2023 EMPLOYER SATISFACTION SURVEY

MAY 2024

EMPLOYER VIEWS OF RECENT GRADUATES

SES
Student Experience Survey

GOS
Graduate Outcomes Survey

GOS-L
Graduate Outcomes Survey – Longitudinal

ESS
Employer Satisfaction Survey

QILT
Quality Indicators for Learning and Teaching

Acknowledgments

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The Social Research Centre would especially like to thank the higher education institutions that contributed to the ESS in 2023. Without the enthusiastic assistance of the survey managers and institutional planners, the 2023 ESS would not have been possible.

We are also incredibly grateful to the employers who took the time to provide valuable feedback about their experience. The ESS data will be used by institutions for continuous improvement and to assist prospective students to make informed decisions about future study.

The 2023 ESS was led by Graham Challice and the project team consisted of Lisa Bolton, Lauren Spencer, Natasha Vickers, James Morrison, Cynthia Kim, Benjamin Desta, Javed Mohib, Joe Feng, Rawan Habibeh, Patrick Scott and Serena Kim.

For more information on the conduct and results of the 2023 ESS, see the QILT website: www.qilt.edu.au. The QILT team can be contacted by email at qilt@srcentre.com.au.

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1. Introduction

The 2023 Employer Satisfaction Survey (ESS) measures employer views of the attributes of recent graduates from Australian higher education institutions providing assurance about the quality of Australia's higher education sector. The ESS is included as part of the Quality Indicators for Learning and Teaching (QILT) survey suite. The QILT surveys are independently and centrally administered by the Social Research Centre on behalf of the Australian Government Department of Education.

The 2023 ESS represents the largest survey of its kind, reporting the views of 2,992 employers about the attributes of recent graduates from Australian higher education institutions including universities and non-university higher education institutions (NUHEIs). The impetus for a national survey of graduate employers is grounded in the Australian Government's desire to improve the range and quality of higher education performance indicators in Australia. Since employment is usually one of the main objectives of completing a higher education qualification, employer views of the readiness of graduates to enter the workplace forms a key component of the quality matrix. Employer views of the technical skills, generic skills and work readiness of recent graduates provide assurance about the quality of Australia's higher education sector. The survey has been conducted annually since 2016.

The ESS has three design features. First, the ESS is the only national survey in Australia that links the experiences of graduates to the views of their direct supervisors. Second, the ESS is undertaken on a systematic basis by asking employed graduates who participate in the Graduate Outcome Survey (GOS) to provide contact information for their supervisor who is then invited to complete the ESS. This enables understanding of the limitations and bias associated with the survey methodology. By way of comparison, many other employer surveys are not conducted on a systematic basis and report the perceptions of executives who may have had little or no direct experience with recent graduates. Third, the ESS is large enough to provide comparisons by broad field of education, employment characteristics, occupation, demographic group, and overall institution.

However, one disadvantage of this more precise approach to survey collection is that the ensuing methodology can make it difficult to achieve an adequate number of responses for reporting purposes. In the present survey, this manifests itself through the ongoing reluctance of graduates to pass on contact details of their direct supervisor with 7.1 per cent of responding graduates providing their direct supervisor details. Further details of the methodology and pattern of responses and possible bias are presented in **Appendix 1.**

Nonetheless, compared with the ESS, other employer surveys of Australian higher education graduates are much smaller in scale, lack transparency in methodology and rely on the views of persons who may have had little or no direct contact with graduates. For example, the 2021 QS Graduate Employability Rankings are based on the views of approximately 1,000 Australian employers while the 2020 Times Higher Education Global University Employability Ranking is based on approximately 100 Australian responses.

The ESS is administered in parallel with the GOS and the first collection round for the 2023 ESS started in November 2022, the second in February 2023 and the third in May 2023.

2023 Participation

109
participating institutions

6,647
invitations sent

2,992
completed surveys

45.0%
response rate

2. Time series

The 2023 ESS confirms the findings of earlier surveys that supervisors rate their graduates highly. In 2023, Overall satisfaction with graduates as rated by direct supervisors was 83.7 per cent. Overall satisfaction reports the proportion of supervisors giving responses 'Very likely to consider' or 'Likely to consider' to the item, 'Based on your experience with this graduate, how likely are you to consider hiring another graduate from the same course and institution, if you had a relevant vacancy?' These results suggest employers are highly satisfied with the overall quality of graduates from Australia's higher education system.

Employers were also requested to report the extent to which they agreed or disagreed that a graduates' course had developed their skills and knowledge across five graduate attribute domains. For the purposes of this report, where employers agreed the course developed the graduate attribute, they are deemed to be 'satisfied' with that attribute.

Table 1 / **Employer satisfaction, 2016-2023 (%)**

	Foundation	Adaptive	Collaborative	Technical	Employability	Overall satisfaction
2016	92.0 (91.2, 92.8)	88.4 (87.4, 89.4)	84.6 (83.5, 85.7)	92.2 (91.4, 93.0)	83.8 (82.7, 84.9)	84.3 (83.2, 85.4)
2017	93.4 (92.8, 94.0)	90.1 (89.3, 90.9)	85.9 (85.0, 86.8)	93.3 (92.6, 94.0)	85.0 (84.1, 85.9)	83.6 (82.7, 84.5)
2018	93.5 (92.9, 94.1)	89.9 (89.2, 90.6)	88.7 (87.9, 89.4)	93.8 (93.3, 94.4)	86.5 (85.7, 87.3)	84.8 (84.0, 85.6)
2019	92.7 (92.0, 93.3)	89.3 (88.5, 90.1)	87.8 (86.9, 88.5)	92.7 (92.0, 93.3)	85.4 (84.5, 86.2)	84.0 (83.1, 84.9)
2020	93.7 (93.0, 94.4)	90.1 (89.2, 91.0)	88.1 (87.1, 89.0)	93.8 (93.1, 94.5)	86.8 (85.8, 87.8)	84.7 (83.6, 85.7)
2021	93.5 (92.8, 94.2)	90.3 (89.4, 91.1)	89.3 (88.3, 90.1)	93.7 (93.0, 94.4)	86.6 (85.6, 87.6)	85.3 (84.3, 86.3)
2022	93.0 (92.2, 93.7)	90.1 (89.2, 91.0)	88.2 (87.2, 89.1)	92.7 (91.9, 93.4)	86.8 (85.8, 87.8)	84.1 (83.0, 85.1)
2023	91.2 (90.3, 92.0)	88.7 (87.7, 89.7)	86.0 (84.9, 87.1)	92.2 (91.3, 93.0)	84.1 (82.9, 85.2)	83.7 (82.6, 84.8)

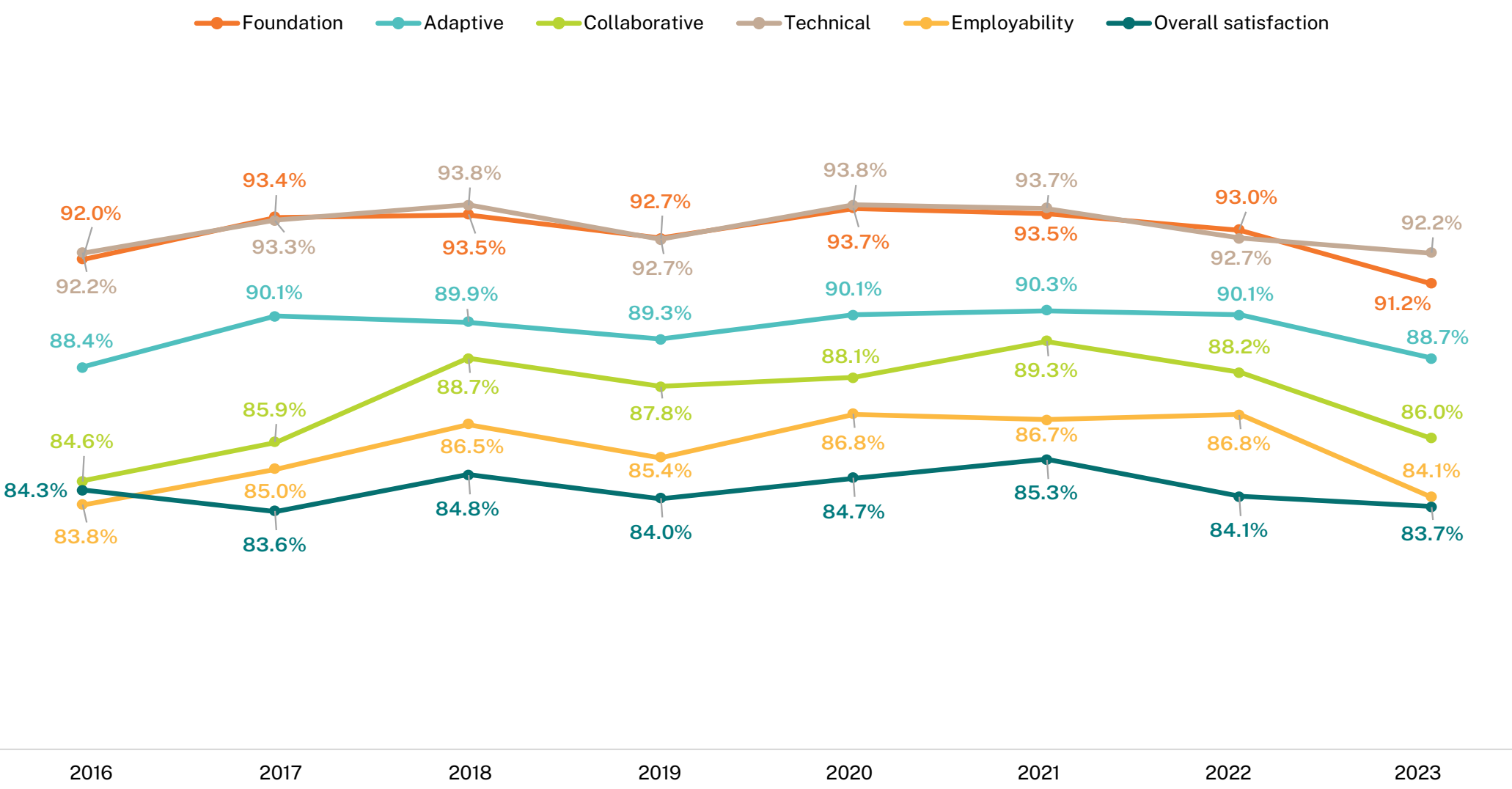
Note: Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4.**

Table 1 shows high levels of employer satisfaction across all attributes:

- 91.2 per cent satisfaction with foundation skills – general literacy, numeracy and communication skills and the ability to investigate and integrate knowledge.
- 88.7 per cent satisfaction with adaptive skills – the ability to adapt and apply skills/knowledge and work independently.
- 86.0 per cent satisfaction with collaborative skills – teamwork and interpersonal skills.
- 92.2 per cent satisfaction with technical skills – application of professional and technical knowledge and standards.
- 84.1 per cent satisfaction with employability skills – the ability to perform and innovate in the workplace.

As shown by **Figure 1**, Overall satisfaction and employer satisfaction with the Foundation, Adaptive, Collaborative, and Technical skills attributes decreased slightly between 2022 and 2023. Employer satisfaction with the Employability skills attribute decreased between 2022 and 2023, by 2.7 percentage points. Within the limitations of the survey, employer satisfaction overall, can be considered to be stable in 2023.

Figure 1 / **Employer satisfaction, 2016-2023 (%)**

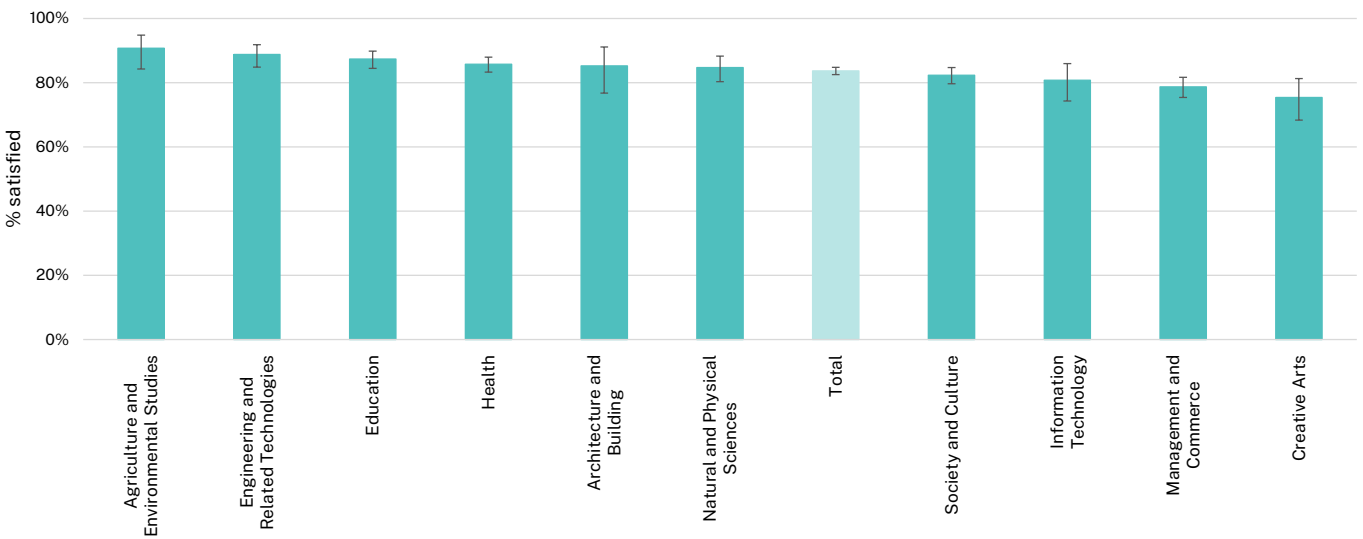


3. Broad field of education

In 2023, employers reported highest Overall satisfaction with Agriculture and environmental studies graduates at 90.8 per cent. Supervisors also reported high levels of satisfaction with Engineering and related technologies and Education graduates, with 88.8 per cent and 87.4 per cent respectively. On the other hand, employer satisfaction, while still relatively high, appears lower for Creative arts graduates, 75.4 per cent, and Management and Commerce graduates, 78.7 per cent.

Overall satisfaction was significantly higher for Agriculture and environmental studies graduates than for Management and commerce, and Creative arts, as demonstrated by the presentation of confidence intervals in **Figure 2**. This indicates the ESS instrument is capable of discriminating across fields of education.

Figure 2 / **Employer overall satisfaction by broad field of education*, 2023 (% satisfied, with 90% confidence intervals)**



* Only fields of education with sufficient data (i.e. n>25) are presented in this figure.

As shown in **Table 2,** employer satisfaction with different graduate attributes varies across fields of education. Employers of Agriculture and environmental studies graduates, and employers of Engineering and related technologies graduates rated graduates above average across all attributes. Employers of Information technology graduates rated graduates below average across all attributes.

Employers of Architecture and building graduates rated graduates highly for their Collaborative skills (95.5 per cent) and Technical skills (96.9 per cent), whereas Information technology graduates received the lowest ratings on these same attributes from their employers (83.9 per cent and 86.0 per cent respectively).

Across all fields of education, the least variation in employer satisfaction occurred in the Foundation skills attribute (7.1 percentage points).

Table 2 / **Employer satisfaction by broad field of education, 2023 (%)**

Field of education	Foundation	Adaptive	Collaborative	Technical	Employability	Overall satisfaction
Natural and physical sciences	92.0 (88.5, 94.6)	87.8 (83.7, 91.0)	86.4 (82.2, 89.7)	91.9 (88.3, 94.5)	84.0 (79.4, 87.7)	84.8 (80.4, 88.3)
Information technology	89.5 (84.0, 93.3)	87.0 (81.1, 91.3)	83.9 (77.7, 88.6)	86.0 (79.9, 90.4)	80.0 (73.3, 85.4)	80.8 (74.3, 86.0)
Engineering and related technologies	95.0 (92.0, 97.0)	90.9 (87.2, 93.7)	86.6 (82.4, 90.0)	95.3 (92.2, 97.2)	87.3 (82.9, 90.6)	88.8 (84.9, 91.9)
Architecture and building	92.4 (85.0, 96.5)	90.5 (82.4, 95.2)	95.5 (88.8, 98.5)	96.9 (90.6, 99.4)	85.7 (76.9, 91.6)	85.3 (76.8, 91.1)
Agriculture and environmental studies	96.6 (91.4, 98.9)	96.4 (91.0, 98.8)	90.7 (84.1, 94.8)	96.5 (91.3, 98.9)	90.4 (83.5, 94.6)	90.8 (84.3, 94.9)
Health	91.3 (89.2, 93.0)	86.6 (84.2, 88.8)	87.0 (84.5, 89.1)	92.2 (90.1, 93.8)	82.0 (79.2, 84.5)	85.8 (83.3, 88.0)
Education	90.7 (88.0, 92.8)	89.6 (86.9, 91.9)	85.2 (82.1, 87.9)	93.0 (90.6, 94.8)	85.5 (82.4, 88.1)	87.4 (84.5, 89.9)
Management and commerce	90.1 (87.6, 92.2)	88.3 (85.6, 90.6)	85.5 (82.6, 88.0)	90.8 (88.3, 92.8)	87.1 (84.2, 89.5)	78.7 (75.4, 81.7)
Society and culture	90.2 (88.0, 92.0)	88.6 (86.3, 90.5)	84.7 (82.2, 86.9)	92.5 (90.6, 94.1)	82.2 (79.5, 84.6)	82.4 (79.7, 84.7)
Creative arts	91.1 (85.5, 94.7)	88.4 (82.4, 92.6)	86.5 (80.2, 91.0)	90.7 (85.0, 94.5)	82.9 (75.9, 88.1)	75.4 (68.4, 81.3)
All fields	**91.2 (90.3, 92.0)**	**88.7 (87.7, 89.7)**	**86.0 (84.9, 87.1)**	**92.2 (91.3, 93.0)**	**84.1 (82.9, 85.2)**	**83.7 (82.6, 84.8)**
Standard deviation	2.3	2.8	3.4	3.2	3.1	4.7

Note: The Food, hospitality and personal services broad field of education is not shown as no data was available. Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4.**

4. Type of institution and course characteristics

Table 3 shows that employer Overall satisfaction with graduates from universities (83.7 per cent) is the same for graduates from NUHEIs (83.7 per cent).

Supervisors expressed higher levels of Overall satisfaction with graduates who studied internally (85.5 per cent), in comparison with graduates who studied externally (80.3 per cent). This continues the trend where supervisors rate satisfaction with internal or multi-mode graduates (attended some or all their classes on-campus) more highly than external (undertaken all their study off-campus) graduates. The gap in satisfaction ratings has increased slightly in 2023, with a difference of 5.2 percentage points compared to a 3.1 percentage point difference in 2022, and a 2.0 percentage point difference in 2021. Consistent with previous years, supervisors rated internal graduates significantly higher on Collaborative skills relative to external graduates.

Employers appear less satisfied overall with postgraduate coursework graduates, 82.7 per cent, than with undergraduates, 84.2 per cent, and postgraduate research graduates, 86.1 per cent.

Supervisors rated postgraduate coursework graduates slightly lower than undergraduates across all attributes. This difference is statistically significant for Collaborative skills, where employers rated postgraduate coursework graduates at 83.1 per cent compared with 88.6 per cent for undergraduates. This may be attributed to a high proportion of postgraduate coursework graduates studying externally and so not engaging as much in student centered collaborative learning activities, as observed by the Student Experience Survey Learner Engagement focus area.

Similarly, employers rated postgraduate coursework graduates lower than postgraduate research graduates for all attributes. Employer satisfaction with postgraduate research graduates is higher in terms of Foundation, Adaptive, Technical, and Employability skills, compared to graduates at the postgraduate coursework or undergraduate level.

Table 3 / **Employer satisfaction by type of institution and course characteristics, 2023 (%)**

	Foundation	Adaptive	Collaborative	Technical	Employability	Overall satisfaction
Type of institution						
University	91.3 (90.4, 92.2)	88.9 (87.9, 89.9)	86.2 (85.0, 87.2)	92.3 (91.4, 93.1)	84.2 (82.9, 85.3)	83.7 (82.5, 84.9)
NUHEI	89.6 (85.4, 92.6)	86.4 (81.9, 90.0)	84.4 (79.7, 88.2)	90.9 (86.9, 93.8)	82.7 (77.8, 86.8)	83.7 (79.0, 87.6)
Study mode*						
Internal/Mixed mode	92.1 (91.0, 93.1)	88.9 (87.6, 90.0)	88.3 (87.0, 89.5)	93.5 (92.4, 94.3)	84.7 (83.2, 86.0)	85.5 (84.1, 86.8)
External study mode	89.4 (87.6, 90.9)	88.5 (86.7, 90.1)	81.9 (79.7, 83.9)	90.0 (88.2, 91.5)	83.1 (81.0, 85.1)	80.3 (78.0, 82.3)
Course level						
Undergraduate	91.6 (90.3, 92.8)	88.6 (87.2, 90.0)	88.6 (87.2, 90.0)	92.4 (91.1, 93.5)	84.8 (83.1, 86.4)	84.2 (82.5, 85.7)
Postgraduate coursework	89.3 (87.8, 90.7)	87.6 (85.9, 89.1)	83.1 (81.2, 84.8)	90.9 (89.3, 92.2)	82.5 (80.5, 84.3)	82.7 (80.8, 84.4)
Postgraduate research	97.0 (94.6, 98.3)	94.3 (91.4, 96.3)	85.2 (81.3, 88.5)	97.3 (95.1, 98.6)	87.1 (83.2, 90.2)	86.1 (82.2, 89.2)
Total	91.2 (90.3, 92.0)	88.7 (87.7, 89.7)	86.0 (84.9, 87.1)	92.2 (91.3, 93.0)	84.1 (82.9, 85.2)	83.7 (82.6, 84.8)

* Internal mode of attendance is where (i) the study is undertaken through attendance at the higher education provider on a regular basis, or (ii) for higher degree unit enrolments, where regular attendance is not required but the student attends the higher education provider on an agreed schedule for the purposes of supervision and/or instruction. External mode of attendance is where lesson materials, assignments, etc. are delivered to the student, and any associated attendance at the institution is of an incidental, irregular, special or voluntary nature. Mixed mode of attendance is where study is undertaken partially on an internal mode of attendance and partially on an external mode of attendance.

Note: Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in Appendix 4.

5. Demographic and labour market characteristics

Table 4 shows that overall employer satisfaction with female graduates (84.2 per cent) is slightly higher than for male graduates (83.0 per cent). Employers are more satisfied with female graduates across all attributes, exceeding males by at least two percentage points.

Employers tended to rate the skills of graduates aged 30 years or under marginally higher than those of graduates aged over 30 years across all attributes, with a statistically significant difference noted for Collaborative skills. Employers tended to rate graduates from a non-English speaking background more highly than graduates from an English-speaking background across all attributes, however, none of the differences were statistically significant.

Differences in employer ratings for Indigenous and non-Indigenous graduates should be treated with caution due to the relatively small number of responses from employers of Indigenous graduates.

Table 4 / **Employer satisfaction by demographic characteristics, 2023 (%)**

	Foundation	Adaptive	Collaborative	Technical	Employability	Overall satisfaction
Gender						
Male	90.0 (88.5, 91.4)	86.4 (84.7, 88.0)	83.8 (81.9, 85.5)	90.5 (89.0, 91.9)	82.0 (80.0, 83.8)	83.0 (81.1, 84.8)
Female	92.0 (90.8, 93.0)	90.3 (89.0, 91.4)	87.5 (86.1, 88.8)	93.3 (92.2, 94.3)	85.4 (83.9, 86.8)	84.2 (82.7, 85.6)
Age						
30 years or under	92.2 (90.9, 93.2)	88.8 (87.4, 90.1)	88.8 (87.4, 90.1)	92.6 (91.4, 93.7)	84.2 (82.6, 85.8)	85.3 (83.7, 86.8)
Over 30 years	90.1 (88.7, 91.4)	88.7 (87.2, 90.0)	82.9 (81.2, 84.6)	91.8 (90.4, 92.9)	83.9 (82.1, 85.5)	82.0 (80.2, 83.6)
Indigenous						
Indigenous	95.7 (87.1, 99.1)	89.1 (79.0, 94.9)	89.1 (79.0, 94.9)	93.2 (83.7, 97.7)	79.1 (67.2, 87.5)	85.7 (74.4, 92.7)
Non-Indigenous	91.1 (90.2, 92.0)	88.7 (87.7, 89.7)	86.0 (84.9, 87.0)	92.2 (91.3, 93.0)	84.1 (82.9, 85.3)	83.7 (82.5, 84.8)

Table 4 / **Employer satisfaction by demographic characteristics, 2023 (%)** **(Continued)**

	Foundation	Adaptive	Collaborative	Technical	Employability	Overall satisfaction
Home language						
English	91.0 (90.1, 91.9)	88.7 (87.6, 89.7)	85.6 (84.4, 86.7)	92.0 (91.1, 92.9)	83.7 (82.4, 84.9)	83.5 (82.3, 84.7)
Other	92.4 (89.5, 94.6)	89.4 (86.1, 92.0)	89.9 (86.7, 92.5)	93.8 (91.0, 95.8)	87.1 (83.5, 90.1)	85.4 (81.8, 88.4)
Disability						
Reported disability	90.9 (87.5, 93.5)	87.1 (83.2, 90.3)	84.0 (79.8, 87.5)	92.3 (89.0, 94.7)	79.9 (75.3, 83.8)	82.7 (78.4, 86.3)
No disability	91.2 (90.3, 92.1)	88.9 (87.8, 89.9)	86.2 (85.1, 87.3)	92.2 (91.3, 93.0)	84.5 (83.2, 85.6)	83.8 (82.6, 85.0)
Total	91.2 (90.3, 92.0)	88.7 (87.7, 89.7)	86.0 (84.9, 87.1)	92.2 (91.3, 93.0)	84.1 (82.9, 85.2)	83.7 (82.6, 84.8)

Note: Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4**.

Employers reported the highest Overall satisfaction with graduates working in Professional occupations, at 86.2 per cent (see **Table 5**). Most employer responses in 2023 were for graduates working in Professional occupations, and Overall satisfaction has remained relatively consistent for this group over time.

Employers' Overall satisfaction with graduates who were working full-time was slightly higher compared to those graduates that worked part-time, 83.9 per cent and 83.1 per cent respectively. Employers rated part-time employed workers marginally higher on all other graduate attributes, although no statistically significant differences were noted.

Employers' Overall satisfaction was highest for graduates who had been working for three months to less than one year, 85.7 per cent. Employers rated these graduates significantly higher than those who had been working one year or more. Further, employers rated the Adaptive skills of graduates who had work histories of one year or more significantly higher than graduates who had been with their employer less than three months.

Table 5 / **Employer satisfaction by labour market characteristics, 2023 (%)**

	Foundation	Adaptive	Collaborative	Technical	Employability	Overall satisfaction
Occupation						
Managers	89.9 (86.7, 92.4)	90.2 (87.0, 92.7)	82.9 (79.0, 86.2)	90.1 (86.9, 92.6)	85.1 (81.4, 88.2)	82.2 (78.2, 85.5)
Professionals	91.6 (90.4, 92.6)	87.6 (86.3, 88.9)	85.5 (84.0, 86.8)	92.9 (91.8, 93.9)	83.5 (81.9, 84.9)	86.2 (84.8, 87.5)
Technicians and trades workers	89.8 (84.4, 93.5)	89.4 (83.9, 93.2)	85.0 (79.1, 89.6)	90.5 (85.2, 94.0)	79.0 (72.2, 84.5)	79.5 (73.0, 84.8)
Community and personal service workers	89.4 (85.1, 92.6)	91.1 (87.0, 94.0)	87.6 (83.1, 91.0)	90.7 (86.5, 93.7)	83.6 (78.7, 87.6)	75.4 (69.9, 80.2)
Clerical and administrative workers	91.1 (88.0, 93.4)	90.3 (87.0, 92.8)	88.4 (85.0, 91.1)	90.8 (87.7, 93.3)	86.1 (82.4, 89.1)	79.6 (75.5, 83.2)
Other workers	95.8 (91.5, 98.1)	94.6 (89.8, 97.4)	95.2 (90.9, 97.6)	94.7 (90.0, 97.4)	91.5 (86.1, 94.9)	80.2 (73.5, 85.5)
Employment status						
Full-time	90.8 (89.7, 91.8)	88.5 (87.3, 89.6)	85.4 (84.1, 86.6)	92.0 (91.0, 92.9)	83.6 (82.2, 84.9)	83.9 (82.6, 85.2)
Part-time	92.5 (90.6, 94.0)	89.4 (87.3, 91.2)	88.0 (85.8, 89.9)	92.8 (91.0, 94.3)	85.4 (83.0, 87.6)	83.1 (80.6, 85.3)
Duration of job with current employer						
Less than 3 months	90.6 (87.1, 93.2)	85.2 (81.1, 88.5)	87.0 (83.1, 90.1)	91.1 (87.6, 93.7)	80.2 (75.6, 84.1)	82.9 (78.6, 86.4)
3 months to < 1 year	91.2 (89.8, 92.4)	88.0 (86.3, 89.4)	88.0 (86.4, 89.4)	93.0 (91.7, 94.1)	84.4 (82.6, 86.0)	85.7 (84.0, 87.2)
1 year or more	91.3 (89.9, 92.5)	90.1 (88.7, 91.4)	84.0 (82.3, 85.6)	91.6 (90.3, 92.8)	84.5 (82.8, 86.1)	82.1 (80.3, 83.7)
Total	91.2 (90.3, 92.0)	88.7 (87.7, 89.7)	86.0 (84.9, 87.1)	92.2 (91.3, 93.0)	84.1 (82.9, 85.2)	83.7 (82.6, 84.8)

Note: Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4.**

6. Employer satisfaction by institution

This report combines results from the 2021, 2022 and 2023 Employer Satisfaction Surveys to publish results for Table A and B universities at institution level as shown in **Table 6**. This is consistent with the approach utilised on the QILT website where results are pooled across survey years to increase the number of responses, and improve the robustness and validity of the data. The number of employer responses in the 2021 to 2023 surveys across institutions is shown in **Appendix 3**. There are 9,141 employer responses across universities, ranging from 669 responses for The University of Melbourne to 14 responses for Avondale University. The QILT reports and website do not publish results where there are fewer than 25 survey responses. For this reason, results for individual NUHEIs are not shown since for most NUHEIs (and for Avondale University) the number of employer responses is too small.

Employer satisfaction is broadly similar across most of the Table A and B universities, with consistently high levels of satisfaction. Nonetheless, **Table 6** demonstrates the ESS has the capacity to discriminate between universities, with Overall satisfaction ranging from 90.1 per cent to 74.3 per cent. Employers' Overall satisfaction was rated highest for graduates from Curtin University and The University of Sydney, at 90.1 per cent and 89.6 per cent respectively. Other universities with high Overall satisfaction ratings by employers include Australian Catholic University, Southern Cross University and University of the Sunshine Coast, with 88.9 per cent, 88.8 per cent and 88.2 per cent respectively. Note, however, the small number of responses for most universities means there are wide confidence intervals associated with these estimates. Where confidence intervals overlap between institutions, we cannot infer that there is or is not a significant difference in a statistical sense. Differences in the study area and demographic profile of institutions may also influence results.

Table 6 / **Employer satisfaction by institution (universities only), pooled 2021-2023 (%)**

University	Foundation	Adaptive	Collaborative	Technical	Employability	Overall satisfaction
Australian Catholic University	94.0 (90.9, 96.2)	90.1 (86.4, 92.9)	92.6 (89.3, 95.0)	93.5 (90.2, 95.7)	87.8 (83.7, 90.9)	88.9 (85.1, 91.9)
Avondale University*	n/a	n/a	n/a	n/a	n/a	n/a
Bond University	79.5 (67.0, 88.2)	76.9 (64.2, 86.2)	79.5 (67.0, 88.2)	87.2 (75.6, 93.9)	78.9 (66.2, 87.9)	78.9 (66.2, 87.9)
Central Queensland University	95.2 (91.7, 97.4)	89.6 (84.9, 92.9)	93.5 (89.6, 96.1)	95.7 (92.1, 97.7)	85.2 (80.0, 89.2)	86.4 (81.4, 90.2)
Charles Darwin University	92.0 (85.8, 95.8)	88.8 (82.0, 93.3)	81.8 (74.1, 87.7)	92.6 (86.1, 96.3)	78.6 (70.3, 85.0)	86.0 (78.7, 91.2)
Charles Sturt University	92.2 (89.2, 94.4)	89.7 (86.3, 92.3)	83.9 (80.0, 87.1)	91.7 (88.6, 94.0)	84.6 (80.7, 87.8)	85.8 (82.0, 88.8)
Curtin University	93.4 (90.0, 95.7)	89.3 (85.4, 92.3)	88.3 (84.2, 91.4)	95.5 (92.6, 97.4)	84.8 (80.2, 88.4)	90.1 (86.3, 93.0)
Deakin University	93.0 (90.8, 94.6)	89.5 (87.0, 91.6)	88.2 (85.6, 90.4)	92.1 (89.8, 93.9)	86.2 (83.4, 88.6)	84.2 (81.4, 86.7)
Edith Cowan University	91.2 (87.7, 93.8)	91.1 (87.5, 93.7)	87.1 (83.1, 90.3)	91.8 (88.3, 94.3)	86.0 (81.7, 89.4)	83.2 (78.8, 86.8)
Federation University Australia	88.1 (81.9, 92.4)	84.9 (78.3, 89.8)	85.0 (78.5, 89.9)	89.5 (83.5, 93.6)	80.8 (73.6, 86.4)	84.3 (77.4, 89.4)
Flinders University	89.6 (85.0, 93.0)	84.7 (79.4, 88.8)	81.1 (75.6, 85.6)	88.0 (83.0, 91.7)	78.9 (73.1, 83.7)	78.0 (72.1, 82.9)
Griffith University	92.3 (88.6, 94.9)	85.9 (81.4, 89.4)	83.7 (79.0, 87.6)	89.9 (85.8, 92.9)	83.7 (78.8, 87.6)	80.1 (75.1, 84.3)
James Cook University	83.6 (77.3, 88.4)	80.2 (73.5, 85.5)	86.7 (80.7, 91.0)	90.6 (85.1, 94.3)	82.1 (75.5, 87.2)	84.7 (78.6, 89.3)
La Trobe University	93.3 (90.1, 95.6)	89.1 (85.3, 92.0)	88.0 (84.1, 91.0)	94.1 (91.0, 96.2)	83.8 (79.5, 87.4)	85.9 (81.9, 89.2)
Macquarie University	93.5 (89.9, 95.9)	89.3 (85.1, 92.4)	89.8 (85.6, 92.9)	93.3 (89.6, 95.7)	86.4 (81.8, 90.0)	83.5 (78.6, 87.4)
Monash University	94.7 (92.8, 96.1)	92.4 (90.2, 94.1)	89.9 (87.6, 91.9)	94.4 (92.5, 95.9)	88.4 (85.8, 90.5)	83.9 (81.1, 86.4)

Table 6 / **Employer satisfaction by institution (universities only), pooled 2021-2023 (%)** **(Continued)**

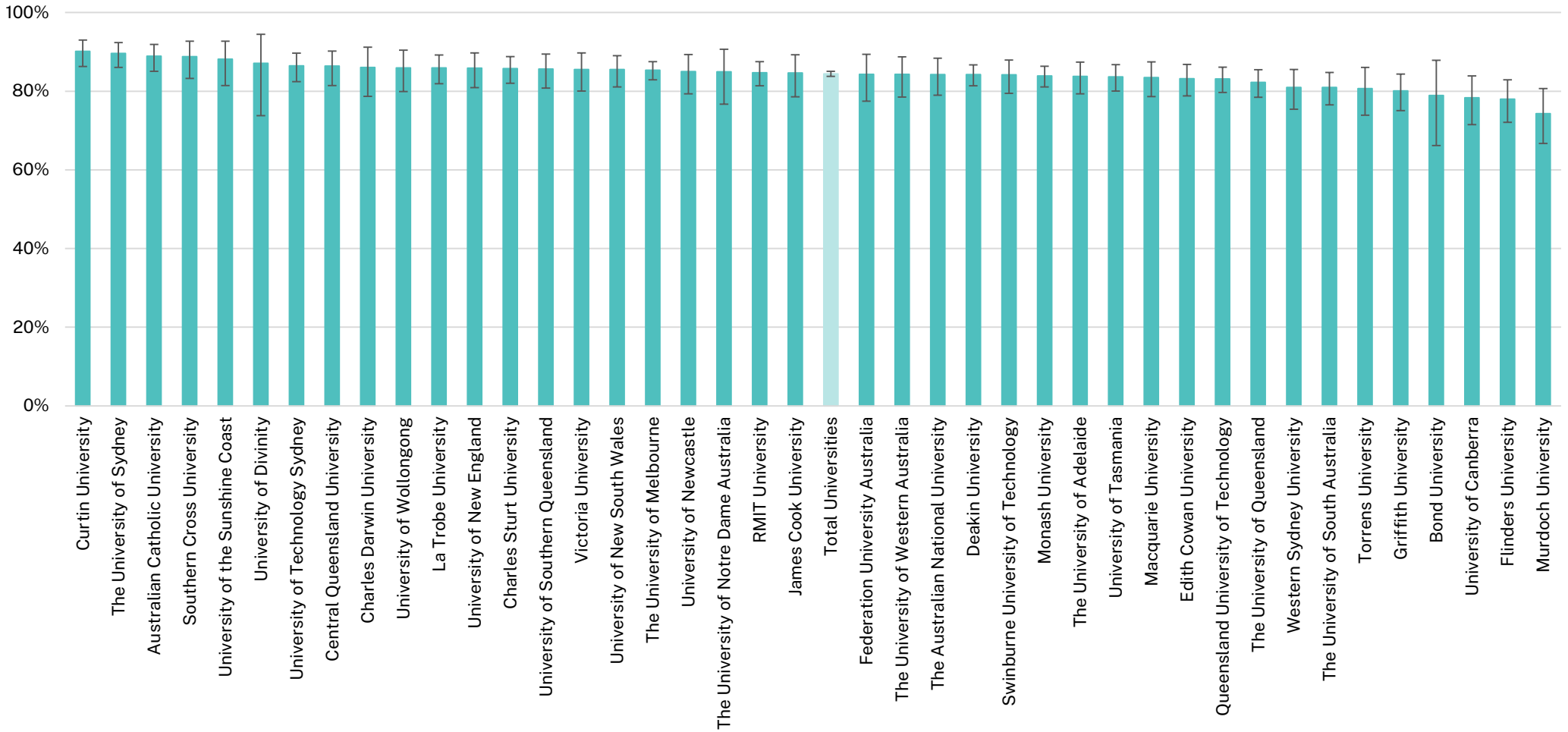
University	Foundation	Adaptive	Collaborative	Technical	Employability	Overall satisfaction
Murdoch University	89.7 (83.8, 93.7)	82.4 (75.3, 87.8)	83.2 (76.4, 88.3)	93.0 (87.4, 96.3)	79.8 (72.6, 85.5)	74.3 (66.7, 80.7)
Queensland University of Technology	93.5 (91.1, 95.3)	90.0 (87.1, 92.3)	87.8 (84.7, 90.3)	92.2 (89.6, 94.3)	85.7 (82.3, 88.5)	83.2 (79.7, 86.1)
RMIT University	94.5 (92.2, 96.1)	89.1 (86.2, 91.5)	91.0 (88.3, 93.2)	93.6 (91.2, 95.4)	86.2 (83.0, 88.9)	84.7 (81.4, 87.5)
Southern Cross University	88.6 (83.0, 92.6)	91.0 (85.7, 94.5)	85.7 (79.8, 90.1)	91.7 (86.6, 95.1)	86.5 (80.7, 90.8)	88.8 (83.2, 92.7)
Swinburne University of Technology	92.3 (88.6, 94.9)	91.3 (87.5, 94.1)	87.0 (82.6, 90.4)	92.1 (88.3, 94.7)	88.1 (83.7, 91.4)	84.2 (79.5, 88.0)
The Australian National University	95.7 (92.2, 97.8)	93.8 (89.8, 96.3)	88.3 (83.4, 91.9)	92.5 (88.3, 95.3)	85.1 (79.7, 89.2)	84.2 (79.0, 88.4)
The University of Adelaide	89.9 (86.1, 92.7)	84.5 (80.1, 88.2)	88.4 (84.4, 91.5)	92.3 (88.7, 94.8)	83.6 (79.1, 87.3)	83.8 (79.3, 87.4)
The University of Melbourne	94.4 (92.6, 95.7)	91.2 (89.1, 92.9)	87.6 (85.3, 89.6)	93.3 (91.4, 94.7)	85.8 (83.3, 87.9)	85.4 (82.9, 87.5)
The University of Notre Dame Australia	91.4 (84.1, 95.7)	92.8 (85.6, 96.7)	88.4 (80.4, 93.5)	97.1 (91.1, 99.4)	84.8 (76.1, 90.8)	84.9 (76.7, 90.7)
The University of Queensland	94.3 (91.7, 96.1)	89.5 (86.2, 92.0)	86.9 (83.4, 89.7)	92.2 (89.3, 94.4)	83.4 (79.6, 86.6)	82.2 (78.5, 85.5)
The University of South Australia	91.6 (88.2, 94.1)	91.9 (88.6, 94.4)	88.9 (85.2, 91.8)	93.5 (90.3, 95.7)	89.7 (86.0, 92.5)	81.0 (76.5, 84.7)
The University of Sydney	95.7 (93.1, 97.4)	96.1 (93.5, 97.7)	92.0 (88.7, 94.5)	96.8 (94.3, 98.2)	90.0 (86.4, 92.8)	89.6 (86.1, 92.4)
The University of Western Australia	94.3 (90.1, 96.9)	90.6 (85.6, 94.0)	88.7 (83.5, 92.4)	92.1 (87.5, 95.2)	91.1 (86.2, 94.5)	84.3 (78.5, 88.7)
Torrens University	94.1 (89.3, 96.9)	93.8 (88.8, 96.7)	90.8 (85.3, 94.4)	92.2 (86.9, 95.5)	92.5 (87.4, 95.7)	80.7 (73.9, 86.1)
University of Canberra	88.9 (83.1, 92.9)	87.0 (80.9, 91.4)	88.8 (83.0, 92.8)	93.0 (87.9, 96.1)	82.6 (75.8, 87.8)	78.3 (71.5, 83.9)
University of Divinity	91.2 (79.4, 96.9)	93.9 (82.6, 98.6)	84.8 (71.7, 92.7)	85.3 (72.4, 93.0)	83.9 (70.1, 92.2)	87.1 (73.8, 94.5)
University of New England	90.5 (86.0, 93.6)	90.5 (86.1, 93.7)	85.9 (80.9, 89.7)	93.5 (89.6, 96.0)	84.8 (79.7, 88.9)	85.9 (80.9, 89.7)

Table 6 / **Employer satisfaction by institution (universities only), pooled 2021-2023 (%)** **(Continued)**

University	Foundation	Adaptive	Collaborative	Technical	Employability	Overall satisfaction
University of New South Wales	94.3 (91.0, 96.5)	91.4 (87.6, 94.1)	89.0 (85.0, 92.1)	95.7 (92.6, 97.5)	85.0 (80.4, 88.6)	85.5 (81.1, 89.1)
University of Newcastle	92.9 (88.3, 95.8)	91.3 (86.4, 94.6)	91.4 (86.5, 94.6)	96.3 (92.4, 98.3)	90.4 (85.4, 93.9)	85.0 (79.3, 89.3)
University of Southern Queensland	91.4 (87.4, 94.3)	89.7 (85.4, 92.9)	84.1 (79.1, 88.1)	93.9 (90.2, 96.3)	86.8 (82.1, 90.4)	85.6 (80.8, 89.4)
University of Tasmania	90.0 (87.0, 92.4)	89.5 (86.3, 91.9)	84.8 (81.3, 87.8)	89.2 (86.0, 91.7)	86.7 (83.3, 89.5)	83.7 (80.1, 86.8)
University of Technology Sydney	94.7 (91.7, 96.6)	89.3 (85.5, 92.1)	90.4 (86.7, 93.1)	95.0 (92.1, 96.9)	90.3 (86.6, 93.0)	86.5 (82.4, 89.7)
University of the Sunshine Coast	90.0 (83.5, 94.2)	86.7 (79.6, 91.6)	90.9 (84.4, 94.9)	93.1 (87.0, 96.6)	86.5 (79.4, 91.5)	88.2 (81.5, 92.7)
University of Wollongong	96.6 (92.4, 98.6)	94.8 (90.1, 97.4)	89.7 (84.0, 93.5)	93.8 (88.8, 96.7)	91.2 (85.8, 94.8)	86.0 (79.9, 90.4)
Victoria University	94.6 (90.6, 97.0)	89.9 (85.0, 93.3)	89.3 (84.3, 92.8)	94.6 (90.5, 97.0)	83.2 (77.4, 87.8)	85.5 (80.0, 89.7)
Western Sydney University	90.2 (85.6, 93.4)	92.5 (88.3, 95.3)	91.5 (87.1, 94.5)	92.5 (88.3, 95.4)	87.3 (82.2, 91.1)	81.0 (75.4, 85.5)
Total universities	**92.7 (92.3, 93.2)**	**89.9 (89.3, 90.4)**	**88.1 (87.5, 88.6)**	**93.0 (92.5, 93.4)**	**86.0 (85.4, 86.6)**	**84.4 (83.8, 85.1)**
Standard deviation	3.5	3.8	3.2	2.7	3.4	4

Note: Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4**. *In ESS reports prior to 2022, Avondale University was reported as a NUHEI.

Figure 3 / **Employers' Overall satisfaction by university, pooled 2021-2023 (% satisfied, with 90% confidence intervals)**



* Only institutions with sufficient data (i.e. n>25) are presented in this figure.

7. Skills relevance and utilisation

The Employer Satisfaction Survey provides valuable evidence on employers' perceptions on the relevance and utilisation of higher education graduates' skills and qualifications. It is important to monitor these assessments over time to be aware of the various aspects of recent graduates' skill-matching in the labour market.

Overall, supervisors tend to view the completed qualification as more important for current employment than the graduates themselves, as shown at **Table 7**. Almost two-thirds of supervisors (62.9 per cent) indicated that the qualification was 'very important' or 'important' and only 6.0 per cent indicated that it was 'not at all important' for the graduate's current job. On the other hand, 53.6 per cent of graduates considered their qualification to be 'very important' or 'important' to their current job, and approximately one in ten (11.5 per cent) felt that it was 'not at all important'.

Over half of graduates employed (50.8 per cent) had been with their employer for less than one year after completing their qualification: their relative lack of work experience may explain why they did not fully comprehend the extent to which their qualification is important for their job. Between 2016 and 2023 there has been a downward trend in 'very important' ratings among both supervisors and graduates, with a shift towards 'important' or 'fairly important' ratings. It should be noted that in this response frame "fairly important" is not a neutral category and may be considered a lower strength positive rating of importance.

Table 7 / **Importance of qualification for current employment, 2023 (%)**

	Graduates	Supervisors
Very important	35.6 (34.1, 37.1)	39.8 (38.4, 41.3)
Important	18.0 (16.9, 19.2)	23.0 (21.8, 24.3)
Fairly important	19.2 (18.0, 20.4)	18.5 (17.4, 19.7)
Not that important	15.6 (14.6, 16.8)	12.6 (11.7, 13.7)
Not at all important	11.5 (10.6, 12.6)	6.0 (5.3, 6.8)
Total	**100.0 (99.9, 100.0)**	**100.0 (99.9, 100.0)**

Note: Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4.**

As seen in **Table 8**, Education, Architecture and building, and Health qualifications were rated by graduates and supervisors as being more important for their current position than most other fields of education. This is consistent with these qualifications being a requirement for employment in many instances. For example, 69.8 per cent of graduates and 78.2 per cent of supervisors thought that Health qualifications were important for current employment. Similarly, 66.5 per cent of graduates and 80.0 per cent of supervisors thought that Education qualifications were important for current employment.

Supervisors of Creative arts, Management and commerce, and Information technology graduates were least likely to think that the qualification was important for current employment at 38.1 per cent, 48.0 per cent, and 48.9 per cent respectively.

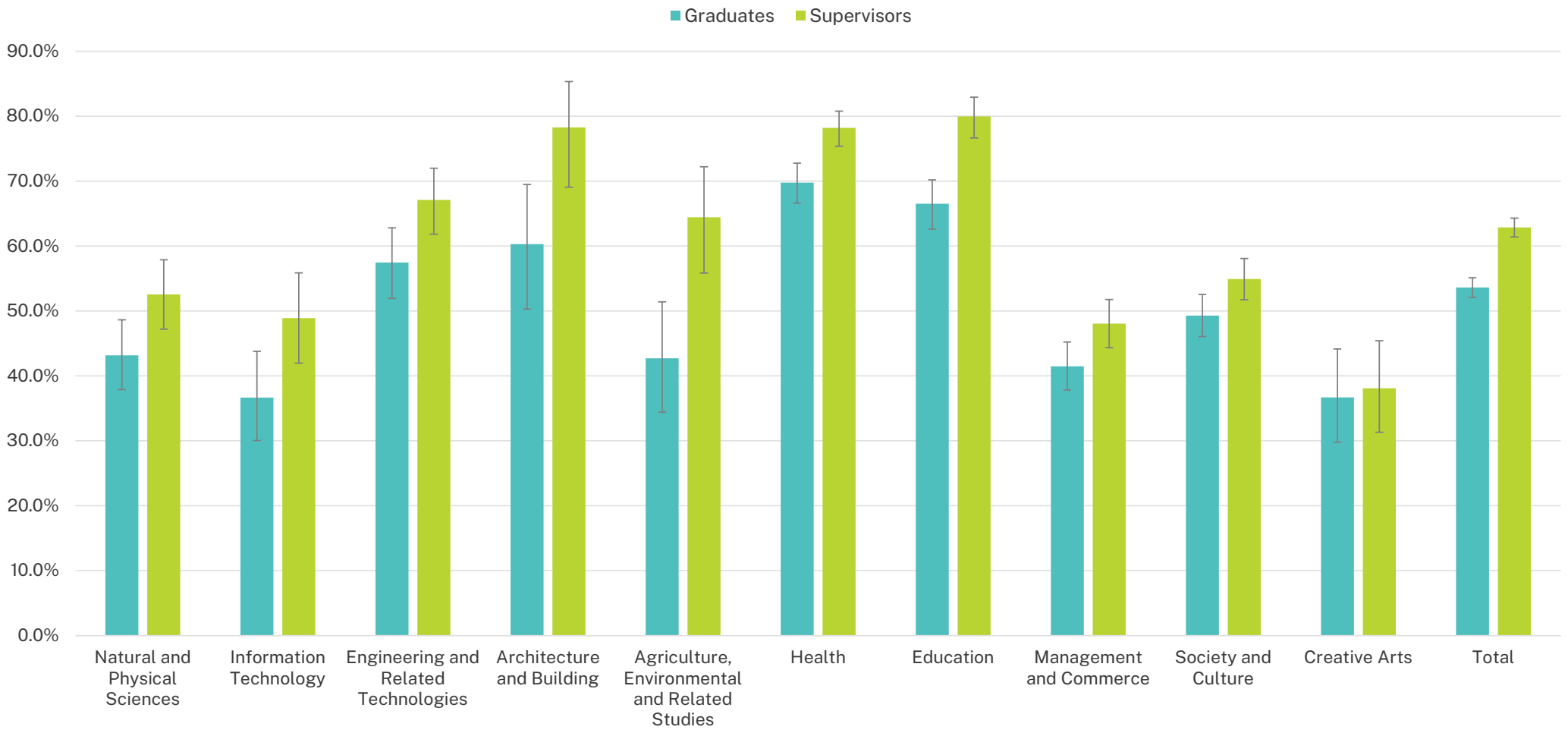
Table 8 / **Importance of qualification for current employment by broad field of education, 2023 (%)**

Field of education	Graduates	Supervisors
Natural and physical sciences	43.2 (37.9, 48.6)	52.6 (47.2, 57.9)
Information technology	36.6 (30.0, 43.8)	48.9 (42.0, 55.9)
Engineering and related technologies	57.5 (51.9, 62.8)	67.1 (61.8, 72.0)
Architecture and building	60.3 (50.3, 69.5)	78.3 (69.0, 85.3)
Agriculture and environmental studies	42.7 (34.4, 51.4)	64.4 (55.8, 72.2)
Health	69.8 (66.6, 72.8)	78.2 (75.4, 80.8)
Education	66.5 (62.6, 70.2)	80.0 (76.6, 82.9)
Management and commerce	41.5 (37.8, 45.2)	48.0 (44.3, 51.8)
Society and culture	49.3 (46.1, 52.5)	54.9 (51.7, 58.1)
Creative arts	36.7 (29.8, 44.1)	38.1 (31.3, 45.4)
Total	**53.6 (52.1, 55.1)**	**62.9 (61.4, 64.3)**
Standard deviation	12.3	14.7

Note: The Food, hospitality and personal services broad field of education is not shown as no data was available. Refers to the percentage of graduates and supervisors rating the qualification as 'very important' or 'important' for current employment. Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4.**

As shown in **Figure 4**, the largest discrepancy between the views of graduates and employers was in Agriculture, environmental and related studies where 42.7 per cent of graduates rated their qualification as being important compared with 64.4 per cent of supervisors, a difference of 21.7 percentage points. Other areas where supervisors rated the qualification higher than graduates included in Architecture and building, Education, and Information technology with differences larger than 10 percentage points. Creative arts was the only field of education where graduates rated the importance of the qualification similar to supervisors, a difference of 1.4 per cent.

Figure 4 / **Importance of qualification for current employment by broad field of education, 2023 (%, with 90% confidence intervals)**



* Only fields of education with sufficient data (i.e. n>25) are presented in this figure.

Graduates and supervisors of those working in Professional occupations were most likely to state that the qualification was important for the job at 64.9 per cent and 75.1 per cent respectively (see **Table 9**). Higher education qualifications are aimed at Professional occupations, so it is expected that those in Professional occupations would rate the course as important for their current employment. Jobs at lower skill levels were associated with lower ratings for the importance of the graduates' qualification by both graduates and supervisors.

These findings are consistent with the classification of occupations[1] used by the ABS, where most Managerial and Professional occupations have a skill level that is commensurate with qualifications at the bachelor level or higher.

Graduates and their supervisors were also asked to indicate the extent to which the recent qualification prepared the graduate for their job. A high proportion of graduates and supervisors thought the qualification prepared the graduate well or very well for the job, at 86.9 per cent and 94.0 per cent respectively (see **Table 10**). The proportion of supervisors who thought the qualification prepared the graduate for the job has remained consistently high since this survey was first conducted in 2016, ranging between 92 per cent and 94 per cent in rounded terms. Overall, there appears to be a strong relationship between skills and knowledge acquired by higher education graduates and the requirements of their jobs after graduation. This result strongly affirms the value of higher education qualifications in terms of preparation for work.

Table 9 / **Importance of qualification for current employment, by occupation, 2023 (%)**

Occupation	Graduates	Supervisors
Managers	41.2 (36.7, 45.8)	55.6 (51.0, 60.1)
Professionals	64.9 (63.0, 66.7)	75.1 (73.4, 76.7)
Technicians and trades workers	37.9 (31.2, 45.0)	41.8 (35.0, 48.9)
Community and personal service workers	38.7 (33.1, 44.5)	47.1 (41.4, 52.8)
Clerical and administrative workers	33.7 (29.4, 38.2)	36.3 (32.0, 40.8)
Other workers	15.3 (10.7, 21.4)	21.5 (16.2, 28.0)
Total	**53.6 (52.1, 55.1)**	**62.9 (61.4, 64.3)**
Standard deviation	15.9	18.2

Note: Refers to the percentage of graduates and supervisors rating the qualification as 'very important' or 'important' for current employment. Almost two-thirds of respondents were supervising graduates in professional occupations, with the remainder spread evenly across all other occupations. Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4**.

Table 10 / **Extent to which qualification prepared graduate for current employment, 2023 (%)**

Response	Graduates	Supervisors
Very well	41.3 (39.7, 42.8)	52.6 (51.1, 54.2)
Well	45.6 (44.0, 47.2)	41.4 (39.8, 42.9)
Not well	8.0 (7.2, 8.9)	3.2 (2.7, 3.8)
Not at all	5.1 (4.5, 5.9)	2.8 (2.3, 3.4)
Total	**100.0 (99.9, 100.0)**	**100.0 (99.9, 100.0)**

Note: Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4.**

[1] The Australian and New Zealand Standard Classification of Occupations (ANZSCO). The ANZSCO was jointly developed by the ABS, Stats NZ and the then Australian Government Department of Education, Employment and Workplace Relations.

Taken in conjunction with the findings regarding the importance of the qualification, it is the case that importance could be related to domain-specific skills or knowledge whereas preparedness is a broader concept, encapsulating generic skills and potentially basic employability. Alternatively, as almost half of graduates whose employers responded to the survey had been employed in their current position before they completed their qualification, it is understandable that a higher education qualification could be perceived as being less important while still preparing the graduate for employment by broadening or deepening existing skills and knowledge.

Graduates across all fields of education were less likely than their supervisors to indicate they felt their qualification prepared them for their current job, as shown by **Table 11**. Fields of education with the largest differences between graduate and supervisor ratings were Architecture and building (17.6 percentage point difference), Natural and physical sciences (11.8 percentage points) and Agriculture and environmental studies (10.8 percentage points).

Graduates from Architecture and building, Information and technology, and Natural and physical sciences reported lower ratings on the extent to which their qualification prepared them for their job, at 74.2 per cent, 78.9 per cent, and 80.3 per cent respectively. While still high, supervisors of graduates from Creative arts, Information technology, and Architecture and building reported lower ratings on graduates' preparedness for their current job, at 85.6 per cent, 89.6 per cent, and 91.8 per cent respectively.

It should also be noted there was less variation across fields of education among supervisors stating the qualification prepared the graduate for current employment, with a standard deviation of 3.2 (see **Table 11**), than amongst supervisors stating the qualification was important for the job, with a higher standard deviation of 14.7 (see **Table 8**). This supports the previous observation that while higher education qualifications may not be 'important' in the sense they are not 'mandatory' or 'required,' they nevertheless prepare graduates for employment very well.

Table 11 / **Extent to which qualification prepared graduate well or very well for current employment, by broad field of education, 2023 (%)**

Field of education	Graduates	Supervisors
Natural and physical sciences	80.3 (75.2, 84.5)	92.1 (88.5, 94.7)
Information technology	78.9 (72.2, 84.3)	89.6 (84.2, 93.4)
Engineering and related technologies	87.9 (83.6, 91.2)	96.8 (94.0, 98.3)
Architecture and building	74.2 (64.5, 82.1)	91.8 (83.9, 96.2)
Agriculture and environmental studies	81.6 (73.8, 87.5)	92.4 (85.8, 96.2)
Health	92.3 (90.3, 94.0)	94.8 (93.0, 96.1)
Education	89.3 (86.4, 91.6)	94.6 (92.4, 96.2)
Management and commerce	87.5 (84.7, 89.9)	95.2 (93.2, 96.6)
Society and culture	85.9 (83.4, 88.1)	94.6 (92.8, 96.0)
Creative arts	81.8 (75.0, 87.1)	85.8 (79.3, 90.6)
Total	**86.9 (85.8, 87.9)**	**94.0 (93.2, 94.7)**
Standard deviation	5.5	3.2

Note: The Food, hospitality and personal services broad field of education is not shown as no data was available. Numbers presented in brackets are the lower and upper confidence intervals . The calculation of these confidence intervals is detailed in **Appendix 4.**

Table 12 shows that supervisors of graduates working in Managerial and Professional occupations were most likely to state that the qualification had prepared the graduate well or very well for current employment, at 97.9 per cent and 95.6 per cent respectively. The difference in ratings of preparedness by graduates and supervisors for Technicians and trades workers was very low at 1.1 percentage points. Differences between graduates working in Professional, Managerial, and Community and personal service occupations were also quite low at around 5 to 7 percentage points. Differences between graduate and supervisor ratings for Clerical and administrative workers, and graduates in 'Other' occupations were 12.3 percentage points and 33.5 percentage points respectively. This suggests that those employed in lower skill occupations were less likely than their supervisors to see how their qualification had prepared them for a job which may require a lower skill level than they had acquired.

Table 12 / **Extent to which qualification prepared graduate well or very well for current employment, by occupation, 2023 (%)**

Occupation	Graduates	Supervisors
Managers	90.6 (87.4, 93.1)	97.9 (95.9, 99.0)
Professionals	90.2 (88.9, 91.3)	95.6 (94.8, 96.4)
Technicians and trades workers	85.1 (79.0, 89.7)	86.2 (80.2, 90.6)
Community and personal service workers	81.7 (76.4, 86.0)	88.1 (83.3, 91.7)
Clerical and administrative workers	78.8 (74.5, 82.6)	91.1 (87.9, 93.6)
Other workers	49.5 (41.2, 57.8)	83.0 (75.9, 88.3)
Total	**86.9 (85.8, 87.9)**	**94.0 (93.2, 94.7)**
Standard deviation	15.3	5.7

Note: Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4.**

Supervisors were also offered the opportunity to provide feedback on the main ways that the qualification had prepared the graduate for employment, as shown by **Table 13.** There were over 4,300 comments across eight themes. The most common themes mentioned by supervisors were Domain-specific skills and knowledge, Employability and enterprise skills, and Technical and professional skills.

Table 13 / **Main ways that the qualification prepared the graduate for employment, 2023 (%)**

Theme	Supervisors
Domain-specific skills and knowledge	56.7 (54.9, 58.5)
Employability and enterprise skills	43.0 (41.2, 44.8)
Technical and professional skills	29.9 (28.2, 31.5)
Adaptive skills	22.8 (21.3, 24.3)
Foundation skills	21.1 (19.7, 22.6)
Institutional and course attributes	15.3 (14.1, 16.7)
Personal attributes	11.1 (10.0, 12.3)
Teamwork and interpersonal skills	10.0 (8.9, 11.1)

Note: Percentages do not add up to 100 percent as supervisors were able to provide more than one comment. Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4.**

There were fewer comments (1,555) regarding the ways in which the qualification could have better prepared the graduate for employment, suggesting most supervisors felt that the graduate had been well prepared for the workplace. These observations are consistent with the generally very positive supervisor ratings of graduate preparedness.

As seen in **Table 14**, the greatest number of comments related to the ways in which the qualification could have better prepared the graduate for employment were made in relation to Domain-specific skills and knowledge (38.4 per cent), Employability and enterprise skills (36.3 per cent), and Technical and professional skills (27.7 per cent).

Table 14 / **Main ways that the qualification could have better prepared the graduate for employment, 2023 (%)**

Theme	Supervisors
Domain-specific skills and knowledge	38.4 (36.0, 41.0)
Employability and enterprise skills	36.3 (33.8, 38.8)
Technical and professional skills	27.7 (25.5, 30.1)
Institutional and course attributes	27.5 (25.2, 29.8)
Foundation skills	9.6 (8.2, 11.2)
Teamwork and interpersonal skills	8.1 (6.8, 9.7)
Personal attributes	2.5 (1.8, 3.4)
Adaptive skills	n/a

Note: Percentages do not add up to 100 percent as supervisors were able to provide more than one comment. Numbers presented in brackets are the lower and upper confidence intervals. The calculation of these confidence intervals is detailed in **Appendix 4.**

Appendix 1: Methodology

1.1 Methodological summary

1.1.1 Overview

Graduates of 126 higher education institutions, including all 42 Table A and B universities, and 84 NUHEIs, were in scope to provide contact details for supervisors to participate in the 2023 ESS. Of these institutions, supervisors of graduates from 42 universities and 67 NUHEIs were included in the 2023 ESS sample. In all, supervisors responded with data for 42 universities and 53 NUHEIs.

The population frame for the 2023 ESS comprised 93,521 graduates, domestic and international, who responded in the 2023 GOS and indicated they were employed. Of these, 7,076 employed graduates provided sufficient contact details to approach 6,647 supervisors, yielding a supervisor referral rate of 7.1 per cent. This is lower than the 7.9, 8.2 and 7.8 per cent supervisor referral rate achieved in the 2022, 2021 and 2020 ESS respectively. As in previous years, there remains a strong reluctance among graduates to pass on their supervisor contact details.

In the 2023 ESS, a total of 2,992 valid survey responses from direct supervisors were collected across all study levels, representing a supervisor response rate of 45.0 per cent. This is higher than the 41.9 per cent supervisor response rate achieved in 2022. Further information on institutional responses is included at **Appendix 3**. A copy of the generic survey items (i.e., excluding any department or institution specific items) is included at **Appendix 2.**

Table 15 / **ESS operational overview, 2021-2023**

	2021				2022				2023			
	November	February	May	Total	November	February	May	Total	November	February	May	Total
Number of in-scope supervisors[2]	2,589	727	4,527	7,843	2,713	799	4,717	8,229	1,974	692	3,981	6,647
Number of completed surveys	1,181	285	1,984	3,450	1,206	365	1,881	3,452	903	341	1,748	2,992
Supervisor response rate	45.6	39.2	43.8	44.0	44.5	45.7	39.9	41.9	45.7	49.3	43.9	45.0
Analytic unit	Supervisor											
Mode of data collection	Online and CATI											

[2] Excludes opt outs, disqualified and out of scope surveys

1.1.2 Sample build

The collection of supervisor details occurred each round at the end of the GOS. All graduates in employment (but not self-employed or working in a family business) were asked to provide details (name, email and/or phone number) of their current supervisor so that the supervisor could be invited to take part in the ESS.

Several strategies were implemented in an attempt to increase the number of graduates providing valid contact details for their supervisor, such as calls to graduates to correct inaccurate or incomplete supervisor contact information and follow up calls to graduates who requested more information prior to agreeing to provide supervisor contact details.

There remains a reluctance among graduates to pass on their supervisor contact details. Establishment of the QILT brand allied with efforts to promote the QILT surveys and especially the ESS among companies that are known employers of graduates may help to lift the supervisor referral rate over time.

1.1.3 Data collection

The main collection periods for the ESS start in November, February, and May, with the ESS fieldwork period extending beyond the GOS fieldwork period to facilitate ESS sample build and ESS response maximisation activities. The survey was fielded in English only.

Online was the primary mode of collection for the ESS, with Computer Assisted Telephone Interviewing (CATI) a secondary mode. If a valid email address was provided by the graduate, the supervisor would receive an email invitation to the online ESS on the following working day. If the graduate only provided a phone number for their supervisor, the supervisor was called in an attempt to complete the ESS via CATI.

The email invitation was followed by up to six reminder emails and one SMS reminder to non-responding supervisors. Where a phone number as well as an email address was provided by the graduate, non-responding supervisors after the second reminder email were channelled into the CATI workflow.

Refer to the 2023 ESS Methodological Report for further information on target population definition, sample design and preparation, survey design and procedures, response maximisation strategies, data preparation processes, final field outcomes and response analysis.

1.2 Response bias

The tables that follow compare the course, demographic, and labour market characteristics of employed graduate respondents to the GOS (regardless of whether they provided the details of their supervisor), with the characteristics of supervisors who responded to the ESS to detect possible bias in the ESS. That is, these tables identify the extent to which the ESS departs from being a representative survey of employers of all recent graduates. Employed graduate respondents to the GOS were asked to provide contact details of their supervisors and as such represent the population frame for the ESS.

Comparison of the distribution of all employed graduates by broad field of education from the GOS with the distribution of supervisor responses to the ESS suggests that Education graduates, and to a lesser degree Engineering and related technologies and Agriculture and environmental studies graduates, are overrepresented in the achieved ESS responses. Health, Management and commerce, and Information technology graduates are marginally underrepresented in the ESS, as shown by **Table 16**.

Table 16 / **Respondents by broad field of education, 2023 (%)**

Field of education	Employed graduates	Supervisors
Natural and physical sciences	8.3	8.0
Information technology	5.9	4.3
Engineering and related technologies	5.7	7.2
Architecture and building	2.3	2.4
Agriculture and environmental studies	1.8	3.1
Health	23.0	20.9
Education	9.9	14.5
Management and commerce	16.9	14.8
Society and culture	21.4	20.9
Creative arts	4.8	3.8

Note: Food, hospitality and personal services is not shown as there were no Supervisor responses for this field of education in the 2023 ESS.

There is a slightly higher proportion of responses from supervisors of external graduates in the ESS, as seen in **Table 17**. Supervisors of external graduates report lower Overall satisfaction (see **Table 3**) so that overrepresentation of the supervisors of external graduates could lead to a downward bias in reported Overall satisfaction in the 2023 ESS.

Supervisors of postgraduate coursework and postgraduate research graduates are somewhat overrepresented by 1.2 percentage points and 3.6 percentage points respectively, while undergraduate supervisors are underrepresented by 4.5 percentage points.

Table 17 / **Respondents by type of institution and course characteristics, 2023 (%)**

	Employed graduates	Supervisors
Type of institution		
University	92.5	92.8
NUHEI	7.5	7.2
Study mode*		
Internal/Mixed Mode	68.8	65.1
External study mode	28.6	32.9
Course level		
Undergraduate	53.2	48.7
Postgraduate coursework	40.1	41.3
Postgraduate research	5.7	9.3

* Internal mode of attendance is where (i) the study is undertaken through attendance at the higher education provider on a regular basis, or (ii) for higher degree unit enrolments, where regular attendance is not required but the student attends the higher education provider on an agreed schedule for the purposes of supervision and/or instruction. External mode of attendance is where lesson materials, assignments, etc. are delivered to the student, and any associated attendance at the institution is of an incidental, irregular, special or voluntary nature. Mixed mode of attendance is where study is undertaken partially on an internal mode of attendance and partially on an external mode of attendance.

Table 18 compares the demographic characteristics of employed graduate respondents to the GOS with the demographic characteristics of graduates whose supervisors responded to the ESS. Supervisors of male graduates are overrepresented in the ESS by around 4.3 percentage points as seen in **Table 18**. From **Table 4** earlier, there was little difference in reported Overall satisfaction among supervisors of male or female graduates, so the overrepresentation of employers of male graduates is unlikely to materially impact on reported Overall satisfaction.

Supervisors of graduates aged 30 years and over are overrepresented in the ESS by 10.5 percentage points. This is consistent with the overrepresentation of supervisors of postgraduate coursework and postgraduate research graduates as shown in **Table 17.** Employers of older graduates reported lower Overall satisfaction as shown in **Table 4**, so the overrepresentation of supervisors of older graduates is likely to lead to a small downward bias in reported Overall satisfaction.

Table 18 / **Respondents by graduate demographic characteristics, 2023 (%)**

	Employed graduates	Supervisors
Gender		
Male	35.6	39.9
Female	64.1	60.0
Age		
30 years or under	62.8	52.3
Over 30 years	37.2	47.7
Indigenous		
Indigenous	1.3	1.6
Non-Indigenous	98.7	98.4
Home language		
English	86.4	89.4
Other	13.6	10.6
Disability		
Reported disability	7.2	8.9
No disability	92.8	91.1

As shown in **Table 19**, supervisors of graduates working in Professional occupations are overrepresented by 3.1 percentage points in the ESS. From **Table 5**, supervisors of graduates working in Professional occupations reported high Overall satisfaction. This would lead to a small upward bias in the reported Overall satisfaction in the 2023 ESS. Conversely, supervisors of graduate Community and personal service workers were underrepresented by 3.0 percentage points in the 2023 ESS. From **Table 5** earlier, supervisors of graduate Community and personal service workers reported the lowest Overall satisfaction. This would lead to a very small downward bias in the reported Overall satisfaction in the 2023 ESS.

Supervisors of graduates employed full-time are represented in the achieved sample in proportion to the graduate population.

Supervisors of graduates who have worked in their current job for between three months and less than one year, are overrepresented in the 2023 ESS. Satisfaction with this group was higher than for those who had been employed for under three months or those who had been employed for 1 year or more (see **Table 5**) and so their overrepresentation may lead to a small upward bias in employer satisfaction.

Table 19 / **Respondents by labour market characteristics of employed graduates, 2023 (%)**

	Employed graduates	Supervisors
Occupation		
Managers	8.4	10.9
Professionals	59.5	62.6
Technicians and trades workers	3.7	4.6
Community and personal service workers	9.9	6.9
Clerical and administrative workers	10.1	10.7
Other workers	8.4	4.4
Employment status		
Full-time	75.3	75.7
Part-time	24.7	24.3
Duration of job with current employer		
Less than 3 months	11.6	9.0
3 months to < 1 year	39.1	43.7
1 year or more	49.2	47.3

1.3 Graduate Attributes Scale - Employer

The Graduate Attributes Scale – Employer (GAS-E) was developed as part of the original 2013–14 trial of the ESS. The project team synthesised several frameworks relevant to the skills of university graduates and identified a number of general attributes. The GAS-E has been designed to assess common rather than specific graduate attributes, within a limited workplace context. The items were further tested and refined during a 2015 trial of the instrument. The five graduate attribute domains include:

- Foundation skills
- Adaptive skills
- Collaborative skills
- Technical skills
- Employability skills

Information on the items that are included in each of these domains is provided in **Appendix 2.**

Additional information on how the scales and confidence intervals are calculated is provided in **Appendix 4.**

The GAS-E forms the core of the ESS. Graduates responding to the GOS had previously been asked to assess their Foundation, Adaptive and Collaborative skills using the GAS, however these items were removed from the core GOS in 2021 and are now institution opt-in items.

Appendix 2: ESS questionnaire

2.1 Core instrument

A summary of all items included in the 2023 ESS core instrument are provided in **Table 20** below. A copy of the core survey instrument (i.e., excluding any institution specific items) and screenshots of the survey are included in the 2023 ESS Methodological Report.

Table 20 / **Questionnaire item summary**

Question ID	Question	Response frame
Module A: Screening and confirmation		
QS1	First, we have a few questions about your role and <E403> <E402>'s role, so we can understand your relationship to <E403>. Just to check, do you currently supervise <E403>? By supervisor, we mean a person who has the authority to direct someone to do certain tasks and who has a good idea of the work that the person does in their job.	1. Yes 2. No, but I used to be their supervisor 3. No, I have never been their supervisor
QS2	And, how long have you been <E403>'s supervisor?	1. Less than 1 month 2. At least 1 month but less than 3 months 3. At least 3 months but less than 1 year 4. 1 year or more
QS3	Before today, were you aware that <E403> completed a qualification from <E306C>?	1. Yes 2. No
QS4	And, before today, were you aware that the qualification <E403> completed was a <E308>?	1. Yes 2. No
QS5	What is <E403>'s occupation in your business?	1. <verbatim text box>
QS6	What are the main tasks that they usually perform in their job?	1. <verbatim text box>
QS7	What is your occupation in your business?	1. <verbatim text box>
QS8	What are the main tasks that you usually perform in this job?	1. <verbatim text box>

Table 20 / **Questionnaire item summary** **(Continued)**

Question ID	Question	Response frame
Module B: Overall graduate preparation		
QOP1	Is a <E308> or similar qualification a formal requirement for <E403> to do their job?	1. Yes 2. No
QOP2	To what extent is it important for <E403> to have a <E308> or similar qualification to be able to do the job well? Is it...	1. Not at all important 2. Not that important 3. Fairly important 4. Important 5. Very important
QOP3	Overall, how well did <E403>'s <E308> prepare <him/her> for their job?	1. Not at all 2. Not well 3. Well 4. Very well 5. Don't know / unsure
QOP4	What are the MAIN ways that <E306C> prepared <E403> for employment?	1. <verbatim text box> 2. Don't know/Unsure
QOP5	And what are the MAIN ways that <E306C> could have better prepared <E403> for employment?	1. <verbatim text box> 2. Don't know/Unsure
QS11	Based on your experience with <E403>, how likely are you to consider hiring another <E308> graduate from <E306C>, if you had a relevant vacancy?	1. Very unlikely to consider 2. Unlikely to consider 3. Neither unlikely nor likely to consider 4. Likely to consider 5. Very likely to consider 6. Don't know/unsure

Table 20 / **Questionnaire item summary** **(Continued)**

Question ID	Question	Response frame
Module C: Graduate attributes scale		
GAS Stem	For each skill or attribute, to what extent do you agree or disagree that <E403>'s <E308> from <E306C> prepared them for their job? If the skill is not required by <E403> in their role, you can answer 'Not applicable'.	
GAS (Foundation skills)	1. Oral communication skills 2. Written communication skills 3. Numeracy skills 4. Ability to develop relevant knowledge 5. Ability to develop relevant skills 6. Ability to solve problems 7. Ability to integrate knowledge 8. Ability to think independently about problems	1. Strongly disagree 2. Disagree 3. Neither disagree nor agree 4. Agree 5. Strongly agree 9. Not applicable
GAS (Adaptive skills)	9. Broad background knowledge 10. Ability to develop innovative ideas 11. Ability to identify new opportunities 12. Ability to adapt knowledge to different contexts 13. Ability to apply skills in different contexts 14. Capacity to work independently	1. Strongly disagree 2. Disagree 3. Neither disagree nor agree 4. Agree 5. Strongly agree 9. Not applicable
GAS (Collaborative skills)	15. Working well in a team 16. Getting on well with others in the workplace 17. Working collaboratively with colleagues to complete tasks 18. Understanding different points of view 19. Ability to interact with co-workers from different or multi-cultural backgrounds	1. Strongly disagree 2. Disagree 3. Neither disagree nor agree 4. Agree 5. Strongly agree 9. Not applicable

Table 20 / **Questionnaire item summary** **(Continued)**

Question ID	Question	Response frame
GAS (Technical skills)	20. Applying professional knowledge to job tasks 21. Using technology effectively 22. Applying technical skills in the workplace 23. Maintaining professional standards 24. Observing ethical standards 25. Using research skills to gather evidence	1. Strongly disagree 2. Disagree 3. Neither disagree nor agree 4. Agree 5. Strongly agree 9. Not applicable
GAS (Employment skills)	26. Ability to work under pressure 27. Capacity to be flexible in the workplace 28. Ability to meet deadlines 29. Understanding the nature of your business or organisation 30. Demonstrating leadership skills 31. Demonstrating management skills 32. Taking responsibility for personal professional development 33. Demonstrating initiative in the workplace	1. Strongly disagree 2. Disagree 3. Neither disagree nor agree 4. Agree 5. Strongly agree 9. Not applicable
Module E: Institution specific issues		
Module F: Close		
C3	Would you like to be notified when the national data is released on the Quality Indicators for Learning and Teaching (QILT) website? We will also provide a one page summary of the outcomes of the study.	1. Yes 2. No
C4	Would you like your organisation to be acknowledged on the QILT website for supporting this important research? If you are unsure please select yes, as you will be able to opt out of this during our follow up with you.	1. Yes 2. No
C2	Can we confirm the best email address to contact you on?	1. My email address is <supemail> 2. The best email address to contact me on is: <VERBATIM RSEPONSE TEXT BOX>
C5	So that we can properly acknowledge your business on the QILT website, can you please confirm your business name as you would like it to appear on the site?	1. My business name is: (VERBATIM RESPONSE TEXT BOX)

Table 20 / **Questionnaire item summary** **(Continued)**

Question ID	Question	Response frame
C6	Would you be willing to have your contact information (name, email and/or phone) passed to <E306CTXT> for further research, industry engagement, accreditation processes and other internal purposes like careers services, placements, or student presentations?	1. Yes 2. No
END	Thank you for your time today and support in ensuring that graduates are well equipped to meet the needs of organisations like yours. If you would like further information about the ESS, including previous year's results you can go to www.qilt.edu.au/ess	

Appendix 3: Institutional participation

The tables below show institutions that participated in the GOS with one or more responses in the ESS between 2021 and 2023.

Table 21 / **Number of completed surveys by University, 2021-2023**

University	2021	2022	2023	Total
Australian Catholic University	100	72	75	247
Avondale University	8	<5	<5	14
Bond University	16	11	13	40
Central Queensland University	72	53	51	176
Charles Darwin University	34	32	26	92
Charles Sturt University	83	128	102	313
Curtin University	84	77	74	235
Deakin University	162	208	158	528
Edith Cowan University	83	92	77	252
Federation University Australia	41	41	33	115
Flinders University	25	88	59	172
Griffith University	88	83	44	215
James Cook University	44	42	44	130
La Trobe University	105	82	72	259

Table 21 / **Number of completed surveys by University, 2021-2023** **(Continued)**

University	2021	2022	2023	Total
Macquarie University	63	75	66	204
Monash University	202	195	161	558
Murdoch University	35	42	34	111
Queensland University of Technology	152	136	102	390
RMIT University	152	143	106	401
Southern Cross University	39	40	52	131
Swinburne University of Technology	93	67	57	217
The Australian National University	47	67	58	172
The University of Adelaide	78	86	74	238
The University of Melbourne	238	243	188	669
The University of Notre Dame Australia	27	27	19	73
The University of Queensland	110	107	116	333
The University of South Australia	100	76	84	260
The University of Sydney	103	99	67	269
The University of Western Australia	27	59	60	146
Torrens University	40	50	36	126
University of Canberra	41	46	38	125

Table 21 / **Number of completed surveys by University, 2021-2023** **(Continued)**

University	2021	2022	2023	Total
University of Divinity	12	15	10	37
University of New England	55	60	67	182
University of New South Wales	101	52	69	222
University of Newcastle	53	49	45	147
University of Southern Queensland	58	65	65	188
University of Tasmania	118	129	112	359
University of Technology Sydney	96	81	79	256
University of the Sunshine Coast	32	33	30	95
University of Wollongong	45	41	37	123
Victoria University	56	57	44	157
Western Sydney University	55	47	70	172

Note: <5 indicates a suppressed value (n < 5).

Table 22 / **Number of completed surveys by NUHEI, 2021-2023**

University	2020	2021	2022	Total
Academies Australasia Polytechnic Pty Limited		<5		<5
Academy of Information Technology	<5	<5	<5	9
Adelaide Central School of Art		<5	<5	<5
Adelaide College of Divinity		<5		<5
Alphacrucis College	7	<5		np
Asia Pacific International College	<5	<5	<5	6
Australian Academy of Music and Performing Arts		<5		<5
Australian College of Applied Professions	<5	7	5	np
Australian College of Christian Studies				
Australian College of Nursing	16	15	<5	np
Australian College of Theology Limited	18	15	22	55
Australian Institute of Business Pty Ltd	13	15	14	42
Australian Institute of Higher Education	<5	<5		5
Australian Institute of Management Education & Training	11	11	6	28
Australian Institute of Professional Counsellors	<5			<5

Table 22 / **Number of completed surveys by NUHEI, 2021-2023** **(Continued)**

University	2020	2021	2022	Total
BBI - The Australian Institute of Theological Education	<5	<5	<5	6
Box Hill Institute	<5	<5		5
Campion College Australia		<5	<5	<5
Canberra Institute of Technology		<5		<5
Chisholm Institute	<5	<5		<5
Christian Heritage College	7	<5	8	np
CIC Higher Education	<5	<5		<5
Collarts (Australian College of the Arts)	<5	<5	<5	<5
Eastern College Australia	<5	<5		<5
Endeavour College of Natural Health	<5		<5	5
Engineering Institute of Technology	<5	<5	<5	11
Excelsia College	5	<5	<5	np
Gestalt Therapy Brisbane	<5		<5	<5
Health Education & Training Institute	<5		<5	<5
HEPCO The Tax Institute Higher Education	<5	<5	<5	<5
Holmes Institute	19	14	7	40

Table 22 / **Number of completed surveys by NUHEI, 2021-2023** **(Continued)**

University	2020	2021	2022	Total
Holmesglen Institute	<5	<5	<5	7
ICHM	<5	<5	<5	9
Ikon Institute of Australia	<5	<5	<5	6
Institute of Health & Management Pty Ltd		<5	<5	<5
International College of Management, Sydney	<5	<5	<5	10
Kaplan Business School	17	11	7	35
Kaplan Higher Education Pty Ltd	7	9	13	29
Kent Institute Australia	5	5		10
King's Own Institute	<5	<5	8	14
LCI Melbourne	<5	<5		<5
Le Cordon Bleu Australia		<5		<5
Leo Cussen Centre for Law	8	<5		np
Macleay College	<5			<5
Marcus Oldham College	<5	<5	<5	9
Melbourne Institute of Technology	7	6	<5	np
Melbourne Polytechnic	<5	<5	<5	10

Table 22 / **Number of completed surveys by NUHEI, 2021-2023** **(Continued)**

University	2020	2021	2022	Total
Montessori World Educational Institute (Australia)	<5	<5		<5
Moore Theological College	<5	<5	<5	9
Morling College		<5		<5
Nan Tien Institute		<5		<5
National Art School		<5		<5
Perth Bible College				
SAE Institute	<5	8	5	np
SP Jain School of Management		<5	<5	6
Stott's College		<5		<5
Sydney College of Divinity		5	6	11
Tabor College of Higher Education	<5	<5	5	10
TAFE NSW	5	8	<5	np
TAFE Queensland			<5	<5
TAFE South Australia		<5		<5
The Australian College of Physical Education			<5	<5
The Australian Institute of Music	<5		<5	<5

Table 22 / **Number of completed surveys by NUHEI, 2021-2023** **(Continued)**

University	2020	2021	2022	Total
The Cairnmillar Institute	<5	<5		<5
The College of Law Limited	46	27	35	108
The MIECAT Institute		<5		<5
Think Education	<5	<5		<5
UTS College			<5	<5
VIT (Victorian Institute of Technology)	8	6	<5	np
Wentworth Institute of Higher Education	<5		<5	<5
Whitehouse Institute of Design, Australia		<5	<5	<5
William Angliss Institute		<5	<5	6

Note: Blank cells represent no completed surveys for that collection year, <5 indicates a suppressed value (n < 5), and np indicates a value that is not published to prevent disclosure of a suppressed value.

Appendix 4: Calculation of confidence intervals

4.1 Introduction

The technical details about the calculations used for institution level estimates from the ESS are provided below. It is intended for an audience with some technical and data background who wish to understand the statistical details of the calculations.

4.2 Data sources, variables and coverage

4.2.1 Data sources

Employer Satisfaction Survey (ESS)

The ESS is Australia's first national survey that directly links the experiences of graduates to the views of their supervisors. Employed graduates who participated in the Graduate Outcomes Survey are asked to provide the contact details of their supervisor for follow up.
The following ESS data are used:

- Overall satisfaction (item): the proportion of supervisors who expressed overall satisfaction with their graduate;
- Foundation skills (scale): the proportion of supervisors who were satisfied with the foundation skills of their graduates measured by the items in the foundation skills scale;
- Adaptive skills (scale): the proportion of supervisors who were satisfied with the adaptive skills of their graduate as measured by the items in the adaptive skills scale;
- Collaborative skills (scale): the proportion of supervisors who were satisfied with the collaborative skills of their graduate as measured by the items in the collaborative skills scale;
- Technical skills (scale): the proportion of supervisors who were satisfied with the technical skills of their graduate as measured by the items in the technical skills scale; and
- Employability skills (scale): the proportion of supervisors who were satisfied with the employability skills of their graduate as measured by the items in the employability skills scale.

When calculating institution level indicators, ESS indicators are calculated from three years of pooled data. This incorporates the most recent year of published data and the two immediately preceding years. For example, institution level indicators released in association with the 2023 ESS were based on results from the 2021, 2022 and 2023 surveys. In this paper these years are notated as Y1, Y2 and Y3, where Y1 is the most recent year of published data.

The variables that were used to filter the data can be found in Table 23 below. The coverage for each variable is applied before the calculation of the indicators and the SAS code used is provided in brackets after each variable in the table. The full code to create the indicators is available from the Social Research Centre (SRC) on request.

Table 23 / **Data coverage for the ESS based indicators**

Variables (coverage)	Indicators					
	Overall satisfaction	Foundation skills	Adaptive skills	Collaborative skills	Technical skills	Employability skills
ESS Survey data file:						
Undergraduate level (if e310 in (8,9,10,13,20,21,22))	X	X	X	X	X	X
Postgraduate coursework level (if e310 in (4,5,6,7,11,12,14))	X	X	X	X	X	X
Postgraduate research level (if e310 in (1,2,3))	X	X	X	X	X	X
In scope including different study areas for double degree students (if analysis in (1,2))	X	X	X	X	X	X
Valid likelihood of hiring another graduate with the same qualification from the same institution (ehire in (1,2,3,4,5))	X					
Valid foundation skills scale score (if egfound in (0,100))		X				
Valid adaptive skills scale score (if egadapt in (0,100))			X			
Valid collaborative skills scale score ((if egcollb in (0,100))				X		
Valid technical skills scale score (if egtech in (0,100))					X	
Valid employability skills scale score (if egemply in (0,100))						X
Total minimum sample size of 25 (if n ≥ 25)	X	X	X	X	X	X

X Indicates that the restriction is applied to the data before a particular indicator is calculated.

4.2.2 Data variability

As the ESS sampling fraction, the proportion of the population sampled, is relatively small, there is no need to apply Finite Population Correction (FPC) to the standard error, and the 90% confidence interval calculations, as opposed to other QILT related surveys.

In order to calculate the standard errors for the survey estimates, no non-response bias was assumed and the Agresti-Coull method for confidence intervals for proportions was used.

The general formula used for confidence intervals for proportions was:

$$\boldsymbol{CI\ bound}(\widehat{\boldsymbol{p}}) = \widetilde{\boldsymbol{p}} \pm \boldsymbol{z}_{\frac{\propto}{2}} \times \boldsymbol{SE}(\widetilde{\boldsymbol{p}}) = \widetilde{\boldsymbol{p}} \pm \boldsymbol{z}_{\boldsymbol{0.05}} \times \sqrt{\frac{\widetilde{\boldsymbol{p}}\left(\boldsymbol{1} - \widehat{\widetilde{\boldsymbol{p}}}\right)}{\widetilde{\boldsymbol{n}}}}$$

$$\widetilde{\boldsymbol{p}} = \frac{\widetilde{\boldsymbol{y}}}{\widetilde{\boldsymbol{n}}}$$

$$\widetilde{\boldsymbol{y}} = \boldsymbol{y} + \frac{\boldsymbol{z}^{\boldsymbol{2}}_{\frac{\boldsymbol{\alpha}}{\boldsymbol{2}}}}{\boldsymbol{2}} = \boldsymbol{y} + \frac{\boldsymbol{z}^{\boldsymbol{2}}_{\boldsymbol{0.05}}}{\boldsymbol{2}}$$

$$\widetilde{\boldsymbol{n}} = \boldsymbol{n} + \boldsymbol{z}^{\boldsymbol{2}}_{\frac{\boldsymbol{\alpha}}{\boldsymbol{2}}} = \boldsymbol{n} + \boldsymbol{z}^{\boldsymbol{2}}_{\boldsymbol{0.05}}$$

Where:

- $\hat{p}$ is the estimated proportion from the survey data
- $\tilde{p}$ is an adjusted estimated proportion used only in confidence interval calculations
- $z_{0.05}$ is the 95th quantile from the standard Normal distribution ~ N(0,1)
- *y* is the number with the characteristic in question in the sample in the relevant strata over the three pooled years
- *n* is the number in the sample in the relevant strata over the three pooled years

4.3 Calculation of indicators and confidence intervals

4.3.1 Overall satisfaction

The overall satisfaction indicator is defined as the proportion of supervisors who indicated they were likely or very likely to consider hiring another graduate from the same course and institution. The indicator can be expressed as 'the proportion of supervisors who expressed overall satisfaction with their graduate'.

The overall satisfaction indicator is calculated as follows:

$$OS_{pooled} = \frac{\text{Number of supervisors satisfied overall with their graduate}_{\text{Y3-Y1}}}{\text{Number of supervisors with valid reponse}_{\text{Y3-Y1}}}$$

Where:

Number of supervisors satisfied overall with their graduateY3–Y1 is the total number of supervisors who responded with a 4 or 5 (likely to consider or very likely to consider) to the overall satisfaction item 'Based on your experience with this graduate, how likely are you to consider hiring another graduate from the same course and institution, if you had a relevant vacancy?' in the three pooled years, after filters are applied. It should be noted that this item is reported on a five point scale

Number of supervisors with a valid responseY3–Y1 is the total number of supervisors who responded to the overall satisfaction item in the three pooled years, after filters are applied

The 90% confidence interval for the overall satisfaction indicator is calculated as follows:

$$90\%CI_{OS} = \widetilde{OS}_{pooled} \pm z_{\frac{\propto}{2}} \times SE_{\widetilde{OS}}$$

$$= \widetilde{OS}_{pooled} \pm z_{0.05} \times \sqrt{\frac{\widetilde{OS}_{pooled} \times \left(1 - \widetilde{OS}_{pooled}\right)}{\tilde{n}}}$$

$$\widetilde{OS}_{pooled} = \frac{\tilde{y}}{\tilde{n}}$$

$$\tilde{y} = \text{Number of supervisors satisfied overall with their graduate}_{\text{Y3-Y1}} + \frac{z^2{}_{0.05}}{2}$$

$$= \text{Number of supervisors satisfied overall with their graduate}_{\text{Y3-Y1}} + \frac{1.645^2}{2}$$

$$\tilde{n} = \text{Number of supervisors with valid reponse}_{\text{Y3-Y1}} + z^2{}_{0.05}$$
$$= \text{Number of supervisors with valid reponse}_{\text{Y3-Y1}} + 1.645^2$$

Where:

$\widetilde{OS}_{pooled}$ is an adjusted estimated proportion used only in confidence interval calculations

$z_{0.05}$ is the 95th quantile from the standard Normal distribution ~ N(0,1)

The restrictions for this indicator can be found in **Table 23.**

4.3.2 Foundation skills

The overall satisfaction indicator is defined as the proportion of supervisors who indicated they were likely or very likely to consider hiring another graduate from the same course and institution. The indicator can be expressed as 'the proportion of supervisors who expressed overall satisfaction with their graduate'.

The foundation skills indicator is calculated as follows:

$$FS_{pooled} = \frac{\text{Number of supervisors satisfied with the foundation skills of their graduate}_{Y3-Y1}}{\text{Number of supervisors with valid response}_{Y3-Y1}}$$

Where:

Number of supervisors who were satisfied with the foundation skills of their graduateY3-Y1 is the total number of supervisors whose foundation skills scale score was at least 55 out of 100 (foundation_skills=100) in the three pooled years, after filters are applied

Number of supervisors with a valid responseY3–Y1 is the total number of supervisors who had a valid response (foundation_skills in (0,100)), i.e. responded to at least six of the eight foundation skills items in the three pooled years, after filters are applied

The 90% confidence interval for the foundation skills indicator is calculated as follows:

$$90\%CI_{FS} = \widetilde{FS}_{pooled} \pm z_{\frac{\propto}{2}} \times SE_{\widetilde{FS}}$$

$$= \widetilde{FS}_{pooled} \pm z_{0.05} \times \sqrt{\frac{\widetilde{FS}_{pooled} \times \left(1 - \widetilde{FS}_{pooled}\right)}{\tilde{n}}}$$

$$\widetilde{FS}_{pooled} = \frac{\tilde{y}}{\tilde{n}}$$

$$\tilde{y} = \text{Number of supervisors satisfied with the foundation skills of their graduate}_{Y3-Y1} + \frac{z^2{}_{0.05}}{2}$$

$$= \text{Number of supervisors satisfied with the foundation skills of their graduate}_{Y3-Y1} + \frac{1.645^2}{2}$$

$$\tilde{n} = \text{Number of supervisors with valid reponse}_{Y3-Y1} + z^2{}_{0.05}$$
$$= \text{Number of supervisors with valid reponse}_{Y3-Y1} + 1.645^2$$

Where:

$\widetilde{FS}_{pooled}$ is an adjusted estimated proportion used only in confidence interval calculations

$z_{0.05}$ is the 95th quantile from the standard Normal distribution ~ N(0,1)

The restrictions for this indicator can be found in **Table 23.**

4.3.3 Adaptive skills

The adaptive skills indicator is defined as the proportion of supervisors who were satisfied with the adaptive skills of their graduate. The indicator can be expressed as 'the proportion of supervisors who were satisfied with the adaptive skills of their graduate'.

The adaptive skills indicator is calculated as follows:

$$AS_{pooled} = \frac{\text{Number of supervisors satisfied with the adaptive skills of their graduate}_{Y3-Y1}}{\text{Number of supervisors with valid reponse}_{Y3-Y1}}$$

Where:

Number of supervisors satisfied with the adaptive skills of their graduateY3-Y1 is the total number of supervisors whose adaptive skills scale score was at least 55 out of 100 (adapative_skills=100) in the three pooled years, after filters are applied

Number of supervisors with a valid responseY3-Y1 is the total number of supervisors who had a valid response (adapative_skills in (0,100)), i.e. responded to at least four of the six adaptive skills items in the three pooled years, after filters are applied

The 90% confidence interval for the adaptive skills indicator is calculated as follows:

$$90\%CI_{AS} = \widetilde{AS}_{pooled} \pm z_{\frac{\propto}{2}} \times SE_{\widetilde{AS}}$$

$$= \widetilde{AS}_{pooled} \pm z_{0.05} \times \sqrt{\frac{\widetilde{AS}_{pooled} \times \left(1 - \widetilde{AS}_{pooled}\right)}{\tilde{n}}}$$

$$\widetilde{AS}_{pooled} = \frac{\tilde{y}}{\tilde{n}}$$

$$\tilde{y} = \text{Number of supervisors satisfied with the adaptive skills of their graduate}_{Y3-Y1} + \frac{z^2{}_{0.05}}{2}$$

$$= \text{Number of supervisors satisfied with the adaptive skills of their graduate}_{Y3-Y1} + \frac{1.645^2}{2}$$

$$\tilde{n} = \text{Number of supervisors with valid reponse}_{Y3-Y1} + z^2{}_{0.05}$$
$$= \text{Number of supervisors with valid reponse}_{Y3-Y1} + 1.645^2$$

Where:

$\widetilde{AS}_{pooled}$ is an adjusted estimated proportion used only in confidence interval calculations

$z_{0.05}$ is the 95th quantile from the standard Normal distribution ~ N(0,1)

The restrictions for this indicator can be found in **Table 23.**

4.3.4 Collaborative skills

The collaborative skills indicator is defined as the proportion of supervisors who indicated they were satisfied with the collaborative skills of their graduate. The indicator can be expressed as 'the proportion of supervisors who were satisfied with the collaborative skills of their graduate'.

The collaborative skills indicator is calculated as follows:

$$CS_{pooled} = \frac{\text{Number of supervisors satisfied with the collaborative skills of their graduate}_{Y3-Y1}}{\text{Number of supervisors with valid reponse}_{Y3-Y1}}$$

Where:

Number of supervisors who were satisfied with the collaborative skills of their graduateY3-Y1 is the total number of supervisors whose collaborative skills scale score was at least 55 out of 100 (collaborative_skills = 100) in the three pooled years, after filters are applied

Number of supervisors with a valid responseY3-Y1 is the total number of supervisors who had a valid response (collaborative_skills in (0,100)), i.e. responded to at least three of the five collaborative skills items in the three pooled years, after filters are applied

The 90% confidence interval for the collaborative skills indicator is calculated as follows:

$$90\%CI_{CS} = \widetilde{CS}_{pooled} \pm z_{\frac{\propto}{2}} \times SE_{\widetilde{CS}}$$

$$= \widetilde{CS}_{pooled} \pm z_{0.05} \times \sqrt{\frac{\widetilde{CS}_{pooled} \times \left(1 - \widetilde{CS}_{pooled}\right)}{\tilde{n}}}$$

$$\widetilde{CS}_{pooled} = \frac{\tilde{y}}{\tilde{n}}$$

$$\tilde{y} = \text{Number of supervisors satisfied with the collaborative skills of their graduate}_{Y3-Y1} + \frac{z^2{}_{0.05}}{2}$$

$$= \text{Number of supervisors satisfied with the collaborative skills of their graduate}_{Y3-Y1} + \frac{1.645^2}{2}$$

$$\tilde{n} = \text{Number of supervisors with valid reponse}_{Y3-Y1} + z^2{}_{0.05}$$
$$= \text{Number of supervisors with valid reponse}_{Y3-Y1} + 1.645^2$$

Where:

$\widetilde{CS}_{pooled}$ is an adjusted estimated proportion used only in confidence interval calculations

$z_{0.05}$ is the 95th quantile from the standard Normal distribution ~ N(0,1)

The restrictions for this indicator can be found in **Table 23.**

4.3.5 Technical skills

The technical skills indicator is defined as the proportion of supervisors who were satisfied with the technical skills of their graduate. The indicator can be expressed as 'the proportion of supervisors who were satisfied with the technical skills of their graduate'.

The technical skills indicator is calculated as follows:

$$TS_{pooled} = \frac{\text{Number of supervisors satisfied with the technical skills of their graduate}_{Y3-Y1}}{\text{Number of supervisors with valid reponse}_{Y3-Y1}}$$

Where:

Number of supervisors satisfied with the technical skills of their graduateY3-Y1 is the total number of supervisors whose technical skills scale score was at least 55 out of 100 (technical_skills = 100) in the three pooled years, after filters are applied

Number of supervisors with a valid responseY3-Y1 is the total number of supervisors who had a valid response (technical_skills in (0,100)), i.e. responded to at least four of the six technical skills items in the three pooled years, after filters are applied

The 90% confidence interval for the technical skills indicator is calculated as follows:

$$90\%CI_{TS} = \widetilde{TS}_{pooled} \pm z_{\frac{\propto}{2}} \times SE_{\widetilde{TS}}$$

$$= \widetilde{TS}_{pooled} \pm z_{0.05} \times \sqrt{\frac{\widetilde{TS}_{pooled} \times \left(1 - \widetilde{TS}_{pooled}\right)}{\tilde{n}}}$$

$$\widetilde{TS}_{pooled} = \frac{\tilde{y}}{\tilde{n}}$$

$$\tilde{y} = \text{Number of supervisors satisfied with the collaborative skills of their graduate}_{Y3-Y1} + \frac{z^2{}_{0.05}}{2}$$

$$= \text{Number of supervisors satisfied with the collaborative skills of their graduate}_{Y3-Y1} + \frac{1.645^2}{2}$$

$$\tilde{n} = \text{Number of supervisors with valid reponse}_{Y3-Y1} + z^2{}_{0.05}$$

$$= \text{Number of supervisors with valid reponse}_{Y3-Y1} + 1.645^2$$

Where:

$\widetilde{TS}_{pooled}$ is an adjusted estimated proportion used only in confidence interval calculations

$z_{0.05}$ is the 95th quantile from the standard Normal distribution ~ N(0,1)

The restrictions for this indicator can be found in **Table 23.**

4.3.6 Employability skills

The employability skills indicator is defined as the proportion of supervisors who indicated they were satisfied with the employability skills of their graduate. The indicator can be expressed as 'the proportion of supervisors who were satisfied with the employability skills of their graduate'.

The employability skills indicator is calculated as follows:

$$ES_{pooled} = \frac{\text{Number of supervisors satisfied with the employability skills of their graduate}_{Y3-Y1}}{\text{Number of supervisors with valid reponse}_{Y3-Y1}}$$

Where:

Number of supervisors satisfied with the employability skills of their graduateY3-Y1 is the total number of supervisors whose employability skills scale score was at least 55 out of 100 (employability_skills = 100) in the three pooled years, after filters are applied

Number of supervisors with a valid responseY3-Y1 is the total number of supervisors who had a valid response (employability_skills in (0,100)), i.e. responded to at least six of the eight employability skills items in the three pooled years, after filters are applied

The 90% confidence interval for the employability skills indicator is calculated as follows:

$$\mathbf{90\%CI_{ES}} = \widetilde{\boldsymbol{ES}}_{\boldsymbol{pooled}} \pm \boldsymbol{z}_{\frac{\propto}{2}} \times \boldsymbol{SE}_{\widetilde{ES}}$$

$$= \widetilde{\boldsymbol{ES}}_{\boldsymbol{pooled}} \pm \boldsymbol{z}_{\mathbf{0.05}} \times \sqrt{\frac{\widetilde{\boldsymbol{ES}}_{\boldsymbol{pooled}} \times \left(\mathbf{1} - \widetilde{\boldsymbol{ES}}_{\boldsymbol{pooled}}\right)}{\tilde{\boldsymbol{n}}}}$$

$$\widetilde{\boldsymbol{ES}}_{\boldsymbol{pooled}} = \frac{\tilde{\boldsymbol{y}}}{\tilde{\boldsymbol{n}}}$$

$$\tilde{y} = \text{Number of supervisors satisfied with the employability skills of their graduate}_{Y3-Y1} + \frac{z^2{}_{0.05}}{2}$$

$$= \text{Number of supervisors satisfied with the employability skills of their graduate}_{Y3-Y1} + \frac{1.645^2}{2}$$

$$\tilde{n} = \text{Number of supervisors with valid reponse}_{Y3-Y1} + z^2{}_{0.05}$$
$$= \text{Number of supervisors with valid reponse}_{Y3-Y1} + 1.645^2$$

Where:

$\widetilde{ES}_{pooled}$ is an adjusted estimated proportion used only in confidence interval calculations

$z_{0.05}$ is the 95th quantile from the standard Normal distribution ~ N(0,1)

The restrictions for this indicator can be found in **Table 23.**

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For more information on the conduct and results of the 2023 ESS see the Quality Indicators for Learning and Teaching (QILT) website: www.qilt.edu.au.

The QILT team can be contacted by email at: qilt@srcentre.com.au.

SES
Student Experience Survey

GOS
Graduate Outcomes Survey

GOS–L
Graduate Outcomes Survey – Longitudinal

ESS
Employer Satisfaction Survey

QILT
Quality Indicators for Learning and Teaching