

The Āwhina Effect

Hautahi Kingi and the Āwhina Research team

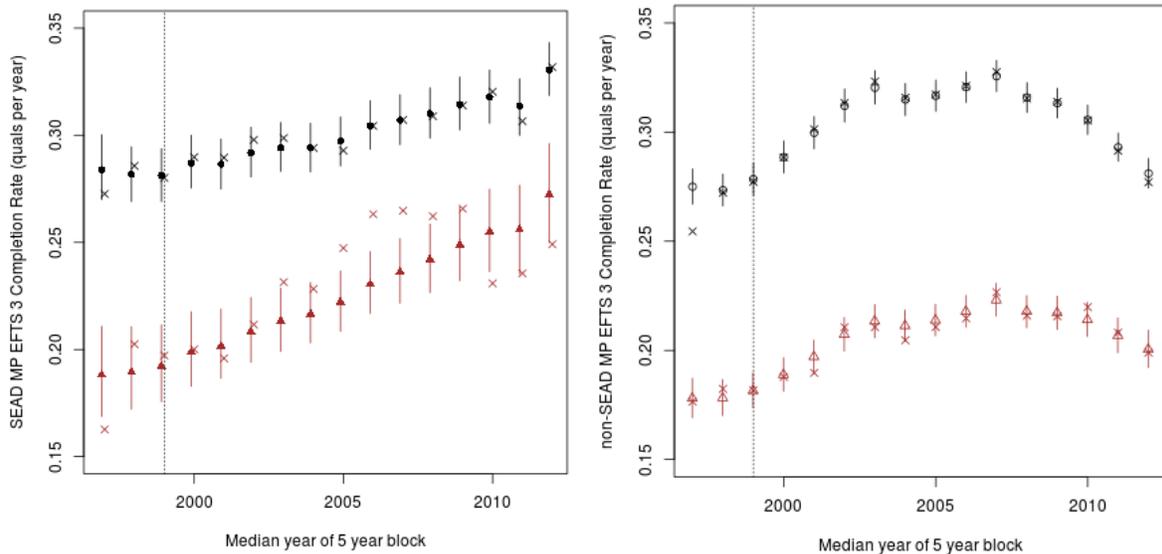
In New Zealand, as in other countries, there are persistent ethnic disparities in academic success at tertiary level, especially within the sciences. Despite a growth in enrollments in recent years, Māori and Pacific students remain under-represented in university study, are less likely to persist in their studies, and have lower completion rates.

Victoria University of Wellington (VUW) is a mid-sized institution that is reasonably typical of New Zealand's eight universities, with 80% of the student body identifying as European, 10% as Māori, 5% as Pacific, and 5% as Asian or "other." This presentation reviews the reduction of tertiary disparities overseen by Te Rōpū Āwhina Whānau (Āwhina), an initiative in VUW's STEM faculties built around the Māori concept of whānau (extended family). The overall kaupapa (goal) of Āwhina, active in VUW's STEM faculties between 1999 and 2015, was to foster Māori-Pacific development and leadership. Its whānau values of high expectations, high aspirations and achievements, collective success and reciprocity provided the foundation to achieve the kaupapa.

At the core of Āwhina were mentors and mentees. Mentors were often final year undergraduate or graduate student high achievers who performed their roles voluntarily. Their primary role was to provide on-call academic help in their specialty subjects, build the capability of high school pupils and first year mentees to transition successfully from high school to university, and academically strengthen mentees to become senior mentors and leaders in their communities. Āwhina mentors were likely to come from a similar background to their mentees and could usually relate to pressures unique to Māori and Pacific students. Senior mentors had designated responsibilities for the day-to-day running of various aspects of Āwhina such as outreach, mentor support, special events, the Āwhina library, monitoring Āwhina progress, and scholarships. All mentors were expected to be positive role models at all times, support one another, and provide leadership. Their Āwhina experience was accepted as preparation for future leadership roles in the workplace and in Māori and Pacific communities and organizations. They were encouraged and assisted to develop leadership skills and to understand their role as culture changers within the university, workplace, and community. Perhaps the closest US example is the Meyerhoff Scholars Program at the University of Maryland, Baltimore County.

Recent analyses by the Āwhina Research Team used audited VUW individual-level administrative student record data containing personal, demographic, course, grade, enrolment, and entry status information for every past and present VUW student. The data were collected for internal administrative and external reporting purposes between 1991 and 2014. These records were used to construct completion rates per unit time of study for both graduate and undergraduate qualifications, which is aggregated completions divided by aggregated study times for all students (successful or not) across 16 5-year blocks from 1995. This metric is superior to completion and enrolment rates because it combines information from those that complete and those that do not, including the effect of study time (i.e., adding information from those who do not complete a qualification). Additionally, tertiary institutions can intervene directly to improve completion rates for particular student groups, whereas their ability to influence enrolments is more limited.

Given the small number of completions and limited study time in some strata (e.g., for students of Māori or Pacific ethnicity in STEM disciplines), a hierarchical Bayesian regression approach that allows pooling of information across strata (and therefore some smoothing of posterior completion rates) by so-called “shrinkage” towards a prior covariate structure was used. A summary of some results for undergraduate EFTS 3 degrees expected to take 3-years are presented below.



Both undergraduate and graduate STEM Māori-Pacific and non-Māori-Pacific posterior completion rates tracked upwards and converged. The non-STEM Māori-Pacific and non-Māori-Pacific posterior completion rate disparity did not close for undergraduates, and disparities increased for graduates. In addition, Āwhina successes include almost 1,200 Māori-Pacific degree completions, 33 PhD completions, 9 postdoctoral fellows working in their field, 9 school science teachers, \$8.4 million in nationally and internationally contested scholarships and 4 alumni employed by their iwi, including one CEO. These results are consistent with a strong “Āwhina effect” i.e., that the presence of Āwhina was a positive influence on Māori and Pacific STEM success.

An Āwhina effect would have important implications for the nature of tertiary institutions, their cultural and social disconnection with indigenous and minority students, and their social obligations and responsiveness. Our central conclusion, grounded in robust evidence and decades of experience in Māori and Pacific tertiary STEM success, is that there is no excuse for tolerating continuing tertiary STEM disparities when promising solutions and tools for evaluating success exist. There are two fundamental challenges (i) leadership, both of the initiative and university, and (ii) developing and promulgating robust evidence of success. Strategies to address these challenges will be discussed during the presentation.