2021 Graduate Outcomes Survey

Methodological Report

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# Introduction

## About this report

This methodological report describes the sample preparation, data collection, data processing and reporting aspects of the 2021 Graduate Outcomes Survey (GOS, ‘the survey’), conducted on behalf of the Australian Government Department of Education, Skills and Employment (‘the department’) by the Social Research Centre. This report is organised into the following sections:

* Section 1 provides background information and a general overview.
* Section 2 describes the target audience and sample design.
* Section 3 documents the survey design and procedures for conducting the study.
* Section 4 outlines the questionnaire development phase and provides an overview of changes from the previous iteration including institution specific items.
* Section 5 describes the data processing procedures.
* Section 6 documents the final dispositions and response rates.
* Section 7 presents an analysis of response.
* Section 8 outlines key learnings and considerations for future iterations of the GOS.

## Background

The GOS is a component of the Quality Indicators for Learning and Teaching (QILT) suite of surveys, commissioned by the department. The GOS replaced the Australian Graduate Survey (AGS) conducted between 2009 and 2014. For a more detailed history of the GOS and its predecessor instruments, refer to the *2017 GOS Methodological Report*.

Prior to the 2021 GOS, the department funded the participation of Higher Education Support Act (HESA) institutions only. In 2021, department funding of QILT participation extended to non-HESA institutions for the first time.

## Objectives

The broad aim of the GOS is to measure the short-term labour force outcomes achieved by graduates of Australian higher education institutions (approximately) four to six months post completion of their undergraduate or postgraduate award. The development, collection and reporting of these measures provides reliable, valid and generalisable information on graduate outcomes to the Australian government and to higher education providers. Specific research objectives of the GOS were to measure recent higher education graduates’:

* employment and further study outcomes
* level of satisfaction with their higher education course.

The GOS survey instrument is also the mechanism for building sample for the Employer Satisfaction Survey (ESS). The ESS is the first national survey that directly links the experiences of graduates to the views of their direct supervisors. At the completion of the GOS proper, the ESS was introduced and GOS respondents who confirmed that they were in employment were asked to provide contact details for their work supervisor. The ESS collected the insights and perceptions of Australian employers to help monitor and better understand:

* the specific skills and attributes employers need in their business
* how well higher education is equipping graduates for the workforce.

The ESS was positioned to employers as an opportunity for them to provide feedback about their perceptions of higher education, not as an assessment of the graduate. An ESS fact sheet was available to employers via the QILT website and is included at Appendix 8.

## Overview

Graduates who completed a course from March 2020 through to February 2021 were invited to participate in the 2021 GOS. For most institutions, the GOS ‘collection cycle’ was conducted over two ‘collection rounds’ (November 2020 and May 2021). There was also a February 2021 round available for institutions with graduates who completed a course between August and October 2020. In 2021, the scope of the GOS was extended to include all Australian higher education institutions (refer to Section 2.2 for further detail on institutional participation).

Graduate sample, including contact information, was provided by the higher education institutions. A *Collection and Sample Guide* was provided to institutions to help with their administration of the survey and is included at Appendix 1. Except for retired items and institution specific questions (refer to Section 4.4), the survey instrument deployed at each round in the 2021 GOS collection cycle largely maintained consistency with previous years.

The survey was fielded online in English only. Invitations were sent by email, with reminders sent by email and SMS. Reminder calls were also deployed with selected non-responding graduates. Participating institutions could also commission additional reminder calls or full interviews via Computer Assisted Telephone Interviewing (CATI) after the conclusion of the main online fieldwork period. Surveys completed as a result of reminder calls are included as completed surveys in this report. No full CATI interviews were commissioned for the 2021 GOS.

A total of 127,827 surveys were completed. This was made up of 117,030 graduates of 41 Australian universities and 10,797 graduates of 86 non-university higher education institutions (NUHEI). Refer to Table 1 for further details of participation by round.

Response rate varied across each round, with the highest response rate achieved in the May round as compared to November and February. The final overall response rate for the 2021 GOS was 40.4 per cent, slightly lower than the response rate from the 2020 GOS (42.3 per cent). The final response rate for the 2021 GOS was slightly higher for universities (40.5 per cent) compared to NUHEIs (39.3 per cent).

Table 1 Key project statistics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **November 2020 University** | **November 2020 NUHEI** | **February 2021 University** | **February 2021 NUHEI** | **May 2021 University** | **May 2021 NUHEI** | **Total University** | **Total NUHEI** |
| Participating institutions (n) | 41 | 57 | 29 | 40 | 41 | 79 | 41 | 86 |
| Total sample (n) | 98,874 | 11,605 | 19,772 | 6,249 | 193,551 | 12,307 | 312,197 | 30,161 |
| In-scope sample approached (n) | 92,532 | 10,704 | 18,512 | 5,623 | 178,088 | 11,151 | 289,132 | 27,478 |
| Surveys completed (n) | 37,185 | 4,110 | 7,479 | 2,011 | 72,366 | 4,676 | 117,030 | 10,797 |
| Response rate (%) | 40.2 | 38.4 | 40.4 | 35.8 | 40.6 | 41.9 | 40.5 | 39.3 |

Note: For the purpose of QILT projects, ‘response rate’ is defined as surveys completed as a proportion of in-scope sample approached, where in-scope sample approached excludes unusable sample (e.g. no contact details), out-of-scope and opted-out. This definition of response rate differs from industry standards by treating certain non-contacts and refusals as being ineligible for the response rate calculation. See American Association for Public Opinion Research (2016) for standard definitions.

## Project milestones

Table 2 provides a summary of the key project milestones for each round in the 2021 GOS.

Table 2 Key project milestones

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **November 2020** | **February 2021** | **May 2021** |
| **Establishment** |   |   |   |
| Questionnaire development | 15-Sep-20 to 15-Oct-20 | 10-Nov-20 to 10-Dec-20 | 8-Mar-21 to 8-Apr-21 |
| Sample preparation | 24-Aug-20 to 9-Oct-20 | 26-Oct-20 to 11-Dec-20 | 22-Feb-21 to 14-Apr-21 |
| **Fieldwork** |   |   |   |
| Soft launch main online fieldwork period (NUHEIs) | 27-Oct-20 | 27-Jan-21 | 27-Apr-21 |
| Start main online fieldwork (Universities) | 29-Oct-20 | 28-Jan-21 | 29-Apr-21 |
| In field reminder calls | 5-Nov-21 to 25-Nov-21 | 4-Feb-21 to 25-Feb-21 | 5-May-21 to 25-May-21 |
| Main online fieldwork closes\* | 29-Nov-20 | 28-Feb-21 | 30-May-21 |
| Post field reminder calls† | 30-Nov-20 to 8-Dec-20 | 1-Mar-21 to 13-Mar-21 | 31-May-21 to 10-Jun21 |
| Fieldwork closes† | 16-Dec-20 | 16-Mar-21 | 16-Jun-21 |
| **Reporting** |   |   |   |
| Draft data and documentation to the department | - | - | 15-Jul-21 |
| Draft National Report to the department | - | - | 31-Jul-21 |
| Draft International Report to the department | - | - | 31-Jul-21 |
| Final data and documentation to the department | - | - | 31-Jul-21 |
| Methodology Report to the department | - | - | 15-Aug-21 |
| Institutional Tableau report and data files delivered | - | - | 31-Aug-21 |
| Final National Report to the department | - | - | 31-Aug-21 |
| Final International Report to the department |  |  | 31-Aug-21 |

\* Institutions that did not opt for post field reminder calls.

† Institutions that opted for post field reminder calls.

# Sample preparation

## Target population

The in-scope population consisted of all graduates who completed the requirements of an undergraduate or postgraduate award at a participating Australian higher education institution between March 2020 and February 2021. This included domestic and international graduates living outside Australia who studied at an Australian campus. Offshore graduates who studied at a campus outside Australia were excluded from the core survey.

All graduates meeting these criteria were selected for inclusion in the survey. In this way, the 2021 GOS was an attempted census of all in-scope higher education graduates, there-by ensuring as full coverage as possible.

## Institutional participation

All institutions that previously participated in the QILT surveys, along with institutions newly registered with QILT, were invited to participate in the GOS via the *Participation and Additional Services Form* (PASF, refer to Section 3.1.2). Invitations to complete the PASF were sent via email to all registered institutional contacts approximately two months prior to the commencement of online fieldwork for each round.

For the 2021 GOS 149 institutions (41 universities and 108 NUHEIs) were invited to participate. In accordance with previous collection cycles, institutional participation in the 2021 GOS was optional, with 22 NUHEIs choosing not to participate. With the scope of the GOS extended, 12 non-HESA approved providers participated and are included in reporting as NUHEIs. The main reasons for institutions choosing not to participate were not having any student completions in one of the three reference periods for each of the respective GOS collection rounds or in some cases not having the administrative resources required (e.g. resourcing impacted by COVID-19, institution unable to meet timeline for the submission of sample). Most universities participated in all three rounds, while the majority of NUHEIs that participated in the 2021 GOS only participated in November and May. The November and May rounds had higher levels of institutional participation as the in-scope reference period for graduates aligned with the more common course completion dates in the middle or end of the year. For a list of participating institutions and sample size by round, refer to Appendix 2.

## Course majors

The default methodology for the GOS is to survey at the course/qualification level, however institutions have the option to survey their graduates at the majors level. Prior to providing sample for the 2021 GOS, institutions were asked to confirm whether they wanted their graduates surveyed at the majors level. For consistency of data, institutions were required to take a uniform approach to surveying at the course level or majors level across the entire 2021 GOS collection cycle.

As majors data is not included in the Higher Education Information Management System (HEIMS) or Tertiary Collection of Student Information (TCSI) project, the option of surveying using majors was only recommended for institutions with generic course offerings (i.e. Bachelor of Arts, Bachelor of Science, Doctor of Philosophy) that also had accurate administrative majors data available for populating sample. Institutions that elected to survey using majors were asked to complete or update a concordance of majors to courses for their institution and provide data for each graduate’s major(s) in the returned sample files. In the 2021 GOS there were 14 institutions (all universities) that opted to survey using majors. All other institutions chose to survey their graduates at the course/qualification level.

With the removal of the Course Experience Questionnaire (CEQ) from the core GOS questionnaire (see Section 4.3) the value of surveying with majors may be diminished for some institutions. As such institutions may want to re-evaluate whether to survey using majors ahead of the 2022 GOS collection cycle.

## Sample frame

Information from the HEIMS Past Course Completions (PS) file was used to construct the sample frame for completions from March to December 2020 (‘2020 completions’). The PS file contained information about all courses completed by domestic and overseas students undertaking a course of study leading to an institution's higher education award. However, the PS file is submitted annually by institutions on 30 April in the year following course completion and not validated until late May to early June. This is too late for the execution of GOS sampling. To overcome this timing issue, in each round three options were given to HEIMS-reporting institutions to provide 2020 completions information for the GOS sample frame:

1. Submit an interim validated PS file to the HEIMS via the Higher Education Provider Client Assistance Tool (HEPCAT), or
2. Export an un-validated PS file from HEPCAT and email that file to the department, or
3. Complete the GOS Minimum Data Set (MDS) template and return it directly to the Social Research Centre.

For options 1 and 2, the department collated the data submitted by institutions, supplemented them with other information from the HEIMS and returned a consolidated file for survey sample preparation. In the case of option 3, the GOS MDS contains only the essential variables required to administer the survey. Additional analytic variables sourced from the final PS file are appended to the survey file during data processing.

For the 2021 GOS there were 13 NUHEIs which did not submit 2020 completions data to the HEIMS or only submitted data to the HEIMS via the Provider Information Request (PIR) process. These institutions were provided with a purpose-built non-HEIMS template that enabled them to submit HEIMS-consistent data elements for survey execution and reporting.

From 2021, the TCSI project has replaced the HEIMS as the authoritative source of information on higher education in Australia. The transition to TCSI was ongoing during sample preparation for the May round, and a data extract from TCSI for January to February 2021 completions (‘2021 completions’) was not available. As such, additional sample processes were required for the May round to ensure a robust, consistent, and transparent sampling methodology across all institutions. These additional options were given to institutions in May for the provision of 2021 completions sample information directly to the Social Research Centre:

1. Complete a full template with data elements consistent with the HEIMS, or
2. Complete a full template with data elements consistent with the TCSI project.

The full templates provided for options 4 and 5 contained all data elements required for survey execution and reporting as a validated data extract from the TCSI project was not available for the 2021 GOS. A concordance file mapping the HEIMS, and the TCSI project data elements was made available to institutions via the QILT provider portal.

### Additional populations

Institutions were also provided with the opportunity to include out-of-scope graduates as additional populations in the GOS on a fee-for-service basis. The sample return process allowed institutions to provide additional populations in their returned sample files.

GOS additional populations can include groups such as offshore graduates who completed the requirements for an Australian award during the relevant GOS data collection reference period, or out of cycle graduates (graduates in-scope for a previous collection round but not approached). Three institutions (1 university, 2 NUHEIs) opted to survey additional populations in the 2021 GOS, these included offshore graduates and graduates of non-award courses. Additional populations are not included in the *National Report* and do not appear in results presented in this report.

## Sample preparation overview

Detailed information regarding the GOS sampling process was available to institutions in the *Collection and Sample Guide* (refer to Section 3.1.1). The guide was provided to institutions prior to each GOS collection round and outlined the:

* timeline for sample provision
* options for submission of sample information
* data elements that were pre-populated, essential, or optional
* processes for inclusion of additional populations and majors data
* data elements important for response maximisation, and
* steps for flagging the in-scope population.

For 2020 completions, the department provided an extract of all interim and unvalidated PS file submissions from institutions to the Social Research Centre. Sample submissions were then reviewed by the Social Research Centre and records eligible to participate in the GOS were flagged. Institutions with less in-scope sample than expected (when compared to their historical submissions) were asked to check that all eligible sample been submitted to the HEIMS. Following this, sample files were returned to institutions for verification, contact information updates and review of the in-scope status of all sample records, to ensure graduates who should not be surveyed were flagged by institutions. During the sample review process if institutions became aware of any graduates missing from their file, they were able to include these graduates as late additions in a separate template file. Institutions then returned their final sample file(s) to the Social Research Centre.

As noted in Section 2.4, not all institutions submitted an interim PS file with their 2020 completions to the HEIMS. These institutions were provided with the appropriate MDS or non-HEIMS template to return sample to the Social Research Centre for verification. For the May round, all institutions with 2021 completions data were provided with a full template file as a TCSI project extract was not available. Institutions were asked to complete the templates as per the instructions in the *Collection and Sample Guide* and return the sample to the Social Research Centre for verification.

### Sample processing quality assurance

Upon receipt of an institution’s returned sample file, the Social Research Centre undertook a range of validation checks to ensure the quality of returned sample files. Issues identified within a returned sample file were documented, feedback was provided, and the institution was asked to submit a revised version of the sample file or template. This process continued for each file until all required validation checks were passed.

Quality assurance checks were undertaken in several stages, as follows:

* manual naming of the returned file to meet version control conventions,
* archiving an original reference copy of each returned file version,
* a basic visual inspection of the file to ensure it aligns with the required format for automated checks,
* processing the file through an automated sample checking script (the ‘auto-checker’). The auto-checker generated a summary report of the sample file structure, adherence to variable standards (as described in Appendix 1), completeness of the returned sample, record scoping and unit record logic checks, and
* an extensive sample cleaning process on files validated by the auto-checker before being operationalised for fieldwork.

For May, a range of new checks were required to accommodate the ongoing TCSI transition, these included:

* cross-checking data within, and merging of, multiple sample files for institutions with both 2020 and 2021 completions, and consolidation of TCSI data elements to the operational sample HEIMS equivalent.

### Sample cleaning

The 2021 GOS validation process included the following sample quality requirements, cleaning checks and operationalisation tasks:

* comparison of sample against the institution’s historical sample to identify inconsistencies in the in-scope population,
* all essential data elements provided for all in-scope records,
* personal email addresses (non-institution) supplied where possible,
* email address information was cleaned and validated,
* phone numbers supplied where possible, a log of institutions that did not or could not provide phone numbers was maintained for reference,
* *CompletionDate* is in-scope and within the round’s expected reference period**,**
* version control checks for institution files that require multiple submissions to pass validation,
* data for all HEIMS and TCSI data elements adhere to specified formats,
* sample course information validated in HEIMs and aligns with interim PS file extract (where possible, unavailable for 2021 completions);
* identify and flag additional populations for inclusion (see Section 2.4.1), and
* check for duplication of records for the same individual against GOS collections and multiple files within a collection (of particular concern in May).

### Exclusions

The following exclusions were applied in to the 2021 GOS sample:

* duplicate sample records (typically due to the interim PS file process and the TCSI project transition),
* out-of-scope sample records based on the *GraduateStatus* variable (reasons include not being a graduate, graduate should not be contacted, graduate has been surveyed in a prior round or other reasons as determined by the institution),
* sample records with course information insufficient for the administration of the GOS instrument.

In total 82,369 records were excluded as a result of the application of these rules.

### Sample file quality issues

Issues identified through the sample return quality assurance process were communicated back to institution contacts via email and guidance in resolving issues was provided as necessary by the research team. The project schedule allowed time for the resolution of all sample quality issues prior to the commencement of fieldwork. Transition to TCSI during the May round increased complexity of the sampling process, resulting in more frequent quality issues in sample files.

The main data quality issues observed during the 2021 GOS were as follows:

* information essential for operationalisation or analysis of the survey (i.e. *CompletionDate, GraduateStatus, HEIMS variables, etc*) not being provided, or not provided in the specified format,
* conflicting scoping information (i.e. *Exclusions* flagged as in-scope, *CompletionDate* outside the reference period flagged as in-scope),
* insufficient, limited, or unclean contact information (i.e. phone number, email),
* formatting issues such as altering of templates, use of special characters or duplication of unique records/identifiers,
* incorrect course codes being provided or course codes not being up to date in the HEIMS master course list, and
* incorrect assignment of majors or missing majors data.

Sample preparation documentation (see Appendix 1) was reviewed ahead of each round to incorporate learnings related to sample file quality issues.

# Survey design and procedures

## Institutional engagement

To build institutional engagement with the GOS, the Social Research Centre employed a strategy based on the principles of stakeholder need, transparency, knowledge sharing, and responsiveness. The Social Research Centre’s institutional engagement strategy for the 2021 GOS is described in this section and included:

* planning resources such as the QILT Key Dates Calendar and Collection and Sample Guide,
* communications inviting institutions to participate in the GOS,
* webinars and newsletters,
* an ongoing dialog with survey managers to build rapport, including the offer of support during field, and
* supporting institutions to undertake response maximisation activity (such as awareness emails, social media posts and advertisement at graduations) through the Collection and Sample Guide and Marketing Pack (see Section 3.2).

### Planning resources

The Social Research Centre provided planning resources to participating institutions to support the ease of institution participation, allow forward planning of institution resources and ensure project milestones were delivered to schedule.

The *QILT Key Dates Calendar*, accessible via the QILT provider portal, contained an overview of the 2021 GOS project milestones (refer to Section 1.5), along with timelines for the entire QILT suite of surveys. The calendar was kept up to date year-round with any project schedule adjustments.

A *Collection and Sample Guide* was made available to each 2021 GOS collection round. A notification email was sent to all institutions advising of each new release and the guides were accessible via the QILT provider portal. The *Collection and Sample Guide* provided a stand-alone source of information to introduce the GOS, provide timelines, outline the sample process, describe participation in the study, provide resources to assist in graduate engagement, outline response maximisation procedures and contact protocols, describe institution deliverables and document general conduct of the GOS. The 2021 GOS May *Collection and Sample Guide* is provided at Appendix 1.

### Invitation to participate

As noted in Section 2.2, prior to each round in the 2021 GOS collection cycle, the Social Research Centre sent an email to all registered survey contacts at each institution. The email asked recipients to confirm their institution’s participation in the respective survey round and provide up to date contact information via the PASF. Further, for each round, institutions were asked to nominate additional fee-for-service activities via the PASF. The 2021 GOS offered the following fee-for-service activities:

* inclusion of additional populations (refer to Section 2.4.1)
* inclusion of additional items in the GOS questionnaire (refer to Section 4.4),
* participation in an additional SMS reminder (refer to Section 3.3.2), and
* participation in post field reminder calls (refer to Section 3.3.3) or conduct of full CATI surveys (refer to Section 3.3.4).

### Webinars and newsletters

As part of the institutional engagement strategy, a series of webinars and newsletters was provided to institutions throughout the 2021 GOS collection cycle. Newsletters were sent monthly covering information related to key QILT survey milestones, acting as a regular point of contact with institution contacts who subscribed.

A series of webinars was presented for institutions on a near monthly basis. Webinar topics were designed to guide institutions through key stages of the survey administration process and to share technical and methodological insights. To ensure continued engagement with the webinar series, institutions were consulted to inform topics of interest for future sessions. Webinars relating directly to the 2021 GOS collection cycle covered topics such as sample preparation, questionnaire changes, response maximisation, graduate engagement, and fieldwork progress.

### Ongoing dialogue with institutions

An open dialogue with survey managers was maintained throughout the 2021 GOS collection cycle to build rapport, offer support, discuss fieldwork performance and better understand key issues that could impact the GOS (such as resourcing difficulties experienced by institutions during the COVID-19 pandemic). The following engagement activities were conducted to connect with institutions:

* **Program of institutional outreach** - Telephone contact was attempted with all participating universities and selected NUHEIs during fieldwork for the 2021 GOS. To assist with response maximisation, priority was given to contacting larger institutions and institutions with particularly low or high response rates.
* **Respondent Engagement Survey (RES)** - A five-minute survey sent to institution contacts after the May fieldwork period. A total of 56 institutions participated in the 2021 GOS RES. The RES collected data to inform analysis on response rate maximisation and was an opportunity for institutions to provide more general feedback on their experience with using the *Marketing Pack*. Key findings from the RES were communicated to institutions via a webinar, and institutions were notified via newsletter when results of the RES were published on the QILT provider portal.

In addition to these activities, the QILT research, administration and consulting teams were in regular communication and contact with institutions to maintain a high level of institutional engagement.

## Graduate engagement

In addition to the *Collection and Sample Guide*, a *Marketing Pack* was published ahead of each round on the QILT provider portal to assist institutions with graduate engagement activities. The look and feel of the materials within the *Marketing Pack* were refreshed for the 2021 GOS, informed by institution feedback and the International Engagement Strategy (see Section 3.3.1). Updates to the *Marketing Pack* included increased diversity of images used in materials, and file formats tailored to use on Instagram. The *Marketing Pack* was reviewed prior to each round and included a change log to inform institutions of all updates. All marketing materials referred graduates to either the QILT website, the Social Research Centre website, the GOS helpdesk email address or GOS helpdesk 1800 number for the purpose of contacting the Social Research Centre with any queries.

The *Collection and Sample Guide* for each round of the 2021 GOS included an Engagement Activity Plan. The plan proposed a marketing campaign schedule that was aligned to the relevant GOS fieldwork period and paired engagement activities with the appropriate *Marketing Pack* resource. A *Marketing Pack User Guide* was included with the *Marketing Pack* to provide examples of the materials and instructions for their intended use. The *Collection and Sample Guide* and the *Marketing Pack User Guide* are included at Appendix 1.

## Contact protocol

The 2021 GOS employed an extensive protocol of contact attempts, including an email invitation and nine email reminders, as well as up to three SMS reminders, plus telephone reminder call activity.  As an extension to this protocol, an additional SMS and post field reminder calls could be commissioned by institutions on a fee-for-service basis. In each mode of contact there was provision to opt-out or unsubscribe from future contact. Table 3 shows the date of contact activity, as well the number of emails and SMS sent. The use of increased SMS engagement was explored during the 2021 GOS, with a third SMS sent in November and the number of SMS 2 sent in May greatly increased. A copy of the GOS email and SMS invitations and reminders (for each round in the 2021 GOS collection cycle) is provided at Appendix 3.

Table 3 Invitation and reminder schedule

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Contact Activity**  | **November 2020 - Day of send** | **November 2020 - Number sent** | **February 2021 - Day of send** | **February 2021 -Number sent** | **May 2021 - Day of send** | **May 2021 -Number sent** |
| Email invitation (NUHEI) | Tue, 27 Oct | 110,457 | Wed, 27 Jan | 26,001 | Tue, 27 Apr | 205,748 |
| Email invitation (University) | Thu, 29 Oct | 110,457 | Thu, 28 Jan | 26,001 | Thu, 29 Apr | 205,748 |
| Email reminder 1 | Sat, 31 Oct | 102,804 | Sat, 30 Jan | 23,981 | Sat, 1 May | 191,160 |
| Email reminder 2 | Mon, 2 Nov | 97,953 | Mon, 1 Feb | 22,764 | Mon, 3 May | 181,704 |
| Prize draw 1 closed | Mon, 2 Nov | N/A | Mon, 1 Feb | N/A | Mon, 3 May | N/A |
| Email reminder 3 and in field reminder calls commenced | Thu, 5 Nov | 92,780 | Thu, 4 Feb | 21,481 | Thu, 6 May | 171,425 |
| Email reminder 4 | Mon, 9 Nov | 89,070 | Mon, 8 Feb | 20,552 | Mon, 10 May | 164,057 |
| SMS 1 | Mon, 9 Nov | 70,204 | Mon, 8 Feb | 16,729 | Mon, 10 May | 127,422 |
| Prize draw 2 closed | Mon, 9 Nov | N/A | Mon, 8 Feb | N/A | Mon, 10 May | N/A |
| Email reminder 5 | Fri, 13 Nov | 81,930 | Wed, 10 Feb | 19,031 | Wed, 12 May | 151,365 |
| Open email reminders to Email 3 and Email 4 if available | Mon, 16 Nov | N/A | Mon, 15 Feb | N/A | Mon, 17 May | N/A |
| Email reminder 6  | Mon, 16 Nov | 79,236 | Mon, 15 Feb | 18,287 | Mon, 17 May | 144,910 |
| SMS 2 | Mon, 16 Nov | 8,723 | Mon, 15 Feb | 5,958 | Mon, 17 May | 103,140 |
| Prize draw 3 closed | Mon, 16 Nov | N/A | Mon, 15 Feb | N/A | Mon, 17 May | N/A |
| Email reminder 7 | Fri, 20 Nov | 75,648 | Fri, 19 Feb | 17,230 | Fri, 21 May | 134,177 |
| Email reminder 8 | Mon, 23 Nov | 73,899 | Mon, 22 Feb | 16,996 | Mon, 24 May | 132,216 |
| SMS fee-for-service | Mon, 23 Nov | 1,173 | Mon, 22 Feb | 776 | Mon, 24 May | 11,018 |
| Prize draw 4 closed | Mon, 23 Nov | N/A | Mon, 22 Feb | N/A | Mon, 24 May | N/A |
| Email reminder 9 | Thu, 26 Nov | 71,940 | Thu, 25 Feb | 16,639 | Thu, 27 May | 128,617 |
| SMS 3 | Thu, 26 Nov | 19,951 | - | N/A | - | N/A |
| Online fieldwork closes\* | Sun, 29 Nov | N/A | Sun, 28 Feb | N/A | Sun, 30 May | N/A |
| Post field reminder callscommenced† | Mon, 30 Nov | N/A | Mon, 1 Mar | N/A | Mon, 31 May | N/A |
| Fieldwork closes† | Wed, 16 Dec | N/A | Tue, 16 Mar | N/A | Wed, 16 Jun | N/A |

\* Institutions that did not opt for post field reminder calls.

† Institutions that opted for post field reminder calls.

### Email invitation and reminders

At the beginning of each round within the 2021 GOS collection cycle, the Social Research Centre sent an email survey invitation to all in-scope graduates to advise of their selection in the GOS, and communicate the survey objectives, privacy provisions and the value of participation. The invitation and reminders included a unique link that took the graduates directly into their survey. All emails also referred graduates to the Social Research Centre and QILT webpages for further information about the GOS, privacy provisions and prize draw terms.

The email schedule was comprised of an invitation followed by up to nine email reminders. Graduates who had completed the survey, those who were disqualified from participating (i.e. screened out because they were not eligible) or who had unsubscribed, were removed from the next scheduled email.

The email send activity was designed to maintain survey completion momentum throughout the data collection period and maximise participation. The following email send, and bounce outcome protocol was used for the 2021 GOS:

1. Invitation email sent to both the *Email 1* and *Email 2* fields:
	1. If both addresses failed (i.e. hard bounce) and *Email 3* was available, then *Email 3* was used.
	2. If *Email 3* failed and *Email 4* was available, then *Email 4* was used.

Provided at least one of the email addresses available was valid, all graduates would have been sent an email invitation.

1. For graduates with a failed outcome for all available email addresses:
	1. The survey remained accessible throughout field by logging in or ‘authenticating’ via the GOS landing page on the QILT website.
	2. They would have received at least one form of contact if a mobile number was available for them (i.e. they were included in SMS activity as described in Section 3.3.2) or they were targeted for the in field reminder calls (refer to Section 3.3.3).

When contacted by SMS, the graduate could access the survey directly via the unique link provided within the SMS. When contacted via a reminder call, graduates were provided the option of receiving an email containing a unique survey link.

* 1. They would not have received contact if a mobile number was not available for them or if they were not selected for the in field reminder calls.
1. From reminder six onwards, graduates for whom *Email 1* or *Email 2* did not fail, emails were also sent to *Email 3* and *Email 4* if available.

To enhance the respondent experience, all emails and SMS included a direct survey link which enabled respondents to enter their unique survey automatically. Further, in line with the Australian Communications and Media Authority (ACMA) Spam Act, each email and SMS contained an ‘unsubscribe’ facility if graduates no longer wanted to receive contact for the 2021 GOS. Graduates could also ‘opt-out’ by contacting the GOS helpdesk.

The general objective of the email plan was to appeal to a wide and diverse audience and so the theme, length and tone of each email varied. All emails featured text customised to the graduate and the content differed throughout the reminder program. For example, a sense of urgency was created by appealing to a prize-draw closing that day. To minimise the risk of complaints due to engagement fatigue, emphasis was placed on the unsubscribe mechanism for Reminder 6. The message intent for the GOS May emails is summarised in Table 4.

Table 4 2021 GOS email plan message intent

|  |  |
| --- | --- |
| **Activity** | **Message intent** |
| Invitation | Awareness raising and invitation |
| Reminder 1 | Your feedback is important, express the value of participating |
| Reminder 2 | Encourage early completion with prize incentive, and grateful if you could spare the time  |
| Reminder 3 | Help improve your institution, acknowledge graduate may be busy, soft mention of prize |
| Reminder 4 | Grateful if you could spare the time to give feedback to benefit future students, could win $1,000 |
| Reminder 5 | Not too late to give feedback, you are from a unique group of graduates, important to give feedback even if not working, soft mention of prize |
| Reminder 6 | Empathetic tone, acknowledge frequency of contact, attention drawn to unsubscribe option and prize draw closing tonight. Improve career resources at your institution. |
| Reminder 7 | Importance of survey to Australian Government, reflect on your higher education journey, soft mention of prize  |
| Reminder 8 | Final prize draw closes tonight, still need to hear from more graduates from your course |
| Reminder 9 | Last appeal: final chance to complete, this is the final email, help improve the Australian Government’s understanding of COVID-19 on graduate employment |

In the email template design, consideration was given to the display of emails on different devices and how this could alter communication of message intent. Core message themes were communicated in subject lines and above the ‘start survey’ button. Content supplementary to the core theme was placed in the lower half of the email body. This made the ‘start survey’ button visible without the graduate having to scroll down.

In 2020 the Social Research Centre committed to an International Engagement Strategy to meet the goal of increasing international graduate representation, and thereby improving the quality of the GOS data. For the 2021 GOS a customised email plan was developed to engage international graduates. The customised email plan was tailored for, and sent to, a selection of international graduates.

Customisations varied between emails, with changes made to subject lines, header images, message themes and calls to action. The customised email plan remained consistent with the quantity, frequency and timing of emails sent through the default GOS contact protocol (as detailed in Section 3.3). As such, the overall level of engagement activity to graduates receiving the standard and customised email plans was equal.

Header images chosen for the international customisation were paired with similar images from the standard plan. See Figure 3 for a comparison of the standard and customised international email headers. In prior years of the GOS international graduates had been identified as being less likely click the survey link suggesting message intent did not resonate with the demographic. The customised international emails appealed directly to the ‘international graduate’ identity to improve engagement. The customised Reminder 3 from the May round featured a direct appeal to the international graduate identity.

A breakdown of email send outcomes by round of activity is provided at Table 5, Table 6 and Table 7 (on the next pages). It should be considered when interpreting results that the sample frame for February was quite small relative to the November and May rounds and included fewer institutions.

The email invitation open rate was highest in May (60.7 per cent) relative to November (57.7 per cent) and February (56.8 per cent). The invitation remained the most effective email in the schedule with the highest ‘Clicked on link’ rates in the schedule for November, February (both 14.7 per cent) and May (18.3 per cent). As could be expected, the ‘clicked on link’ rates generally trended down with each subsequent reminder. Exceptions to this trend usually coincided with email reminders timed to align with prize draw close dates (Reminder 4, Reminder 6, Reminder 8), with Reminder 3 in February also reporting an unusually high ‘clicked on link’ rate (9.1 per cent).

The information at Tables 5, 6 and 7 suggests email deliverability can be quite volatile. It is often difficult to establish cause and effect, even with an array of deliverability tools. Email deliverability issues likely affected the November and February Reminder 2 open rates (32.7 per cent and 32.3 per cent respectively) as they were substantially lower than May (45.1 per cent). The February Reminder 7 open rate also indicated a potential delivery issue. The May had round generally had less volatility in open rates when compared to November and February, suggesting May had the best overall deliverability.

As expected, the proportion of bounced emails (sent emails that return with a server response indicating non-delivery) across the 2021 GOS collection cycle was low. This indicates that at the national level, the quality of contact details in the approached sample was good and email cleaning processes were effective. Opt-outs were less than one per cent at each email, suggesting the nature of the survey and the timing of sends were not a concern for graduates. The only exception was Reminder 6 that had higher opt-out rates (1.1 per cent in all rounds) as attention was drawn to the unsubscribe option.

To inform future contact strategy, the profile of graduates who didn’t open any emails was analysed (not shown). The characteristics of graduates that were marginally over-represented in the unopened email sample included those aged 30 years or under, study via internal or mixed mode, attending part-time and of a non-English speaking background. See Section 7.2 for additional non-response analysis.

Table 5 Email send outcomes by round of activity November 2020

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total** | **Invite** | **R1** | **R2** | **R3** | **R4** | **R5** | **R6** | **R7** | **R8** | **R9** |
| Total sent (n) | 110,457 | 102,804 | 97,953 | 92,780 | 89,070 | 81,930 | 79,236 | 75,648 | 73,899 | 71,940 |
| Opened (%) | 57.7 | 48.0 | 32.7 | 39.4 | 38.9 | 36.7 | 38.6 | 37.1 | 32.5 | 34.1 |
| *Clicked on link (%)* | *14.7* | *13.6* | *5.8* | *4.7* | *5.8* | *3.9* | *4.6* | *2.8* | *2.9* | *3.3* |
| *Opt-out from link (%)* | *0.4* | *0.6* | *0.5* | *0.8* | *0.7* | *0.7* | *1.1* | *0.8* | *0.5* | *0.5* |
| *Opened email (%)* | *42.6* | *33.8* | *26.4* | *34.0* | *32.4* | *32.2* | *32.9* | *33.5* | *29.1* | *30.3* |
| Unopened (%) | 41.0 | 51.7 | 66.9 | 60.1 | 60.6 | 62.9 | 60.9 | 62.6 | 67.1 | 65.6 |
| Soft bounce (%) | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 |
| Hard bounce (%) | 1.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | <0.1 | 0.1 | <0.1 |
| *Clicked on link as % opened* | *25.5* | *28.4* | *17.7* | *11.9* | *14.9* | *10.6* | *12.0* | *7.6* | *8.8* | *9.6* |

Table 6 Email send outcomes by round of activity February 2021

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total** | **Invite** | **R1** | **R2** | **R3** | **R4** | **R5** | **R6** | **R7** | **R8** | **R9** |
| Total sent (n) | 26,001 | 23,981 | 22,764 | 21,481 | 20,552 | 19,031 | 18,287 | 17,230 | 16,996 | 16,639 |
| Opened (%) | 56.8 | 41.3 | 32.3 | 43.0 | 40.0 | 38.0 | 39.7 | 24.9 | 30.8 | 34.6 |
| *Clicked on link (%)* | *14.7* | *7.1* | *6.5* | *9.1* | *5.8* | *4.3* | *5.2* | *2.3* | *2.8* | *3.3* |
| *Opt-out from link (%)* | *0.4* | *0.7* | *0.6* | *0.7* | *0.8* | *0.7* | *1.1* | *0.6* | *0.5* | *0.6* |
| *Opened email (%)* | *41.7* | *33.5* | *25.1* | *33.1* | *33.4* | *33.0* | *33.4* | *22.0* | *27.5* | *30.6* |
| Unopened (%) | 41.3 | 58.2 | 67.0 | 56.3 | 59.4 | 61.5 | 59.4 | 74.4 | 68.3 | 64.7 |
| Soft bounce (%) | 0.3 | 0.4 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 |
| Hard bounce (%) | 1.6 | 0.1 | 0.1 | 0.2 | <0.1 | <0.1 | 0.3 | <0.1 | 0.2 | 0.1 |
| *Clicked on link as % opened* | *25.9* | *17.3* | *20.2* | *21.2* | *14.5* | *11.3* | *13.0* | *9.3* | *9.1* | *9.6* |

Table 7 Email send outcomes by round of activity May 2021

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total** | **Invite** | **R1** | **R2** | **R3** | **R4** | **R5** | **R6** | **R7** | **R8** | **R9** |
| Total sent (n) | 205,748 | 191,160 | 181,704 | 171,425 | 164,057 | 151,365 | 144,910 | 134,177 | 132,216 | 128,617 |
| Opened (%) | 60.7 | 47.2 | 45.1 | 40.9 | 40.6 | 39.4 | 40.4 | 32.1 | 32.9 | 33.0 |
| *Clicked on link (%)* | *18.3* | *6.8* | *6.1* | *5.4* | *5.8* | *4.5* | *5.1* | *1.4* | *2.8* | *2.4* |
| *Opt-out from link (%)* | *0.5* | *0.6* | *0.9* | *0.9* | *0.8* | *0.8* | *1.1* | *0.7* | *0.6* | *0.5* |
| *Opened email (%)* | *42.0* | *39.8* | *38.1* | *34.6* | *34.0* | *34.2* | *34.3* | *29.9* | *29.6* | *30.1* |
| Unopened (%) | 38.1 | 52.4 | 54.6 | 58.8 | 59.1 | 60.2 | 59.1 | 67.5 | 66.7 | 66.5 |
| Soft bounce (%) | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 |
| Hard bounce (%) | 0.9 | 0.1 | 0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 |
| *Clicked on link as % opened* | *30.1* | *14.5* | *13.6* | *13.1* | *14.2* | *11.4* | *12.5* | *4.4* | *8.4* | *7.4* |

### SMS reminders

SMS reminders were used during fieldwork to compliment the email contact strategy. If an institution provided mobile numbers in their sample return, it was considered consent to contact graduates via SMS. As part of the contact protocol two SMS were sent for each round of the 2021 GOS collection cycle, with a third SMS trialled in the November collection only. For the first time in the GOS, an additional SMS was offered to institutions on a fee-for-service basis in each round.

The initial SMS was sent to all in-scope graduates with a mobile number. The quantity and sample selected for the second SMS (targeted to improve representation), and third SMS (targeted to maximise response) were determined by a response propensity model (refer to Section 3.3.8) and budget allocations in November and February. In May, the quantity of the second SMS send was increased to include all in-scope graduates. All SMS were paired with an email reminder sent the same day. Institutions had the option of sending a fee-for-service SMS to all in-scope graduates with a mobile number or a limited subset (refer to Table 3).

Those who had already completed the survey, unsubscribed from email activity, refused to participate from the in field reminder calls were excluded from the SMS sends.

The SMS content referenced email reminders for authenticity, provided a direct link to access the online survey and mentioned the prize incentive (when applicable). In compliance with the Australian Privacy Principles and the ACMA Spam Act, all SMS identified the Social Research Centre as the sender, noted the research study and had the functionality for recipients to unsubscribe. Graduates were able to opt-out by replying ‘STOP’ to the SMS. All other responses were reviewed for further opt-outs and screen-outs (refer to Appendix 3 for the full SMS plan).

Table 8 provides a summary of number of SMS sent and the outcomes. Open rates were generally high and varied in each round. The May round had the highest open rate for SMS1 and SMS2 (87.5 per cent and 89.6 per cent respectively). Higher open rates were generally observed in the later sends as unusable mobile numbers were identified on the initial send and excluded from further SMS activity. Unsubscribe rates were generally consistent with prior years. The highest unsubscribe rate reported was for the fee-for-service SMS in February (3.4 per cent). For SMS1, February and May (each 2.1 per cent) had the highest rate of survey completions directly attributable to the SMS. The attributable completions were higher in all rounds for SMS1 than SMS2, and May (1.6 per cent) recorded the highest rate of completions for SMS2.

Table 8 SMS based follow up activity outcomes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Contact activity** | **November 2020 n**  | **November 2020 %** | **February 2021 n**  | **February 2021 %** | **May 2021 n**  | **May 2021%** |
| **SMS1**  |   |   |   |   |   |   |
| Sent  | 70,204 | 100.0 | 16,729 | 100.0 | 127,422 | 100.0 |
| Opened  | 57,968 | 82.6 | 13,921 | 83.2 | 111,522 | 87.5 |
| Unopened | 10,778 | 15.4 | 2,416 | 14.4 | 13,243 | 10.4 |
| Unsubscribed | 1,458 | 2.1 | 392 | 2.3 | 2,657 | 2.1 |
| *Completed via SMS link\** | *1,505* | *2.1* | *375* | *2.2* | *2,755* | *2.2* |
| **SMS2** |   |   |   |   |   |   |
| Sent | 8,723 | 100.0 | 5,958 | 100.0 | 103,140 | 100.0 |
| Opened  | 5,930 | 68.0 | 4,960 | 83.2 | 92,439 | 89.6 |
| Unopened  | 2,713 | 31.1 | 843 | 14.1 | 7,738 | 7.5 |
| Unsubscribed  | 80 | 0.9 | 155 | 2.6 | 2,963 | 2.9 |
| *Completed via SMS link\** | *101* | *1.2* | *76* | *1.3* | *1,629* | *1.6* |
| **SMS3** |   |   |   |   |   |   |
| Sent  | 19,951 | 100.0 | - | - | - | - |
| Opened  | 19,309 | 96.8 | - | - | - | - |
| Unopened | 168 | 0.8 | - | - | - | - |
| Unsubscribed | 474 | 2.4 | - | - | - | - |
| *Completed via SMS link\** | *413* | *2.1* | *-* | *-* | *-* | *-* |
| **SMS fee-for-service** |  |  |  |  |  |  |
| Sent  | 1,173 | 100.0 | 776 | 100.0 | 11,018 | 100.0 |
| Opened  | 1,151 | 98.1 | 741 | 95.5 | 10,606 | 96.3 |
| Unopened | 7 | 0.6 | 9 | 1.2 | 69 | 0.6 |
| Unsubscribed | 15 | 1.3 | 26 | 3.4 | 343 | 3.1 |
| *Completed via SMS link\** | *39* | *3.3* | *21* | *2.7* | *211* | *1.9* |

\* Graduate completed survey directly via the SMS link. Due to the large scope of SMS activity, completions that could be indirectly associated with SMS (i.e. SMS prompted graduate to complete via email link) are not shown and would instead be attributed to other sources of response (refer to section 7.3).

### Reminder calls

Reminder calls were undertaken in field and post field as part of a ‘push to web’ response maximisation strategy during each round. In the 2021 GOS in field reminders were used primarily to improve the representation of international graduates (see Section 7.2). Post field telephone activity was a fee-for-service option to enable institutions to ‘top-up’ response rates.

Reminder calls involved attempting to contact graduates to collect updated email address information, with a survey invitation automatically emailed upon completion of the call. The Social Research Centre’s operational hours facilitated reminder call attempts any day of the week and at varied times of day. Up to two call attempts were made and a voicemail left where possible.

Reminder calls used ‘contacts’ as the sample outcome metric. Contacts included outcomes such as agreed to complete online, refusal, request to remove number from list, claims to have already completed and away for the duration of the study. Once contact was achieved with a graduate, no further reminder calls to that graduate were made.

#### In field reminder calls

In field reminders were conducted between the second and final weeks of the main fieldwork period of each survey round. To be selected for the in field reminder calls, a graduate had to meet the following criteria:

* have a valid phone number available in the sample, and
* have not opted-out, screened-out or completed the online survey.

In support of the International Engagement Strategy, in field reminder call activity for the 2021 GOS was prioritised to international graduates (determined by citizenship indicator). Domestic graduates were not excluded from in field reminder calls, only given a lower priority in the call cycle.

In field reminder calls were made to 17.3 per cent of the in-scope sample approached for the 2021 GOS (not shown). Table 9 (on the next page) provides a summary of outcomes from the in field reminder calls. More than one quarter of the sample initiated agreed to complete online (29.0 per cent). Better outcomes were reported for postgraduates (31.6 per cent agreed to complete online) than undergraduates (24.6 per cent). This contrasts with the 2020 GOS where better in field reminder call outcomes were achieved with undergraduates (30.6 per cent agreed to complete online) than postgraduates (25.0 per cent)[[1]](#footnote-1). This result may be due to the prioritisation of international sample changing the sample profile of graduates contacted.

A completed survey could be directly attributed to the in field reminder call for 5.9 per cent of graduates called. There were additional completions that may be indirectly attributed to in field reminder calls (11.3 per cent) that have been attributed to another source of response (refer to Section 7.3). For example, after speaking with a call centre operator or listening to a voicemail, a graduate contacted via reminder calls may have been prompted to complete the GOS via a link included in the email invitation or a SMS reminder.

Table 9 In field reminder call outcomes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Undergraduate n** | **Undergraduate %** | **Postgraduate n** | **Postgraduate %** | **Total n** | **Total %** |
| **Total sample initiated** | **22,754** | **100.0** | **36,515** | **100.0** | **59,269** | **100.0** |
| Unusable sample | 1,105 | 4.9 | 1,647 | 4.5 | 2,752 | 4.6 |
| No contact | 16,041 | 70.5 | 23,317 | 63.9 | 39,358 | 66.4 |
| **Total contacts**  | **5,608** | **24.6** | **11,551** | **31.6** | **17,159** | **29.0** |
| Agree to complete online | 4,811 | 21.1 | 9,973 | 27.3 | 14,784 | 24.9 |
| Other contact type | 797 | 3.5 | 1,578 | 4.3 | 2,375 | 4.0 |
| *Completed directly\** | *1,248* | *5.5* | *2,267* | *6.2* | *3,515* | *5.9* |
| *Completed indirectly*† | 2,351 | *10.3* | 4,326 | *11.8* | 6,677 | *11.3* |

\* Graduate completed the survey directly via the in field reminder email.

† Graduate completed the survey by any means other than the in field reminder email after being contacted or left a voicemail from in field reminder calls (excludes non-contact outcomes such as no answer, disconnected phone number).

Note: Unusable sample includes wrong numbers, disconnected numbers, not a residential number, fax lines, incoming call restrictions and respondent unreliable.

#### Post field reminder calls

As noted earlier, post field reminder calls were a fee-for-service option to enable institutions to top-up response rates for reporting purposes and their own internal analysis. The number of institutions opting for post field reminder calls at the November, February and May rounds was twelve, one and eight respectively.

Post field reminder calls were conducted following the close of the main online fieldwork, with the online survey remaining open for approximately a two-week period (refer to Table 2) to allow for graduates of participating institutions to respond following telephone contact. Online survey completions resulting from post field reminder calls were included in national reporting and analysis, as the mode of completion was consistent with online surveys completed as part of the main field period.

In addition to the criteria described for in field reminder calls, to be selected for the post field reminder calls, a graduate was required to meet the following criteria:

* not have a ‘contact’ outcome from in field reminder calls, and
* meet any custom criteria chosen by the institution (e.g. the institution may only want to top up response in certain study areas).

Post field reminder calls were made to 8.3 per cent of the in-scope sample approached for the 2021 GOS (not shown). Table 10 (on the next page) provides a summary of post field reminder call outcomes. Email addresses were confirmed or updated for more than a third of all graduates called (33.7 per cent). Unlike in field reminder calls, outcomes for undergraduates (34.9 per cent agreed to complete online) were better than postgraduates (31.8 per cent). Contact rates were generally higher for post field reminder calls than in field reminder calls. This could be due to differing demographics (in field priority was international graduates) or longer call cycles required to meet institutions’ quoted targets.

For fewer than one in ten (7.6 per cent) of the graduates called, a completed survey could be directly attributed to the post field reminder call. Similar to in field reminder calls, there are survey completions that may be indirectly attributed to post field reminder calls (a further 1.2 per cent of graduates called). This lower rate of indirect completion, compared to in field reminder calls, is likely due to no other engagement activity being conducted during the post field period.

Table 10 Post field reminder call outcomes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Undergraduate n** | **Undergraduate %** | **Postgraduate n** | **Postgraduate %** | **Total n** | **Total %** |
| **Total sample initiated** | **17,069** | **100.0** | **11,200** | **100.0** | **28,269** | **100.0** |
| Unusable sample | 440 | 2.6 | 606 | 5.4 | 1,046 | 3.7 |
| No contact | 10,457 | 61.3 | 6,876 | 61.4 | 17,333 | 61.3 |
| **Total contacts** | **6,172** | **36.2** | **3,718** | **33.2** | **9,890** | **35.0** |
| Agree to complete online | 5,963 | 34.9 | 3,562 | 31.8 | 9,525 | 33.7 |
| Other contact type | 209 | 1.2 | 156 | 1.4 | 365 | 1.3 |
| *Completed directly\** | *1,319* | *7.7* | *823* | *7.3* | *2,142* | *7.6* |
| *Completed indirectly*† | *212* | *1.2* | *546* | *4.9* | *334* | *1.2* |

\* Graduate completed the survey directly via the post field reminder email.

† Given that standard response maximisation initiatives cease at the end of the main online fieldwork period, ‘Completed indirectly for post field reminder calls is defined as: graduate completed the survey by means other than the post field reminder email after being called from post field reminder calls (excludes calls to disconnected phone numbers).

Note: Unusable sample includes wrong numbers, disconnected numbers, not a residential number, fax lines, incoming call restrictions and respondent unreliable.

### Full CATI

Full CATI refers to the completion of the GOS by telephone with a call centre operator, rather than online. Institutions were able to commission full CATI surveys on a fee-for-service basis to help boost the number of completed surveys for their internal reporting purposes only. No institutions commissioned full CATI surveys for the 2022 GOS.

### Fieldwork briefing

Call centre operators selected to work on the 2021 GOS in field and post field reminder calls attended a briefing session delivered by the Social Research Centre project management team. Briefings were conducted prior to the commencement of in field and post field activities in each round. Additional briefings were conducted throughout fieldwork as required to meet operational needs. The briefings covered:

* an overview of the GOS and QILT,
* privacy and confidentiality policy,
* reminder call procedures, and
* fieldwork timelines.

Each briefing session was followed by a run through of the reminder call script and a training module delivered by the operations team. The training module focused on building skills for respondent liaison and respondent engagement. It made use of interactive learning, utilising call recordings and role-play exercises to tailor response maximisation skills to the GOS. The briefing slides are provided at Appendix 4.

### Quality control

In field quality monitoring techniques applied to the reminder call components of this project included:

* Listening-in validations conducted in accordance with existing ISO 20252 procedures.
* Monitoring (listening in) by the Social Research Centre project manager and supervisory staff.
* Field team de-briefing after the first shift, and thereafter, whenever there was important information to impart to the field team in relation to data quality, consistency of reminder call administration, or project performance.
* Maintenance of an ‘field team handout’ document detailing project performance metrics, graduate liaison techniques and data quality requirements.
* Maintenance of a wiki with answers to common graduate queries.

Quality assurance and applicable standards are discussed further at Section 3.4.3.

### Social media

A social media advertising campaign was conducted to support the GOS response maximisation strategy with an additional communication channel. Facebook and Instagram posts were made on QILT social media accounts to build a general level of social media presence. These posts marked milestones in the GOS project (i.e. survey launch, prize draw winners, *National Report* release). Advertising for each GOS round was purchased via Facebook Ad Manager and these ads were shown on both the Facebook and Instagram platforms. Ads were timed to coincide with fieldwork launch, mid-field and the final week. Ad content was tailored with calls to action appropriate to each period of fieldwork (such as referencing a chance to win during the prize draw entry period).

Ads were used to build awareness of the GOS by reaching a larger audience than was possible via posts on the QILT social media accounts. Ads were targeted to Facebook, Instagram and Messenger users in Australia aged 23 to 40 who matched a range of interests related to higher education. Example interests for targeting included, but were not limited to, university, international graduates, and undergraduate study during a 2 to 3 year period prior to each GOS round. Delivery of the ads within the target audience was determined by the ‘lowest cost’ bid strategy.

Ad campaign outcomes for the 2021 GOS are shown in Table 11. This table presents data for ‘impressions’, that is, the number of times the ad was on screen, ‘reach’, that is, the number of people who saw the ad at least once and ‘link clicks’, that is, the number of people who clicked on the survey link[[2]](#footnote-2). The audience skewed towards males who comprised most of the impressions (80.2 per cent), reach (70.0 per cent) and link clicks (75.4 per cent). The cause of the gender disparity in the audience could be investigated ahead of future GOS collections as it is not an intended outcome of the campaign design.

Table 11 Ad campaign outcomes by gender

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Impressions n** | **Impressions %** | **Reach n** | **Reach %** | **Link clicks n** | **Link clicks %** |
| **Total audience** | **2,272,575** | **100.0** | **380,547** | **100.0** | **280** | **100.0** |
|  Female | 376,051 | 16.5 | 106,209 | 27.9 | 62 | 22.1 |
|  Male | 1,823,258 | 80.2 | 266,242 | 70.0 | 211 | 75.4 |
|  Unknown | 73,266 | 3.2 | 8,096 | 2.1 | 7 | 2.5 |

Note: Results are aggregated from ads displayed on the Facebook, Instagram and Messenger platforms.

### Response propensity model

A logistic regression model was used to predict response probabilities (response propensity model) of graduates using a range of sample characteristics (such as age, gender, course level, study area, attendance type, locality, etc). The output of the model was a ‘propensity to respond’ score (zero to one) which estimated a graduate’s propensity to complete the survey. The response propensity model was used to strategically target certain engagement activities. Prioritisation of the lowest scoring sample was used for activities designed to increase representation. To maximise total response from an activity prioritisation could be given to the highest scoring sample.

### Email deliverability testing

In the *2020 GOS Methodological Report* email deliverability was identified as an issue of importance. For the 2021 GOS email deliverability testing processes were improved with the goal of maximising graduate email engagement by ensuring that all emails avoided delivery to a spam or junk folder. Further, testing was conducted to optimise emails for deliverability to primary inboxes (e.g. ‘primary’ tab in Gmail, ‘focused’ inbox in Outlook).

Actions taken and products used to optimise email deliverability included:

* a dedicated Internet Protocol (IP) address range used only by the Social Research Centre for bulk email delivery. The reputation of this range was maintained year-round to keep the IP addresses ‘warm’. The dedicated range eliminated risks associated with bulk mailing from a shared IP pool (as was used during the 2020 GOS),
* during sample cleaning email addresses were validated to reduce bounce rates, thereby minimising the degradation of IP reputation,
* ongoing maintenance of technical services and policies to meet sender best practice,
* optimisation of all images, hyperlinks and HTML code used in emails to meet deliverability best practices,
* pre field testing of emails across a broad range of mail clients, devices and providers to confirm and optimise compatibility, display and delivery, and
* in field tracking of email deliverability using analytics tools.

Despite the advancements made in this area, consistency in the deliverability of bulk email remains an ongoing challenge for the GOS and the QILT suite of surveys more broadly (refer to Section 3.3.1 for analysis of email send outcomes).

## Data collection

### Online survey

The online survey could be accessed by clicking on the link in the email invitation or reminders, via the GOS landing page on the QILT website, via a redirect from the GOS home page, by clicking the link in the SMS, or a redirect from social media ads. Clicking from the email invitation, email reminder or SMS would go directly to the beginning of the survey. From the GOS landing page graduates could log in to the survey with their unique username and password. In-scope graduates without a username and password could ‘authenticate’ their personal details (name, student identification code, date of birth) against the sample information and receive an email invitation with direct survey link and login details. Alternatively, in-scope graduates without login details could gain access to the survey by contacting the QILT Helpdesk.

Online survey presentation was informed by accessibility guidelines and other relevant resources, with standard features including:

* optimisation for small screen devices (see Appendix 9),
* consistent presentation and placement of “Next” and “Previous” buttons,
* input controls and internal logic/validation checks,
* tailoring error messages as appropriate,
* splitting long statement batteries over several screens to reduce the number of items that require vertical scrolling on a desktop,
* sizing the panels for free text responses commensurate with the level of detail required in the response,
* automatically ‘saving’ with progression to the next screen, and
* the capacity to save and return to finish off at another time, resuming at the last question viewed.

The survey look and feel was customised to be consistent with QILT branding guidelines, including the use of the GOS logo and colour scheme. This ensured consistency with the look of the email invitation and reminders, advertisements placed on Facebook and the QILT website. A copy of the questionnaire for each round in the 2021 GOS collection cycle is included at Appendix 5 with screenshots of the online survey included in Appendix 6.

### Survey testing

Standard operational checks of the online survey were conducted pre-fieldwork to ensure implementation aligned with the intended questionnaire design.

In addition to these standard checks, institutions with additional items (refer to Section 4.4) were sent test links to facilitate testing and sign off on their items prior to field launch.

The survey was soft launched each round with NUHEI graduates, a small component of the total population. Data was checked following the soft launch to ensure all survey sequencing was functioning as intended. A minor sequencing issue was resolved during November soft launch data checks, in the other rounds no issues were identified during the soft launch data checks and the main survey launch proceeded as scheduled during each GOS round. To further ensure the survey data quality, checks were repeated on the data following the main launch.

### Quality assurance and applicable standards

All aspects of the GOS were undertaken in accordance with the Privacy Act (1988) and the Australian Privacy Principles contained therein, the Privacy (Market and Social Research) Code 2014 (superseded on 22 March 2021 by the Privacy (Market and Social Research) Code 2021), the Research Society’s Code of Professional Behaviour, and ISO 20252 standards. All senior QILT staff are full members of the Research Society or maintain professional membership relevant to their role and the Social Research Centre is also a member of the Australian Data and Insights Association (ADIA, formerly Association of Market and Social Research Organisations). All sensitive or personally identifiable information such as sample and data were transferred using the QILT secure file exchange.

### Monitoring and progress reporting

Weekly fieldwork update emails were sent to institutions outlining the response rate that had been achieved and how the individual institution compared to the overall response rate, their cohort (University or NUHEI) average, and the prior year’s results. The department was provided with weekly updates covering survey launches, in field milestones and the response rate of institutions overall. For the purpose of the fieldwork updates, week one was calculated as survey launch to midnight the following Sunday. Each week after was calculated as Monday to Sunday inclusive.

### Live online reporting module

In addition to weekly updates, the department was provided with access to a specially designed ‘live’ online reporting module which provided an overview of response rates for each institution and a national average of universities and NUHEIs. Results were provided in real time and included a summary of sample outcomes and response by institution.

Institutions were also able to monitor their progress through a subset of the reporting module made available to the department. Each institution was provided with their own login which allowed institutions to track their sample outcomes and response rates split by a selection of key demographics.

Summary tables could be downloaded in CSV format by the department and institutions. Institutions also had the option of downloading sample outcomes at the unit record level. The reporting module enabled institutions to monitor response, identify under-performing demographic groups and target engagement activity based on live sample outcomes. Only minor changes have been made to the format of the reporting module in recent years.

## Graduate support

The Social Research Centre maintained a GOS helpdesk for the duration of the 2021 GOS fieldwork to provide graduates an avenue to contact the GOS team. The helpdesk featured a 1800 number and a GOS inbox and responded to queries within one business day. The 1800 number was also available to international graduates (with an international dialling code) and remained operational for the duration of the overall fieldwork period. The helpdesk was staffed seven days a week during call centre operational hours and all calls outside these hours were routed to a voicemail service. A QILT inbox was also maintained year-round, managed by the QILT administration team and staffed during business hours.

The GOS helpdesk team was briefed on the GOS background, procedures and questionnaire enabling them to answer a wide range of queries. To further support the helpdesk, a database was made available to the team to enable them to look up graduate information and survey links, as well as providing a method for logging all contacts. All opt-outs and out-of-scopes received via the helpdesk were removed from the in-scope sample to cease further contact with these graduates.

A summary of graduate enquires to the GOS helpdesk is provided at Table 12. There was a reduction in contact to the 1800 helpdesk, by both the 1800 number and GOS inbox, in comparison to 2020. Survey queries continue to be the most common type, accounting for almost half of all enquiries (49.5 per cent). The reduced helpdesk contact may suggest that links to supporting information in engagement emails (privacy policy, online FAQ, etc) has pre-emptively addressed some graduate concerns. Continued development of these supporting resources could be considered for the 2022 GOS.

Table 12 Graduate enquiries to the GOS helpdesk overall

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Type of enquiry** | **1800 number n** | **1800 number %** | **GOS Inbox n** | **GOS Inbox %** | **Total n** | **Total %** |
| **Total** | **527** | **100.0** | **764** | **100.0** | **1,291** | **100.0** |
| Survey query | 297 | 56.4 | 342 | 44.8 | 639 | 49.5 |
| Opt-out | 49 | 9.3 | 189 | 24.7 | 238 | 18.4 |
| Supervisor contact details query | 136 | 25.8 | 39 | 5.1 | 175 | 13.6 |
| General query | 33 | 6.3 | 84 | 11.0 | 117 | 9.1 |
| Out-of-scope | <5 | 0.6 | 52 | 6.8 | 55 | 4.3 |
| Change of contact details | <5 | 0.8 | 39 | 5.1 | 43 | 3.3 |
| Other query | <5 | 0.6 | 9 | 1.2 | 12 | 0.9 |
| Deletion or removal request | <5 | 0.4 | <5 | 0.5 | 6 | 0.5 |
| Request for follow up | 0 | 0.0 | 6 | 0.8 | 6 | 0.5 |

##  Prize draw

All completing respondents were entered into a four-week rolling prize draw in each round of the 2021 GOS collection cycle. The four-week rolling prize draw was designed to encourage early survey completion by offering more chances to win the earlier the survey was completed (e.g. if the survey was completed by the end of the first week, the respondent would be entered into all four prize draws). All prizes were awarded as a pre-paid VISA e-gift card. The terms and conditions of the prize draw were available on the Social Research Centre’s website and provided in all email communications sent to graduates.

To account for the disparity in sample size between collection rounds, the 2021 GOS prize pool was distributed based on expected sample by round. Likewise, state-based prize pools were revised to be more equitable based on historical institution representation in the sample.

A summary of prize distribution and prize draw activity by round is presented in Table 13. In each round all $1,000 prizes were drawn from a national prize pool. In November and May, the $500 and $250 prizes were drawn from state-based pools. Due to the smaller size of the February round, there were no $500 prizes, and the $250 prizes were drawn from a national pool.

In compliance with State and Territory gaming and lottery legislation prize draw winners for the were notified in writing, by phone (if necessary) and published on the QILT Facebook page. Winners were published on the same day as the prize draw was conducted.

Table 13 Prize draw pool and schedule

|  |  |  |  |
| --- | --- | --- | --- |
|  | **November 2020** | **February 2021** | **May 2021** |
| **Prize pool** |  |  |  |
| Total weekly prize pool | $6,750 | $1,250 | $9,250 |
| Weekly $1,000 prize pool | $3,000 | $1,000 | $3,000 |
| Weekly $500 prize pool | $2,500 | - | $2,500 |
| Weekly $250 prize pool | $1,250 | $500 | $3,750 |
| **Prize draw activity** |  |  |  |
| Prize draw period opens/Fieldwork starts | 27-Oct-20 | 27-Jan-21 | 27-Apr-21 |
| Prize draw 1 close | 2-Nov-20 | 1-Feb-21 | 3-May-21 |
| Prize draw conducted | 4-Nov-20 | 3-Feb-21 | 5-May-21 |
| Prize draw 2 close | 9-Nov-20 | 8-Feb-21 | 10-May-21 |
| Prize draw conducted | 11-Nov-20 | 10-Feb-21 | 12-May-21 |
| Prize draw 3 close | 16-Nov-20 | 15-Feb-21 | 17-May-21 |
| Prize draw conducted | 18-Nov-20 | 17-Feb-21 | 19-May-21 |
| Prize draw 4 close | 23-Nov-20 | 22-Feb-21 | 24-May-21 |
| Prize draw conducted | 25-Nov-20 | 24-Feb-21 | 26-May-21 |

# Questionnaire

## Development

The 2021 GOS questionnaire was based on the 2020 instrument, with standard operational updates made to align the questionnaire with current reference periods.

For the 2021 GOS, at the request of the QILT Working Group, the CEQ (with the exception of the ‘overall’ measure) and Graduate Attributes Scale (GAS) were removed as core items. Institutions wanting to retain the CEQ or GAS were able to include them as additional items (at no cost for the 2021 GOS and as fee-for-service items from the 2022 GOS).

To further reduce respondent burden and improve the consistency of coded data, code maps of occupations and employers to industry were developed. These maps were used with pre-code lookup lists to enable pre-fill functionality for the collection of industry data. Refer to Section 4.3 for further detail on these and other changes to the GOS questionnaire.

In addition to the core questionnaire changes, institutions were able to add, modify or remove their additional items for each round. Institutions were also given the option of including stakeholder items or retired items (i.e. the CEQ or GAS) for the full GOS year (refer to Section 4.4).

## Overview

Table 14 outlines the thematic areas of the eight main modules in the questionnaire. The design of the GOS instrument was modular, with items essential to response analysis (Labour force, Further study) positioned early in the questionnaire and other core item modules positioned before additional items (Module F). Items related to future contact details and further research were delivered in the final two modules. A copy of the generic survey instrument (excluding any institution-specific items) is included at Appendix 5 with screen shots of the online survey at Appendix 6. Refer to the *2021 ESS Methodological Report* for a full description of ESS bridging (Module X).

Table 14 GOS module themes

|  |  |
| --- | --- |
| **Module** | **Themes** |
| Module A | Introduction, screening and confirmation  |
| Module B | Labour force  |
| Module C | Further study  |
| Module D | Graduate Attributes – Overall satisfaction/PREQ |
| Module E | Graduate preparation  |
| Module F | Additional items  |
| Module G | Contact details |
| Module X | ESS bridging |

## Changes from 2020

The main changes to the core questionnaire are presented below (refer to Appendix 5 for full item text):

* removed CEQ items, except *CEQ149* which was retained as a measure of overall course satisfaction.
* removed GAS items.
* changed base of *ACTLHRSM* (actual hours worked in main job last week) and *ACTLHRS* (actual hours worked in any job last week)to only include graduates working with or without pay (previously the base also included graduates away from work).
* revised code frame of *RSNOMORE* (main reason for working current hours when not looking for more hours), *RSMORE (*main reason for working current hours when looking for more hours) *and RSOVRQ* (main reason for working a job that doesn’t use all skills or educations)*.* Some codes were removed from in-survey display and new codes added to the in-survey display. To improve survey flow *RSNOMORE* and *RSMORE* were also repositioned to be asked after *PREFMHRS* (preference for working more hours).
* mapped occupation to industries commonly associated with that occupation, so that for a given response to *OCC* (current occupation), appropriate response options were displayed at *INDUSTRY* (industry of employer/business), with an option to capture industry as free text, where the respondent’s industry was not displayed. The association of industries to occupations was developed from historical coded QILT data and is reviewed after each round of data collection.
* implemented a searchable list of common responses at *EMPLOYER* (name of employer/business) to reduce respondent burden and improve consistency of collected employer data. If an employer was not listed, the employer name was collected as free text. *EMPLOYER* was mapped to industry, as appropriate. *EMPLOYER* was also repositioned to be asked before *INDUSTRY,* to allow auto-filling of *INDUSTRY*.
* if a response to *OCC* did not map to *INDUSTRY,* and a response from *EMPLOYER* mapped to a specific industry, the response from *EMPLOYER* was used to auto-fill *INDUSTRY.* When *INDUSTRY* was auto-filled, the *INDUSTRY* item was not shown in the survey.
* if *INDUSTRY* was not pre-filled with mapping from *OCC* or auto-filled with mapping from *EMPLOYER*, a free text response was collected.
* *CONTACT* (consent to recontact) was revised in the May round in an attempt to improve rate of graduate consent and therefore sample retention for the Graduate Outcomes Survey – Longitudinal (GOS-L). For sample retention outcomes refer to Section 7.4.

## Additional items

### Institution items

A total of 18 institutions (15 universities and 3 NUHEIs) included institution specific items in the 2021 GOS. Institution specific items can be the same or a variation on questions included in prior rounds of GOS, or new questions entirely. Some of the content covered by institution specific items included questions relating to the net promoter score, work preparedness, further study plans, graduate job search, and time spent in internships, volunteering and other co-curricular activities. Currently, institution specific items do not fall under any data sharing arrangements and are therefore only included in the respective institution data files.

### Stakeholder items

Stakeholders including the Australian Association of Graduate Employers (AAGE), Australian Collaborative Education Network Limited (ACEN), and Optometry Council of Australia and New Zealand (OCANZ) included items in the 2021 GOS. Content covered by the stakeholder items included employment pathways, work integrated learning and preparedness of optometry graduates. Institutions were invited to participate in these items, where applicable, by each of the relevant stakeholders.

### Retired items

After confirming participation for the first time in a round of the 2021 GOS, institutions were invited by email to opt to include the retired CEQ items and/or GAS as additional items. To help institutions accommodate the retirement of these items, there were no fees to include them in the 2021 GOS. Fees for including retired items from the 2022 GOS onward were communicated to institutions by email and the *QILT Additional Questions Fact Sheet* on the QILT provider portal. In total 68 institutions (31 universities, 37 NUHEIs) opted to include the CEQ and 67 institutions (33 universities and 34 NUHEIs) opted to include the GAS.

# Data preparation

## Definition of the analytic unit

The analytic unit for the GOS was the graduate. The data file contained one record for each respondent to the survey.

In the 2021 GOS data set, a record was considered complete if the graduate had:

* provided a response as to whether they had worked in the last week, or
* responded that they were in further study, and
* did not disqualify themselves at the start of the survey (e.g. did not study the named course at the named institution).

## Data cleaning and preparation

Data preparation occurred on the raw data file exported from the data collection platform with derivations, re-coding and cleaning routines applied, including:

* derivation of labour force status, salary and other reporting outcome variables based on the Australian Bureau of Statistics (ABS) standards (derivations are documented in the *2021 GOS* *Data Dictionary*,made available to institutions on the QILT provider portal)
* re-coding value labels where required
* re-coding of ‘no answers’ to the missing values conventions, and
* cleaning of employer name and
* coding of occupation, industry and further study field of education.

## Coding and processing of open text responses

Spell checking and light cleaning of free text responses were applied, seeking to remove identifiers and expletives.

Table 15 summarises the items where industry standard frames were applied for the coding of free text responses. For items with free text responses not associated with an industry standard frame, code frames and back-coding rules were developed in conjunction with, and approved by the department, and were largely unchanged from previous iterations of the GOS.

Table 15 Items coded and source for coding decisions

|  |  |
| --- | --- |
| **Item coded** | **Code frame source** |
| Course A Major(s) field of education,Course B Major(s) field of education | Field of education was coded using the Australian Standard Classification of Education (ASCED, 2001, ABS catalogue number 1272.0) at the six-digit level |
| Occupation | Occupation was coded using the Australian and New Zealand Standard Classification of Occupations (ANZSCO, Version 1.3, 2013, ABS catalogue number 1220.0) |
| Industry | Industry was coded using the Australia and New Zealand Standard Classification of Occupations (ANZSIC, 2006 Revision 2.0, ABS catalogue number 1292.0) |
| Country employer/business is based | For graduates working overseas, country of employment was coded using the Standard Australian Classification of Countries (SACC, 2016, Second edition, ABS catalogue number 1269.0). |
| Further study field of education | Field of education was coded using the Australian Standard Classification of Education (ASCED, 2001, ABS catalogue number 1272.0) at the single digit level. |
| Overseas country location | For graduates living overseas, country of residence was coded using the Standard Australian Classification of Countries (SACC, 2016, Second edition, ABS catalogue number 1269.0). |

## Data deliverables

The Social Research Centre provided institutions and the department the following data deliverables at the completion of the 2021 GOS cycle:

* institution data files and final population files in CSV and SPSS format as a standard, and in SAS format for institutions specifically requesting this format,
* department national data file and national final population file in CSV, SPSS and SAS format,
* data dictionary and data map,
* fieldwork and data package summary in MS Word format,
* files in Tableau packaged workbook format at the national (department), institution, Universities Australia and Independent Higher Education Australia level,
* files of verbatim responses to open-ended questions in MS Excel, at the national (department) and institution level, and
* *ComparED Website Tables*, *National Report Tables*, *International Report Tables*.

## Weighting

As was the case for previous surveys in the series, no weights were applied to the GOS data. Details of testing of the effect of weighting GOS data by comparing weighted and unweighted estimates for key measures are provided in the *2019 GOS Methodological Report* and show that the differences between weighted and unweighted estimates are small at the national level. Following this historical precedent, GOS 2021 results remain unweighted.

# Final dispositions, response rates and reportable strata

## Final dispositions and response rates

Table 16 shows the final survey outcomes at an overall level and for each round of the 2021 GOS collection cycle.

For the purpose of the QILT suite of surveys, ‘response rate’ is defined as completed surveys (as described in Section 6.1) as a proportion of final sample, where final sample is the total sample excluding unusable sample (e.g. no contact details), out-of-scope and opted-out. This definition of response rate differs from industry standards by treating certain non-contacts and refusals as being ineligible for the response rate calculation (see American Association for Public Opinion Research 2016 for standard definitions of response rates).

The final response rate for the 2021 GOS collection cycle was 40.4 per cent, with the response rate higher for universities (40.5 per cent) than NUHEIs (39.3 per cent). When reviewing response rate by course type, postgraduate research had the highest response rate (65.7 per cent), followed by undergraduate (40.3 per cent) and postgraduate coursework (38.8 per cent). Consistent with previous surveys in the series, the May round saw the highest overall response rate (40.7 per cent), followed by November (40.0 per cent) and February (39.3 per cent).

Final response rates by institution for each round are provided at Appendix 7.

Table 16 Final survey outcomes

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Institution**  | **Total sample**  | **Unusable sample** | **Out-of-scope**  | **Opted-out** | **In-scope sample approached** | **Surveys completed** | **Response rate (%)** |
| **2021 GOS overall** |   |   |   |   |   |   |   |
| **Total** | 342,358 | 587 | 566 | 24,595 | 316,610 | 127,827 | 40.4 |
| Universities | 312,197 | 533 | 429 | 22,103 | 289,132 | 117,030 | 40.5 |
| NUHEIs | 30,161 | 54 | 137 | 2,492 | 27,478 | 10,797 | 39.3 |
| **Course type** |   |   |   |   |   |   |   |
| Undergraduate | 186,380 | 222 | 254 | 14,490 | 171,414 | 69,056 | 40.3 |
| Postgraduate | 155,978 | 365 | 312 | 10,105 | 145,196 | 58,771 | 40.5 |
| Post-graduate coursework | 146,393 | 333 | 293 | 9,636 | 136,131 | 52,819 | 38.8 |
|  Post-graduate research | 9,585 | 32 | 19 | 469 | 9,065 | 5,952 | 65.7 |
| **November 2020** |   |   |   |   |   |   |   |
| **Total** | 110,479 | 131 | 255 | 6,857 | 103,236 | 41,295 | 40.0 |
| Universities | 98,874 | 111 | 215 | 6,016 | 92,532 | 37,185 | 40.2 |
| NUHEIs | 11,605 | 20 | 40 | 841 | 10,704 | 4,110 | 38.4 |
| **Course type** |   |   |   |   |   |   |   |
| Undergraduate | 52,398 | 59 | 126 | 3,502 | 48,711 | 19,019 | 39.0 |
| Postgraduate | 58,081 | 72 | 129 | 3,355 | 54,525 | 22,276 | 40.9 |
| Post-graduate coursework | 53,781 | 62 | 123 | 3,154 | 50,442 | 19,606 | 38.9 |
|  Post-graduate research | 4,300 | 10 | 6 | 201 | 4,083 | 2,670 | 65.4 |
| **February 2021** |   |   |   |   |   |   |   |
| **Total** | 26,021 | 54 | 84 | 1,748 | 24,135 | 9,490 | 39.3 |
| Universities | 19,772 | 42 | 18 | 1,200 | 18,512 | 7,479 | 40.4 |
| NUHEIs | 6,249 | 12 | 66 | 548 | 5,623 | 2,011 | 35.8 |
| **Course type** |   |   |   |   |   |   |   |
| Undergraduate | 9,502 | 18 | 10 | 621 | 8,853 | 3,355 | 37.9 |
| Postgraduate | 16,519 | 36 | 74 | 1,127 | 15,282 | 6,135 | 40.1 |
| Post-graduate coursework | 14,683 | 28 | 73 | 1,039 | 13,543 | 5,002 | 36.9 |
| Post-graduate research | 1,836 | 8 | <5 | 88 | 1,739 | 1,133 | 65.2 |
| **May 2021** |   |   |   |   |   |   |   |
| **Total** | 205,858 | 402 | 227 | 15,990 | 189,239 | 77,042 | 40.7 |
| Universities | 193,551 | 380 | 196 | 14,887 | 178,088 | 72,366 | 40.6 |
| NUHEIs | 12,307 | 22 | 31 | 1,103 | 11,151 | 4,676 | 41.9 |
| **Course type** |   |   |   |   |   |   |   |
| Undergraduate | 124,480 | 145 | 118 | 10,367 | 113,850 | 46,682 | 41.0 |
| Postgraduate | 81,378 | 257 | 109 | 5,623 | 75,389 | 30,360 | 40.3 |
| Post-graduate coursework | 77,929 | 243 | 97 | 5,443 | 72,146 | 28,211 | 39.1 |
|  Post-graduate research | 3449 | 14 | 12 | 180 | 3243 | 2149 | 66.3 |

## Strata meeting the desired level of precision

Table 17 shows the number and proportion of strata meeting the desired level of precision (+/- 7.5 percentage points at the 90 per cent level of confidence) over time, for undergraduates in full-time study. Strata are defined by institution at the 21 study area level. Study area is based on the specialisation code in the HEIMS course completions file for defining population strata counts, and for completed surveys, it is based on course field of education for the graduate’s course or major as assigned by the institution. This results in some minor discrepancies between the graduate’s study area in the population and data files.

As can be seen, for 2021, the proportion of the eligible strata that met the desired level of precision (reportable strata) decreased to 41.7 per cent. This decrease was influenced mainly by graduate response and population changes from a single institution (n=6 fewer strata reportable) and the Law & Paralegal Studies study area (n=7 fewer strata reportable).

Table 17 Strata meeting desired level of precision for undergraduates in full-time study

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2018** | **2019** | **2020** | **2021** |
| **Total strata (n)** | **790\*** | **798** | **810** | **821** |
| Strata below minimum population (n) | 57\* | 45 | 52 | 64 |
| Strata with no completed surveys (n) | 15 | 20 | 22 | 18 |
| Eligible strata for reportability (n) | 718 | 733 | 736 | 739 |
| Reportable strata (n) | 335 | 355 | 335 | 308 |
| **Reportable strata (%)** | **46.7** | **48.4** | **45.5** | **41.7** |

\* Data reported in the *2020 GOS Methodological Report* undercounted the 2018 ‘Strata below minimum population’ and ‘Total strata’ by n=1.

# Response analysis

## Response by time

Table 18, Table 19 and Table 20 illustrate the daily and cumulative technical and operational response rates for the main online field period of the November, February and May rounds respectively. Technical response rate’ is calculated as ‘GOS completes as a proportion of in-scope sample approached’. Operational response rate is calculated as ‘GOS completes that responded to all survey items as a proportion of in-scope sample approached’. Key email and SMS engagement activities are overlayed (see Section 3.3 for a full schedule by round).

The pattern of response across all rounds is broadly similar, with an exception for Reminder 5 in November as the email send was split between days 16 and 18. Operational response as a proportion of technical response (an indicator of survey break-off) fluctuated day-to-day but was consistent at the close of the main fieldwork across rounds (cumulatively 81.3 per cent in November, 81.8 per cent in February and 81.5 per cent in May).

The strong daily response of prize draw timed reminders (reminders 2, 4, 6 and 8) is visible in all rounds, though diminished by Reminder 8. Response was front loaded, with at least half of the final response for each round achieved by day 10 in field.

The similarity in response over time across rounds indicates the engagement was robust against seasonal factors (e.g. fluctuating COVID-19 restrictions). Ongoing monitoring and analysis of the operational response rate could give insight into changes in survey break-off due to survey design elements or sample characteristics.

Table 18 Response rates by date February 2021

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Fieldwork date** | **Daily fieldwork activity** | **Daily Technical completes (%)** | **Daily Operational completes (%)** | **Cumulative Technical completes (%)** | **Cumulative Operational completes (%)** |
| 27/10/2020 | Auth, Soft-Launch (NUHEIs) | 0.6% | 0.5% | 0.6% | 0.5% |
| 28/10/2020 |  | 0.1% | 0.1% | 0.8% | 0.6% |
| 29/10/2020 | Main-Launch (Unis) | 5.9% | 5.1% | 6.7% | 5.7% |
| 30/10/2020 |  | 1.4% | 1.3% | 8.1% | 7.0% |
| 31/10/2020 | R1 | 3.4% | 2.9% | 11.6% | 9.8% |
| 1/11/2020 |  | 1.4% | 1.2% | 13.0% | 11.1% |
| 2/11/2020 | R2 | 4.5% | 3.8% | 17.5% | 14.9% |
| 3/11/2020 |  | 0.5% | 0.4% | 18.0% | 15.4% |
| 4/11/2020 |  | 0.2% | 0.1% | 18.1% | 15.5% |
| 5/11/2020 | R3, INFR Start | 2.4% | 1.9% | 20.5% | 17.4% |
| 6/11/2020 |  | 0.5% | 0.4% | 21.0% | 17.8% |
| 7/11/2020 |  | 0.3% | 0.2% | 21.2% | 18.0% |
| 8/11/2020 |  | 0.2% | 0.2% | 21.5% | 18.2% |
| 9/11/2020 | R4, SMS1 | 5.3% | 4.4% | 26.8% | 22.5% |
| 10/11/2020 |  | 0.5% | 0.4% | 27.3% | 22.9% |
| 11/11/2020 | R5a | 1.1% | 0.9% | 28.4% | 23.8% |
| 12/11/2020 |  | 0.3% | 0.2% | 28.7% | 24.1% |
| 13/11/2020 | R5 | 0.9% | 0.7% | 29.6% | 24.8% |
| 14/11/2020 |  | 0.2% | 0.2% | 29.8% | 25.0% |
| 15/11/2020 |  | 0.2% | 0.2% | 30.0% | 25.1% |
| 16/11/2020 | R6, SMS2 | 2.4% | 1.9% | 32.4% | 27.0% |
| 17/11/2020 |  | 0.3% | 0.2% | 32.8% | 27.3% |
| 18/11/2020 |  | 0.2% | 0.1% | 32.9% | 27.4% |
| 19/11/2020 |  | 0.2% | 0.1% | 33.1% | 27.5% |
| 20/11/2020 | R7 | 1.2% | 0.9% | 34.3% | 28.4% |
| 21/11/2020 |  | 0.2% | 0.2% | 34.5% | 28.6% |
| 22/11/2020 |  | 0.1% | 0.1% | 34.6% | 28.7% |
| 23/11/2020 | R8 | 1.4% | 1.1% | 36.1% | 29.8% |
| 24/11/2020 |  | 0.2% | 0.2% | 36.3% | 29.9% |
| 25/11/2020 |  | 0.2% | 0.1% | 36.5% | 30.1% |
| 26/11/2020 | R9 | 1.6% | 1.2% | 38.1% | 31.3% |
| 27/11/2020 |  | 0.3% | 0.2% | 38.3% | 31.5% |
| 28/11/2020 |  | 0.1% | 0.1% | 38.4% | 31.5% |
| 29/11/2020 | Online fieldwork close | 0.0% | 0.0% | 38.5% | 31.6% |
| 30/11/2020 | PFR & Full CATI start |  |  |  |  |

Table 19 Response rates by date February 2021

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Fieldwork date** | **Daily fieldwork activity** | **Daily Technical completes (%)** | **Daily Operational completes (%)** | **Cumulative Technical completes (%)** | **Cumulative Operational completes (%)** |
| 26/01/2021 |  | 0.0% | 0.0% | 0.0% | 0.0% |
| 27/01/2021 | Auth, Soft-Launch (NUHEIs) | 1.4% | 1.2% | 1.4% | 1.2% |
| 28/01/2021 | Main-Launch (Unis) | 6.5% | 5.7% | 7.8% | 6.8% |
| 29/01/2021 |  | 1.2% | 1.0% | 9.0% | 7.8% |
| 30/01/2021 | R1 | 3.8% | 3.2% | 12.8% | 11.0% |
| 31/01/2021 |  | 1.2% | 1.1% | 14.0% | 12.1% |
| 1/02/2021 | R2 | 4.7% | 4.1% | 18.7% | 16.2% |
| 2/02/2021 |  | 0.4% | 0.3% | 19.1% | 16.6% |
| 3/02/2021 |  | 0.2% | 0.1% | 19.2% | 16.7% |
| 4/02/2021 | R3, INFR Start | 2.3% | 1.9% | 21.6% | 18.6% |
| 5/02/2021 |  | 0.6% | 0.5% | 22.1% | 19.0% |
| 6/02/2021 |  | 0.3% | 0.2% | 22.4% | 19.2% |
| 7/02/2021 |  | 0.2% | 0.1% | 22.6% | 19.4% |
| 8/02/2021 | R4, SMS1 | 5.3% | 4.3% | 27.9% | 23.7% |
| 9/02/2021 |  | 0.5% | 0.3% | 28.4% | 24.1% |
| 10/02/2021 | R5 | 2.0% | 1.5% | 30.4% | 25.6% |
| 11/02/2021 |  | 0.4% | 0.3% | 30.8% | 25.9% |
| 12/02/2021 |  | 0.2% | 0.2% | 31.0% | 26.1% |
| 13/02/2021 |  | 0.1% | 0.1% | 31.1% | 26.1% |
| 14/02/2021 |  | 0.1% | 0.1% | 31.1% | 26.2% |
| 15/02/2021 | R6, SMS2 | 2.9% | 2.2% | 34.0% | 28.4% |
| 16/02/2021 |  | 0.3% | 0.2% | 34.3% | 28.6% |
| 17/02/2021 |  | 0.2% | 0.2% | 34.5% | 28.8% |
| 18/02/2021 |  | 0.2% | 0.1% | 34.7% | 28.9% |
| 19/02/2021 | R7 | 0.6% | 0.4% | 35.3% | 29.4% |
| 20/02/2021 |  | 0.2% | 0.1% | 35.5% | 29.5% |
| 21/02/2021 |  | 0.1% | 0.1% | 35.6% | 29.5% |
| 22/02/2021 | R8 | 1.3% | 1.0% | 36.9% | 30.5% |
| 23/02/2021 |  | 0.2% | 0.1% | 37.0% | 30.6% |
| 24/02/2021 |  | 0.2% | 0.2% | 37.2% | 30.8% |
| 25/02/2021 | R9 | 1.2% | 0.8% | 38.4% | 31.6% |
| 26/02/2021 |  | 0.2% | 0.1% | 38.5% | 31.7% |
| 27/02/2021 |  | 0.0% | 0.0% | 38.6% | 31.7% |
| 28/02/2021 | Online fieldwork close | 0.1% | 0.1% | 38.6% | 31.8% |
| 1/03/2021 | PFR & Full CATI start |  |  |  |  |

Table 20 Response rates by date May 2021

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Fieldwork date** | **Daily fieldwork activity** | **Daily Technical completes (%)** | **Daily Operational completes (%)** | **Cumulative Technical completes (%)** | **Cumulative Operational completes (%)** |
| 27/04/2021 | Auth, Soft-Launch (NUHEIs) | 0.4% | 0.4% | 0.4% | 0.4% |
| 28/04/2021 |  | 0.1% | 0.1% | 0.5% | 0.1% |
| 29/04/2021 | Main-Launch (Unis) | 6.4% | 5.5% | 7.0% | 5.5% |
| 30/04/2021 |  | 1.4% | 1.2% | 8.4% | 1.2% |
| 1/05/2021 | R1 | 3.6% | 3.0% | 12.0% | 3.0% |
| 2/05/2021 |  | 1.5% | 1.3% | 13.5% | 1.3% |
| 3/05/2021 | R2 | 4.5% | 3.9% | 18.0% | 3.9% |
| 4/05/2021 |  | 0.5% | 0.4% | 18.5% | 0.4% |
| 5/05/2021 | IFR Start | 0.2% | 0.2% | 18.7% | 0.2% |
| 6/05/2021 | R3 | 2.7% | 2.1% | 21.4% | 2.1% |
| 7/05/2021 |  | 0.6% | 0.5% | 22.0% | 0.5% |
| 8/05/2021 |  | 0.2% | 0.2% | 22.2% | 0.2% |
| 9/05/2021 |  | 0.2% | 0.1% | 22.4% | 0.1% |
| 10/05/2021 | R4, SMS1 | 5.4% | 4.5% | 27.7% | 4.5% |
| 11/05/2021 |  | 0.5% | 0.4% | 28.2% | 0.4% |
| 12/05/2021 | R5 | 2.1% | 1.6% | 30.3% | 1.6% |
| 13/05/2021 |  | 0.5% | 0.4% | 30.7% | 0.4% |
| 14/05/2021 |  | 0.3% | 0.2% | 31.0% | 0.2% |
| 15/05/2021 |  | 0.2% | 0.1% | 31.2% | 0.1% |
| 16/05/2021 |  | 0.2% | 0.2% | 31.4% | 0.2% |
| 17/05/2021 | R6, SMS2 | 3.8% | 3.0% | 35.2% | 3.0% |
| 18/05/2021 |  | 0.4% | 0.3% | 35.6% | 0.3% |
| 19/05/2021 |  | 0.2% | 0.2% | 35.8% | 0.2% |
| 20/05/2021 |  | 0.1% | 0.1% | 35.9% | 0.1% |
| 21/05/2021 | R7 | 0.5% | 0.4% | 36.5% | 0.4% |
| 22/05/2021 |  | 0.1% | 0.1% | 36.5% | 0.1% |
| 23/05/2021 |  | 0.1% | 0.1% | 36.6% | 0.1% |
| 24/05/2021 | R8, F4S SMS | 1.4% | 1.1% | 38.0% | 1.1% |
| 25/05/2021 |  | 0.2% | 0.1% | 38.2% | 0.1% |
| 26/05/2021 |  | 0.1% | 0.1% | 38.3% | 0.1% |
| 27/05/2021 | R9 | 0.8% | 0.6% | 39.1% | 0.6% |
| 28/05/2021 |  | 0.2% | 0.1% | 39.3% | 0.1% |
| 29/05/2021 |  | 0.1% | 0.0% | 39.3% | 0.0% |
| 30/05/2021 | Online fieldwork close | 0.0% | 0.0% | 39.4% | 0.0% |
| 31/05/2021 | PFR & Full CATI start |  |  |  |  |

## Non-response analysis

To better understand the dynamics of non-response in the 2021 GOS, analysis was undertaken on the in-scope population of 316,610 students. The following characteristics were included in the analysis: age; gender; Indigenous status; disability status; language spoken at home; citizenship status; Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-economic Disadvantage (IRSD) quintiles; study mode; attendance type; study area; course level; regionality; collection period; whether or not the graduate had a mobile in the sample file; whether or not the graduate had a landline in the sample file; email address type in the sample file (institutional email address, personal email address, both personal and institutional email address or no email address).

Table 21 shows the relative importance of these predictors for non-response. Longer bars indicate higher importance. Study area is the single most important predictor of response, followed by age and then SEIFA quintile. By contrast, disability status, Indigenous status, gender, and having a landline number were the least important factors in predicting survey response. Citizenship status became a less important predictor of response in the 2021 GOS (fourth most important predictor in 2020, twelfth most in 2021). This change could be in part due to the introduction of the International Engagement Strategy.

Table 21 Importance of variable in predicting survey response

|  |  |
| --- | --- |
| **Report label** | **Scale of importance** |
| Study area | 1.00 |
| Age group | 0.64 |
| SEIFA quantile | 0.59 |
| Collection period | 0.25 |
| Course level | 0.24 |
| Regionality | 0.24 |
| Study mode | 0.23 |
| Language spoken at home | 0.16 |
| Email type | 0.13 |
| Graduate has mobile | 0.10 |
| Attendance type | 0.10 |
| Citizenship status | 0.06 |
| Gender | 0.06 |
| Graduate has landline | 0.05 |
| Indigenous status | 0.04 |
| Disability status | 0.00 |

Note: Variable importance is scaled so that the most important variable has a value of 1.0.

Table 22 shows the odds ratios (OR) for the regression coefficients, the corresponding standard errors and confidence intervals, as well as tests of statistical significance.

The OR provides information describing the difference between a given category and the reference category (in parenthesis). In each case, the reference category is the modal category (i.e. most commonly occurring) for each variable.

OR’s are interpreted as follows:

* An OR of 1 indicates that the propensity to respond to the survey is equally likely between the reference category and the listed category, holding all other factors constant.
* An OR greater than 1 indicates that the propensity to respond is higher for graduates from the listed category than the reference category, holding all other factors constant. For example, the odds of responding to the survey were 70 per cent higher for 30-44 year-olds (OR = 1.70) than for the reference category of 23-29 year-olds.
* An OR less than 1, indicates that the propensity to respond is lower for graduates from the listed category than the reference category. For example, the odds of response for graduates who attended part-time (OR = 0.95) was 95 per cent as high as for graduates who attended full-time.

Table 22 Odds ratios of the logistic regression of survey response on selected variables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Odds Ratio | Standard Error | 95% Confidence Interval | Significance |
| Age Group (Reference: 23-29) |   |   |  |  |
| 15-22 | 0.94 | 0.01 | (0.92, 0.96) | \*\*\* |
| 30-44 | 1.70 | 0.02 | (1.66, 1.73) | \*\*\* |
| 45+ | 2.86 | 0.05 | (2.76, 2.96) | \*\*\* |
| Gender (Reference: Female) |   |   |  |  |
| Male | 0.79 | 0.01 | (0.77, 0.80) | \*\*\* |
| Indigenous Status (Reference: Not Indigenous) |   |   |  |  |
| Indigenous | 1.03 | 0.04 | (0.95, 1.11) |  |
| Disability Status (Reference: No disability) |   |   |  |  |
| Disability | 1.19 | 0.02 | (1.15, 1.22) | \*\*\* |
| Language Spoken at Home (Reference: English) |   |   |  |  |
| Not English | 0.91 | 0.01 | (0.89, 0.93) | \*\*\* |
| Citizenship Status (Reference: Domestic)† |   |   |  |  |
| International | 0.96 | 0.01 | (0.94, 0.99) | \*\* |
| SEIFA Quintile (Reference: Highest quintile) |   |   |  |  |
| Lowest quintile | 1.03 | 0.01 | (1.00, 1.06) | \* |
| 2nd quintile | 0.99 | 0.01 | (0.97, 1.01) |  |
| 3rd quintile | 1.01 | 0.01 | (0.99, 1.03) |  |
| 4th quintile | 1.06 | 0.02 | (1.03, 1.09) | \*\*\* |
| Unknown | 0.86 | 0.08 | (0.71, 1.04) |  |
| Study Mode (Reference: Internal) |   |   |  |  |
| External | 0.91 | 0.01 | (0.89, 0.93) | \*\*\* |
| Multi-modal | 0.96 | 0.01 | (0.94, 0.98) | \*\*\* |
| Open Universities Australia | 0.82 | 0.04 | (0.75, 0.91) | \*\*\* |
| Attendance Type (Reference: Full-time) |   |   |  |  |
| Part-time | 0.95 | 0.01 | (0.93, 0.97) | \*\*\* |
| Study Area (Reference: Business and management) |   |   |  |  |
| Agriculture and environmental studies | 1.70 | 0.06 | (1.58, 1.82) | \*\*\* |
| Architecture and built environment | 1.14 | 0.03 | (1.08, 1.19) | \*\*\* |
| Communications | 1.14 | 0.03 | (1.08, 1.20) | \*\*\* |
| Computing & information systems | 1.45 | 0.02 | (1.40, 1.49) | \*\*\* |
| Creative arts | 1.11 | 0.03 | (1.06, 1.16) | \*\*\* |
| Dentistry | 0.93 | 0.06 | (0.81, 1.06) |  |
| Engineering | 1.43 | 0.02 | (1.39, 1.48) | \*\*\* |
| Health services and support | 1.27 | 0.02 | (1.22, 1.31) | \*\*\* |
| Humanities, culture and social sciences | 1.50 | 0.02 | (1.45, 1.55) | \*\*\* |
| Law and paralegal studies | 1.11 | 0.02 | (1.06, 1.15) | \*\*\* |
| Medicine | 0.95 | 0.03 | (0.89, 1.01) |  |
| Nursing | 1.02 | 0.02 | (0.99, 1.05) |  |
| Pharmacy | 1.09 | 0.06 | (0.99, 1.21) |  |
| Psychology | 1.35 | 0.03 | (1.29, 1.42) | \*\*\* |
| Rehabilitation | 1.01 | 0.04 | (0.94, 1.08) |  |
| Science and mathematics | 1.65 | 0.03 | (1.60, 1.71) | \*\*\* |
| Social work | 1.37 | 0.04 | (1.30, 1.45) | \*\*\* |
| Teacher education | 1.10 | 0.02 | (1.07, 1.14) | \*\*\* |
| Tourism, hospitality, personal services, sport and recreation | 0.75 | 0.06 | (0.64, 0.88) | \*\*\* |
| Veterinary science | 1.37 | 0.09 | (1.21, 1.55) | \*\*\* |
| Course Level (Reference: Undergraduate) |  |  |  |  |
| Postgraduate coursework | 0.94 | 0.01 | (0.92, 0.96) | \*\*\* |
| Postgraduate research | 2.07 | 0.05 | (1.97, 2.17) | \*\*\* |
| Regionality Type (Reference: Major City) |   |   |  |  |
| Inner Regional | 1.70 | 0.02 | (1.66, 1.73) | \*\*\* |
| Outer Regional | 1.70 | 0.02 | (1.66, 1.73) | \*\*\* |
| Remote | 1.70 | 0.02 | (1.66, 1.73) | \*\*\* |
| Very Remote | 1.70 | 0.02 | (1.66, 1.73) | \*\*\* |
| Unknown | 0.94 | 0.09 | (0.77, 1.13) |  |
| Collection Period (Reference: May) |   |   |  |  |
| February | 0.90 | 0.01 | (0.88, 0.93) | \*\*\* |
| November | 0.98 | 0.01 | (0.96, 0.996) | \* |
| Graduate has a Mobile Number (Reference: Yes) |  |  |  |  |
| No | 0.64 | 0.01 | (0.62, 0.65) | \*\*\* |
| Graduate has a Landline (Reference: No) |  |  |  |  |
| Yes | 0.96 | 0.01 | (0.94, 0.98) | \*\*\* |
| Email Type (Reference: Both institution and personal emails) |  |  |  |  |
| No email or only institution email | 0.46 | 0.01 | (0.44, 0.48) | \*\*\* |
| Personal email only | 0.86 | 0.01 | (0.84, 0.88) | \*\*\* |

\*\*\* $p$ ≤ 0.001, \*\* $p$ ≤ 0.01, \* $p$ ≤ 0.05

† Note, calculated for this report using HEIMS data element E942 Citizenship indicator. In prior years’ reports E358 Citizen/resident indicator (from which E942 is derived) was used.

‡ Calculated using the ABS Socio-Economic Indexes for Australia (SEIFA, 2016, catalogue number 2033.0.55.001)

When controlling for other factors, key takeaways of the model include:

* The type of email address available from the institution was a major predictor of the likelihood of completing the GOS. Graduates for whom we were provided no email, or an institutional email only had 46 per cent odds of completing the GOS, compared to graduates with both institution and personal emails.
* Graduates without a mobile phone number on file had lower odds of responding (reduced by 36 per cent) than graduates with a mobile phone number.
* Older graduates are far more likely to respond than younger graduates.
* Male graduates were 21 per cent less likely to respond compared to female graduates.
* Graduates who completed a postgraduate research qualification were far more likely (107 per cent more) to respond than those who completed an undergraduate qualification (the reference group), while graduates who completed a postgraduate coursework qualification were slightly less likely (4 per cent less) to respond than the reference group.
* Graduates from some study areas had a notably higher chance of response than graduates from Business and management (the reference group). These study areas included Agriculture and environmental studies (70 per cent higher), Science and mathematics (65 per cent), Humanities, culture and social sciences (50 per cent), Computing & Information systems (45 per cent), Engineering (43 per cent), Social work (37 per cent), Psychology (35 per cent) and Veterinary science (37 per cent).
* International graduates were only slightly less likely to respond (4 per cent) than domestic graduates. This may suggest that the International Engagement Strategy employed during the 2021 improved the representation of international graduates and similar engagement strategies could be effective if customised to graduates with other under-represented characteristics.

## Sources of response

Table 23 (on the next page) summarises the contribution of various online survey completion methods to the final response rate and includes response by gender, age, and citizenship due to the variation in method of accessing the survey within these groups. Only minimal differences were observed when reviewing source of response by institution type or course level, as such these groups are not displayed.

It should be noted that only completed surveys directly attributable to the in field reminder calls, post field reminder calls and SMS are recorded as such in Table 23. It is possible that, for example, reminder call activity may prompt a graduate to click on the direct survey link in an email they had previously received. In this context, the analysis presented at Table 23 should only be considered indicative. It should also be noted that the opportunity to complete via each method was not necessarily equal between subgroups.

Most respondents completed via the direct link in email communications (contributing 36.2 of the 40.4 total response rate percentage points). Completing via the direct link in SMS was the next most significant contributor (2.3 per cent in 2021 compared to 1.2 per cent in 2020), reflecting the increased use of SMS in the engagement strategy. More response was gained via SMS with graduates aged Over 30 (2.6 per cent) than those aged 30 or under (2.1 per cent).

As previously noted, in field reminder calls were targeted at international graduates in the 2021 GOS in support of the International Engagement Strategy. As a result, in field reminder calls were the second most common source of response for international graduates (3.0 per cent).

Table 23 Sources of response

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Total %** | **Gender Female %** | **Gender Male %** | **Age 30 or under %** | **Age Over 30 %** | **Citizenship indicator Domestic %** | **Citizenship indicator International %** |
| Final response rate | **40.4** | **42.9** | **36.9** | **36.6** | **54.3** | **44.2** | **33.6** |
| Authentication | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | <0.1 |
| Type in | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Survey link (email) | 36.2 | 38.8 | 32.5 | 32.3 | 50.6 | 40.6 | 28.2 |
| Survey link (SMS) | 2.3 | 2.4 | 2.0 | 2.1 | 2.6 | 2.5 | 1.8 |
| In field reminder calls | 1.1 | 0.9 | 1.4 | 1.3 | 0.4 | <0.1 | 3.0 |
| Post field reminder calls | 0.7 | 0.6 | 0.7 | 0.7 | 0.5 | 0.8 | 0.5 |

## Sample retention for GOS-L

Graduates were generally open to being contacted for future research across all 2021 GOS collection rounds, which is the point at which sample is built for the GOS-L.

As shown in Table 24, a total of 74,509 graduates, or more than half (58.2 per cent) of all GOS completes, agreed to contact for future research purposes.

Fewer than one in five graduates (19.9 per cent) did not provide a response to the ‘consent to future contact’ question, by either choosing not to provide a response or stopping the survey before seeing the ‘consent to future contact’ question.

Table 24 Graduate responses to further contact for GOS-L

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample retention phase** | **November** **2020 n**  | **November** **2020 %** | **February** **2021 n**  | **February** **2021 %** | **May** **2021 n**  | **May** **2021 %** | **Total n**  | **Total %** |
| **Consent to contact at GOS-L** |  |  |  |  |  |  |  |  |
| Yes | 23,773 | 57.5 | 5,612 | 59.3 | 45,124 | 58.4 | 74,509 | 58.2 |
| No | 9,275 | 22.4 | 1,993 | 21.1 | 16,843 | 21.8 | 28,111 | 21.9 |
| Missing | 8,303 | 20.1 | 1,853 | 19.6 | 15,355 | 19.9 | 25,511 | 19.9 |
| Total | 41,351 | 100.0 | 9,458 | 100.0 | 77,322 | 100.0 | 128,131 | 100.0 |
| **Details provided for GOS-L sample** |   |   |   |   |   |   |   |   |
|    Permanent email address is as used in GOS | 20,042 | 72.4 | 4,740 | 74.4 | 43,586 | 82.8 | 68,368 | 78.8 |
|    New permanent email address provided | 3,582 | 12.9 | 615 | 9.7 | 5,328 | 10.1 | 9,525 | 11.0 |
|    Don’t have a permanent email address | 188 | 0.7 | 22 | 0.3 | 368 | 0.7 | 578 | 0.7 |
|    Do not wish to be re-contacted by email | 378 | 1.4 | 75 | 1.2 | 949 | 1.8 | 1,402 | 1.6 |
|    Missing | 3,493 | 12.6 | 916 | 14.4 | 2,427 | 4.6 | 6,836 | 7.9 |
| Total | 27,683 | 100.0 | 6,368 | 100.0 | 52,658 | 100.0 | 86,709 | 100.0 |

Note: The responses shown here are raw and derived before data processing in accordance with the definition of the analytic unit is undertaken (refer to Section 5.1), as such total completes will not align to figures presented earlier in the report.

The majority of graduates who completed the GOS and were asked the recontact question either indicated that the current email used for GOS was suitable long term (78.8 per cent total) or offered a new email address for recontact in the future (11.0 per cent total).

In the *2020 GOS Methodological Report* changes over time in the proportion of graduates agreeing to recontact was marked as an area of interest for further analysis to ensure the sample base for the GOS-L does not decline. The 2021 GOS recontact agreement (58.2 per cent) was a slight improvement on that achieved in the 2020 GOS (56.7 per cent). This may in part be due to a redesign of the recontact survey item (*CONTACT*) in May informed by experimentation in November and February (refer to Section 4.3). Improved understanding of factors correlated with consent to recontact should remain an area of interest to achieve further growth of the GOS-L sample base.

# Considerations for future surveys

## Customised graduate engagement

Tailoring of the engagement activities and materials to international graduates (refer to Section 3.3) appears to have marginally improved the representation of international graduates in the GOS (refer to Section 7.2 and Section 7.3). Applying learnings from the 2021 GOS to the continued implementation of the International Engagement Strategy could lead to further incremental improvements in international graduate representation.

The customisations applied for international graduates could also be tailored to graduates with other characteristics that were underrepresented in the 2021 GOS (e.g. the Business and management study area, younger graduates).

## Contact protocol

A review of the existing contact protocol should be conducted ahead of the 2022 GOS with the goal of maximising response and representation. Having a mobile number is a strong predictor of response (see Section 7.2), and as such, an increased use of SMS reminders could be considered. The value of in field reminder calls to improve general representation via a propensity model, versus targeted response maximisation (e.g. to international graduates), should also be assessed to determine how reminder calls can be most effectively used. Improved understanding of the profile of graduates unlikely to be reached by the current engagement protocol (i.e. graduates who did not open emails and were not contactable by phone) could inform improvements to the existing contact protocol.

In the 2021 GOS no institutions commissioned full CATI surveys (see Section 3.3.4). As full CATI completions are not included in the *National Report* and are expensive to commission in comparison to other fee-for-service response maximisation activities, consideration should be given to the removal of full CATI as an option in future GOS collections.

## Email deliverability

Despite the robust range of activities and products used to ensure email deliverability in the 2021 GOS, deliverability remained a point of concern (refer to Section 3.3.1 and Section 3.3.9). Continuing to build an understanding of the most important factors impacting email deliverability and effective actions needed to minimise the risk of non-delivery should be a priority. Mapping of sample email domains to major email providers (e.g. Gmail, Outlook) during sample preparation may assist in the early identification and resolution of delivery issues. This mapping would also allow exploration of whether email provider is a driver of non-response.

## Review of Majors

With the retirement of the CEQ as a core questionnaire item (refer to Section 4.4.3), the value of surveying with majors may be diminished for some institutions. To inform institution choice, a comparison of recent years’ institution data using course level and Majors level coding for field of education could be shared with institutions ahead of the 2022 GOS sampling. Analysis would highlight potential changes in study area attribution if Majors were not to be used in survey by the institution. As Majors are opted into for the full collection cycle, this analysis and discussion with institutions would need to be conducted ahead of the 2022 GOS November sampling.

## GOS-L sample retention and ESS sample building

The retention of sample for the GOS-L remains a key issue. Learnings from the redesign of the consent to recontact survey item (see Section 7.4) should be carried forward. Further experimentation with the recontact item design could be considered, and performance of the consent rate over time reviewed in further detail.

As discussed in the *2020 GOS Methodological Report*, recruitment of graduate supervisors is a major challenge that limits the ESS sample build. The inherent graduate concerns were again compounded in 2021 by the ongoing economic disruption caused by COVID-19. The 2022 GOS should feature continued use of evidence-based changes to the ESS bridging module. Tailoring the ESS bridge using sample and survey data (i.e. study area, industry) could lead to improvements in the recruitment of graduate supervisors.

**List of abbreviations and terms**

**AAGE** Australian Association of Graduate Employers

**ABS** Australian Bureau of Statistics

**ACEN** Australian Collaborative Education Network Limited

**ACMA** Australian Communications and Media Authority

**AGS** Australian Graduate Survey

**ANZSIC** Australian New Zealand Standard Industrial Classification

**ANZSCO** Australian New Zealand Standard Classification of Occupations

**CATI** Computer Assisted Telephone Interviewing

**ESS** Employer Satisfaction Survey

**GOS** Graduate Outcomes Survey

**GOS-L** Graduate Outcomes Survey – Longitudinal

**HEIMS** Higher Education Information Management System

**HESA** Higher Education Support Act

**HEPCAT** Higher Education Provider Client Assistance Tool

**IRSD** Index of Relative Socio-economic Disadvantage

**IP** Internet Protocol

**MDS** Minimum Data Set

**NUHEI** Non-University Higher Education Institution

**OCANZ** Optometry Council of Australia and New Zealand

**PASF** Participation and Additional Services Form

**PIR** Provider Information Request

**PS** Past Course Completions

**OR** Odds ratio

**QILT** Quality Indicators for Learning and Teaching

**RES** Respondent Engagement Survey

**SEIFA** Socio-Economic Indexes for Areas

**TCSI** Tertiary Collection of Student Information

1. Refer to the *2020 GOS Methodological Report* for in field reminder outcomes from the 2020 GOS. [↑](#footnote-ref-1)
2. https://www.facebook.com/business/help/447834205249495 [↑](#footnote-ref-2)