412	92.8	1,512
85.7	1,318	85.2	1,402	84.7	1,284	84.8	1,423	84.3	1,387	85.4	1,413	85.8	1,507

2006		2007		2008		2009		2010		2011		2012	
%	n	%	n	%	n	%	n	%	n	%	n	%	n
75.3	2,745	75.3	2,938	75.5	2,943	75.9	3,163	76.0	3,061	78.0	3,179	78.0	3,601
62.1	2,575	60.3	2,763	61.0	2,772	61.5	2,963	62.0	2,883	63.2	3,012	63.4	3,409
91.0	2,726	91.3	2,919	92.9	2,926	92.2	3,142	92.7	3,031	93.1	3,148	93.8	3,580
71.6	2,513	72.3	2,673	73.7	2,686	74.6	2,907	74.5	2,813	75.4	2,908	75.8	3,342
80.5	2,733	80.2	2,944	80.9	2,935	79.7	3,160	80.9	3,066	80.5	3,177	81.5	3,604
91.3	2,749	91.4	2,952	90.9	2,946	91.6	3,167	92.6	3,062	92.0	3,177	92.2	3,612
84.4	2,732	84.7	2,950	84.4	2,925	84.3	3,161	83.7	3,054	85.5	3,172	84.9	3,602
80.8	471	82.2	661	81.5	671	80.8	793	83.5	785	80.0	915	83.6	1,082
69.0	447	72.3	630	72.5	654	69.2	757	70.6	755	71.2	881	73.0	1,047
91.6	468	93.4	666	94.0	665	93.8	782	93.2	784	93.0	906	94.2	1,074
78.7	447	80.9	641	82.3	653	81.6	758	81.3	752	83.0	889	84.1	1,050
78.0	469	81.9	660	80.6	657	81.7	782	81.5	783	79.5	915	83.4	1,082
90.8	474	94.3	662	95.0	672	93.3	789	93.3	783	93.2	912	95.2	1,078
86.8	469	90.0	662	90.8	673	89.1	789	89.3	785	88.5	912	90.4	1,077

**Table 13:** 2012 PREQ scale mean percentage agreement scores by final year work

		Worked in final year	No work in final year
Research masters	Supervision	78.8	77.8
	Intellectual Climate	61.0	65.1
	Skill Development	92.3	90.9
	Infrastructure	72.8	77.8
	Thesis Examination	78.5	80.9
	Goals and Expectations	88.7	89.7
	Overall Satisfaction	84.0	82.5
Research doctorate	Supervision	78.5	82.3
	Intellectual Climate	64.3	72.0
	Skill Development	93.9	95.2
	Infrastructure	76.3	84.0
	Thesis Examination	81.6	85.0
	Goals and Expectations	92.7	96.2
	Overall Satisfaction	85.5	89.7
All research graduates	Supervision	78.5	81.5
	Intellectual Climate	63.8	70.9
	Skill Development	93.7	94.5
	Infrastructure	75.8	83.0
	Thesis Examination	81.1	84.4
	Goals and Expectations	92.0	95.2
	Overall Satisfaction	85.3	88.6

As shown in Table 13, research graduates who were not in paid work during their final year of study tended to be more positive about their postgraduate research experience than graduates who were in paid work, although only the differences on the Infrastructure and Intellectual Climate scales were arguably of practical importance. These were larger in magnitude for research doctoral graduates than research masters graduates. It is interesting to note the general similarity between these results and those observed when mean percentage agreement scores are stratified by attendance type (Table 9), and a similar interpretation may apply. Research students who were engaged in paid work during their final year of study would generally have less time to spend on campus than those who were not in work – except, of course, those engaged in academic employment – which could explain their lower mean scores on these particular scales.

Research graduates who were in full-time work at the time of the survey tended to be more positive about their postgraduate research experience than those who were in part-time work or unemployed and seeking work (Table 14). There were no substantial differences in mean percentage agreement between those graduates in full-time work and those who were not actively participating in the labour market. Focusing solely on the Overall Satisfaction indicator, research doctoral graduates who were in full-time work or were labour market non-participants at the time of the survey reported higher mean percentage agreement scores than comparable research masters graduates. The group differences in mean Overall Satisfaction percentages for part-time employed or unemployed research graduates were small by comparison.

**Table 14:** 2012 PREQ scale mean percentage agreement scores by labour market activity after graduation

		Working full time	Working part time	Seeking work	Not participating in labour market
Research masters	Supervision	79.5	78.8	68.1	80.7
	Intellectual Climate	63.3	59.2	60.8	65.3
	Skill Development	93.3	90.8	87.7	92.6
	Infrastructure	75.9	69.8	76.6	76.6
	Thesis Examination	80.8	77.4	73.6	80.2
	Goals and Expectations	89.1	89.7	87.2	87.9
	Overall Satisfaction	82.5	86.4	77.3	84.7
Research doctorate	Supervision	80.1	78.6	75.4	82.4
	Intellectual Climate	68.6	61.4	61.0	67.4
	Skill Development	95.0	92.9	92.5	93.8
	Infrastructure	80.0	73.6	75.6	82.2
	Thesis Examination	82.3	82.6	80.7	84.9
	Goals and Expectations	93.8	92.7	94.0	94.6
	Overall Satisfaction	87.7	85.4	79.0	89.3
All research graduates	Supervision	80.0	78.6	74.0	81.8
	Intellectual Climate	68.0	60.9	60.9	66.7
	Skill Development	94.8	92.5	91.6	93.4
	Infrastructure	79.6	72.8	75.8	80.4
	Thesis Examination	82.2	81.5	79.4	83.3
	Goals and Expectations	93.2	92.1	92.7	92.4
	Overall Satisfaction	87.1	85.6	78.7	87.8

It is important to note that this discussion on the influence of course and respondent characteristics on PREQ scores does not account for any interdependence between characteristics. The differences in scores for male and female research graduates, for example, are more likely the result of differences in their enrolment characteristics than any fundamental difference between the sexes. In other words, sex may reflect a difference in PREQ scores, but it is not necessarily the cause of such. This should be kept in mind when interpreting the statistics in this report. This analytical approach was chosen to maintain consistency with earlier reports in this series.



# 6.0

## THE INFLUENCE OF A CHANGE IN SUPERVISION ARRANGEMENTS

“In all, 30.5 per cent of respondents indicated that they had a change of supervisor ...”

In this section, we consider how a change in supervision arrangements during study can influence graduates' perceptions of their postgraduate research experience. When completing the AGS, higher degree research graduates are asked to respond to a yes/no question on whether they had a change of supervisor during their study. In all, 30.5 per cent of respondents indicated that they had a change of supervisor, with a change of supervisor somewhat more common amongst research doctoral graduates than research masters graduates (31.2 per cent and 26.6 per cent, respectively).

Mean percentage agreement figures are tabulated by this change of supervisor question in Table 15, stratified by qualification level. It can be seen that research graduates who reported a change of supervisor during the study tended to be more negative about their postgraduate research experience than those whose supervisor did not change, with differences of at least seven percentage points observed on the Overall Satisfaction, Intellectual Climate, Supervision and Infrastructure scales. The differences were all larger for research masters graduates, ranging from 12.0 percentage points on the Infrastructure scale to 8.2 percentage points on the Overall Satisfaction indicator, but were still relatively large for research doctoral graduates. Rather interestingly, the difference on the Skill Development scale was only marginal for research masters and research doctoral graduates alike (1.8 percentage points and 0.4 percentage points, respectively). Taken together, these results suggest that a change of supervisor does not have a substantial impact on whether research graduates feel that their degree has enhanced their research skills, but it does appear to have a detrimental impact on their overall postgraduate research experience, especially as regards supervision, naturally, but also their views on the intellectual climate and learning infrastructure provided by their institution.

To investigate this issue further, the six PREQ items with the largest difference in mean percentage agreement scores between those who did and did not have a change of supervisor during their study are presented in Table 16. All of the presented items reflect a difference between groups of at least 7.5 percentage points. As noted earlier, the measurement provided by these individual Likert-type items is not as reliable as that provided by the summated rating scales; however the results on these items are nonetheless interesting. In the top four items, two suggest that graduates who experienced a change of supervisor tended to be less positive about the guidance they received during their study, while the other two suggest that these graduates also tended to be less positive about the learning community provided by their academic department. As may be expected, the fifth item in Table 16 indicates that graduates who experienced a change of supervisor tended to be less positive about the availability of supervision during their study. As already shown in Table 15, these graduates also tended to be less positive about their overall postgraduate research experience than those graduates who had no change of supervisor.

Table 16 also lists the three PREQ items with absolute differences between groups of less than one percentage point. Consistent with the conclusions drawn from Table 15, the results on these items suggest little difference in perceptions of skill development between those research graduates who have experienced a change of supervisor and those who have not.

**Table 15: 2012 PREQ scale mean percentage agreement scores by change in supervision arrangements**

		Change in supervisor	No change in supervisor
Research masters	Supervision	71.2	81.2
	Intellectual Climate	54.0	65.1
	Skill Development	90.6	92.4
	Infrastructure	65.2	77.2
	Thesis Examination	76.2	80.0
	Goals and Expectations	87.0	89.6
	Overall Satisfaction	77.6	85.8
Research doctorate	Supervision	74.9	81.6
	Intellectual Climate	61.9	68.5
	Skill Development	94.0	94.4
	Infrastructure	74.1	80.5
	Thesis Examination	80.2	83.5
	Goals and Expectations	91.5	94.5
	Overall Satisfaction	81.5	88.9
All research graduates	Supervision	74.4	81.5
	Intellectual Climate	60.8	67.9
	Skill Development	93.5	94.0
	Infrastructure	72.8	80.0
	Thesis Examination	79.6	82.9
	Goals and Expectations	90.9	93.7
	Overall Satisfaction	80.9	88.4

**Table 16: 2012 PREQ item mean percentage agreement scores by change in supervision arrangements**

Label	Item	Change in supervisor	No change in supervisor
PREQ24	I received good guidance in my literature search	62.0	72.7
PREQ23	The research ambience in the department or faculty stimulated my work	51.0	61.6
PREQ17	I was given good guidance in topic selection and refinement	65.5	76.0
PREQ09	I was integrated into the department's community	56.8	66.6
PREQ01	Supervision was available when I needed it	80.6	88.5
PREQ28	Overall, I was satisfied with the quality of my higher degree research experience	80.9	88.4
PREQ10	I learned to develop my ideas and present them in my written work	95.1	95.3
PREQ14	My research sharpened my analytic skills	96.0	95.7
PREQ06	My research further developed my problem-solving skills	95.5	94.8



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