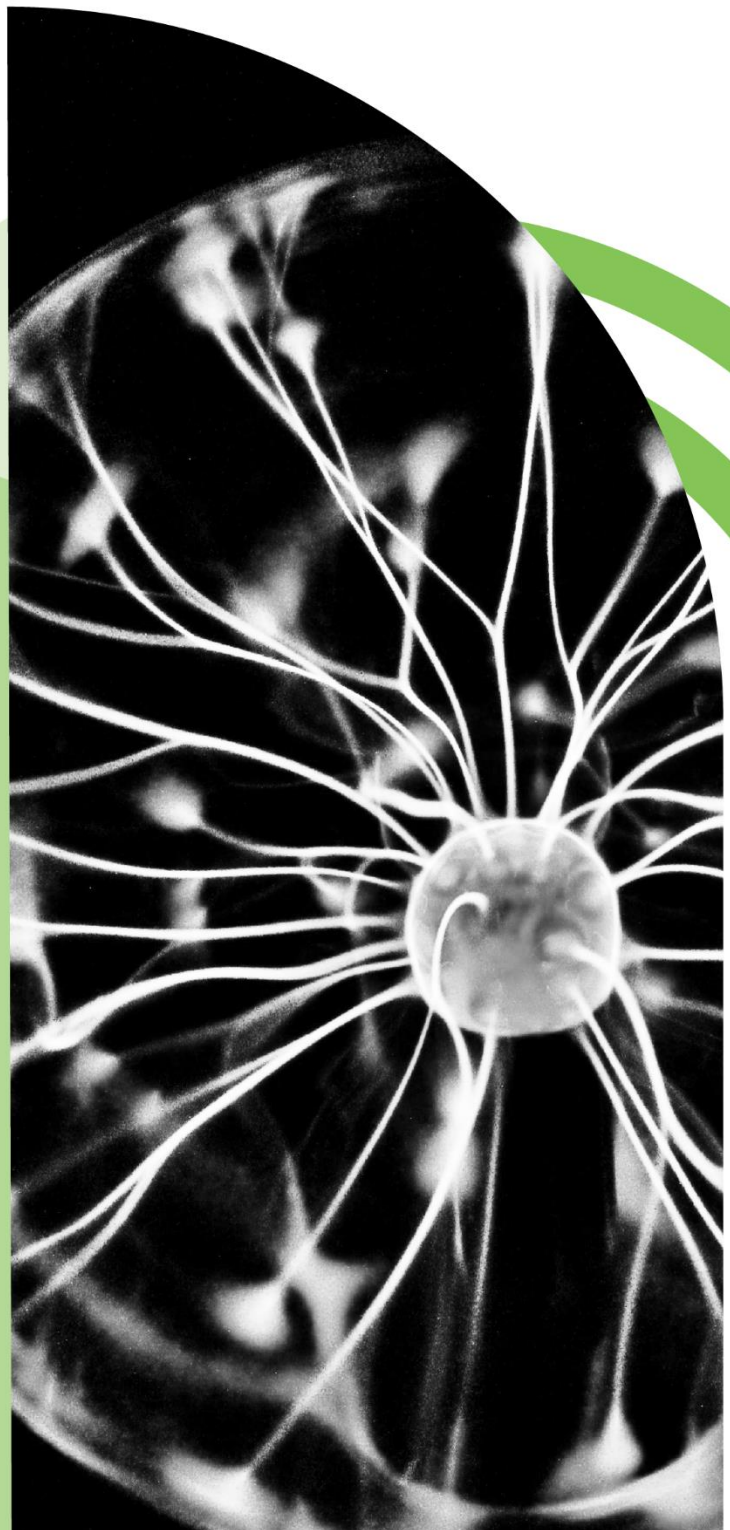
Identifying Graduate Research Student Satisfaction

Faculty of Science

Monash University 2024



The Monash Graduate Association would like to thank all those who assisted in the production and distribution of this survey. We would also like to thank the graduate students who completed the survey.

This report was produced by Dr Ryan Edwards. Should you have any questions in regard to the paper, please contact Ryan.Edwards@monash.edu for further information.

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Executive summary

In April and May 2024, the Monash Graduate Association (MGA) conducted a survey of graduate students at Monash and nine other Australian universities. Similar surveys were conducted in 2017 and 2021, which have allowed for some comparisons throughout this report.

The main findings as they relate to graduate research students enrolled in the Faculty of Science are summarised below:

Science graduate researchers are overwhelmingly positive in relation to their supervision experience

The sentiment of Science respondents in relation to supervision was overwhelmingly positive.

The University's recommended meeting frequency was mostly met with 95% of full-time graduate researchers meeting with their supervisor weekly or fortnightly, while 100% of part-time Science respondents met once a month or more frequently.

Supervisors were largely meeting the expectations and needs of their students. Having their research supported by skilled supervisors was the most important thing to Science respondents and also the area in which they were most satisfied.

Support for work-life balance (-9.03%) was the area where the gap between importance and satisfaction was widest.

Student satisfaction with their academic unit high

Across the board, Science graduate researchers were predominantly satisfied with the department or school in which they were enrolled.

The most common response as to the most satisfying aspect of their academic unit related to the regular seminars and guest speakers, while the most common dissatisfying aspect related to feeling like they could have a career in a place like this.

Confirmation process is largely satisfactory

Respondents were widely satisfied their confirmation experience. In particular, they were satisfied that the behaviour and tone of the panel was professional.

Receiving feedback was the best aspect of confirmation, according to Science respondents, while the worst aspect was the time and focus the process required.

Professional Development opportunities

Having Professional Development opportunities that focus on presentation skills and data analysis techniques was of the utmost importance to Science graduate researchers, while experiencing PD with students from other fields was the least important of the themes.

Respondents were most satisfied with PD on project/research management and least satisfied with industry exposure. The widest gaps between importance and satisfaction were in recorded for industry exposure and grant writing.

In terms of additions to existing PD, opportunities to improve their research skills was the clear stand out.

Minor increase in number of graduate researchers working for the University with respondents largely satisfied they are paid appropriately

The likelihood of a Science graduate researcher at Monash being given an opportunity to conduct paid work for the faculty or university increased over the past three years from 70% in 2021 to 72% in 2024. This figure was much higher than it was across STEM at Monash (57%) and slightly ahead of that recorded at other universities in the field of science (67%)

The majority of Science respondents (81%) believed that they were paid appropriately for the work they did for the University.

Doubts, delays and drop outs

The majority of Science graduate researchers have, at some point, experienced imposter syndrome with 17% indicating that they experienced this feeling “often.”

Only 14% of respondents from Science had never experienced a delay in their research, while 17% indicated that they often experienced delays.

Preparing for milestones was the most common response for a delay in research among Science graduate research students, while cost of living/financial concerns almost tripled from 2021 levels as a reason for a delay.

Science graduate researchers were less likely than those doing degrees in the field of Science at other universities to have considered leaving their degree.

The most common reasons for considering leaving were mental health and financial concerns.

The most common response for continuing with their degree was personal interest.

MGA engagement and satisfaction has room for improvement in Science

Science respondents were less likely to engage with the MGA than their colleagues across STEM; however, respondents were twice as likely to be satisfied with the Association than they were to be dissatisfied.

Introduction

The Monash Graduate Association (MGA) ran a survey of graduate students in April and May 2024 across nine Australian universities. In relation to graduate research students, the aim of the MGA's *National Postgraduate Student Satisfaction Survey* was to better understand their degree experience.

This report explores many of the pillars of a research degree, including supervision, the academic unit, confirmation and professional development. It also looks into some common associated experiences, including paid employment opportunities, imposter syndrome, research delays and thoughts of dropping out. Finally, the report highlights the engagement and satisfaction of Monash graduate research students with the Monash Graduate Association (MGA) and includes suggestions for how the MGA could better support the University's students.

This report provides data and findings specifically for respondents enrolled at in the Faculty of Science at Monash University. In Science, a total of 105 graduate research students participated in the survey (see *Appendix 1: Demographics*), which we estimate to be approximately 18% of enrolled graduate research students at the Faculty.

The survey was advertised in the MGA newsletter, on the MGA website, through MGA social Sciia channels and through contacts with Monash faculty groups and associate deans, many of whom agreed to forward the advertising of the survey to their students. Participants were self-selecting, so an incentive scheme (comprising the opportunity to win one of 100 gift cards worth $50 in value) was used to assist in attracting a representative sample.

With the support of colleagues at student associations across Australia, this survey was offered to postgraduate students at nine other universities. Respondents from the University of Queensland, Griffith University, Queensland University of Technology, Southern Cross University, University of Sydney, University of New South Wales, University of Technology Sydney, Victoria University and Federation University are all represented in this survey. A total of 47 graduate research students in the field of science completed the survey across these universities.

Where appropriate, comparisons between Monash and non-Monash respondents have been made.

This research has been approved by the Monash University Human Research Ethics Committee (Project ID: 41520).

Limitations

While this report provides valuable insight into graduate research student satisfaction, it is important to acknowledge certain limitations that may impact the interpretation of results. One such limitation is outlined below:

Positive-negative asymmetry (PNA) effect

Across the entire report, the responses of students have been taken at face-value. As such, it is important to reflect on the positive-negative asymmetry (PNA) effect. The PNA effect is two-part: firstly, it incorporates the positivity bias, which refers to an individual's inclination towards favourable perceptions of phenomena that are novel or do not directly impact them,[1] and, secondly, it incorporates the negativity bias which, in part, relates to how individuals are more curious about negative than positive stimuli and therefore are more mobilised by negative events.[2] In the context of this report, this may mean that answers to the quantitative questions in the survey are disproportionately positive, while the responses to the qualitative (open-ended) questions are disproportionately negative, given that students were not required to provide a response.

In relation to the qualitative questions in this survey, effort was made to overcome the PNA effect by splitting questions and asking for a positive and negative reflection.

[1] Maria Lewicka, Janusz Czapinski and Guido Peeters, "Positive-negative asymmetry or 'When the heart needs a reason'," *European Journal of Social Psychology* 22 (1992): 426.
[2] Reanna M. Poncheri, Jennifer T. Lindberg, Lori Foster Thompson and Eric A. Surface, "A comment on employee surveys: negativity bias in open-ended responses," *Organizational Research Methods* 11, no. 3 (2008): 615-16.

Supervision

Respondents were asked a series of questions in relation to their supervision experience.

Choice of supervisor

Did you choose your supervisor?	Science 2021	Science 2024	Monash STEM 2024	Other Sci 2024
Yes	96%	94%	89%	95%
No	4%	6%	11%	5%

The proportion of Science PhD candidates choosing their own supervisors has remained somewhat consistent over the past 3 years.

The result in Science was higher than across STEM at Monash and on par with graduate research students studying in the broad field of Science across other participating universities.

Previous studies have identified that doctoral students who choose their own supervisor are more likely to complete their degree than those assigned a supervisor.[3]

Choice of topic

Did you choose your own topic?	Science 2021	Science 2024	Monash STEM 2024	Other Sci 2024
Yes	67%	72%	72%	68%
No	33%	28%	28%	32%

Between 2021 and 2024, there was a minor increase in the proportion of Science respondents choosing their own research topic.

Students in Science are more likely than those studying science at other universities to choose their own topic.

[3] Karen Hunter and Kay Devine, "Doctoral student's emotional exhaustion and intentions to leave academia," *International Journal of Doctoral Studies* 11 (2016): 40.

Contact with supervisors

Participants were asked, on average, how often they meet with their supervisors?

How often do you meet with your supervisor?	Science 2024	Monash STEM 2024	Other Sci 2024
Weekly	72%	57%	43%
Fortnightly	23%	35%	30%
Once every 3 weeks	1%	4%	9%
Once a month	2%	3%	7%
Less than once a month	2%	2%	11%

The majority of Science graduate research respondents met with their supervisors on a weekly or fortnightly basis.

The Monash University *Graduate Research Student Supervision Procedure* recommends full-time graduate researchers meet with their main supervisor at least every two weeks, while part-time students should meet monthly.

Of full-time Science respondents, 95% met with their supervisor weekly or fortnightly, while 100% of part-time Science respondents met once a month or more frequently.

Those who met their supervisors once a month or less were asked to respond to the question ***Why don't you meet more frequently with your supervisors?***

Comments included:

> *"I don't need to waste time of my supervisor. As a PhD candidate, I should know how to independently conduct research."*
>
> *"Supervisor refuses individual meetings, we communicate by email (they answer only the questions they want to)."*
>
> *"I am coming to the end of my PhD, so require less supervision, but prior to this my supervisor didn't provide me with that much insightful knowledge so I reduce the number of meetings."*

Supervision: Importance and Satisfaction

Participants were asked to rate how important certain aspects of supervision were and how satisfied they were with their own experience. For the purposes of analysis, this 7-point *LIKERT*-scale has been converted to a numerical value and averaged across graduate research respondents.

The gap was calculated as below:

$$\text{Gap} = (\text{Satisfaction} - \text{Importance}) \div \text{Importance (\%)}$$

In regard to satisfaction, respondents were asked to consider their supervision experience overall or as a collective, rather than their experience with individual supervisors.

	Importance (1-7)	Satisfaction (1-7)	Gap (%)
Skilled supervisors	6.52	6.23	-4.45%
Constructive feedback	6.38	5.91	-7.37%
I am heard	6.26	5.81	-7.19%
Support for work/life balance	6.20	5.64	-9.03%
Access to supervisors	6.14	5.86	-4.56%
Timely feedback	6.11	5.83	-4.58%
Mentor me	6.11	5.94	-2.78%
Guide me through the degree	5.98	5.55	-7.19%
Act professionally	5.95	5.70	-4.20%
Help me belong academically	5.94	5.43	-8.59%
Help me network	5.88	5.98	1.70%
Career pathway	5.86	5.35	-8.70%
Encourage ownership	5.83	5.76	-1.20%
I am a priority	5.59	5.51	-1.43%
Clear role delegation	5.40	5.34	-1.11%
Inform me of support services	4.97	5.16	3.82%
	5.95	5.69	-4.18%

Having their research supported by skilled supervisors and receiving constructive feedback were the most important aspect of supervision according to Science respondents. These were also two areas where students were relatively satisfied.

The widest gap between importance and satisfaction was recorded in relation to support for work/life balance.

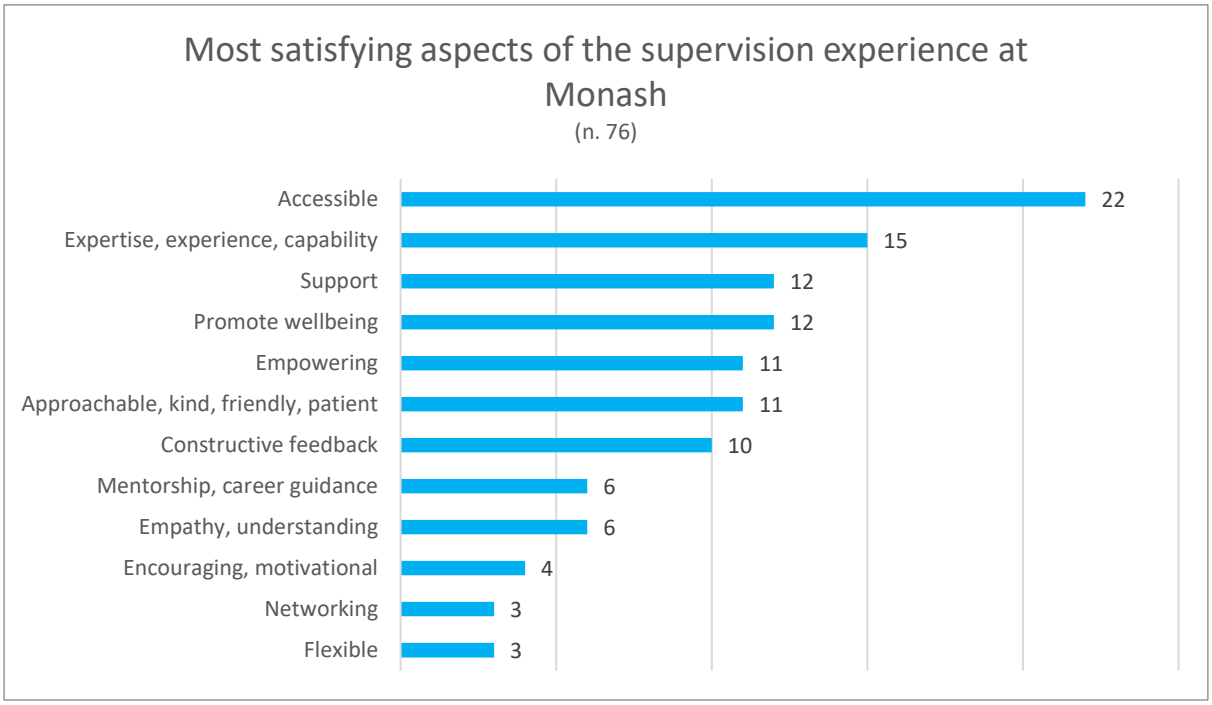
The supervision experience

Participants were asked to reflect on what aspects of their supervision experience they found most satisfying and what aspects they found most dissatisfying.

Most satisfying aspects of supervision

In order to gain further insight into what graduate research students most value in their supervisors, participants were asked to *Tell us about what aspects are most satisfying about your supervision experience*.

Below is a summary of the responses from Science:



The primary theme to emerge from the responses related to the **accessibility** of their supervisors. Comments included:

> *"My supervisors are very approachable, open to discuss my research, and we have a monthly meeting of my progress to keep me on track."*
>
> *"I have very open communication with both of my supervisors as a joint PhD student, and I know if I have personal problems they will support me. Having two internationally distanced supervisors allows for me to experience different methods and directions when I am at each separate campus."*
>
> *"She is available anytime and makes sure I experience research in the best way."*
>
> *"Daily personalised mentorship and deep project awareness/care. Offering ideas to fix problems and out saucing to other academics if necessary."*

Other interesting comments included:

"He has had lots of previous supervising experience meaning I trust that I'm in a good spot in my research when he says I am. I trust that he will help me get through my research and I will have a good thesis at the end of it."

"My supervisor is an expert in the area, and make me feel confident about my research skills and ideas. He is positive and look for new ideas, always looking to be in the top."

"The abundant knowledge and experience of my main supervisor, giving a clear path for my project. They have good relations with many other members of the research collaboration."

"The flexibility and autonomy I get with my work hours and methods, as well as where I want my research to go. I feel very supported in the fact that I can pursue what I want to, and be able to have positive conversations about what will work best for me and my supervisors in achieving my objectives."

"My supervisors are perfect! They are kind, respectful, knowledgeable, friendly... They teach me things and also let me learn things at my own pace even if I make mistakes. They always support me."

"My supervisors have always made sure that I am enjoying my work. They have always ensured that a balance between work-life balance is maintained."

"My supervisor has been very tolerant of my mental health needs in regards to hospitalisations and extensions, allowing me to have space to recover from episodes in my own time."

"My supervisors are much more supportive of my work-life balance than Americans would be. I can take breaks or even days off be there need."

"They genuinely are interested in what I am doing. They want to help."

"My supervisors listen to my thoughts always. And they always support me in every situation. They clearly tell me how to proceed."

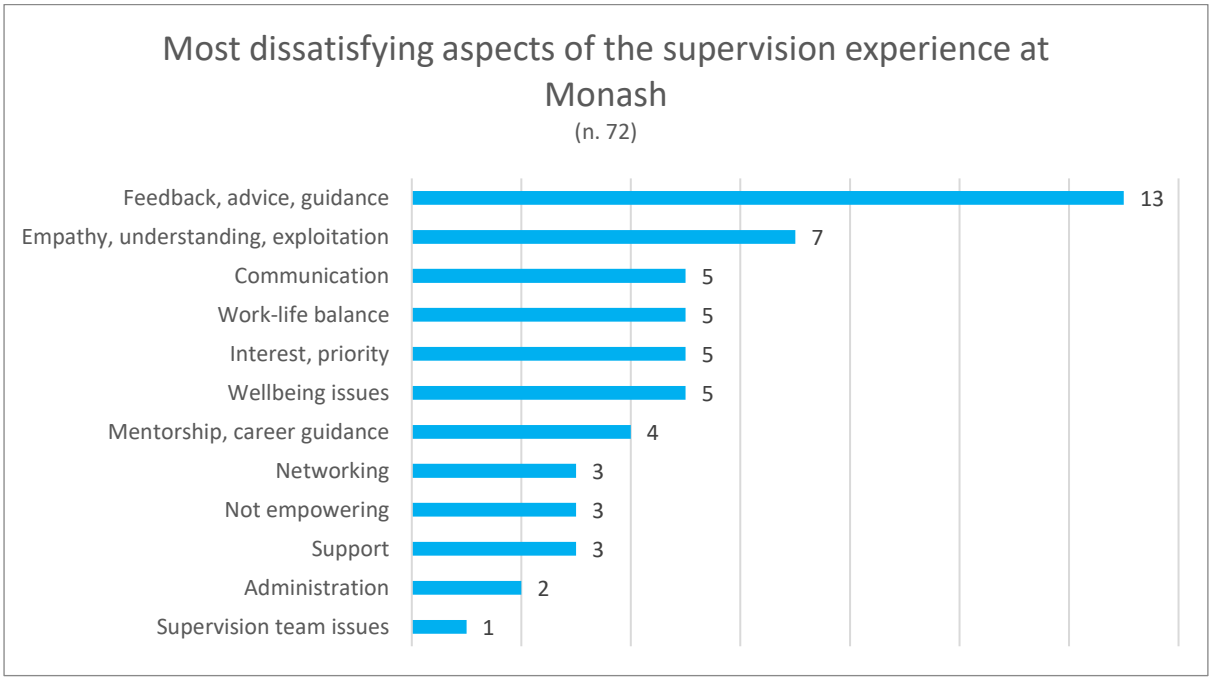
"Networking with other academics, provide opportunities of collaborations, and steering my project directions."

"I have freedom to explore options in my research and investigate where I see fit for my research. I also enjoy the flexibility of the work week based on the tasks required."

Most dissatisfying aspects of supervision

In order to gain insight into what traits graduate research students find most problematic about their supervisors, participants were asked to *tell us about what aspects are most dissatisfying about your supervision experience*.

Below is a summary of responses from Science:



The most common frustration with supervisors related to **accessibility issues**. These included:

> *"My research is going very, very slow, which stresses me often. I wish my supervisors stressed on this and made sure to ramp the speed by giving inputs that would direct towards speedy research."*
>
> *"My supervisors can be very hands off, which results in a lack of mentorship and focussed direction at time."*
>
> *"My supervisor is often too busy with teaching and administrative tasks to be able to assist me in the lab and with analytical procedures/development/data collection. This is not the fault of my supervisor, but it does have an impact on my research."*
>
> *"The communication between my supervisors has broken down and is difficult for me to manage. They are both 50/50 and now I feel like neither of them care much about the project because it isn't 100% theirs."*

Other interesting comments included:

> *"No support from my supervisor, instead he has been pulling me down. Pitching 2 students against each other by giving them same topic in the same field area. No regard for other person's feelings and mental health."*

“Miscommunications happen which sometimes means I don't get the support I need. This is further amplified by my recent [health] diagnosis, which I am struggling to manage in the "one-shoe-fits-all" structure of the learning requirements of a PhD. I am also occasionally discouraged from branching out to co-supervisors so as to not bother them until we are more ready to present data. This means I occasionally don't hear valuable insights and ideas, or get adequate assistance, until much later.”

“The supervisor I have most interactions with, they are lazy, unorganised, rude, hierarchical, and just generally pretty useless to me.”

“Conflicting information from multiple supervisors and senior researchers - i.e., too many cooks in the kitchen.”

“My previous supervisor didn't care about me at all. I was just a publication machine.”

“There is mistrust and promises that have not been kept. I have been misled for some time on aspects of my project including the finances. I have also been pressured to use my own money for aspects of my project.”

“Too much workload from my supervisor sometimes, having to co-supervise two master students and one undergraduate student is definitely impending the progress of my study and add stress to my PhD journey, especially when there is no financial compensation for my effort.”

“We are extremely cheap labour. Not a supervisor fault exactly more of a university structural issue - we spend so much of our time teaching for no financial return while students pay course fees of research units we instruct.”

“Sometimes I find it hard to get a word in when they're talking, because they get so immersed in what their saying.”

“Sometimes our goals don't align and they try to push me towards things that aren't what I want for myself.”

“The lack of practical guidance on how to use university systems to get things done. And zero introductions to other academics. It's a good thing I'm happy to go and introduce myself and ask questions because otherwise it wouldn't happen.”

“He mostly works off campus so I don’t get in-person feedback much. He also doesn't go to conferences so I find it hard to network.”

Conflict with supervisor

Have you ever had a disagreement with a supervisor that was challenging to overcome?	Science 2017*	Science 2021*	Science 2024	Monash STEM 2024	Other Sci 2024
No, I've never had a serious disagreement with a supervisor	*(no) 89%*	*(no) 88%*	64%	70%	64%
Yes, but it was only minor	*(yes) 11%*	*(yes) 12%*	24%	23%	31%
Yes, I have had a serious disagreement			12%	7%	5%

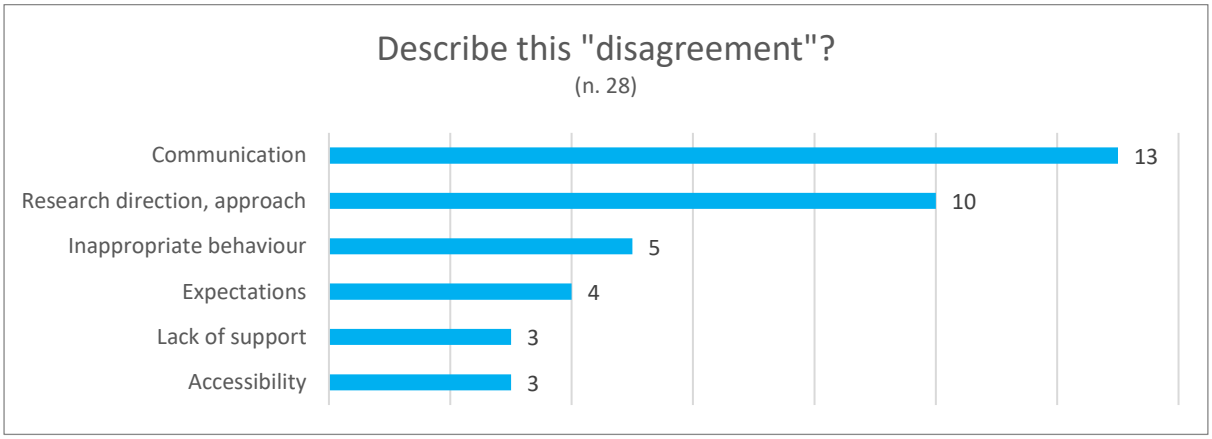
*Please note that in 2017 and 2021 this was a "yes" or "no" question and "conflict or misunderstanding" was used in place of "disagreement."

Respondents from Science were slightly more likely to have had a serious disagreement with a supervisor than their STEM colleague.

Type of conflict

Respondents who had experienced a disagreement with a supervisor ("minor" or "serious") were asked to describe this disagreement.

Below is a summary of the responses of Science respondents:



The most common form of conflict related to **communication** issues. Comments included:

> *"They were pressuring me by setting the bar way above Monash standards, and lying to me about them."*
>
> *"Communication frustrations. Felt like wasn't given the chance to properly explain my problems without interruption."*
>
> *"He changed his mind about some essential topics of my research, I have to draw my line about that."*

"I wanted feedback on some of my chapters for my thesis write-up just before I started writing full time because my supervisor is notoriously slow at providing said feedback, their response was that they don't have time to sit around correcting my spelling mistakes and I should find someone else to do it. Since then I haven't had much communication with them and it took them over 4 months to send feedback on some different work I carried out with approximately 4 un-useful comments across 80 or so pages."

"Co-supervisor kept prolonging the completion of a chapter. He was unresponsive to communication and continually changed the goalposts for months on end. My main supervisor was extremely supportive, and with the help of the HDR coordinator, we were able to set expectations and move forward."

Other interesting comments included:

"There were disagreements over the direction of my project. It was more a disagreement that last weeks between my supervisors so I felt very stuck in the middle and like I had to make a decision who was right."

"One supervisor wanted me to do research unrelated to my thesis because it was of interest to him. I tried explaining how I should focus on my actual project. He yelled at me until I caved into doing what he wanted to "save" the professional relationship. The supervisor is quite narcissistic and not overly focussed on the students and their projects."

"Funding. Funding has been an issue from the start of my PhD and I have been pressured to use my top-up scholarship money to fund aspects of my project. This has not been fully resolved."

"Panel expressed that I was being over supervised, which resulted in one of my supervisors retiring."

Dealing with conflict

Respondents who had experienced a form of conflict were asked to select if they had dealt with it and, if so, the ways in which they had dealt with it.

How did you deal with this "disagreement"?	Science 2017*	Science 2021*	Science 2024	Monash STEM 2024	Other Sci 2024
Decided to do nothing	60%	47%	9%	7%	21%
Sorted it out directly with supervisor(s)	40%	40%	68%	72%	50%
Sought assistance from a friend/colleague	20%	0%	32%	43%	43%
Sought assistance from student association	10%	0%	3%	7%	0%
Sought assistance from my chair	NA	NA	9%	0%	0%
Sought assistance from grad. coordinator or head of school	30%	7%	12%	14%	0%
Other	NA	7%	18%	14%	7%

* Please note, when we asked this question in 2017 and 2021, "conflict" was used in place of "disagreement" i.e. *How did you deal with the conflict?*

The proportion of respondents at Science who directly respond to conflict by speaking with their supervisor increased substantially, while the number of students doing nothing in response to "disagreement" was minimal.

Changing supervisors

Participants were asked a series of questions relating to changing supervisors.

Considered changing supervisors

Have you thought about changing supervisors?	Science 2024	Monash STEM 2024	Other Sci 2024
Never	75%	75%	66%
Rarely	16%	17%	29%
Often	6%	6%	5%
All the time	3%	2%	0%

Science respondents were less likely than those from other universities to have considered changing their supervisors.

Supervisor changes

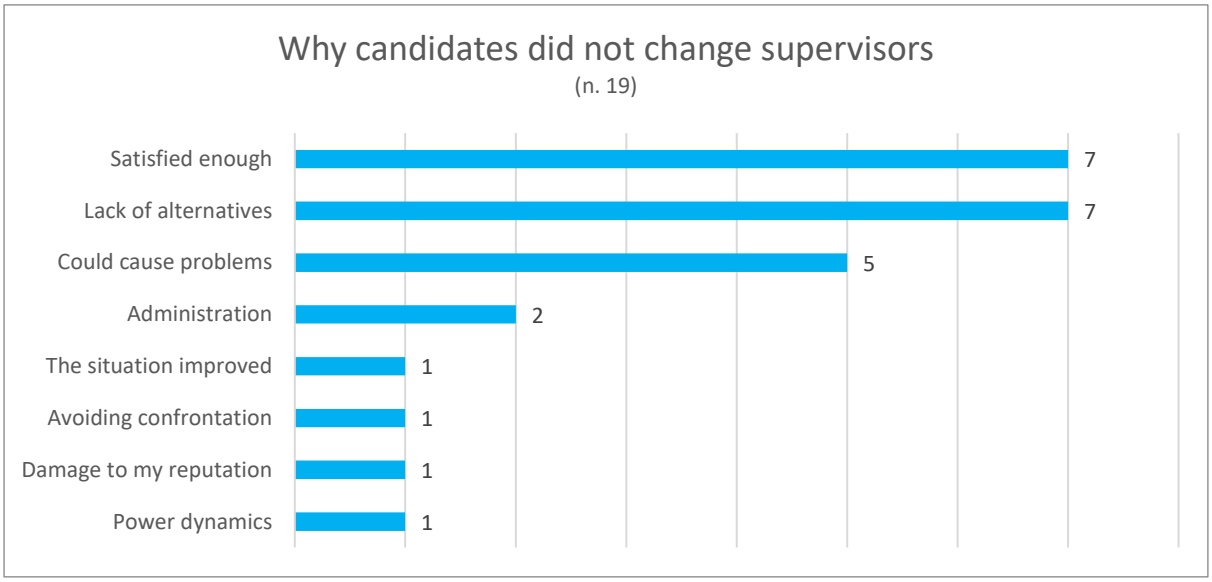
Have you ever changed supervisors?	Science 2024	Monash STEM 2024	Other Sci 2024
No	93%	86%	85%
Yes, but it wasn't my choice	3%	7%	12%
Yes, my supervisor and I agreed to make a change	2%	5%	2%
Yes, I decided to change a supervisor(s) even though they did not want to be replaced	0%	1%	0%
Other	3%	4%	2%

Science respondents were less likely than those across STEM at Monash and those studying science at other universities to have changed supervisors.

Why students did not change supervisors

Respondents who had not changed supervisors, but who had considered it, were asked what stopped them from changing supervisors.

Below is a summary of the responses of Science respondents:



Interesting comments included:

> *"My main supervisor is friends with my secondary supervisor (who would be the one I would change)."*
>
> *"I confronted my supervisor about his lack of communication, poor time management, and unrealistic expectations and it resolved the issue."*
>
> *"The ones I have are adequate - we get along well and they mostly provide the guidance I need with a little prompting. But one is semi-retired and the other is getting along in age, so I suspect I may need to change at some point as they move away from working."*
>
> *"The project aligns only with their work and I know at the end of the day, they are good people and they care about me graduating."*
>
> *"Bureaucracy and I'd still be in the same department, better avoiding that."*
>
> *"I'm in the process of trying to change the supervisor. In the past, I didn't do it so that my topic wouldn't change."*
>
> *"1) it would be super awkward to see them around campus 2) no disagreement has ever been big enough to warrant any drastic action."*
>
> *"Nobody else at the university does what I do. Changing supervisors would have required me to drop out."*

Comments on the process of changing supervisors

Respondents who had changed supervisors were asked to comment on the process of changing supervisors.

Interesting comments included:

> *"Monash was incredibly supportive and found the right environment for me."*
>
> *"It was fine, but hard to find replacement with correct expertise."*
>
> *"It sucks and I wish it hadn't had to come down to this. But it allows me to stay enrolled and complete my degree, and my other supervisors picked up the slack."*

Academic Unit

The following questions were asked in relation to the faculty, department or school in which a student was enrolled.

Academic unit satisfaction

Participants were asked how satisfied they were with their academic unit across a range of areas.

The results of Science graduate researchers are presented below:

	Extremely Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Moderately Satisfied	Extremely Satisfied
I feel included in my academic unit	1%	6%	7%	6%	17%	39%	25%
I am treated in a respectful manner			2%	9%	11%	29%	48%
I am encouraged by staff to socialise with other research students in my area		4%	4%	12%	15%	31%	33%
I am informed about opportunities for tutoring/sessional work	1%	4%	2%	11%	11%	34%	36%
My academic unit provides appropriate facilities for my field of research		7%	3%	9%	13%	34%	34%
My academic unit provides a student-specific social area for me to use	3%	3%	7%	13%	10%	35%	28%
My academic unit organises regular seminars and guest speakers for research ..		1%	3%	2%	19%	33%	42%
Other research students in my academic unit are supportive		3%	4%	4%	9%	33%	46%
I feel the policies, rules and regulations around doing research are there to sup..	6%	2%	8%	13%	12%	35%	24%
Provides an academically stimulating environment	2%	2%	7%	8%	15%	36%	30%
I can see myself having a career in a place like this	9%	6%	6%	13%	13%	31%	21%

Across the board, Science graduate researchers were predominantly satisfied with their academic unit.

Satisfaction was highest in relation to respondents feeling their academic unit organises regular seminars and guest speakers (94%), while dissatisfaction was highest in relation to respondents feeling they could have a career in a place like this (21%).

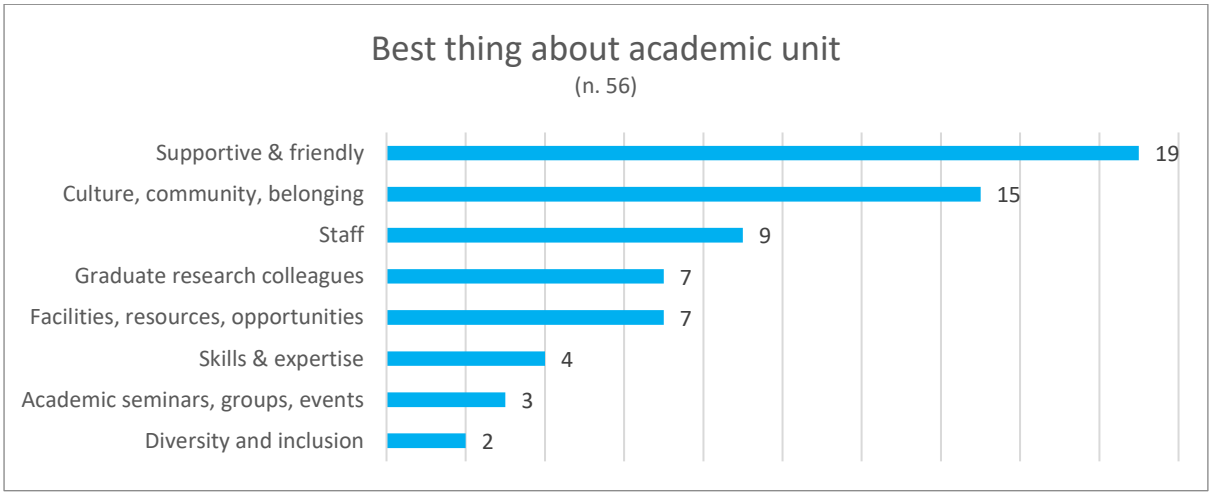
Academic unit comments

Respondents were asked to reflect on what aspects of their supervision experience they found most satisfying and what aspects they found most dissatisfying.

Best aspects of academic unit

Participants were asked to comment on what they thought was the best thing about their academic unit.

The responses of Science graduate researchers are summarised below:



The most common response related to the **supportive and friendly** environment. These included:

> *"The feeling of inclusiveness, where you are supported and acknowledged as someone who can contribute to the knowledge base."*
>
> *"Very supportive, people are always eager to help, collaboration is very much welcomed."*
>
> *"Staff are very supportive and always willing to help. Staff are also a wealth of knowledge and ready shares ideas and thoughts on how to tackle problems."*
>
> *"The ability to drive research and ask and answer meaningful questions. The free-rain to ask these questions with the helpful and insightful support of supervisors."*
>
> *"The best thing is probably the support the students have for each other and the opportunity to teach within the relevant fields."*

Other interesting comments included:

> *"The culture here is very friendly, hardworking and with a diverse knowledge base."*
>
> *"Working alongside like-minded people."*

"My immediate academic unit is great. I feel I am surrounded by highly motivated researchers and can collaborate on side projects or ask for advice on an idea at any time."

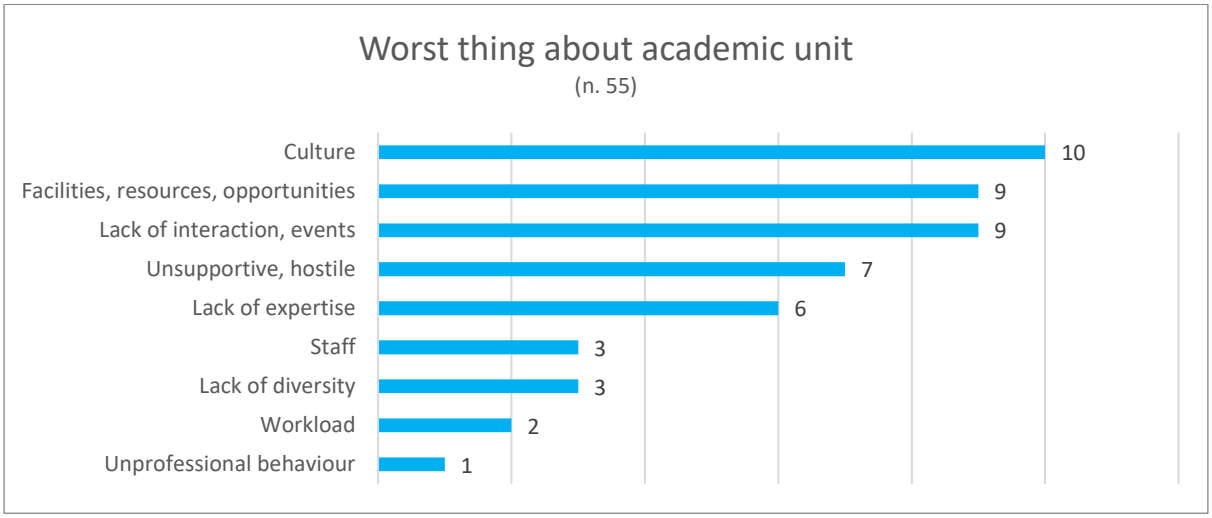
"The older PhDs have held my hand through many challenges that came with learning the analysis."

"I can know the value of my research area and can develop research where the result can beneficial as input for future planning in sustainable transport."

Worst aspects of academic unit

Participants were asked to comment on what they thought was most-dissatisfying about their academic unit.

The responses of Science graduate researchers are summarised below:



Interesting comments included:

"As a person who wasn't a part of the academic unit previous to the PhD, it has been hard to make friends in the academic unit. However admittedly this is entirely my own doing: I am barely 2 months into the PhD, and am very shy, to the point where I don't want to attend a social event without a friend I can talk to and rely on being there, but as I am yet to have this, I just don't go at all at the moment. There's been plenty of opportunity, but it's been hard to take any of them given my personal circumstances of not really knowing anyone."

"The unit lacks a strong admin team, which makes getting anything done very difficult."

"The worst thing is lack of student level support and general technical support. There is some staff that are extremely supportive of the student cohorts but there is not enough widespread support and fostering of a community that people would like to stay and be a part of."

"Can sometimes be a little cliquey."

"Politics between academics can sometimes get in the way of PhD students' progress."

“Moving buildings isolated us further from the rest of the School of Biol. Sciences and the new space is frequently highly distracting.”

“Resources for research are not always available. The academic unit does not entirely cater to my particular discipline.”

“PhD students provide most of the universities research output and also a huge amount of un-paid mentorship and teaching to its fee-paying undergraduate body. This is not accounted for in financially. >40 per week is dedicated to time at university in my degree a lot of which cannot be dedicated to advancing our research projects. The university values our time at ~ $15 per hour. ($35,000 an hour).”

“It is hard to meet anyone. Our facilities are not aligned with the purposes to which we put them.”

“People seem so experienced that they will reference numerous projects and phenomena that are beyond me, often with an implicit understanding of more things I don't know about, and it can be difficult for me to even know what questions to ask.”

“Abrasive and difficult to work with individuals (one in particular) who gatekeep equipment use and behave in an unprofessional and frankly unacceptable way at times.”

“My supervisor is the worst thing in the school.”

“There is a lot of pressure, and I would like a more relaxed job.”

“Not all the coursework offered is useful for our academic/industry purposes.”

Confirmation

Relevant participants were asked to reflect on their experience of confirmation.

Have you passed your confirmation?	Respondents
We don't have this requirement where I study	1 (1%)
No, I'm not at this stage yet	26 (28%)
No, I presented my research, but I need to make amendments	1 (1%)
Yes, I passed first time	63 (67%)
Yes, I passed, but after I needed to make amendments	3 (3%)

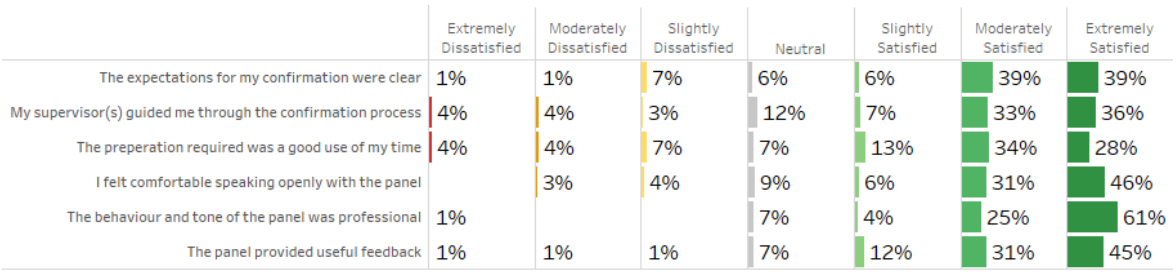
Satisfaction with confirmation process

Participants were firstly asked how satisfied they were with the confirmation process.

The overwhelming majority of respondents expressed that they were satisfied (31% extremely satisfied, 39% moderately satisfied, 8% slightly satisfied), while a small proportion indicted that they were dissatisfied (6% extremely dissatisfied, 3% moderately dissatisfied, 2% slightly dissatisfied).

Participants were then asked a series of questions about their satisfaction with certain aspects of the confirmation milestone.

The responses of Science graduate researchers are summarised below:



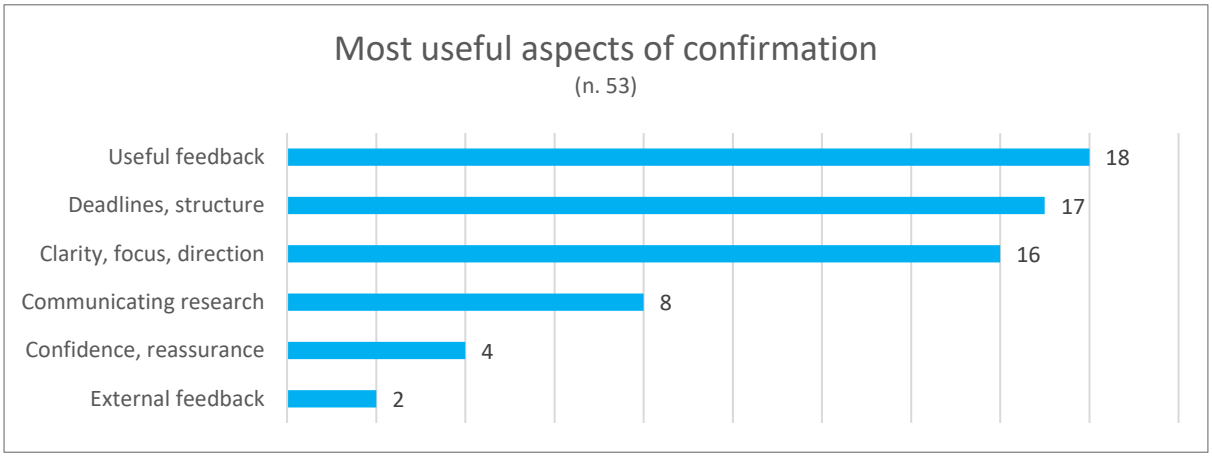
Respondents were overwhelmingly satisfied with confirmation. In particular, Science graduate researchers were satisfied with the behaviour and tone of the panel.

The highest level of overall dissatisfaction (15%) was in relation to the preparation required being a good use of my time.

Most useful aspects of confirmation

Respondents were asked to reflect on what they found most useful about the confirmation process.

Below is a summary of their responses:



The most common response from Monash graduate researchers related to how **helpful or useful the feedback** they received was. Comments included:

> *"I was given constructive feedbacks by the panel on how I can increase the quality of the research output and given support on how to communicate what equipment I need during candidature."*
>
> *"Receive advice of my research direction and method from panels with different background, which open new options for me."*
>
> *"Panels gave helpful advices on my research plan."*

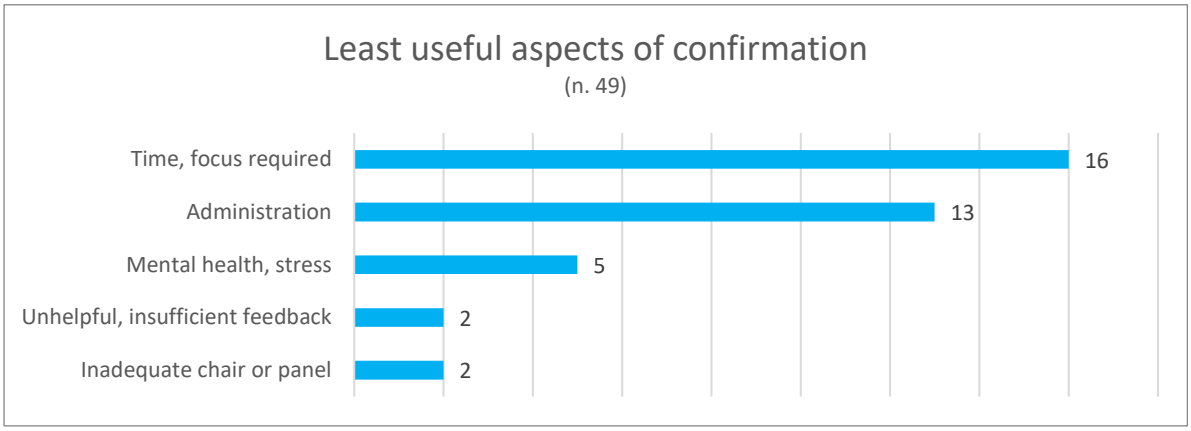
Other interesting comments included:

> *"The chance to summarise my progress and topic in written and presentation form."*
>
> *"Sitting down and actually planning way my next year looks like for the report, and reflecting on all of my progress during the previous year."*
>
> *"Technical feedback from the panel was very helpful. I also like the concept of having a predefined deadline to motivate myself to work harder."*
>
> *"I used it as a time to write up all of the work I had done to date, this has been extremely useful to me during the final write up of my thesis."*
>
> *"It was a good chance to zoom out on my research to date and put it together as a research narrative."*
>
> *"My panel are understanding and pragmatic, they were looking out for my best interests."*
>
> *"Practicing public speaking and written communication."*
>
> *"A good practice for being able to present my research and to give me validation that I'm on track."*

Least useful aspects of confirmation

Respondents were asked to reflect on what they found least useful about the confirmation process.

Below is a summary of their responses:



The least useful aspect of confirmation, according to Science graduate researchers, related to **administration**. This was a broad area of criticism spanning from disagreement that it was required to issues with how it was run. Comments included:

Interesting comments included:

> *"I find that confirmation lacks the rigor that a traditional thesis defence has. Because I am a highly-motivated scientist, I find the preparations for milestones to be a waste of time that could be better spent on research/writing papers. I believe that if a PhD student needs to have their hand held through their entire PhD, then they are not worthy of receiving a doctorate. I would much rather just have one large thesis defence at the end of my PhD than multiple yearly milestones."*
>
> *"The milestone process is a bit time consuming, the additional burden to impress panel members should be avoided."*
>
> *"The amount of time I had to take away from my research to complete it."*
>
> *"A disproportionate amount of time needs to be dedicated to preparing a quality report and presentation, including other aspects such as organising the meeting itself. The composition of my panel/supervisors is such that I only have one day of a week to choose from for the meeting, and I'm lucky then to find a 90-minute window."*
>
> *"There was a lot of paperwork that was time consuming and didn't feel necessary."*
>
> *"Not specific to me - but confirmation is rarely met with serious consequences to enrolment in my experiences. Students with sub-par research capabilities are allowed to continue with very little correction and guidance."*
>
> *"The reports we had to make are all the same, right down to the word counts for each section, even though the reports serve completely different purposes. I had to remove all the actually relevant content from the report in order to meet space requirements."*
>
> *"The pressure received from my supervisor."*

Professional Development

Respondents were provided with an opportunity to reflect on their experiences of Professional Development at their university.

Only students for whom Professional Development was relevant (i.e. included in their degree) and who had completed some Professional Development units were asked to respond in regard to their satisfaction and experiences.

Professional Development included in degree

Is Professional Development included in your degree?	Science 2024	Monash STEM 2024	Other Sci 2024
No	5%	16%	46%
Yes, but it was optional	5%	21%	31%
Yes, it is mandatory	89%	63%	23%

Professional Development was mandatory for the majority of Science respondents. It was mandatory for 63% of respondents from STEM at Monash, but only 23% of those studying in the field of science at other universities.

Professional Development: Importance and Satisfaction

Participants were asked to rate how important certain Professional Development themes were and how satisfied they were with what Monash University provides in relation to that theme.

Question	Importance (1-7)	Satisfaction (1-7)	Gap (%)
Presenting findings e.g. conferences, meetings, seminars	5.73	4.59	-19.90%
Data analysis techniques	5.59	4.65	-16.82%
Coursework relevant to my research	5.55	4.13	-25.59%
Publishing skills and knowledge	5.55	4.57	-17.66%
Grant writing	5.53	3.99	-27.85%
Mental health and wellbeing	5.46	4.71	-13.74%
Industry exposure	5.41	3.89	-28.10%
Research methodologies	5.38	4.51	-16.17%
Project/research management	5.38	4.81	-10.59%
Networking skills	5.27	4.23	-19.73%
Career planning	5.24	4.11	-21.56%
Professional ethics	5.00	4.55	-9.00%
Entrepreneurial skills	4.47	3.99	-10.74%
PD with students from other fields	4.34	4.19	-3.46%
	5.28	4.35	-17.21%

Having Professional Development opportunities that focus on presentation skills and data analysis techniques was of the utmost importance to Science graduate researchers, while experiencing PD with students from other fields was the least important of the themes.

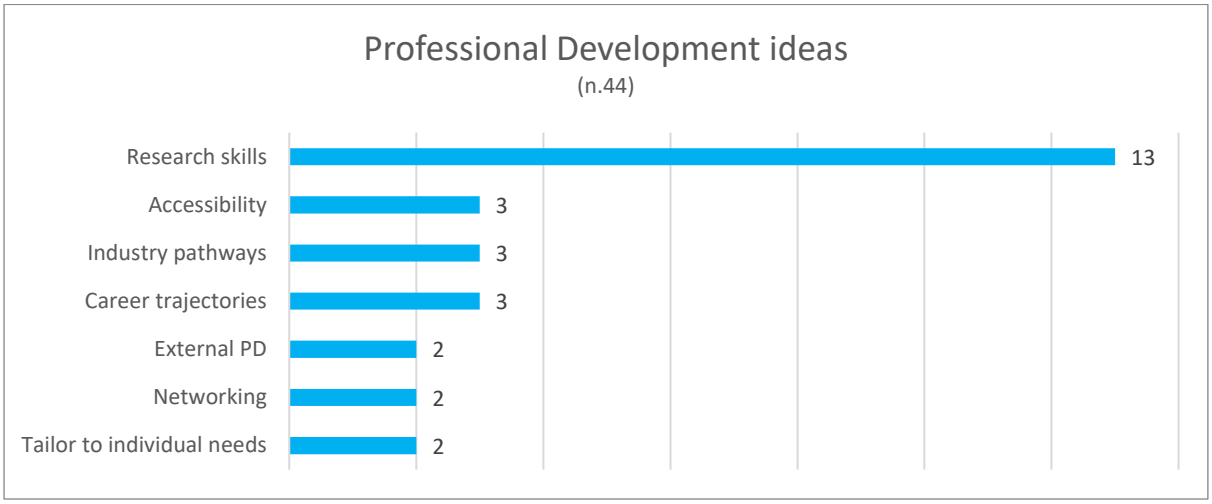
Respondents were most satisfied with PD on project/research management and least satisfied with industry exposure.

The widest gap between importance and satisfaction was in relation to industry exposure and grant writing.

Professional Development ideas

Participants were asked what they would like to see offered in relation to Professional Development that was not currently available to them.

Below is a summary of the responses of Science graduate researchers.



The stand out area in which Monash graduate researchers wanted more PD opportunities related to **research skills**. Comments included:

> *"It's just extremely generic currently, there has to be more specific focus on skills actually relevant to a researcher's particular field."*
>
> *"More data analysis that is relevant to maths/physics (currently they are only relevant to biology). More skills to go from a data analysis PhD to industry."*
>
> *"I would like to see time spent towards learning an analytical technique on an instrument count towards PD hours."*

Other interesting comments included:

> *"I think basic science courses would be useful (like basic biology for someone who didn't study it but comes into contact with it occasionally)."*
>
> *"PD is a f****** joke, remove it."*
>
> *"I have not seen anything related to grant writing. Also, most PD is in the form of Zoom meetings. It would be nice to have face-to-face sessions with people outside of your field."*
>
> *"Courses that aims to bring networking opportunities for career after PhD."*
>
> *"Career planning."*
>
> *"More industry experience/internships relevant to my research area."*

Paid Employment Opportunities

The following questions were asked in relation to paid employment opportunities.

Paid work at the University

Participants were asked whether they had been given the opportunity to conduct paid work for the faculty or university.

Have you conducted paid work for the faculty or university?	Science 2021	Science 2024	Monash STEM 2024	Other Sci 2024
Yes	70%	72%	57%	67%
No	30%	28%	43%	33%

*Please note that in 2021 the wording of this question was slightly different. It asked if participants had been given the opportunity to "tutor."

The likelihood of a Science graduate researcher at Monash being given an opportunity to conduct paid work for the faculty or university increased marginally over the past three years; however, as a percentage, more Science graduate researchers are employed by the University than their STEM colleagues.

Of all the faculties, Science had the highest proportion of graduate researchers employed by the University.

Position at the University

Monash respondents were asked to specify the nature of their position at the University.

What was your position at Monash?	Science 2024	Monash STEM 2024
Fixed-term (one of the 450 fixed-term roles offered at Monash)	8%	13%
Casual	91%	82%
Other	2%	5%

The overwhelming majority of Science graduate researchers employed by the University were on (or had been on) casual contracts.

Paid appropriately

Participants were asked if they felt they were paid appropriately for the work they conducted for their university.

Were you paid appropriately for your work at the university?	Science 2021	Science 2024	Monash STEM 2024	Other Sci 2024
Definitely not	*(no)*	5%	10%	0%
Probably not	*31%*	14%	15%	12%
Probably yes	*(yes)*	56%	50%	62%
Definitely yes	*69%*	25%	24%	27%

*Please note that in 2021 this question related to being paid for tutoring only and participants could only answer "yes" or "no".

The majority of Science respondents believed that they were probably paid (56%) or definitely paid (25%) appropriately for the work they did for the University. This was in line with how students felt across STEM at Monash.

Doubt, Delays and Drop Outs

The following section explores research delays and if and why graduate researchers consider leaving their degree.

Imposter syndrome

Participants were asked: Do you ever feel like you don't belong in your field of study despite evidence of your accomplishments and abilities?

Do you ever feel like you don't belong in your field of study…?	Science 2024	Monash STEM 2024	Other Sci 2024
Never	32%	33%	13%
Rarely	18%	24%	21%
Sometimes	34%	31%	54%
Often	17%	11%	13%

The majority of Science graduate researchers have, at some point, experienced imposter syndrome with 17% indicating that they experienced this feeling "often."

Imposter syndrome levels in Science were largely on par with those experienced across STEM at Monash and at other universities; however, those experiencing it often was elevated in Science.

Research delay

Participants were asked if they had experienced delays in the progress of their research.

Have you experienced delays in the progress of your research?	Science 2017*	Science 2021*	Science 2024	Monash STEM 2024	Other Sci 2024
Never	*(no) 72%*	*(no) 26%*	14%	24%	3%
Rarely	*(yes) 28%*	*(yes) 74%*	19%	23%	23%
Sometimes			50%	39%	51%
Often			17%	14%	23%

*Please note that in 2017 and 2021 this was a "yes" or "no" question.

The overwhelming majority of Science respondents had experienced a delay in their research, with 17% indicated that they often experienced delays.

Reasons for delay

Respondents who had experienced a delay in the progress of their research were asked to select the reasons for that delay from a list of prepared reasons.

Please select all relevant reasons regarding the delay in progress to your research	Science 2021	Science 2024	Monash STEM 2024	Other Sci 2024
Change of research project direction	27%	34%	30%	29%
Poor supervision	5%	17%	15%	18%
Lack of resources for my research	20%	39%	28%	32%
Preparing for hurdles/milestones	15%	45%	36%	24%
Unpleasant workplace/research environment	5%	16%	11%	11%
Lack of motivation	48%	43%	38%	32%
Procrastination	NA	37%	35%	21%
Health issues	27%	30%	28%	29%
Family responsibilities	11%	21%	25%	21%
Cost of living/financial concerns	12%	33%	32%	47%
Work commitments	4%	16%	14%	21%
Data collection issues	NA	39%	29%	32%
COVID-19	99%	30%	18%	26%
Other	15%	8%	13%	11%

Preparing for milestones was the most common reason for a delay in research among Science respondents.

Cost of living and/or financial concerns was a factor in a research delay among 33% of Science graduate research students – almost tripling since 2021 levels.

Considered leaving

Participants were asked if they had ever considered leaving their course.

Have you ever considered leaving your course?	Science 2021*	Science 2024	Monash STEM 2024	Other Sci 2024
Never	*(no) 64%*	55%	65%	46%
Rarely	*(yes) 36%*	28%	19%	23%
Sometimes		15%	14%	23%
Often		2%	3%	8%

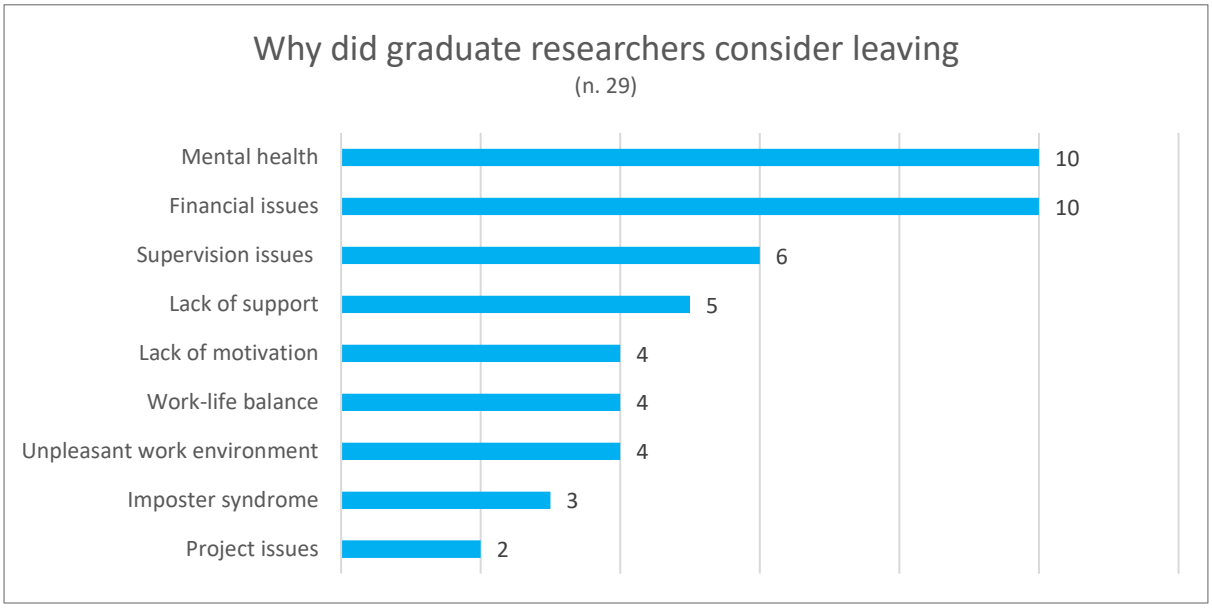
*Please note that in 2017 and 2021 this was a “yes” or “no” question.

Science graduate researchers were less likely than those doing Science degrees at other universities to have considered leaving their degree, but more likely than their colleagues in STEM at Monash.

Why leave

Respondents who had considered leaving were asked to elaborate as to why.

The responses of Science graduate researchers are summarised below:



Revealing comments included:

> *"The lifestyle of a researcher is all consuming, and the only way to succeed within my unit seems to be to commit your life to just research (and be at least slightly psychotic)."*
>
> *"Not enough guilty free/stress free time for hobbies and getting better from my health issues."*
>
> *"I sometimes struggle with imposter syndrome and anxiety to the degree that it is paralysing and I want to quit."*
>
> *"Due to poor supervision experience, funding and research hurdles. These also took a toll on my mental health."*
>
> *"Struggling with the cost of living. My supervisor has too many students (10), not enough time to attend me."*
>
> *"The social environment at the school, mostly the low PhD stipend and the ever-rising cost of living crisis, I can barely pay the rent and groceries, and have to fear being evicted every year due to the housing standards in Australia."*
>
> *"I am struggling financially with the increasing living standards in Melbourne, but my stipend hasn't been adjusted appropriately to the inflation."*
>
> *"The behaviour of the supervisor and thus, feeling like I have no other option."*

"Supervisor sometimes in unable to support in the best way due to their other priorities. difficulties getting access to instruments and technicians. Data and research are held up due to instrument issues."

"When I first arrived at my university I didn't have the right equipment available to me to complete my research, I didn't like the health and safety in the lab I was working in and I didn't get along with my supervisor."

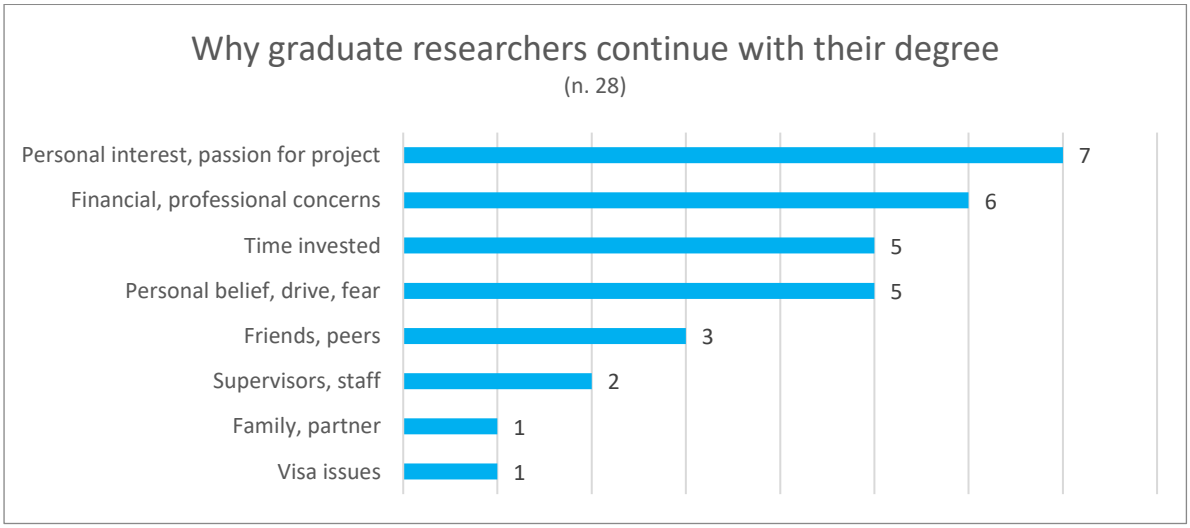
"I am not receiving the type of experiences that will make me a viable candidate in the future. Other students are surpassing me because they get those opportunities."

"I love maths but the life balance of a PhD and sessional teaching can't match a full-time job."

Why continue

Respondents who had considered leaving their course were asked why they had decided to continue.

The responses of Science graduate researchers are summarised below:



Interesting comments included:

"I believe in the research I'm trying to complete, and my own abilities to be a great teacher and communicator."

"I love research and being in the lab. I am young enough that the money doesn't bother me and I just love learning."

"Doing a PhD gave my life purpose and felt like I was doing something worthwhile while my friends and family built careers and had children. I don't know what I would be without it."

“I love maths, there aren't other places I can study it rigorously with my current qualifications.”

“The value I expect to have after I finish especially for finding a good job.”

“Motivation that I could finish and it will give me the ticket to where I want to be.”

“Seeing people with PhDs working outside of academia.”

“Time invested so far and other individuals in the group who make up for the difficult one.”

“Large sunk cost—left career, sold belongings, moved halfway across the globe.”

“Because I'm a year and a half in and I don't really know what else I could do. Leaving seems worse than trying to stay, make my environment better, and hope for brighter days for those who come after me.”

“I'm too proud to leave.”

“Stubbornness/commitment to my project.”

“The support of people around me and knowing that this is what I want. I have kept going with PhD.”

“Support from supervisors and family.”

“My wife is here on my visa. Leave I the degree, she loses her job, and we both get deported, and we lose all our money.”

“I was well supported by my supervisors and mental health services.”

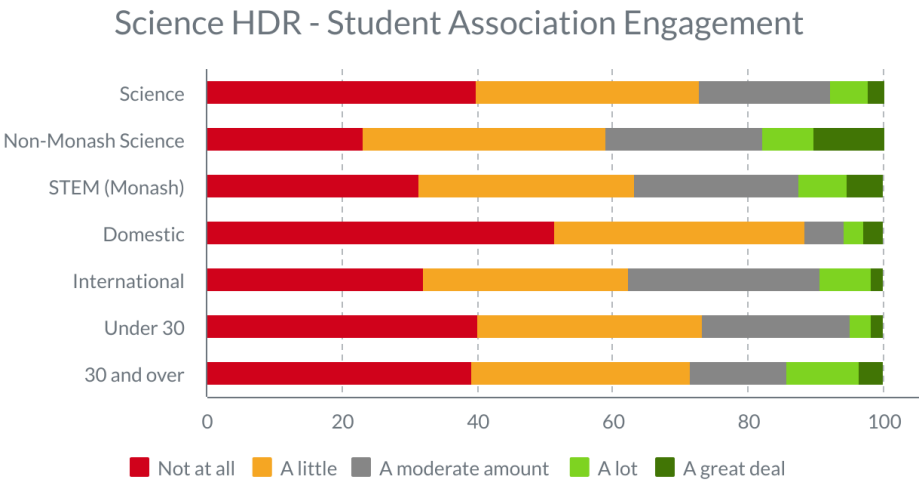
Engagement and Satisfaction with the Monash Graduate Association (MGA)

This section highlights the engagement levels that Science graduate research students have with their representative body - the Monash Graduate Association (MGA) – as well as their satisfaction with the MGA. It also includes respondents' suggestions for how the MGA or equivalent student body could better support the university's students.

3.1 MGA engagement

Participants were asked to respond to the question *how engaged do you feel with your student association or union or guild?*

Below is a summary of how key groups within Science responded:

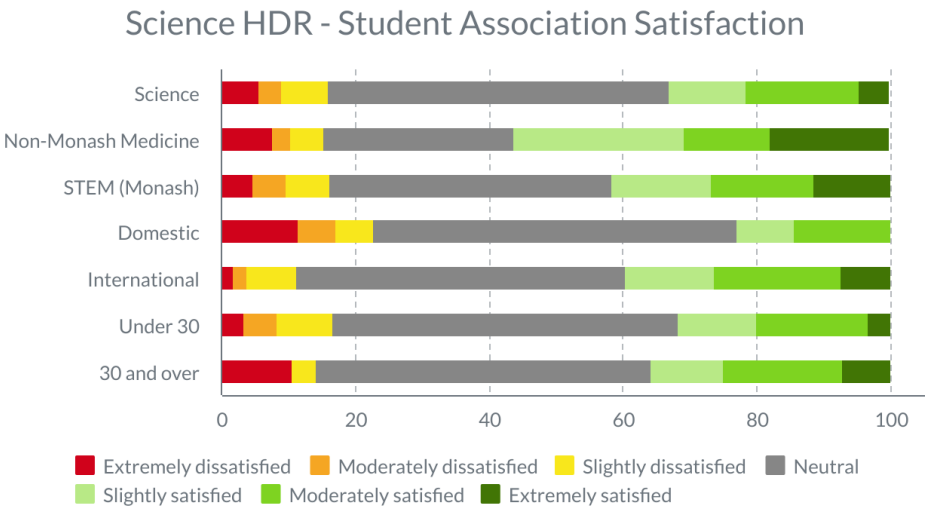


Science respondents were less likely to engage with the MGA than their colleagues across STEM and then those studying science at other universities were with their student association.

3.2 MGA satisfaction

Participants were asked to respond to the question *how satisfied are you with your student association/union/guild?*

Below is a summary of how key groups within Science responded:

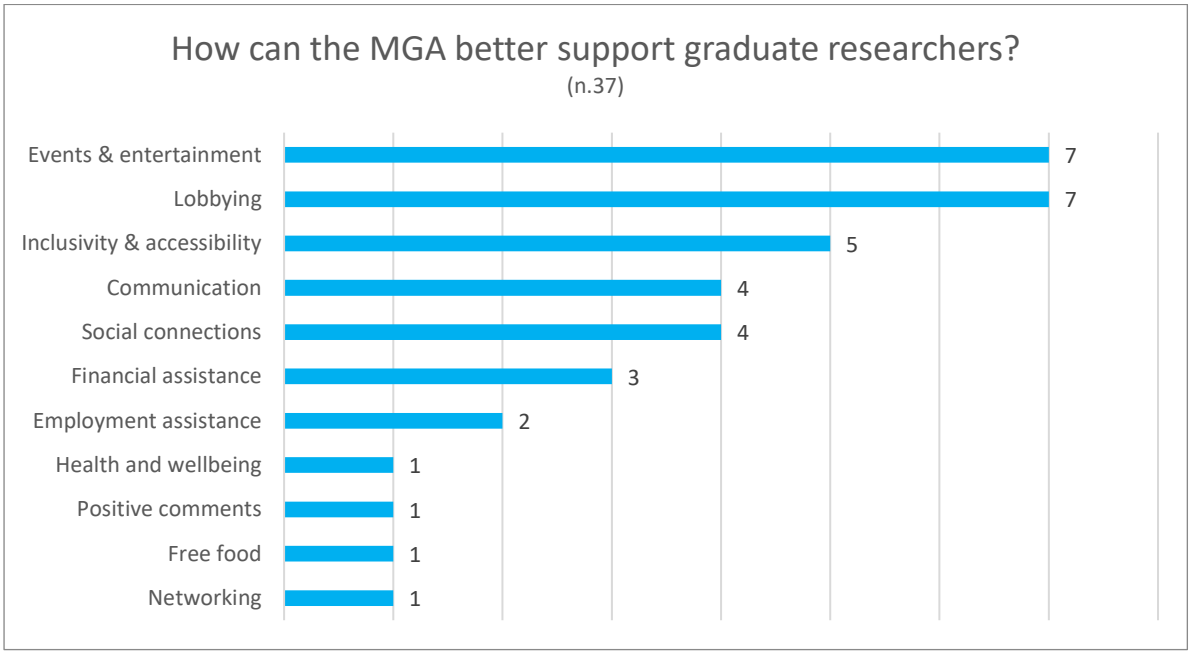


Science respondents were twice as likely to be satisfied than dissatisfied with the MGA; however, the majority of respondents had a neutral opinion of the Assocation.

3.3 Suggestions for additional support

Participants were given the opportunity to respond to the question *how could your student association better support you?*

Below is a summary of responses:



Interesting suggestions and comments included:

> *"I have no ties to them and they have no idea who I am, dating back to when I first started. Now I feel any sudden introduction would be jarring. This could be rectified a little by giving the student association a stronger role to play in integrating new students socially, especially those who may be working in a more isolated lab than the rest of the cohort."*
>
> *"MSA seems to hold a lot more events than MGA, which provides more opportunities to make social connections. It's great that MGA cares about advocating for us, but it's hard to feel like part of a community when there are very few opportunities to actually meet/interact with other graduate students."*
>
> *"Events targeting / directly welcoming new students would make it feel less daunting to start coming to events."*
>
> *"More socialising events, not too loud so people can hear me, as I tend to have a small voice."*
>
> *"I feel the student association tries hard to make their points to Monash, but I don't feel the higher ups really care much."*
>
> *"Actually advocate for issues that affect graduate students (i.e., extending scholarship periods)."*

“Fighting for actually employment status, because we work and get poorly paid but still considered just students.”

“We need codes of conduct for social spaces. The current policies in place don't offer enough restorative justice opportunities; it's literally either you talk it out with someone, you tell a supervisor and hope that helps, or it goes to SCU. The scale of escalation is asymptotic.”

“Some services for mature age and part time students would be good. All the postgrad services are aimed at recent grads which doesn't match where I am in life.”

“There needs to be a better disability support service for postgraduate students.”

“The activities proposed by the student association are not attractive for me, I attend sometimes just to expend sometimes with my friends.”

“Don't have an opinion on the matter. Aware they exist, don't interact with them much.”

“I only every hear of them through emails, so it would be nice to see changes in the workplace that they bring forth.”

“Hold more support and bonding events with the other students to strengthen the community and give a welcome break to the rigours of the research lifestyle.”

“Give me grocery vouchers.”

“Provide more financial support or fight for higher stipend. Let's be honest PhD students barely make enough to live, yet we work harder than most people with other jobs.”

Conclusion

The results of the MGA's *National Postgraduate Student Satisfaction Survey 2024* have provided valuable insights into what Science graduate research students value in regard to their educational experience, as well as how satisfied they are with the structure and delivery of their degrees.

The key findings, as they relate to respondents from the Faculty of Science, are summarised below:

Key findings

Science graduate researchers are largely satisfied with their supervision experience

Across all sixteen metrics surveyed, satisfaction in relation to supervision was high. Science graduate researchers are predominantly satisfied with their supervision experience with supervisors largely meeting the expectations and needs of their students.

The two most important aspects of supervision to Science respondents were having skilled supervisors and receiving constructive feedback. These were first and fourth, respectively, for satisfaction, which indicates that some of the key supervision needs of PhD students in Science are being prioritised by the Faculty.

A focus on the academic skillset is desired from Professional Development

Students in Science placed great importance on Professional Development themes that focused on developing their academic skillset with presenting (1st), data analysis techniques (2nd), publishing skills (4th) and grant writing (5th) ranking high. Satisfaction, while not abysmal, did not rank as well in these areas, which contributed to wide gaps across these areas.

The proportion of Science respondents employed by the University marginally increased and is comfortably ahead of STEM across Monash

The likelihood of a Science graduate researcher at Monash being given an opportunity to conduct paid work for the faculty or university increased from 70% in 2021 to 72% in 2024. Meanwhile, a graduate researcher studying in STEM across Monash (57%) and those studying in the field of science at another university (67%) were less likely to have had the opportunity to conduct paid work at university.

Recommendations

Based on the findings of the MGA's *National Postgraduate Student Satisfaction Survey 2024*, the MGA recommends the following actions be taken to improve the graduate research student experience in the Faculty of Science:

Improving academic skillset offerings

Improving students' access to seminars or Professional Development on data analysis techniques, presenting skills, publishing skills and research grant writing would be beneficial to the Science cohort.

Tackle imposter syndrome in graduate research students

Consider seminars and workshops on imposter syndrome and resilience to raise awareness and provide coping mechanisms.

Encourage and foster peer support opportunities which can be a valuable platform for candidates to share experiences, offer mutual encouragement, and build a sense of community and which can help to alleviate feelings of isolation and imposter syndrome.

Continue to improve on gains in providing employment opportunities to graduate researchers in the Faculty

Although the Faculty had the highest proportion of students employed by the University, it is important to continue to increase offering employment opportunities to graduate researchers.

Increased employment opportunities may serve to counter the rise in students considering leaving because of financial or cost of living concerns.

Appendix 1: Demographics

Academic Unit	Respondents
Biological Sciences	24 (24%)
Chemistry	30 (30%)
Earth, Atmosphere and Environment	24 (24%)
Malaysia School of Science	1 (1%)
Mathematics	11 (11%)
Physics and Astronomy	11 (11%)

Campus	Respondents
I do not regularly attend campus	1 (1%)
Clayton	100 (99%)
Caulfield	1 (1%)
Peninsula	0 (0%)
Parkville	0 (0%)
Malaysia	1 (1%)
Suzhou	0 (0%)
other	1 (1%)

Domestic/International	Respondents
Local student (Australian or New Zealand citizen/permanent resident)	43 (42%)
International student	59 (58%)

Study load	Respondents
Full-time	103 (98%)
Part-time	1 (1%)
On leave from study	1 (1%)

Study location	Respondents
Entirely on-campus	61 (60%)
Multi-modal	38 (37%)
Entirely off-campus	2 (2%)
Other	1 (1%)

Time since last degree	Respondents
Less than 1 year	51 (50%)
1-5 years	43 (42%)
6-10 years	6 (6%)
11+ years	2 (2%)

Course progress	Respondents
First year	27 (27%)
Second year	34 (33%)
Third year and beyond	41 (40%)

Study hours	Respondents
Less than 5	1 (1%)
6-10	2 (2%)
11-20	8 (8%)
21-30	16 (16%)
31-40	35 (34%)
Over 40 hours	40 (39%)

English proficiency	Respondents
Fluent	71 (70%)
Advanced	22 (22%)
Intermediate	8 (8%)
Elementary	1 (1%)
Beginner	0 (0%)

Gender	Respondents
Woman	51 (50%)
Man	44 (43%)
Non-binary/gender diverse	5 (5%)
Prefer to self-describe	0 (0%)
Prefer not to say	2 (2%)

LGBTIQA+	Respondents
Yes	18 (18%)
No	77 (76%)
Prefer not to disclose	7 (7%)

Indigenous (domestic students only)	Respondents
Yes	0 (0%)
No	42 (98%)
Prefer not to disclose	1 (2%)

Disability	Respondents
Yes	4 (4%)
No	93 (91%)
Prefer not to disclose	5 (5%)

Registered disability with DSS	Respondents
Yes	2 (50%)
No	2 (50%)

Age	Respondents
24 or under	12 (12%)
25-29	59 (58%)
30-39	29 (29%)
40 and over	1 (1%)

Employment status	Respondents
Full-time	11 (11%)
Part-time	8 (8%)
Casual	46 (46%)
Unemployed and looking for work	13 (13%)
Not employed and not looking for work	25 (25%)

Work hours	Respondents
Less than 5	28 (44%)
6-10	20 (31%)
11-20	10 (16%)
21-30	1 (2%)
31-40	3 (5%)
More than 40	2 (3%)