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**Title:** Publication rates and quality indicators of summer research projects at the University of Otago: a 10-year analysis

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### **Introduction:**

The University of Otago offers summer studentships at each of its three campuses (Christchurch, Dunedin and Wellington). These studentships provide students with an opportunity to gain an insight into research without changing the normal structure of their undergraduate degree, and have a financial incentive, providing a source of income in the ballpark of other summer jobs. In addition, summer studentships offer academic incentive, through the possibility of publishing in peer reviewed journals, progressing their own careers, and possibly inspiring future research. Previously studies have been done on publication rates at other similar programmes, with studentships at the University of Auckland showing a rate of 32% publication, and BMedSc (Hon) theses at Otago a rate of 32.7% publication. The publication rate and the value added of summer studentships offered at the Otago University has not been investigated.

### **Aim:**

- To identify the rate at which findings of summer research projects are published in scientific journals.
- To characterise publication (e.g., type of publication, duration since summer project completion, number of subsequent citations).
- To identify student views on the summer studentship programme
- To identify supervisor views on the summer studentship programme

### **Method:**

A list of the summer studentships conducted between 2005 and 2017 were obtained for all three Otago campuses. Records extending beyond 2016 were not included in the investigation, to allow for two years to publish projects. Pubmed and Google scholar databases were then searched for publications relevant to each project on record. The following information was then collected: number of citations, number of authors, position of student among authors, year of publication, name of the journal published in, and the impact factor of the journal for that year.

Questionnaires were created via Google Forms to collect data on demographics, prior research experience and attitudes towards the summer studentship project. These surveys were then sent through to previous students and supervisors of the Christchurch campus alone from 2010 to 2016. The results from this qualitative survey were then analysed in full in a process led by Kate Magner, with Pragmatic Inductive Coding used to sort open ended answers. The resulting codes were then grouped into themes, to gather an overall picture from the responses being given.

### **Results:**

The number of years that valid records on summer studentship projects differed from campus to campus, with Wellington providing from 2010-2016, Christchurch from 2007-2016, and Dunedin from 2009-2016. The number of projects conducted also varied widely, with Wellington publishing 193, Christchurch 396, and Dunedin 756. This made for a total of 1345 being analyzed.

Of these 1345 projects, it was found that 324 were published, giving an overall publication rate of 24.2%. The rates differed depending on campus; Wellington had a rate of 28.0%, Christchurch of 19.9%, and Dunedin of 25.5%.

The lag-period between project completion and publication was less than 1 year for 52 projects (16%), between 1 and 2 years for 121 projects (37.1%), between 2 and 4 years for 110 projects (33.7%) and more than 5 years for 43 projects (13.2%). Of the publications generated, 22.3% were published in Australasian journals. The median number of article citations was 2 (range, 0-150).

242 supervisors and 245 students from Christchurch were emailed, 73 supervisors and 48 students responded. The following themes emerged from the responses:

*For Supervisors:*

- Summer studentships have many different aims, of which publication is just one
- Administrative factors pose limitations that are outside the control of the individual project, student or supervisor
- Attributes of the student themselves influence the success of a project, as well as processes internal to the individual project
- Overall it is a good initiative and a well-run programme.

*For Students:*

- These studentships provide good financial incentive
- Summer studentships provides exposure to academic research, learning and new skills.
- Relationship building, networking and mentorship is a valued feature of the programme
- Project attributes have a huge influence on the meaning of the studentship for the student
- Limitations of the studentship are both internal and external to the project itself
- The studentship can often have relevance to both one's interests and career aspirations

**Conclusion:**

The overall publication rate of 25% is excellent. It is reassuring to see that the overall publication rate is to that at Auckland University.

Supervisors and students see value in the summer studentship programme, both in payment for a 'summer job and the possibility of scientific publication. The summer studentship programme is valued by supervisors for the contact with students and the ease of organisation. It provides networking opportunity, insights and new work facets for students.

Future research could focus on administrative aspects that could enhance the benefits and reduce the negative factors for both staff and students and explore factors related to the projects themselves that may have led to them being publishable.